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Abstract

In recent years, digital audio has undergone an explosion. The transformation of radio and its expansion to new channels and consumer devices, added to the rise of podcasts and streaming music platforms, have led to the transformation of the audio ecosystem. This transition from the audio medium to audio media has involved an integral change in content, as well as in its production and reception processes. In this regard, the aim of this paper is to approach the present digital audio scene from the standpoint of its content, formats, and broadcasting models as well as of the new professional profiles, business models, and consumer–relationship practices, providing a snapshot that is completed with a prospective reflection on the challenges facing radio in this new ecosystem.

Keywords

Digital audio; Radio; Podcasts; Podcasting; Music; Platforms; Formats; Streaming; Audiences; Professionals; Business models; Mobile devices; Smartspeakers; Distribution; Audio media; Audio communication.

1. Once upon a time: Audio

For thousands of years, human beings have been using sound to communicate and transmit knowledge to their fellow human beings. The emergence of the printing press, the printed word, and the image first coexisted with the voice and then took away its prominence, but digitization and connectivity are restoring its previous relevance. We are in the midst of an audification era. The popularization of podcasts, the increase in audio streaming platforms, the emergence of audiobooks and bookcasts, the interconnection of audio devices, and the growing importance of voice as a digital connection interface thanks to the standardization of virtual assistants and smart speakers have made sound one of the primary communication trends in recent years (*IAB Spain*, 2019; 2020; *Kantar*, 2019; 2020; **Newman**, 2018; 2019).

In the context of saturation of digital information and entertainment offerings, audio content has proven its ability to be heard and to attract attention, interest, imagination, and even audience engagement, which has led many audiovisual companies, publishers, and brands to boost its production. The diversification of formats and devices, as well as the convergence of screen media, has encouraged the emergence of novel forms of audio and content that maximize the potential and functionalities of receiving terminals to provide more immersive and interactive experiences (**Rime**; **Pike**; **Collins**, 2022).

Beyond the techno-determinist enthusiasm characteristic of cutting-edge technological development, the leap to the digital medium and the diversification of access equipment has resulted in an increase in the attention to and the frequency and personalization of audio consumption (**Moreno-Moreno**; **Amoedo-Casais**; **Martínez-Costa**, 2017) that has redefined listening practices and fostered the emergence of new manifestations of online audio. The transition from audio medium to audio media requires a reconceptualization of both the professional profiles and the professional routines and practices of the current communication ecosystem.

In parallel, the expansion of formats, devices, and content has given rise to unknown convergences between the socialization and individualization of listening: paradigms of a "tailored" experience, online radio platforms, music streaming, and podcasting and audiobooks enrich new habits of shared audio consumption (**Bonini**; **Monclús**, 2014). Freed from the technical constraints of the conventional Hertzian medium, online radio has given rise not only to increasingly niche communities of listeners, following the metaphor of the "long tail" (**Anderson**, 2006), but also to large audiences. Podcasts such as *Serial* (Sarah Koenig, 2014-2018) in the United States or *El gran apagón* (*Podium Podcast*, 2016–2019) in Spain have revealed the existence of not just an audience interested in these audio products but also a social audience willing to share their listening practices and interact around such content. At the same time, smartphones, tablets, and wearables have made it possible to create privatized audio worlds that add another dimension to our experience of this space (**Bull**, 2010).

This interplay between the socialization and individualization of listening has become particularly relevant during the Covid-19 pandemic. The lockdown and subsequent restrictions resulting from the health crisis acted as a catalyst for online audio. While radio, both online and offline, reaffirmed its role as an informative and entertainment medium (**Rodero**, 2020), content such as podcasts and audiobooks experienced a significant boom as tales from the pandemic and even as production objects (**Bruns**, 2006). However, despite the emergence of such content and expressive forms, new platforms, and communities of listeners and producers, the drop in advertisers caused by the economic recession has underscored the urgent need to identify alternative financing models for audio media.

However, let us start at the beginning. When talking about audio communication and the challenges it faces in this new media ecosystem, one must mention radio. As it celebrates its first centenary, this auditory medium par excellence is still alive and evolving. Its resilient nature has allowed it to overcome, more or less successfully, its two predicted deaths: if the first led to a disorientation as a result of its loss of supremacy in the mid-twentieth century owing to the meteoric rise of television, the second, with the advent of cyberspace at the beginning of the twenty-first century, helped launch its most radical transformation.

2. The metamorphosis of the Hertzian medium

The explosion of the Internet pushed radio into a phase of mediamorphosis (**Fidler**, 1997) that entailed a complete overhaul of its offering and a diversification of its access systems and forms of analog consumption. This phenomenon, for which **Prata-Moreira-Martins** (2012) coined the term "radiomorphosis," would drive a widespread digital transformation of radio on a global scale in spite of the reticence toward and uneven adoption of renewed transmission standards such as digital audio broadcasting (DAB), in-band on-channel (IBOC), or *digital radio mondiale* (DRM), and opened the door to other audio offerings that would achieve increasing prominence in this new media ecology.

The first milestone in this evolution was the launch of *Internet Talk Radio* by Carl Malamud in 1993. This was the first Internet radio station, whose content was able to attract an audience of nearly 100,000 people from around the world (**Blanchard**, 2013). This initiative would be backed by other internet-only radio stations, which streamed their own broadcasts over the airwaves. Parallel to the expansion of native radio stations, conventional radio brands extended their presence to the Internet, first as basic sites with station information, which, with the combination of offline broadcasting –in streaming– would later evolve into bitcasters (**Ribes-Guàrdia**, 2001). At this stage, the Internet seemed to be just another channel for live or simulcast signal broadcasting (**Franquet**, 1999), despite starting to integrate text content and nascent forms of interactivity and personalization.

In the second stage, according to **Cebrián-Herreros** (2008), the medium was established on the web: content went from being merely audio to being enriched with multimedia language and the interactivity of the digital environment. Radio adapted to the Internet and ceased to be instantaneous with the creation of mp3 content repositories. It was in this context that the second milestone in the evolution of online radio was passed: the advent of podcasting. A decade after the first Internet broadcasts, Dave Winner and Adam Curry created an application that allowed the automatic download of audio files to the *iPod* through RSS syndication technology (**Gallego**, 2010). It was with the podcast that radio began to make the listening experience more flexible (**Pérez-Alaejos**; **Pedrero-Esteban**; **Leoz-Aizpuru**, 2017).

Just as the leap to the Internet marked the end of the physical limitations that bound Hertzian broadcasting, podcasts permitted the listener-user to choose when, where, and how to enjoy the content that interested them. The consumption options offered by portable devices, even in the offline context, propelled podcasting into its next phase, which **Cebrián-Herreros** (2008) called "mobile cyber radio" or in mobility. Thus, another concept of radio was born in which sound and image merged; it was (more) interactive, (more) participatory, sharable, asynchronous, repeatable, reproducible, localizable, customizable, discontinuous, hypertextual, nonlinear, convergent, and on-demand (**Cordeiro**, 2012). Such a change also entailed a transformation of the professional profiles, processes, and routines involved in the production of radio (**López-Vidales**; **Sánchez-Serrano**; **Izuzquiza**, 2019).

The launch of the *iPhone* in 2007 and the expansion of wireless networks cemented this new concept of radio and the transformation of audio as a product (**Piñeiro-Otero**; **Terol**; **Vila**, 2019). The progressive standardization among users of high-performance connected devices –especially smartphones and tablets– led to a leap towards a more personal, interactive, and collaborative medium. Radio became an app, but it also expanded onto platforms and social networks, taking advantage of the trend toward permanent connection –the "always-on" paradigm. Bringing together the ability to both receive and create multimedia content (texts, images, audio, videos, animations, etc.) in a single device provided radio with a powerful means to be listened to and heard (**Bonet**, 2007). Conventional and digital-native broadcasters expanded their presence to the cellphone with apps that broadened the Hertzian universe (**Ribes-Guàrdia** *et al.*, 2017) –a universe whose fusion of media, platforms, and languages would give rise to the concept of "transradio" (**Martínez-Costa**, 2015), capable of targeting an audience with an efficiency similar to that of narrowcasting.

Radio apps redefined the intimate and personal nature of the radio medium. Their features enabled the realization of personalized radio, customizable from the appearance of the interface to the automated selection of content, thanks to the capabilities of the terminals, their geolocation technologies, and recommendation algorithms (**Piñeiro-Otero**, 2015a). The widespread use of 3G connections began to standardize streaming as a distribution system (**Piñeiro-Otero**, 2015b). These apps also helped to strengthen the relationship between producers and listeners owing both to the ease of interaction, participation, and notification of content using mobile displays (**Pedrero-Esteban**; **Herrera-Damas**, 2017) and to their integration into other social platforms or devices, such as smart watches. These are potentialities that, although not exclusive to radio, have sound as a differentiating quality and anchoring element that distinguishes it from other media content (**Reis**, 2015).

Although the proliferation of mobile devices has led to the emergence of micro-moments of interstitial leisure –during waiting times, commuting, breaks, etc. (**Igarza**, 2008)– the multitasking nature of sound, which is compatible with almost any activity, has revitalized the dimension of the "always, anytime, anywhere" paradigm characteristic of the era of portability (**Kischinhevsky**, 2009). Sound accompanies and envelops the daily activity of people, creates private sound spheres with the selection of content-listening moments (**Perona-Páez**; **Barbeito-Veloso**; **Fajula-Payet**, 2014; **Oliveira**; **Portela**; **Vicente**, 2018), and makes room for new offerings that have diversified the audio journey (**Ormaechea**; **Fernández-Delkáder**, 2017): on the street, on public transport, at the gym, in the workplace, and in leisure and social environments, the number of people using integrated headphones is growing daily. Meanwhile, these transducers have become metaphors for personal sound spheres and shining icons of the so-called audification era (**Martínez-Costa**; **Legorburu**, 2020; **Piñeiro-Otero**, 2018). Among young people, the most radio-averse segment of the population (**Pedrero-Esteban**; **Marín-Lladó**; **Martínez-Otón**, 2022), headphones have come to be fashion accessories, repositioning listening halfway between listening enjoyment and identity-defining practice.

Streaming music platforms, podcasts, audiobooks, and other formats and audio content, such as audio games or urban mobile drama, share this space with radio on mobile devices and during listening time. Despite sharing some characteristics with cyber radio, these formats and content have returned to their roots to experiment with the narrative and expressive possibilities of sound. While radio became visible when it was put on screen (**Pedrero-Esteban**; **Barrios-Rubio**; **Medina-Ávila**, 2019; **Piñeiro-Otero**; **Martín-Pena**, 2021), audio storytelling in podcasts and audiobooks revived the classic radio language to attract interest and create mental images and other intensely imaginative experiences (**Rodero**, 2011; **Sood**, 2006). This is a language that has been enriched with creative formulas from the digital medium and innovations in audio recording/editing processes, such as the superimposition of layers and textures or the integration of 3D and 8D sound, capable of generating a binaural, immersive experience through headphones (**Muela-Molina**; **Piñeiro-Otero**, 2022).

This shift *from audio medium* to *audio media* has led to audience targeting and listening practices that have affected radio. Experimentation with the audio language through newly arrived formats convinced operators to invest in more creative and ambitious productions and to plan prerecorded content with more complex and careful execution. Additionally, having overcome the stage of technological fascination regarding what can be done, the functionalities and content of radio apps have been tailored to the habits and customs of their user community. This process has recast the broadcast of live or prerecorded traditional media as optimized and personalized accessibility, although its conceptualization and design must be modified according to the evolution of the devices themselves and the ever-changing adoption practices of listeners (**Barrios-Rubio**; **Gutiérrez**, 2021).

3. The podcast: radio without a schedule or antenna

In the renaissance of audio brought about by digital convergence, podcasts have become established based on their own merits as the medium with the greatest creative, social, and cultural impact and influence (**Linares**; **Fox**; **Berry**, 2018). Despite its embryonic link to radio, the podcast soon fostered the emergence of a community of independent creators. Just months after David Winer and Adam Curry introduced downloading of audio content through syndicated files (RSS), the journalist José Antonio Gelado, from Ávila, Spain, inaugurated the Spanish podcasting sphere with the publication of the first episode of *Comunicando*. Similar to the members of the first radio clubs, these pioneers of podcasting took on the profile of the geek, which led them to experiment with the new technology as producers and listeners, thus establishing networks for collaboration and exchange. This community would soon open up to other creators thanks to collaborative learning and the emergence of the first podcast aggregators, which facilitated the publication and distribution of content (**García-Marín**, 2020). It is this same community that demonstrated the validity of podcasting as a subculture, but also as an act of expression and reflection (**Merseko**, 2010).

In a context where the line separating content production and consumption becomes increasingly blurred (**Deuze**, 2007), podcasts represent a paradigmatic example of converging culture (**Jenkins**, 2006). Its repositories have hosted content from media brands but also from a community of independent creators whose production, self-publishing philosophy, and alternative spirit turned podcasting into a do-it-yourself form of media (**Lankshear**; **Knobel**, 2010). The fluid coexistence of both types of production –by radio stations as well as an independent community– established two concepts of the podcast: that of an on-demand distribution format, and that of a new medium with unique attributes (**Chan-Olmseted**; **Wang**, 2020). Whereas, as a technological innovation, podcasting made the radio listening experience more flexible and became the gateway to new content, as a medium, it pioneered the exploration of its own language and expressiveness, giving creators and listeners an unprecedented degree of control over audio content (**Berry**, 2018).

However, a conception of podcasting as an on-demand audio distribution system would hinder the development of research in this area. Despite several relevant preliminary studies (**Sellas**, 2009; **Gallego**, 2010), interest from the research community in this phenomenon was limited and even superficial until the second decade of the 21st century, coinciding with the second era of podcasting. This concurrence is no coincidence: at that time, podcasts were just beginning to take off as an autonomous medium. **Bonini** (2015) pinpoints the beginning of this era as 2012 in the United States, when the leading podcasts on public radio broke away so that they could be financed through microdonations from their listeners. This change had an economic dimension, but also an emotional one, as it revealed the strength of the communities who had engaged with these audio creators.

The unprecedented success of *Serial* (Sarah Koenig, 2014) would highlight the renewed public interest in audio content. Although this true-crime podcast gave mainstream relevance to the podcast (**Hancock**; **McMurtry**, 2008), its success did not seem so unexpected in the context of increasing audiences and the rise of novel languages and narratives (**Berry**, 2015). In Spain, the second era of podcasting began in 2016 with *Prisa Radio*'s launch of *Podium Podcast*, a platform that made podcasts accessible to the general public, facilitated their discovery and professionalization, and, above all, provided the commercial perspective that was necessary for its consolidation as an industry (**Moreno-Cazalla**, 2017). The resulting boost to the productive sector and the increase in the number of players involved has not only fostered the emergence of the format but also encouraged the development of projects on a global scale (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021). This aspect has been explored less by radio, which has focused on local markets despite recent –albeit still tentative– cross-border expansion initiatives (**Bonet**; **Fernández-Quijada**, 2022).

Despite their roots in a language common to radio, podcasts are developing their own audio identity thanks, in particular, to the abundance of players and the creative edge that fuels competition in the market. On the one hand, they have revitalized and reinterpreted some characteristics of radio communication, such as the intimate and personal style in which one voice relates everything it sees, thinks, or feels (**Bottomley**, 2015); the seriality of fiction genres (**Rodero**; **Pérez-Maíllo**; **Espinosa-de-los-Monteros**, 2019; **López-Villafranca**; **Olmedo-Salar**, 2020); and even long-form narratives (**McHugh**, 2012). On the other hand, its digital and prerecorded nature has allowed the development of more elaborate products that play with voice, music, sound effects, and silence, as well as with production, editing, and combining files and sources to present different ways of telling, expressing, and narrating.

As an example, in their adaptation of the radio report or documentary, podcasts seek to create an atmosphere through the story, in which the role of the narrator is complemented by dramatized reenactments, music, effects, situations, and atmospheres that create true auditory immersion and even holophonic experiences (**Legorburu**; **Edo**; **García-González**, 2021). The podcast rebels against Hertzian journalism, so linked to immediacy, through structures and resources that provide perspective, context, and clarity: it is a means to better understand lives and situations, address unresolved cases, present the unknown, offer new approaches to previously addressed issues, delve into past events, or explain the consequences of what happened (**Gutiérrez**; **Sellas**; **Esteban**, 2019). In this sense, the creative particularities of some podcasts give them an unusual ability to a create visual experiences, so much so that they are beginning to be perceived as an audiovisual medium (**O'Meara**, 2015). Indeed, among its categories, the *Atresmedia Sonora* platform includes "films" produced only for listening. **Zuker** (2014), the executive producer of the television series *Modern Family* (*ABC*), tweeted in reference to *Serial* that "*My favourite TV Show is on the radio.*"

The versatility and adaptability of the podcast as a digital product has also contributed to its growing transmedia use to broaden the horizons of series and movies. In this way, the podcast not only provides continuity to the story or delves into the characters and geographical environments where the plots are set but also helps to strengthen ties with fans and reaches users outside of such stories (**Terol-Bolinches**; **Arense-Gómez**; **Pedrero-Esteban**, 2020). Moreover, audio adaptations and extensions of TV shows –there are numerous examples from both transnational operators (*Prime Video*, *HBO*, and *Peacock*) and Spanish ones (*Movistar+*, *RTVE*, and *Mediaset España*)– are beginning to be conceived of in the opposite direction. The Hollywood industry already sees fiction podcasts as effective and less expensive avenues to test new series. Some titles are also exported and adapted to other languages. In Spain, the first audio fiction from *Podium Podcast*, *El gran apagón*, formed the basis for a series shown on *Movistar+,* which would later be distributed in international markets, with the resulting economic return for its creators. The exploitation of intellectual property from original content has made its way to the audio ecosystem through podcasting.

In parallel to defining a language, an expressiveness, and even its own genres, significant advances have been made in the professionalization of podcasting. In contrast to the idea of the podcaster as a solitary creator of quasi-artisanal content, the consolidation of the industry has given rise to new professional profiles in media and platforms, as well as the proliferation of many production companies of different sizes that have focused on audio. The *Podcast Taxonomy* project, a collaborative standard with an international and multidisciplinary outlook supported by the *Podchaser* database (now under the control of the Swedish company *Acast*) and the recruitment company *Staff Me Up*, is attempting to categorize and describe the increasingly heterogeneous and specific functions in the tasks of creation, production, and distribution in the form of a white paper. In version 1.1.0 (April 20, 2022), there are 65 roles in eleven categories (Table 1). Meanwhile, the community of independent podcasters, who are becoming increasingly less amateur, considers professionalization as one of its major motivations (**Markman**, 2012; **Markman**; **Sawyer**, 2014).

Table 1. Podcast taxonomy (*Podchaser* & *Staff Me Up*). Source: *White paper* version 1.1.0 (April 2022)

<table>
<tr><th>Creative direction</th><th>Writing</th><th>Audio production</th><th>Administration</th></tr>
<tr><td>Director
Assistant director
Executive producer
Senior producer
Podcast concept developer
Producer
Associate producer
Development producer
Creative director
Talent manager</td><td rowspan="3">Author
Editorial director
Writer
Songwriter
Story editor
Managing editor
Script editor
Script coordinator
Researcher
Editor
Fact checker
Translator
Transcriber
Logger</td><td>Studio coordinator
Technical director
Technical manager
Audio engineer
Remote recording engineer
Post-production engineer
Music supervisor</td><td>Production coordinator
Production assistant
Booking coordinator
Sales representative
Sales manager</td></tr>
<tr><th>Cast</th><th>Audio post-production</th><th>Video production</th></tr>
<tr><td>Host
Guest
Voice actor
Narrator
Announcer
Player
Reporter</td><td>Audio editor
Sound designer
Foley artist
Composer
Theme music
Music production
Music contributor</td><td>Camera operator
Lighting designer
Camera grip
Assistant camera</td></tr>
<tr><th>Marketing and community</th><th>Visuals</th><th>Miscellaneous</th><th>Video post-production</th></tr>
<tr><td>Content manager
Community manager
Marketing manager
Social media manager</td><td>Graphic designer
Cover art designer</td><td>Consultant
Intern
Assistant</td><td>Editor
Assistant editor</td></tr>
</table>

The creative and commercial possibilities of podcasts have induced radio operators to expand their offering of online content with exclusive, different, and competitive products, beyond radio's original strategy of considering online distribution as a channel added to the Hertzian broadcasting of programs (**Ribes-Guàrdia**; **Pérez-Alaejos**; **Porta**, 2019). Moreover, at a time when digital audio is one of the areas of greatest expansion in the field of communication, many companies have opted to use the podcast as a strategy to expand and diversify their contact with their audience (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020; **Martínez-Costa** *et al*., 2021). "The Daily," a daily news podcast from *The New York Times*, has a community of subscribers larger than the newspaper itself has, with billions of downloads each day; its success has been replicated in newspapers and media outlets around the world. In Spain, the major newspapers –*El país*, *El mundo*, *elDiario.es*, and *La razón*– have launched their own daily news podcasts (**Martínez-Costa**; **Lus-Gárate**, 2019; **Leoz-Aizpuru**; **Pedrero-Esteban**, 2022) and even have integrated divisions such as *El país audio*, whose productions allow a more thoughtful and considered approach to certain topics or issues of interest to its readers.

The greatest contribution of these new variants, in addition to expanding the range of listening options, is that they revitalize the canons of the radio news story and turn audio into an attractive communication channel for the press, which, through this product, reaches new users and regains one of its most valued attributes: its usefulness in helping to interpret the world around us, now using narratives and languages adapted to digital audiences. In addition, the conversational formula of news podcasts from newspapers helps citizens to better appreciate the work of editors at a time of disaffection toward journalism as a result of confusion and bad practice stemming from fake news (**Pérez-Escoda**; **Pedrero-Esteban**, 2021).

The major technology companies –Apple, *Google*, and *Amazon*, with even *Facebook* and *Twitter* exploring the format– have become global macro-operators of podcasts that coexist and feed off the content from a rapidly growing ecosystem of "audio entertainment" platforms (**Arrillaga**, 2022). *iVoox*, *Spotify*, *Podium Podcast*, *Cuonda*, *Podimo*, *Audible*, *Sybel*, *Convoy*, *Himalaya*, *Posta*, *Sonora*, etc., have become gatekeepers of a sort that bring in new listener-users but also introduce them to content, shaping and modeling this new listening culture. The snapshot of this rapidly evolving ecosystem is completed by the production companies, agencies, and other content creators that are fueling the explosion of digital audio in its various forms and manifestations (Figure 1).

In the struggle to attract increasingly targeted audiences, the major platforms are opting for original production and the acquisition of successful content and creators. *Spotify* has made this strategy its hallmark to gain and retain new subscribers by signing personalities such as Joe Rogan, Bruce Springsteen, Kim Kardashian, Barak and Michelle Obama,

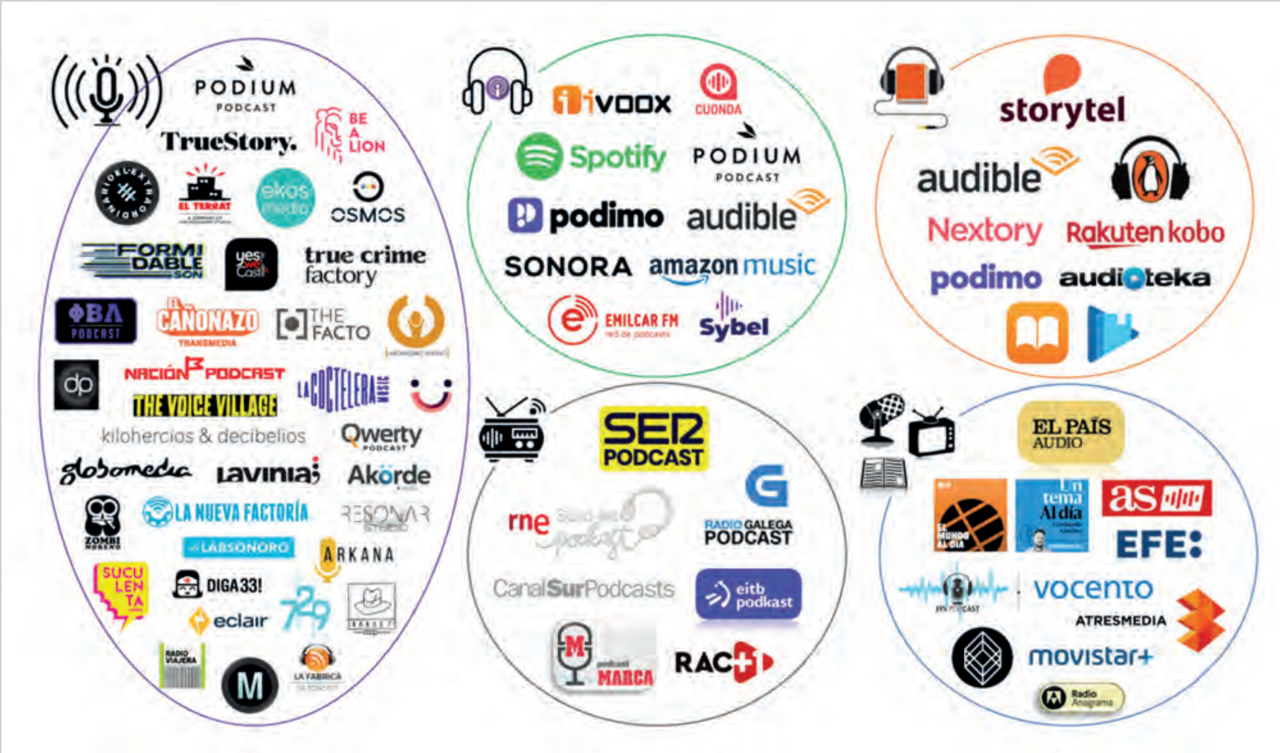

Figure 1. Ecosystem of podcasts and audiobooks in Spain. Source: **Pedrero-Esteban** (July 15, 2022)

etc. The latter have been signed by *Amazon*, demonstrating how podcasting replicates the commercial inertia already established in the film, television, music, and book publishing industries. This also includes marketing and monetization efforts based on public-facing events that radio programs once were experts at leveraging for profitable advertising and promotional revenues: *Estirando el chicle*, *Todopoderosos*, and *Entiende tu mente* in Spain and *La cotorrisa* in Mexico are some noteworthy examples of such successes. These –and many other– titles reveal the popularizing power of these platforms and the effect of their recommendation algorithms, which have gradually influenced podcasters' creative processes: it is becoming increasingly complex for the independent community to gain visibility –literally, given the trend towards video recording of podcasts–to achieve viable audiences and the desired balance between business and autonomy (**Adler-Berg**, 2021). However, symbiotic relationships also emerge: the availability and increased consumption of podcasts has led to the conversion of a large group of listener-users into producers (**Bruns**, 2006), which has resulted in the growth and diversification of the independent podcast sphere.

4. The music plays... on streaming platforms

While podcasts were becoming mass media with their own language, market, business models, and community of listeners –and creators– different from those of radio, the other key form of radiomorphosis, i.e., streaming, was driving the expansion of the recording industry into the digital arena. It is worth remembering that, since its first appearance on the scene, radio has shared the audio space with music: emerging practically at the same time, the recorded music industry and FM stations established a close and fruitful relationship that has survived to this day (**Moreno-Cazalla**; **Pedrero-Esteban**, 2019). However, the adaptation to the digital medium would be abrupt and marked by tension between the new consumption and distribution practices of the listener-users and the phonographic industry's resistance to change networking and broadcasting models (**Fernández**, 2014).

The launch of *Napster*, considered the first major peer-to-peer (P2P) network for songs, in 1999 would drive a radical transformation of the music industry and its value chain (**Gallego**, 2017). This change, however, was not immediate: the popularization of P2P networks would lead to the decline of record labels obsessed with preventing piracy and not with creating new models of legal online distribution (**Witt**, 2016; **Wikström**, 2014). Reactively, the industry ultimately opened itself up to new distribution channels and the entry of players from outside the sector who dared to explore other business models (**García-Gallardo**, 2011). A paradigmatic example would be the *iTunes Music Store* (2003), *Apple*'s online music distribution service, which for the first time facilitated access to/purchase of individual songs rather than complete albums, a model which, years later, would be replicated by *Google Music* (2011).

The most radical transformation in the industry, at least for the end consumer, has come from music streaming platforms. Services such as *Spotify*, *Deezer*, *Apple Music*, *Amazon Music*, *YouTube Music*, *Napster*, *Pandora Music*, *Claro Music*, and *Tidal*, among many others, provide access through freemium or premium models *to* extensive music catalogs that can be enjoyed anytime, anywhere. The editorial approach that has defined the phonographic industry since its beginnings has evolved to one of streaming **(Fernández-Quijada**, 2007), replacing physical or digital media-based products with access and subscription. Streaming has become the driver of a music industry that is more competitive than ever (*IFPI*, 2022): with the proliferation of consumer devices and permanently connected users, the constant ability to be online is one of its unrivaled strengths (**Fouce-Rodríguez**, 2010) and the driving force of the penetration of platforms such as *Spotify*, *Deezer*, or *SoundCloud*. However, as pointed out by **Jáuregui** (2015), beyond the ubiquity of music, these services organize the offering according to playlist selection criteria and recommendations: as opposed to a predefined search by the listener-user, similar to traditional music consumption, the streaming offering enhances exploration and discovery, which positions them between push and pull media (**Jenkins**, 2009) with both on-demand access as well as prescribed content.

This music recommendation functionality is not new; as early as 2000, the *Music Genome Project* took a giant leap forward by developing an analysis model and suggesting songs based on specific musical features (using 450 attributes or genes, *Pandora*, n.d.). This model provided the foundation for the architecture of *Pandora*, a pioneer and driving force behind personalized radio stations such as *Last.fm* or *Radio365*. One of *Spotify*'s distinguishing features is exactly this efficient recommendation system; to offer its users a personalized experience, the platform has created three subscription models: one based on collaborative filtering, or song suggestions based on the listens of users with similar tastes; another based on natural language, which scans the network to identify terms used in track and artist descriptions; and a third based on audio processing, which uses convolutional neural networks –as also used by song identification apps such as *Shazam*– to match tracks according to their melodic variables (*Nodd3r*, 2022).

As listeners leave both the musical compilation and the recommendation and discovery of songs up to platforms (**Morris**, 2015), with concepts such as ownership or collection now being devoid of meaning, there has been a shift in the idea of music as identity-defining. The real-time listening experience provided by streaming platforms has resulted in a dramatic shift in the relationship between the listener and the music that brings the focus to the here and now (**Wikström** 2014). The opportunities to socialize that come with this experience, whether through the streaming platforms themselves or through connectivity with other social media services, make listening a form of expression, connection, and identity.

5. New guidelines for digital audio marketing

According to the *Annual Digital Audio Study 2021* (*IAB Spain*, 2021), 61% of the population in Spain consumes digital audio content, a figure that is almost 20 percentage points higher than that recorded in 2015 (43%). In countries such as the United States, this figure rises to 68%, a finding that confirms the upward trend in the amount of attention paid to this content, with weekly consumption periods that exceed, on average, 16 hours per individual. The coverage and reach of audio, the high brand recall it generates, and its exclusivity in terms of competition with other audio units (something that does not happen with screened devices, where the interface enables simultaneous consumption) are essential to understanding the format (**Quintas-Froufe**; **González-Neira**, 2021).

The development of audio content with highly specialized focuses makes it possible to reach hypersegmented targets, whose identifying features, ever better parameterized, make them extremely attractive niches for brands and advertisers: the possibility of connecting with them through audio results in a high conversion rate, which explains the growing increase in advertising investments in this format (*Statista*, 2022). However, to have an objective measurement in the market and improve the awareness of digital audio, the *Digital Audio Commission* of *IAB* Spain has provided a guide for the industry with standards that aim to serve as a frame of reference and provide clarity in this booming market in the form of a *White paper on digital audio* (*IAB*, 2022).

This document, lays out the fundamentals for the first time to provide platforms, publishers, agencies, creatives, planners, and buyers with the information necessary to create campaigns, defining and explaining the properties of digital audio in terms of its formats, metrics, creativity, and purchase models. This encourages this type of actions adapted to each user profile according to determining factors such as the type of content, contextual environment, affinity, place, time, listening environment, interaction capabilities, or the peculiarities of each device. When it comes to digital audio content, *IAB* distinguishes between live online radio, "catch-up" or delayed listening, podcasts, audiobooks, digital music, and audio press, a modality with increasingly more variants (audio articles, audio letters from the editor, audio columns, etc.) and greater range, thanks to synthetic voices generated using artificial intelligence (AI) (**Balsebre**; **Vidal**, 2021; **Pedrero-Esteban**; **Pérez-Escoda**, 2021). Finally, in terms of channels, *IAB* categorizes radio, music, podcast, and audiobook aggregators into one group and on-demand music platforms and playlists into another.

Such guidelines are especially necessary regarding the consumption of on-demand audio, particularly for podcasts: although their production, unlike other audiovisual sectors, is not limited by an entry barrier when it comes to cost –the recording and distribution of audios with an acceptable quality does not require large investments (**Izuzquiza**, 2019)– the demands of an increasingly competitive market explain the experimentation with new business models that, unlike radio but in correspondence with video-on-demand platforms (**Neira**, 2021), adopt subscription fees as a formula for the viability of audio production. Given their proven efficiency, branded podcasts (**Orrantia**, 2022) and corporate podcasts (**Espinosa-de-los-Monteros**, 2020) have also become increasingly well-known components of comprehensive audio branding strategies (**Piñeiro-Otero**, 2015c). All of these are significant signs of the power of sound in today's media ecosystem.

6. Challenges for radio in the new audio ecosystem

The migration, convergence, and conversion of media into platforms has completely changed radio production models and routines. At the time, it was observed that analog signals were gradually being integrated into the Internet and that, in addition, others emerged and gave birth to new production models built around renewed formulas in the narration of data, facts, ideas, and opinions, now supported by instantaneity, interactivity, bidirectionality, multidirectionality, and participation (**Moreno-Cazalla**, 2018).

Radio today adapts to the demands of audiences, to their needs, and to the way in which information is transferred through interwoven channels. Taking advantage of multimedia opportunities has become one of this industry's greatest challenges in the face of a convergence that alters the relationship between existing technologies, the market, genres, and audiences, in addition to modifying the model in which mass media operate and with which users process information, leisure, and entertainment (**López-Vidales**; **Gómez-Rubio**, 2014; **Cabrera-García-Ochoa**, 2019; **Espada**, 2019). The advancement of mobile devices, the Web 2.0, blogs, social networks, and virtual platforms, among other factors, introduces new habits, performances, and narratives that intertwine writing with mobility and associate sounds and images with immediacy (**Scolari**; **Establés-Heras**, 2020). With digital production systems, the medium incorporates a transformation factor and the opportunity to generate virtual loops for its discovery and commercialization.

In this scenario, there are now round-trip transformations: from the logistics of streaming inherent to the radio medium, we have moved to a stock model (**Bonet**; **Sellas**, 2021) owing to the momentum provided by digital archiving (**Fernández-Quijada**, 2007), and even to the hybridization of the two. This is the inverse of the process undergone by the phonographic and publishing industries, which have become more liquid through the Internet. Improvements in mobile networks, as well as in apps and receiving devices, place streaming as the driving force behind the online audio revolution. Even podcasts, originally designed to be distributed in competition with streaming, are turning to streaming: initiatives such as the British station *Podcast Radio*, with continuous broadcasting through DAB+, exemplify this hybridization and transposition of models.

These are the characteristics that determine the validity of the audio media in the contemporary ecosystem: apps, the bundled distribution of audio fragments in social networks (**Gutiérrez** *et al.*, 2014), the adaptation of each piece to the expressive properties of certain formats (short duration, square format, ephemerality, interactive design, etc.), and push notifications to alert the user to a news item and urge immediate listening are already an intrinsic part of media habits, through which a stronger relationship with the listener has been created and, more than at any other time during its hundred years of existence, the opportunities for dialog and participation have increased. However, there are still some weaknesses and challenges in this process, which are described below.

6.1. Effective and intuitive omnichannel distribution

In the current ecosystem, there is no longer a dominant channel for the audio medium, which is moving from multichannel broadcasting –in which the signal is distributed by all Hertzian and digital broadcasting systems– to an omnichannel requirement –in which it must be present in all environments. Moreover, as the British government cautions in a study that looks into the future of the audio industry (*Gov.UK*, 2021), for the first time in a hundred years, radio is becoming partially dependent on a non-radio infrastructure. For this reason, and in view of the proliferation of listening devices and media connected to the Internet, simplified access is required for both linear broadcasting and personalized consumption (**Zumeta**, 2021).

As in the television industry, streaming audio platforms have diminished the power of Hertzian radio operators, who must now establish alliances with them in order to sustain their brand in the virtual environment. The exponential growth of on-demand consumption (music, podcasts, audiobooks, etc.) has turned these networks into new channels for content produced by –and even for– radio, that is, spaces created exclusively for these services or programs broadcast on the air, which, through these spaces, acquire new options for amortization and profitability (*Prisa Audio*'s agreements with *Spotify*, *Podimo*, or *Amazon Music*, among other players, show the potential of this path). Part of the same strategy is the promotion of radio spaces as brands with their own recognizable identity, independent of the original radio station. Programs such as *Nadie sabe nada* (*Cadena SER*), at the top of the lists of podcasts with the largest audience on *iVoox* or *Spotify*, reveal a community of listener-users who do not consume radio and do not relate to this content as such. The business of the licensees of a frequency no longer focuses solely on marketing the advertising impact of linear programming but also on maximizing the performance of the content in all environments and on all devices (**Legorburu**; **García-González**; **Dorado**, 2019).

This is the case of the aptly named "smart" speakers, the first and most well-known of the impending flood of devices equipped with voice interfaces that are preferably, almost instinctively, used as radio and music players. Companies in the sector have been quick to incorporate applications or "skills," which transcend those centered around listening: by the end of 2020, 100,000 skills to interact with the range of *Amazon Alexa* devices had been designed worldwide; the majority of these were from the United States, but there was also a significant number from the United Kingdom, India, Canada, Australia, Germany, and Spain. Many of these, however, provide solutions outside of radio, such that the potential of these devices as sources of discovery and listening for audio content should be examined in greater depth (**Pedrero-Esteban**, 2018).

6.2. More recommendation and discovery actions

The ubiquity of the smartphone on a global scale and its use as the preferred device for accessing digital leisure and entertainment was a major obstacle for radio, whose essentially invisible content has required a stronger visual identity to gain a foothold on mobile screens. This explains the use of cameras in studios and the controversial transmutation of audio language, thanks to which the radio has posted its broadcasts on channels such as *YouTube*, where pre-digital video clips (**Selva-Ruiz**, 2012) have turned this portal into background musical; *Twitch*, which has emerged as a virtual space for synchronous meetings that go beyond video games and which also allows this platform's audience to follow audio content; and social networks. In one way or another, all of these have already emerged as strategic ways to publicize programs and encourage participation and interaction with listeners: the medium must continue to experiment along these lines with narratives adapted to the specific needs of each topic and platform, especially those that connect with young audiences (**Martínez-Costa**; **Prata-Moreira-Martins**, 2017).

Improvements in machine learning are enabling immediate, fast, and accurate transcription of audio files –hitherto invisible in digital searches– and their identification using tags. *Google* has started to process mp3 files as texts, which allows them to appear as suggestions in the user's personalized menu. This means that SEO (web positioning) and ASO (app positioning) strategies require additional effort so that radio content, properly disaggregated and distributed on audio platforms, is suggested according to the preference history of each listener, especially on *voice user interface* (VUI) devices.

Finally, it seems advisable to test and redefine the guidelines for sending *push* notifications *(through apps) with news or suggestions to listen to the radio, which are* as effective (when they warrant their abrupt intrusion on the mobile screen) as they are pernicious (when they saturate it with irrelevant messages or are out of sync with the broadcasts) (**Pedrero-Esteban**; **Herrera-Damas**, 2017). An alert about a breaking news event, for example, is an effective way to access the live feed if the user notices that the alerts and programming are related. In addition to this functionality, a radio broadcaster can take advantage of other marketing tools with proven effectiveness, such as e-mail newsletters with links to content that has already been broadcast or promotions and previews of upcoming releases.

6.3. New funding channels

As mentioned above, digital convergence has placed radio at a crossroads as a business that is trying to overcome the limitations of its century-old model: while Hertzian broadcast channels are losing ground to the new platforms in both spoken-word and music content, most of its revenue continues to depend on advertising formulas associated with linear and synchronous consumption, despite its loss of status in the analog environment. Already in 2016, owing to the effect of ad spots in blocks of several minutes, 71% of US drivers changed their station an average of 18 times on their commute to or from work, twice as many as with digital audio sources (*Edison Research*, 2016).

Although there has been a progressive increase in online radio as an advertising medium, the development of new content and commercial formats adapted to the digital environment has only just begun. *Pre-roll* audio, programmatic ads, immersion with 3D and 8D audio, *branded podcasts* (**Martínez-Otón**; **Sellas**; **Ortega**, 2021), and *native advertising* are being tested, but in addition to creativity and technology, it is necessary to strengthen commercial teams and rethink the mentality of an industry that insists on mass-based rates (**Ortiz-Sobrino**; **Castillo-Lozano**; **Carrazoni**, 2019) rather than on the habits of an audience for whom an overabundance of content increasingly reduces their attention span and leads them to be more selective (and restrictive).

However, the great challenge for the sector is the backing of a payment model already standardized in the audiovisual sector, thanks to the global penetration of video-on-demand platforms. It is estimated that there will be 1.75 billion active subscriptions to such services by 2027 –30% more than in 2021– driven by the growth of *Netflix*, *Disney+*, *Amazon Prime Video*, and *HBO* (*Digital TV Research*, 2022). Something similar happens with the press and payment "walls," which are gradually establishing themselves as a sustainable and coherent model with the demand for credibility and reliability of the media in response to the emergence of fake news (**Cerezo**, 2019).

Has the audio market matured enough to introduce economic barriers to listening? What would be the trade-off that would justify them? According to the *Online Audio Study 2021* (*IAB*), the main reasons that users would accept such payments are "new content, in accordance with their tastes and with offline access." In the *EncuestaPod 2022* (*Podcaster@s*) survey, in a sample of 2,213 users in Spain and Latin America, 47% of listeners stated that they would pay for a subscription service to listen to exclusive podcasts (around three dollars a month); there is more willingness to pay among young people (56%), and less among those over 55 years of age (40%),

What about radio? *Bauer Media Audio*, the UK division of the German *Bauer Media Group*, already offers some of its signals with premium access in the UK, Denmark, Poland, and Norway, with monthly fees ranging from two to five euros. In Spain, the station *Baby Radio*, which has been broadcasting a programming schedule for children from zero to nine years of age over the Internet since 2012, introduced in 2015 a *premium* version with targeted content, no advertising, and the ability to download stories and songs for a cost ranging from three euros quarterly to ten euros annually. The emergence of new podcast and audiobook networks with subscription business models –such as *Audible*, *Podimo*, *Sonora*, or *Storytel* in Spain– as well as the predictions that specific fees will be introduced to access *Spotify* or *Apple Podcasts*, could prompt the introduction of paid formulas for exclusive radio productions or for those that enrich digital listening.

Such options would not only provide differential content but also improve listening conditions, such as listening ad-free or the possibility of interacting with the creators themselves.

6.4. Semantic and expressive innovation

The main differentiating element of the radio medium has been –and is– the spoken word, and its eloquence has always relied on it, through all kinds of information and entertainment genres. However, in contrast to the auditory expressiveness that the medium boasted until the last quarter of the twentieth century, the growing weight of current affairs –news and opinions– has diminished the presence of fiction productions, in which the creative, evocative, and dreamy flow of audio language, and even those of in-depth reporting, has increasingly been expressed.

The emergence and increasing penetration of podcasting are revitalizing these narratives for both stories based on reality and imaginary stories. As a result of this proposal, radio itself has begun to rethink some of its production routines, sometimes conditioned by the immediacy and not by the formal curation of its broadcasting (**Pedrero-Esteban**, 2022). Beyond the thematic breadth or the diversity of genres that radio brings to life through its programming, and assuming that digital consumption habits are no longer delimited by schedules but rather by the tastes and interests of each listener, the medium must understand that its strengths are based on the continued credibility of its brand and the careful treatment of language.

In this regard, the reflections of journalist Iñaki Gabilondo are enlightening:

> "Radio, often so concerned about counting audiences and advertisers, forgets that what is really important is to tell things, to tell them in a way that listeners feel it is worth tuning in (...) We need to know what they like and what they have stopped liking, what they are interested in and what they have stopped liking, why they listen to us or stop listening to us" ["*A la radio, a menudo tan preocupada por contar audiencias y anunciantes, se le olvida que lo realmente importante es contar cosas, contarlas de forma que los oyentes sientan que vale la pena sintonizarla (…) Necesitamos saber qué les está gustando y qué les ha dejado de gustar, qué les está interesando y qué les ha dejado de gustar, por qué nos oyen o nos dejan de oír*"] (**Gabilondo**, 2019).

The constant attention of the listener is a restlessness and a capacity that must remain constant and active in front of the microphone.

Beyond the relevance acquired by the voice in the multiplicity of sound contents, technological development and its social appropriation have recovered the value of orality. Its use as a mechanism to activate smart speakers and virtual assistants has simplified our relationship with technology: if before we learned to convert our search interests into keywords as part of digital literacy, it is now technology that adapts to our language to enable natural, almost human interactions thanks to this conversational interface. Paradoxically, this drive toward orality emerges from mobile messaging services such as *WhatsApp*. Indeed, the widespread use of audio messages has so modified mediated interpersonal communication that 86% of Spaniards prefer to send a recording instead of calling on the phone (*Fundación Telefónica*, 2021). In this way, cellphones continue to support verbal communication that has become asynchronous and non-simultaneous, such as on-demand audio consumption.

As a response to this trend, albeit through patterns that resemble a social network and not private conversations, the recovery of speech as a form of interaction and dialog became evident with the emergence of Clubhouse and its numerous copies. Emerging in the midst of the coronavirus pandemic, *Clubhouse* accumulated in just a few months ten million downloads from users eager to participate with voice and hearing (they only listen and talk) in its crowded virtual rooms (**Ortega-Fernández**; **Padilla-Castillo**; **Rodríguez-Hernández**, 2021). Professional, academics and even media forums –in March 2021 *Herrera en Cope* announced its jump to this social network in parallel with the development of other native initiatives such as *Clubmorning* (**Hidalgo**, 2021)– were quick to populate and later abandon this platform. Despite its short-lived success, *Clubhouse* highlighted a need in the user community that has led big technology companies into another battle for leadership in the social audio arena: *Spaces* from *Twitter* (where *Cadena SER* records the program *Tuits que nunca escribé*, which can then be downloaded as a podcast), *Live Audio Rooms* by *Facebook*, and *LinkedIn Live* are examples of how the community is redefining its consumption practices and relationship with the reborn digital audio.

7. References

Adler-Berg, Freja-Sørine (2021). "The tension between podcasters and platforms: independent podcasters' experiences of the paid subscription model". *Creative industries journal*, v. 15, n. 1, pp. 58-78.
https://doi.org/10.1080/17510694.2021.1890417

Anderson, Chris (2006). *The Long Tail: Why the Future of Business Is Selling Less of More.* New York: Hyperion. ISBN: 978 1 401302375

Arrillaga, Judith (2022). "Así es Sonora, la nueva plataforma de audio que nace con contenido de Isabel Coixet, Jon Sistiaga o Julio Medem". *Informalia*, 18 julio.
https://informalia.eleconomista.es/television/noticias/11872199/07/22/Asi-es-Sonora-la-nueva-plataforma-de-audio-que-nace-con-contenido-de-Isabel-Coixet-Jon-Sistiaga-o-Julio-Medem.html

Balsebre, Armand; **Vidal, Antoni** (2021). *Darwin en el desván: Progreso, sumisión tecnológica y medios de comunicación*. Madrid: Cátedra. ISBN: 978 84 37642468

Barrios-Rubio, Andrés; **Gutiérrez, María** (2021). "Youth sound consumption practices, between big platforms and the radio ecosystem: the case of Colombia-Spain". *Comunicación y sociedad*, 18.
https://doi.org/10.32870/cys.v2021.7820

Berry, Richard (2015). "A golden age of podcasting? Evaluating serial in the context of podcast histories". *Journal of radio & audio media*, v. 22, n. 2, pp. 170-178.
http://doi.org/10.1080/19376529.2015.1083363

Berry, Richard (2018). "Just because you play a guitar and are from Nashville doesn´t mean you are a country singer: The emergence of medium identities in podcasting". In: Llinares, Dario; Fox, Neil; Berry, Richard. *Podcasting*. *New aural cultures and digital media.* Cham: Palgrave Macmillan, pp. 15-33. ISBN: 978 3 319900551
https://doi.org/10.1007/978-3-319-90056-8_2

Bertetti, Paolo (2009). "La música en los tiempos de las descargas. Desmaterialización de la música y el fin de la textualidad discográfica". En: Carlón, Mario; Scolari, Carlos A. *El fin de los medios masivos. El comienzo de un debate*. Buenos Aires: La Crujía, pp. 71-92. ISBN: 978 987 6010870

Blanchard, Margaret A. (2013). *History of the mass media in the United States: An encyclopedia*. New York: Routledge. ISBN: 978 1579580124

Bonet, Montse (2007). "Nuevos caminos para la radio. Un proceso productivo digital para un negocio analógico". *Telos: Cuadernos de comunicación e innovación*, n. 73.
https://core.ac.uk/download/pdf/18416061.pdf

Bonet, Montse; **Fernández-Quijada, David** (2021). "Sounds without borders. Exploring the cross-national expansion of commercial European Radio Groups". *European journal of communication*, pp.1-26.
https://doi.org/10.1177/02673231211012142

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *El profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Bonini, Tiziano (2015). "The 'Second age' of podcasting: Reframing podcasting as a new digital mass medium". *Quaderns del CAC*, n. 4, pp. 23-33.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_EN_0.pdf

Bonini, Tiziano; **Monclús, Belén** (2014). *Radio audiences and participation in the age of network society*. Routledge. ISBN: 978 0 415739153

Boschi, Elena; **Kassabian, Anahid**; **García-Quiñones, Marta** (2013). "Introduction: A day in the life of a ubiquitous musics listener". In: Boschi, E.; Kassabian, A.; García-Quiñones, M. *Ubiquitous musicsthe everyday sounds that we don't always notice*. Farnham: Ashgate, pp. 1-12. ISBN: 978 1 315549453

Bottomley, Andrew J. (2015). "Podcasting: A decade in the life of a 'new'audio medium: Introduction". *Journal of radio & audio media*, v. 22, n. 2, pp. 164-169.
https://doi.org/10.1080/19376529.2015.1082880

Bruns, Axel (2006). "Towards produsage: Futures for user-led content production". In: Ess, Charles; Sudweeks, Fay. *Proceedings Cultural attitudes towards communication and technology.* Sydney: University of Sydney, pp. 275-284. ISBN: 978 1 864513882

Bull, Michael (2010). "*IPod*: un mundo sonoro personalizado para sus consumidores". *Comunicar*, v. 17, n. 34, pp. 55-63.
https://doi.org/10.3916/C34-2010-02-05

Cabrera-García-Ochoa, Yolanda (2019). "Hábitos de uso y consumo de la generación millennial en sus teléfonos móviles". *adComunica*, n. 18, pp. 21-40.
https://doi.org/10.6035/2174-0992.2019.18.3

Cebrián-Herreros, Mariano (2008). *La radio en Internet: De la ciberradio a las redes sociales y la radio móvil*. Buenos Aires: La Crujía. ISBN: 978 987 6010634

Cerezo, Pepe (2019). *Los medios ante los modelos de suscripción*. Barcelona: UOC. ISBN: 978 84 91806264

Chan-Olmsted, Sylvia; **Wang, Rang** (2020). "Understanding podcast users: Consumption motives and behaviors". *New media & society*, v. 24, n. 3.
https://doi.org/10.1177/1461444820963776

Cordeiro, Paula (2012). "Radio becoming r@dio: Convergence, interactivity and broadcasting trends in perspective". *Participations*, v. 9, n. 2, pp. 492-510.

Deuze, Mark (2007). "Convergence culture in the creative industries". *International journal of cultural studies*, v. 10, n. 2, pp. 243-263.
http://doi.org/10.1177/1367877907076793

Digital TV Research (2022). *SVOD Forecasts update*, 2022.
https://digitaltvresearch.com

Edison Research (2016). "Hacks the commuter code: AM/FM listeners switch 22 times per minute". *Blog-Latest news*, 7 April.
https://www.edisonresearch.com/edison-research-hacks-commuter-code-amfm-listeners-switch-22-times-per-commute

EGM (2022). *Estudio general de medios. Audiencia general de medios.*
https://reporting.aimc.es/index.html#/main/radio

Espada, Agustín-Eduardo (2019). "Estrategias de negocio para sus webs de las radios más escuchadas de Buenos Aires". *adComunica*, n. 17, pp. 67-88.
https://doi.org/10.6035/2174-0992.2019.17.5

Espinosa-de-los-Monteros, María-Jesús (2020). "'Podcast' de marca frente a 'podcast' corporativo. Cada vez son más las marcas que utilizan el formato 'podcast' para comunicar y crear". *El país*, 14 mayo.
https://elpais.com/elpais/2020/05/14/dias_de_vino_y_podcasts/1589462415_734271.html

Fernández, José-Luis (2014). "Periodizaciones de idas y vueltas entre mediatizaciones y músicas". En: Fernández, José-Luis. *Postbroadcasting. Innovación en la industria musical.* Buenos Aires: La Crujía, pp. 27-46. ISBN: 978 987 6012256

Fernández-Quijada, David (2007). "Industrias culturales en el entorno digital: una reformulación desde la praxis comunicativa". *Revista Zer*, v. 12, n. 22, pp. 119-140.
https://ojs.ehu.eus/index.php/Zer/article/view/3674

Fidler, Roger F. (1997). *Mediamorphosis: Understanding new media*. Thousand Oaks: Pine Forge Press. ISBN: 978 0 803990863

Fouce-Rodríguez, Héctor (2010). "De la crisis del mercado discográfico a las nuevas prácticas de escucha". *Comunicar*, v. 34, n. 17, pp. 65-72.
https://doi.org/10.3916/C34-2010-02-06

Franquet, Rosa (1999). "Radio y televisión en la Red: el primer asalto". En: Franquet, Rosa; Larrégola, Gemma. *Comunicar a l'era digital.* Barcelona: Societat Catalana de Comunicació, pp. 277-285. ISBN: 978 84 72834804

Fundación Telefónica (2021). *Sociedad digital en España 2020-2021.*
https://www.fundaciontelefonica.com/cultura-digital/publicaciones/sociedad-digital-en-espana-2020-2021/730

Gabilondo, Iñaki (2019). "La vida, el reto de la radio". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 21-32. ISBN: 978 84 17973261

Gallego, J. Ignacio (2010). *Podcasting: Nuevos modelos de distribución para los contenidos sonoros*. Barcelona: UOC. ISBN: 978 84 9788 857 8

Gallego, J. Ignacio (2016). "Una mirada a la diversidad en las industrias radiofónica y musical en España". *CIC. Cuadernos de información y comunicación*, v. 21, pp. 139-155.
https://doi.org/10.5209/CIYC.52879

Gallego, J. Ignacio (2017). "Remediación y diversidad. Tendencias actuales en la industria musical global". *Telos: Cuadernos de comunicación e innovación*, n. 106, pp. 48-106.
https://telos.fundaciontelefonica.com/wp-content/uploads/2017/11/TELOS106.pdf#page=49

García-Gallardo, Francisco-José (2011). "Modelos empresariales y viabilidad económica para los contenidos digitales en la industria musical". En: Cebrián-Herreros, Mariano; Maestro-Bäcksbacka, Javier; Rubio-Moraga, Ángel L. *Industrias culturales. El modelo nórdico como referencia en España.* Zamora: Comunicación Social, pp. 54-75. ISBN: 978 84 92860753

García-Marín, David (2020). "Del zine al podcast. Repensar la cultura de la participación desde un análisis comparativo de los medios alternativos". *Doxa comunicación*, n. 30, pp. 107-25.
https://revistascientificas.uspceu.com/doxacomunicacion/article/view/621

Gov.UK (2021). *Digital radio and audio review. Ensuring a robust and sustainable future for UK radio and audio*. Department for Digital, Culture, Media & Sport. 21st October 2021. Updated 28 April 2022.
https://www.gov.uk/government/publications/digital-radio-and-audio-review/digital-radio-and-audio-review

Gutiérrez, María; **Martí, Josep-Maria**; **Ferrer, Iliana**; **Monclús, Belén**; **Ribes-Guàrdia, Xavier** (2014). "Los programas radiofónicos españoles de prime time en Facebook y Twitter: sinergias entre la radio convencional y las redes sociales". *Revista latina de comunicación social*, n. 69, pp. 418-434.
https://doi.org/10.4185/RLCS-2014-1018

Gutiérrez, María; **Sellas, Toni**; **Esteban, José-Ángel** (2029). "Periodismo radiofónico en el entorno online. El podcast narrativo". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp.131-150. ISBN: 978 84 17973261

Hancock, Danielle; **McMurtry, Leslie** (2018). "'I know what a podcast is': Post-serial fiction and podcast media identity". In: Llinares, Dario; Fox, Neil; Berry, Richard. *Podcasting*. *New aural cultures and digital media.* Cham: Palgrave Macmillan, pp. 81-105. ISBN: 978 3 319900551
https://doi.org/10.1007/978-3-319-90056-8_5

Hidalgo, Montse (2022). "¿Qué fue de Clubhouse? El silencio incómodo de una red social que iba a cambiarlo todo". *El pais*, 13 noviembre.
https://elpais.com/tecnologia/transformacion-digital/2021-11-13/que-fue-de-clubhouse-el-silencio-incomodo-de-una-red-social-que-iba-a-cambiarlo-todo.html

IAB Spain (2019). *Top tendencias digitales 2019*.
https://iabspain.es/estudio/top-tendencias-digitales-2019

IAB Spain (2020). *Top tendencias digitales 2020.*
https://iabspain.es/estudio/top-tendencias-digitales-2020

IAB Spain (2021). *Estudio anual de audio digital*.
https://iabspain.es/estudio/estudio-anual-de-audio-digital-2020

IAB Spain (2022). *Libro blanco del audio digital*.
https://iabspain.es/estudio/libro-blanco-audio-digital-2022

IFPI (2022). *Gobal music report.*
https://www.ifpi.org/wp-content/uploads/2022/04/IFPI_Global_Music_Report_2022-State_of_the_Industry.pdf

Igarza, Roberto (2008). *Burbujas de ocio: nuevas formas de consumo cultural*. Buenos Aires: La Crujía. ISBN: 978 987 6010719

Izuzquiza, Fran (2019). *El gran cuaderno de podcasting: cómo crear, difundir y monetizar tu podcast*. Madrid: Kailas Editorial. ISBN: 978 84 17248413

Jáuregui, Jimena (2016). "Streaming musical en Spotify: ubicuidad entre géneros y estados de ánimo". *InMediaciones de la comunicación*, v. 10, n. 10, pp. 76-90.
https://doi.org/10.18861/ic.2015.10.10.2587

Jenkins, Henry (2006). *Convergence culture: Where old and new media collide*. New York: New York University Press. ISBN: 978 0 814742952

Jenkins, Henry (2009). *Fans, blogueros y videojuegos. La cultura de la colaboración.* Barcelona: Editorial Paidós. ISBN: 978 84 49322587

Kantar (2019). *Media trends & predictions 2019*.
https://cz.kantar.com/wp-content/uploads/2018/12/Media_Predictions_2019.pdf

Kantar (2020). *Media trends & predictions 2020*.
https://www.kantar.com/es/inspiracion#Industry=Tecnolog%c3%ada

Kischinhesky, Marcelo (2009). "Cultura da portabilidade. Novos usos do rádio e sociabilidades em mídia sonora". *Observatorio (OBS*) journal*, n. 8, pp. 223-238.
http://obs.obercom.pt/index.php/obs/article/view/271

Lankshear, Colin; **Knobel, Michel** (2010). "DIY media: A contextual background and some contemporary themes". In: Lankshear, Colin; Knobel, Michel. *DIY media: creating, sharing and learning with new technologies. New literacies and digital epistemologies*. New York: Peter Lang, pp. 1-24. ISBN: 978 1 433106354

Legorburu, José-María; **Edo, Concha**; **García-González, Aurora** (2021). "Reportaje sonoro y podcasting, el despertar de un género durmiente en España. El caso de Podium Podcast". *Estudios sobre el mensaje periodístico*, v. 27, n. 2, pp. 519-529.
https://doi.org/10.5209/esmp.71204

Legorburu, José-María; **García-González, Aurora**; **Dorado, José-Vicente** (2019). "Condicionantes de la programación radiofónica digital". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 59-82. ISBN: 978 84 17973261

Leoz-Aizpuru, Asier; **Pedrero-Esteban, Luis-Miguel** (2022). "Audio storytelling innovation in a digital age: The case of daily news podcasts in Spain". *Information*, v. 13, n. 204.
https://doi.org/10.3390/info13040204

Llinares, Darío; **Fox, Neil**; **Berry, Richard** (2018). *Podcasting: New aural cultures and digital media*. Cham: Palgrave MacMillan. ISBN: 978 3 319900551

López-Vidales, Nereida; **Gómez-Rubio, Leire** (2014). "Nuevos hábitos de los jóvenes españoles y tendencias de futuro en el consumo de radio y televisión". *Historia y comunicación social*, v. 19, pp. 327-340.
https://doi.org/10.5209/rev_HICS.2014.v19.45031

López-Vidales, Nereida; **Sánchez-Serrano, Consuelo**; **Izuzquiza, Fran** (2019). "Nuevos perfiles profesionales de la radio y el audio digital". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 243-267. ISBN: 978 84 17973261

López-Villafranca, Paloma; **Olmedo-Salar, Silvia** (2020). *Radioteatro. Olvido, renacimiento y su consumo en otras plataformas*. Zamora: Comunicación Social. ISBN: 978 84 17600228

Markman, Kris (2012). "Doing radio, making friends, and having fun: Exploring the motivations of independent audio podcasters". *New media & society*, v. 14, n. 4, pp. 547-565.
https://doi.org/10.1177/1461444811420848

Markman, Kris; **Sawyer, Caroline E.** (2014). "Why pod? Further explorations of the motivations for independent podcasting". *Journal of radio & audio media*, v. 21, n. 1, pp. 20-35.
https://doi.org/10.1080/19376529.2014.891211

Martínez-Costa, María-Pilar (2015). "Radio y nuevas narrativas: de la crossradio a la transradio". En: Oliveira, Madalena; Ribeiro, Fábio. *Radio, sound and internet.* Braga: Universidade do Minho, pp. 168-187. ISBN: 978 9898600370

Martínez-Costa, María-Pilar; **Legorburu, José-María** (2020). "Audio digital e interfaces de voz: una nueva era para la sonosfera". En: Pedrero-Esteban, Luis-Miguel; Pérez-Escoda, Ana. *Cartografía de la comunicación postdigital: medios y audiencias en la sociedad de la Covid-19.* Madrid: Civitas, pp. 303-329. ISBN: 978 84 1 345 824 3

Martínez-Costa, María-Pilar; **Lus-Gárate, Eva** (2019). "El éxito de los podcasts de noticias y su impacto en los medios de comunicación digital". *Miguel Hernández communication journal*, v. 10, n. 2, pp. 323-340.
https://doi.org/10.21134/mhcj.v10i0.314

Martínez-Costa, María-Pilar; **Prata-Moreira-Martins, Nair** (2017). "La radio en busca de su audiencia: hacia una escucha diversificada y multiplataforma". *Intercom. RBCC*, v. 40, n. 3, pp. 109-128.
https://doi.org/10.1590/1809-5844201737

Martínez-Costa, María-Pilar; **Sánchez-Serrano, Consuelo**; **Pérez-Maillo, Aurora**; **Lus-Gárate, Eva** (2021). "La oferta de podcast de la prensa regional en España: estudio de las marcas centenarias de Castilla y León y Navarra". *adComunica*, n. 21, pp. 211-234.
https://doi.org/10.6035//2174-0992.2021.21.11

Martínez-Otón, Laura; **Sellas, Toni**; **Ortega, Juanma** (2021). "El *branded podcast* como estrategia corporativa y de marca: sentido de pertenencia, pedagogía social y posicionamiento". En: Olivares, José P.; Gago, Rocío. *El branded content en la comunicación posdigital: estructuras, aplicaciones y casos de éxito*. Valencia: Tirant, pp. 145-168. ISBN: 978 84 18534041

McHugh, Siobhan (2012). "Oral history and the radio documentary/feature: Introducing the 'COHRD' form". *Radio journal: International studies in broadcast & audio media*, v. 10, n. 1, pp. 35-51.
https://doi.org/10.1386/rjao.10.1.35_1

Meserko, Vince (2010). *Upright citizens of the digital age: Podcasting and popular culture in an alternative comedy scene*. Master thesis. University of Kansas.
https://core.ac.uk/download/pdf/213394351.pdf

Moreno-Cazalla, Lourdes (2017). "Podium Podcast, cuando el podcasting tiene acento español". *Revista prisma social*, v. 18, pp. 334-364.
https://revistaprismasocial.es/article/view/1418

Moreno-Cazalla, Lourdes (2018). *La radio online en España ante la convergencia mediática. Sintonizando con un nuevo ecosistema digital y una audiencia hiperconectada*. Tesis doctoral. Universidad Complutense.
https://eprints.ucm.es/id/eprint/49995/1/T40592.pdf

Moreno-Cazalla, Lourdes; **Pedrero-Esteban, Luis-Miguel** (2020). "La transformació digital de la ràdio musical: el cas de Máxima / LOS40 Dance". *Comunicació: revista de recerca i d'análisi*, v. 37, n. 1, pp. 94.
https://raco.cat/index.php/Comunicacio/article/view/387161

Moreno-Moreno, Elsa; **Amoedo-Casais, Avelino**; **Martínez-Costa, María-Pilar** (2017). "Usos y preferencias del consumo de radio y audio online en España: tendencias y desafíos para atender a los públicos de internet". *Estudios sobre el mensaje periodístico*, v. 23, n. 2, pp.1319-1336.
https://doi.org/10.5209/ESMP.58047

Morris, Jeremy-Wade (2015). *Selling digital music, formatting culture.* Oakland: University of California Press. ISBN: 978 0 520962934

Muela-Molina, Clara; **Piñeiro-Otero, Teresa** (2022). "Creatividad y formatos publicitarios. Más allá de la radio convencional". En: Berdasco, Yolanda. *Manual de periodismo radiofónico*. Madrid: CEF (en prensa).

Neira, Elena (2021). *Streaming wars: la nueva televisión*. Barcelona: Cúpula. ISBN: 978 84 48026585

Newman, Nic (2018). *Journalism, media, and technology trends and predictions 2018.* Reuters Institute & University of Oxford.
https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2018-01/RISJ%20Trends%20and%20Predictions%20 2018%20NN.pdf

Newman, Nic (2019). *Journalism, media, and technology trends and predictions 2019*. Reuters Institute & University of Oxford.
https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2019-01/Newman_Predictions_2019_FINAL_2.pdf

Nodd3r (2022). *¿Cómo funciona el algoritmo y el sistema de recomendación de Spotify?* Nodd3r, 21 abril.
https://nodd3r.com/blog/como-funciona-el-algoritmo-y-el-sistema-de-recomendacion-de-spotify

O'Meara, Jennifer (2015). "'Like movies for radio': Media convergence and the serial podcast sensation". *Frames cinema journal*, v. 8, n. 28.
http://framescinemajournal.com/article/like-movies-for-radio-media-convergence-and-the-serial-podcast-sensation.

Oliveira, Madalena; **Portela, Pedro**; **Vicente, Eduardo** (2018). "Sound and culture: Acoustic cartographies and soundscape". *Lusophone journal of cultural studies*, v. 5, n. 1, pp. 11-16.
https://www.eca.usp.br/acervo/producao-academica/002916844.pdf

Ormaechea, Ana; **Fernández-Delkáder, Pablo** (2019). "Un viaje a través del audio". *Telos: Cuadernos de comunicación e innovación*, n. 111, pp. 16-20.
https://telos.fundaciontelefonica.com/wp-content/uploads/2019/07/telos-111-asuntos-de-comunicacion-ana-ormaechea-pablo-fernandez-delkader-un-viaje-a-traves-del-audio.pdf

Orrantia, Andoni (2022). *¿Cómo habla tu marca en podcast? El audio en la estrategia de marketing digital de tu empresa*. Madrid: ESIC. ISBN: 978 84 18944444

Ortega-Fernández, Eglée; **Padilla-Castillo, Graciela**; **Rodríguez-Hernández, Jonattan** (2021). "El audio efímero como comunicación digital innovadora. El caso Club house". *CIC. Cuadernos de información y comunicación*, v. 26, pp. 107-121.
https://doi.org/10.5209/ciyc.75818

Ortiz-Sobrino, Miguel-Ángel; **Castillo-Lozano, Eduardo**; **Carrazoni, Laura** (2019). "Estrategias de comercialización radiofónica en el entorno online". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 83-106. ISBN: 978 84 17973261

Pandora (n. d.). *Music Genome Project.*
https://www.pandora.com/about/mgp

Pedrero-Esteban, Luis-Miguel (2018). "Los altavoces son para la radio". *Innovación audiovisual*, 21 agosto.
https://innovacionaudiovisual.com/los-altavoces-son-para-la-radio

Pedrero-Esteban, Luis-Miguel [@luismipedrero]. (15 de julio de 2020). *Pocas evidencias sobre el imparable crecimiento del ecosistema del #audio digital en España resultan tan contundentes como el mapa [en construcción] de sus principales actores en la creación, producción y distribución de* #podcasts *y #audiolibros* 🎧 [Tweet con infografía: Ecosistema de los podcasts y audiolibros en España]. Twitter.
https://twitter.com/luismipedrero/status/1547913879019081729/photo/1

Pedrero-Esteban, Luis-Miguel (2022). "La renovación digital del relato informativo sonoro: el auge del podcast narrativo". *Blog El periscopio*. *Máster de innovación en periodismo. Universidad Miguel Hernández*, 8 enero.
https://mip.umh.es/blog/2022/01/18/la-renovacion-digital-del-relato-informativo-sonoro-el-auge-del-podcast-narrativo

Pedrero-Esteban, Luis-Miguel; **Barrios-Rubio, Andrés**; **Medina-Ávila, Virginia** (2019). "Teenagers, smartphones and digital audio consumption in the age of Spotify". *Comunicar*, n. 60, pp. 103-112.
https://doi.org/10.3916/C60-2019-10

Pedrero-Esteban, Luis-Miguel; **Herrera-Damas, Susana** (2017). "La notificación push como estrategia informativa de la radio en el entorno digital". *El profesional de la información*, v. 26, n. 6, pp. 1100-1107.
https://doi.org/10.3145/epi.2017.nov.09

Pedrero-Esteban, Luis-Miguel; **Marín-Lladó, Carles**; **Martínez-Otón, Laura** (2022). "La programación radiofónica en la era del consumo bajo demanda (1999-2020)". *Estudios sobre el mensaje periodístico*, v. 28, n. 2, pp. 367-377.
https://doi.org/10.5209/esmp.80720

Pedrero-Esteban, Luis-Miguel; **Pérez-Escoda, Ana** (2021). "Democracia y digitalización: implicaciones éticas de la IA en la personalización de contenidos a través de interfaces de voz". *Recerca, Revista de pensament i análisi*, v. 26, n. 2.
https://doi.org/10.6035/recerca4666

Pérez-Alaejos, María-de-la-Peña-Mónica; **Pedrero-Esteban, Luis-Miguel**; **Leoz-Aizpuru, Asier** (2017). "La oferta nativa de podcast en la radio comercial española: contenidos, géneros y tendencias". *Fonseca journal of communication*, v. 17, pp. 91-106.
https://doi.org/10.14201/fjc20181791106

Pérez-Escoda, Ana; **Pedrero-Esteban, Luis-Miguel**; **Rubio-Romero, Juana**; **Jiménez-Narros, Carlos** (2021). "Fake news reaching young people on social networks: Distrust challenging media literacy". *Publications*, v. 9, n. 2, 24.
https://doi.org/10.3390/publications9020024

Perona-Páez, Juan-José; **Barbeito-Veloso, María-Luz**; **Fajula-Payet, Anna** (2014). "Los jóvenes ante la sono-esfera digital: medios, dispositivos y hábitos de consumo sonoro". *Communication & society* , v. 27, n. 1, pp. 205-224.
https://hdl.handle.net/10171/36271

Piñeiro-Otero, Teresa (2015a). "De la radio convencional a la móvil. Usabilidad, multimedialidad y distribución de contenidos en las radioAPPs portuguesas". *Observatorio (OBS*)*, v. 9, n. 3, pp. 47-66.
https://doi.org/10.15847/OBSOBS932015836

Piñeiro-Otero, Teresa (2015b). "Información, multimedialidad y personalización en las radioapps de España y Portugal". *El profesional de la información*, v. 24, n. 4, pp. 463-471.
https://doi.org/10.3145/epi.2015.jul.13

Piñeiro-Otero, Teresa (2015c). "Del jingle a las radios corporativas una aproximación al concepto de audiobranding". *Prisma social*, n.14, pp. 663-668.

Piñeiro-Otero, Teresa (2018). "Urban mobile drama. Narraciones sonoras inmersivas y geolocalizadas". En: Albalad-Aiguabella, José-María; Busto-Salinas, Lorena; Muñiz-Zúñiga, Viviana. *Nuevos lenguajes de lo audiovisual.* Barcelona: Gedisa, pp. 393-407. ISBN: 978 84 17341985

Piñeiro-Otero, Teresa; **Martín-Pena, Daniel** (2021). "More than a picture. The adaptation of the European generalist radio to Instagram". *Journal of radio & audio media*.
https://doi.org/10.1080/19376529.2020.1771341

Piñeiro-Otero, Teresa; **Terol, Raúl**; **Vila, Pere** (2019). "Nuevos sistemas y soportes de distribución radiofónica". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 107-130. ISBN: 978 84 17973261

Podcaster@s (2022). *EncuestaPod 2022. Un studio colaborativo para conocer a la audiencia de podcast en español*. Con apoyo de Adonde Media y Podimo.
https://encuestapod.com

Podchaser; *Staff-Me-Up* (2022). *Podcast taxonomy white paper. An international, multidisciplinary collaborative standard for recognizing roles and credits in podcast production.* Version 1.1.0, April 20, 2022.
https://podcasttaxonomy.com

Prata-Moreira-Martins, Nair (2012). *Webradio: novos gêneros, novas formas de interação*. Florianópolis: Editora Insular. ISBN: 978 85 7474 397 4
https://repositorio.ufmg.br/bitstream/1843/AIRR-7DDJD8/1/nair_prata_tese.pdf

Quintas-Froufe, Natalia; **González-Neira, Ana** (2021). "Evolución de la medición digital de la audiencia en el mercado español: estado de la cuestión y retos de futuro". *Profesional de la información*, v. 30, n. 1, e300102.
https://doi.org/10.3145/epi.2021.ene.02

Reis, Ana-Isabel (2015). *O audio nas cibernotícias das radios*. Lisboa: Media XXI. ISBN: 978 989 7291401

Ribes-Guàrdia, Francesc-Xavier (2001). *Las emisoras de radio del Estado español en Internet: Las bitcasters.* Tesis de doctorado. Universitat Autònoma de Barcelona.
http://hdl.handle.net/10803/4097

Ribes-Guàrdia, Francesc-Xavier; **Monclús, Belén**; **Gutiérrez, María**; **Martí, Josep-Maria** (2017). "Aplicaciones móviles radiofónicas: adaptando las especificidades de los dispositivos avanzados a la distribución de los contenidos sonoros". *RAE-IC, Revista de la Asociación Española de Investigación de la Comunicación*, v. 4, n. 7, pp. 29-39.
https://doi.org/10.24137/raeic.4.7.5

Ribes-Guàrdia, Francesc-Xavier; **Pérez-Alaejos, María-de-la-Peña-Mónica**; **Porta-Gaset, Carles** (2019). "Producción para el consumo bajo demanda: el podcast nativo". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 175-194. ISBN: 978 84 17973261

Rime, Jemily; **Pike, Chris**; **Collins, Tom** (2022). "What is a podcast? Considering innovation in podcasting through the six-tensions framework". *Convergence: The international journal of research into new media technologies*.
https://doi.org/10.1177/13548565221104444

Rodero, Emma (2012). "Stimulating the imagination in a radio story. The role of presentation structure and the degree of involvement of the listener". *Journal of radio & audio media*, v. 19, n. 1, pp. 45-60.
https://doi.org/10.1080/19376529.2012.66702

Rodero, Emma (2020). "Radio: the medium that best copes in crises. Listening habits, consumption, and perception of radio listeners during the lockdown by the Covid-19". *Profesional de la información*, v. 29, n. 3, e290306.
https://doi.org/10.3145/epi.2020.may.06

Rodero, Emma; **Pérez-Maíllo, Aurora**; **Espinosa-de-los-Monteros, María-Jesús** (2019). "Ficción sonora en el ecosistema digital". En: Pedrero-Esteban, Luis-Miguel; García-Lastra-Núñez, José-María. *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant, pp. 151-174. ISBN: 978 84 17973261

Rojas-Torrijos, José-Luis; **Caro-González, Francisco-Javier**; **González-Alba, José-Antonio** (2020). "The emergence of native podcasts in journalism: Editorial strategies and business opportunities in Latin America". *Media and communication*, v. 8, n. 2, pp. 159-170.
https://doi.org/10.17645/mac.v8i2.2699

Scolari, Carlos A.; **Establés-Heras, María-José** (2020). "Ecología mediática en tiempos de pandemia: virus, comunicación e interfaces". En: Pedrero-Esteban, Luis-Miguel; Pérez-Escoda, Ana. *Cartografía de la comunicación postdigital: medios y audiencias en la sociedad de la Covid-19.* Madrid: Civitas, pp. 57-72. ISBN: 978 84 13458243

Sellas, Toni (2009). *La voz de la Web 2.0. Análisis del contexto, retos y oportunidades del podcasting en el marco de la comunicación sonora*. Tesis de doctorado. Universitat Internacional de Catalunya.
http://hdl.handle.net/10803/9351

Sellas, Toni (2011). *El podcasting. La (r)evolución sonora.* Barcelona: Editorial UOC. ISBN: 978 84 97884471

Selva-Ruiz, David (2012). "La difusión del videoclip a través de Internet. Nuevos fenómenos en el entorno online". *Telos: Cuadernos de comunicación e innovación*, n. 90, pp. 43-53.
https://telos.fundaciontelefonica.com/archivo/numero090/la-difusion-del-videoclip-a-traves-de-internet

Sood, Suruchi (2006). "Audience involvement and entertainment-education". *Communication theory*, v. 12, n. 2, pp. 153-172.
https://doi.org/10.1111/j.1468-2885.2002.tb00264.x

Stachyra, Grażyna; **Bonini, Tiziano**; **Oliveira, Madalena** (2018). *Radio relations. Policies and aesthetics of the medium*. Newcastle: Cambridge Scholars Publishing. ISBN: 978 1 52751348 8

Statista (2022). "*Podcast* ads are poised for growth". *Statista advertising & media outlook*, 15 June.
https://www.statista.com/chart/17824/podcast-advertising-revenue-united-states

Télam (2020) "Santaolalla: 'La industria de la música siempre experimentó cambios'". *Telam*, 19 abril.
https://www.telam.com.ar/notas/202004/453822-santaolalla-la-industria-de-la-musica-siempre-experimento-cambios.html

Terol-Bolinches, Raúl; **Arense-Gómez, Alfredo**; **Pedrero-Esteban, Luis-Miguel** (2020). "Estrategias del podcast en la expansión narrativa de series de TV". Sotelo-González, Joaquín; Gallardo-Camacho, Jorge. *Comunicación especializada: historia y realidad actual*. Madrid: McGraw Hill, pp. 273-292. ISBN: 978 84 48624309

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, María-de-la-Peña-Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485
https://doi.org/10.5209.hics.7710

Wikström, Patrik (2014). "La industria musical en una era de distribución digital". En: *C@mbio: 19 ensayos clave acerca de cómo Internet está cambiando nuestras vidas*. Bilbao: BBVA Openmind, pp. 423-444. ISBN: 978 84 15832447

Witt, Stephen-Richard (2016). *Cómo dejamos de pagar por la música. El fin de una industria, el cambio de siglo y el paciente cero de la piratería*. Contra.

Yúdice, George (2007). *Nuevas tecnologías, música y experiencia.* Barcelona: Gedisa. ISBN: 978 84 97842426

Zuker, Danny [@DannyZuker]. (6 de noviembre de 2014). *My favorite TV show is on the radio. Do yourself a favor & listen/download @serial. It makes me wish I had a longer commute & I live in LA.* [Tweet].
https://twitter.com/dannyzuker/status/530407487376064512

Zumeta, Gorka (2021). "José Mª García-Lastra: «El audio es futuro. El futuro es audio»". *Gorka Zumeta*, 25 marzo.
https://www.gorkazumeta.com/2021/03/jose-maria-garcia-lastra-el-audio-es.html

Competences of SEO specialists: a perspective from the labor market. Technical note

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Abstract

The search engine optimization (SEO) specialist, or web positioning specialist, is one of the digital communication professionals that have emerged from the use of search engines as a means of attracting online audiences. The results of an analysis of labor demand demonstrate the importance of specific competences not intrinsically linked to this specialty, such as web analytics and digital marketing, and transversal competences, such as analytical skills, English-language skills, and an interest in learning. Its implications for the academic and business world open up future areas of study to confirm the professional sector's requirements and illustrate the effectiveness of higher education, focusing on improving employability.

Keywords

Search engine optimization; SEO; Web positioning; Professional profiles; Competences; Professional skills; Labor market; Search engines; Web visibility; Digital communication.

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1. Introduction

The emergence of new technologies in communication and marketing has led to the creation of new professional roles to meet the needs of companies and institutions so that they can reach their audiences. These roles include the SEO specialist or expert, whose objective is to

> "enhance the quality of documents to increase their visibility in relation to the algorithms that establish rankings on search engines, especially *Google*" ["*destacar la calidad de los documentos para aumentar su visibilidad en relación con los algoritmos que establecen las posiciones en los motores de búsqueda, especialmente Google*"] (**Rovira** *et al*., 2018, p. 560).

The different fields in which SEO specialists work shape their basic knowledge. On one side, there are technical competences related to improving web accessibility for search engines (**Correyero-Ruiz**; **Baladrón-Pazos**, 2010), and on the other, competences related to content optimization through keyword research (**Nagpal**; **Petersen**, 2020); and finally, those concerning link building to increase engagement (**Zhang**; **Cabage**, 2017). In addition to these three areas, knowledge of how search engines (**Papí-Gálvez**; **López-Berna**, 2011) and sector-specific tools (**Miguel-San-Emeterio**, 2019) work is also required. In addition, this role integrates knowledge of marketing and web analytics and, in terms of general competences, the ability to stay up to date, autonomy, planning, communication skills, and an analytical, intuitive, and creative mind (**Spinuzzi**, 2010; **Maciá-Domene**, 2020).

> Companies looking for an SEO specialist require a mixed skill set, primarily related to search engine advertising rather than organic optimization alone

Having a "competence profile that meets the demands of the job market" ["*perfil competencial adecuado a las demandas del mercado de trabajo*"] is the main objective of universities to promote employability (**Pizarro-Lucas** *et al*., 2021, p. 93), one of the key points for quality improvement that has been promoted by the *National Agency for Quality Assessment and Accreditation* of Spain [*Agencia Nacional de Evaluación de la Calidad y Acreditación*] (*Aneca*), and that, in the communication sector, follows the *European Commission*'s recommendation regarding the improvement of

> "skills and qualifications required in the labor market, especially in the field of information and communication technologies" ["*capacidades y cualificaciones demandadas en el mercado laboral, especialmente en el ámbito de las tecnologías de la información y la comunicación*"] (2019, p. 9).

Based on these premises, the main objective of this research is to determine the competences required of SEO specialists from the business world's perspective based on its labor demand. In addition, this research also aims to identify related disciplines and, where appropriate, roles performed in conjunction with the SEO role to open up a discussion about the degrees that are currently available and changes in curricula.

2. Materials and methods

This study used a quantitative method to collect data from other research studies (**Álvarez-Flores** *et al*., 2018; **Clemente-Mediavilla**; **Antolín-Prieto**, 2019). Information was extracted from job postings placed on *InfoJobs* over a period of six months, between February and July 2019, in which the word "SEO" was included. *InfoJobs* was selected as it is the most widely used comprehensive employment portal in Spain (*TMP Worldwide Spain*, 2017). The total number of job postings was 1,377, of which only those including the terms "web positioning" ["*posicionamiento web*"] or "SEO" in the title and limited to Spain were selected. This screening resulted in 139 postings, from which the specific knowledge and general competences required were collected. Both those listed under the heading "essential knowledge" ["*conocimientos necesarios*"] and those included in the "job description" ["*descripción*"] were coded. Information about the level of education and the specialty was also collected to identify the related disciplines.

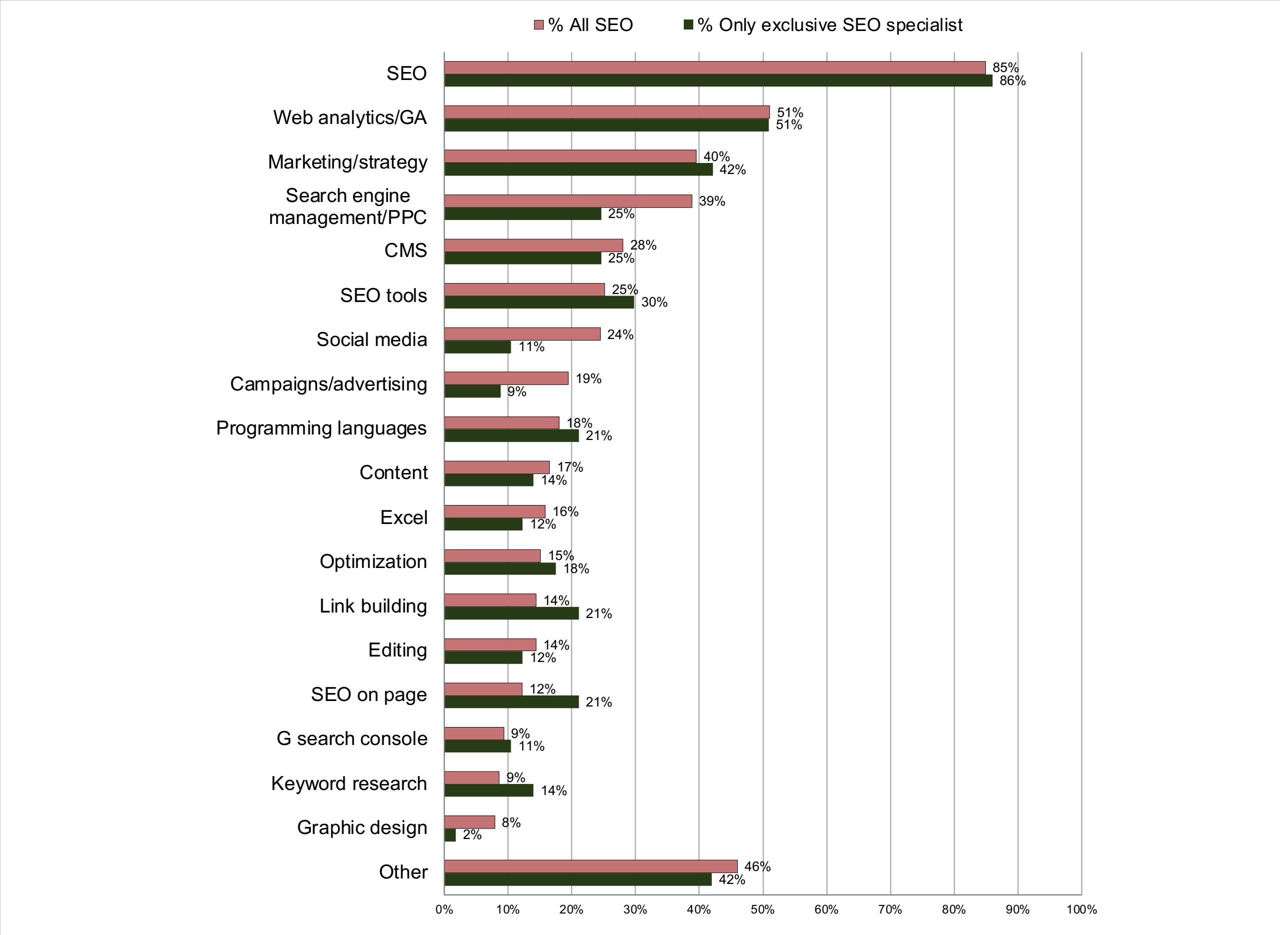
3. Analysis and results

The job postings analyzed contained a specialized knowledge and skills section and a group of general skills, transversal to any other position. In relation to the specific competences, half of these postings required experience with web analytics or *Google Analytics* (*GA*; *Google*'s analytics tool), knowledge of digital marketing strategies (40%), and experience with pay-per-click (PPC) campaigns, especially for search engines. Also worth noting were knowledge of SEO tools (e.g., *SEMrush*, *Ahrefs*, and *Sistrix*) (25%) and of content management systems (CMS) and social media (more than 20%) (Graph 1).

The most widely demanded general competences included analytical skills (27%), English (22%), an interest in learning (14%), proactivity (13%), communication skills (12%), teamwork (12%), and problem-solving skills (9%). Creativity was present in 4%, whereas a fine eye for detail was present in 2% (Graph 2).

Regarding the level of education, 45% demanded a degree or equivalent, while 37% required vocational or educational training (VET). The level of specialization was not specified in 72% of cases; only 15 of the 139 job postings required a university degree in marketing,

> Of the knowledge required from a SEO professional, web analytics stands out because it is not a competence exclusive to this profession



Graph 1. Specific competences required for SEO roles

communication, economics, or advertising, while 14 required VET in commerce and marketing. Most job postings (80%) required previous experience, of between 1 and 3 years.

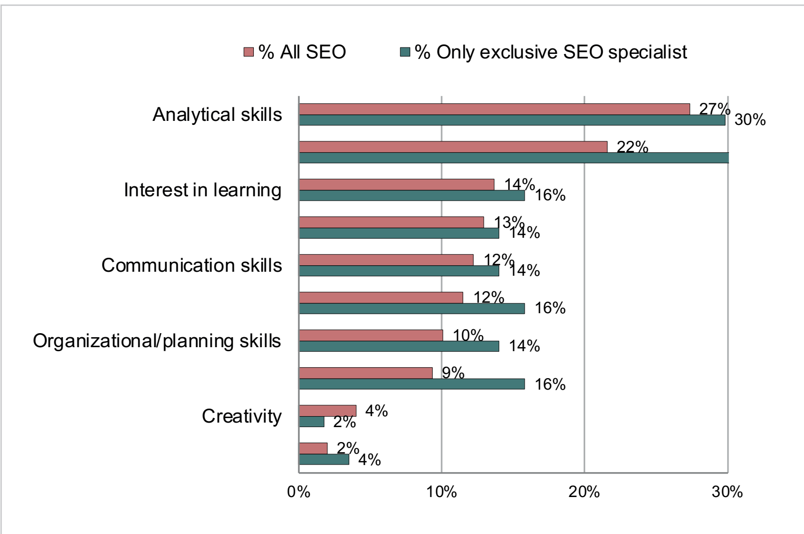
Among all the job postings (*n* = 139), 59% were looking to fill an SEO role combined with another role, whereas in 41% of cases, they sought an exclusive SEO specialist. In those postings looking to fill an SEO role combined with another role, 48% requested a background in SEM/PPC, that is, search engine marketing management systems and pay-per-click campaigns, followed by roles related to social media (17%) or digital marketing (16%).

Among the job postings for an SEO-only role (*n* = 57), the most in-demand competences did not differ from those in which the SEO role was combined with other roles, with the most often required competences (after those related to the field itself) being analytics, and marketing and strategy. In this regard, knowledge of English, use of SEO tools, and analytical skills are of particular note.

4. Discussion and conclusions

The research described herein focuses on identifying the competences and disciplines associated with the SEO specialist role by studying labor demand. In light of the results, it can be concluded that companies actively seeking this type of professional want a mixed skill set, primarily related to search engine advertising rather than organic optimization alone.

In turn, among the competences not exclusive to SEO, analytics is also par-



Graph 2. Transversal competences required for SEO roles

ticularly highly valued, demonstrating the importance of monitoring metrics on the Internet, even over reaching the top position or driving traffic. This is also the case with digital marketing strategy, which is essential to gain a broader view of business objectives, as well as content strategy and management. Accordingly, the most in-demand transversal competences were analytical skills, closely linked to web analytics, which was an SEO-specific competence requirement; knowledge of English; and the ability to constantly learn and stay up to date, which is essential in this ever-changing world.

> When an academic background is a requirement for hiring an SEO specialist, companies prefer SEO specialists with university degrees in marketing, communication, advertising, or economics.

These results confirm the existence of a hybrid profile, in which the competences that a single university degree program is meant to develop may not be sufficient. In fact, employers indicate a preference for experience over formal training. However, when a degree is required, it is a university degree and, in particular, in fields related to marketing, communication, advertising, or economics.

This study's main contributions are related to considering the degrees currently available and the contribution of higher education. It may be necessary to bridge the gap between the reality of the working world and the academic environment, strengthening ties between business and universities, and thus helping to meet the objectives of the *European Commission* and the *Aneca* project's objectives of improving the performance of universities in terms of employment and employability. The issue lies in how this should be done.

Among the many possibilities, there is an urgent need to bring such seemingly disparate areas as the social sciences and technological fields closer together. This does not only involve knowing how to work as part of a hybrid team, or as a part of a process; the job postings also demonstrate a need to train people with a sufficient command of not only technological but also communication-oriented skills so that they can implement this knowledge effectively in their work in marketing, communication, and advertising, as well as economics. This research thus reveals that the SEO role can act as a paradigmatic case study to provide a better understanding of the hybridization of such competences, which, in principle, might seem to originate from different disciplines. Moreover, the set of competences associated with this type of professional could be a starting point for achieving effective levels of digital competences that go beyond professional specialization.

In any event, in view of this evidence, future lines of study should focus on understanding the SEO business network, establishing the requirements of the sector, as well as identifying the competences of SEO professionals. It is also necessary to understand the university context –the educational offering that responds to these types of labor market demands– by taking an in-depth look at the people involved in the educational process, the faculty's level of knowledge about these roles, and the competences related to them, as well as the students studying social science themselves, to determine whether they are willing and able to specialize in these roles. Finally, an in-depth look at the competences related to SEO is proposed, with the intention of identifying those competences that can be ranked as having different difficulty levels (basic, intermediate, or advanced) to determine their relationship to other competence models, such as the *European Digital Competences Framework* (**Vourikari** *et al*., 2022) to eliminate the digital divide.

> Transversal competences, especially analytical skills, are considered very important for SEO professionals

5. References

Álvarez-Flores, Erika-Patricia; **Núñez-Gómez, Patricia**; **Olivares-Santamaría, José P.** (2018). "Perfiles profesionales y salidas laborales para graduados en Publicidad y Relaciones públicas: de la especialización a la hibridación". *El profesional de la información*, v. 27, n. 1, pp. 136-147.
https://doi.org/10.3145/epi.2018.ene.13

Clemente-Mediavilla, Jorge; **Antolín-Prieto, Rebeca** (2019). "*LinkedIn* job offers aimed at advertising graduates in Spain". *El profesional de la información*, v. 28, n. 6, e280613.
https://doi.org/10.3145/epi.2019.nov.13

Comisión Europea (2019). *Recomendación del Consejo relativa al Programa Nacional de Reformas de 2019 de España y por la que se emite un dictamen del Consejo sobre el Programa de Estabilidad de 2019 de España.* Unión Europea.
https://ec.europa.eu/info/sites/default/files/2019-european-semester-country-specific-recommendation-commission-recommendation-spain_es.pdf

Correyero-Ruiz, Beatriz; **Baladrón-Pazos, Antonio J.** (2010). "Nuevos perfiles profesionales en el entorno digital: un desafío para la formación de comunicadores desde el EEES". En: *La Comunicación Social, en estado crítico. Entre el mercado y la comunicación para la libertad: Actas del II Congreso Internacional Latina de Comunicación Social*, 17. Sociedad Latina de Comunicación Social. ISBN: 978 84 9384 28 0 2
https://www.revistalatinacs.org/10SLCS/actas_2010/044_Correyero.pdf

Maciá-Domene, Fernando (2020). *SEO avanzado: casi todo lo que sé sobre posicionamiento web*. Madrid: Anaya Multimedia, ISBN: 978 84 415 4107 8

Miguel-San Emeterio, Begoña (2019). *Las competencias digitales en los grados de periodismo, publicidad y relaciones públicas y comunicación audiovisual en la universidad: el caso de la Comunidad de Madrid* [Doctoral Dissertation Universidad Complutense de Madrid].
https://eprints.ucm.es/id/eprint/50690

Nagpal, Mayank; **Petersen, J. Andrew** (2020). "Keyword selection strategies in search engine optimization: how relevant is relevance?". *Journal of retailing*, v. 97, n. 4, pp. 746-763.
https://doi.org/10.1016/j.jretai.2020.12.002

Papí-Gálvez, Natalia; **López-Berna, Sonia** (2011). "Medios online y publicidad. Perfiles profesionales en educación superior". *Vivat academia*, n. 117, pp. 672-700.
https://doi.org/10.15178/va.2011.117E.672-700

Pizarro-Lucas, Emiliana; **Cabañas-Abelló, Sonia**; **Martínez-Pellicer, Antonia**; **García-Casarejos, Nieves** (2021). "Definición y logro del perfil de egreso". *Marco para la autoevaluación de las universidades en la mejora de sus actuaciones en materia de empleo y empleabilidad de sus egresados y egresadas*. Agencia Nacional de Evaluación de la Calidad y Acreditación (Aneca), 85-135. Ministerio de Universidades. Secretaría General Técnica. Centro de Publicaciones.

Rovira, Cristòfol; **Guerrero-Solé, Frederic**; **Codina, Lluís** (2018). "Las citas recibidas como principal factor de posicionamiento SEO en la ordenación de resultados de *Google Scholar*". *El profesional de la información*, v. 27, n. 3, pp. 559-569.
https://doi.org/10.3145/epi.2018.may.09

Spinuzzi, Clay (2010). "Secret sauce and snake oil: Writing monthly reports in a highly contingent environment". *Written communication*, v. 27, n. 4, pp. 363-409.
https://doi.org/10.1177/0741088310380518

TMP Worldwide Spain (2017). *Empleómetro 2017. Estudio de inversión y publicación de ofertas en jobsites*.
https://www.wtcspain.eu/blog/empleometro-tmp-worldwide-spain

Vuorikari, Riina; **Kluzer, Stefano**; **Punie, Yves** (2022). *DigComp 2.2: The digital competence framework for citizens - With new examples of knowledge, skills and attitudes*. Luxemburg: Publications Office of the European Union. ISBN: 978 92 76 48883 5
https://doi.org/10.2760/490274

Zhang, Sonya; **Cabage, Neal** (2017). "Search engine optimization: Comparison of link building and social sharing". *Journal of computer information systems*, v. 57, n. 2, pp. 148-159.
https://doi.org/10.1080/08874417.2016.1183447

Audio identity in branding and brand communication strategy: a systematic review of the literature on audio branding

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Abstract

Brand creation and management has undergone a substantial change in recent years as a result of new communication strategies, adaptation to the digital transmedia paradigm, and interaction with consumers. The use of an audio identity as a variable in this architecture and its inclusion in the different points of contact with consumers has generated a growing interest in audio branding. This article responds to the need to establish a conceptual basis and the state of the art in order to advance in the in-depth study of the discipline through a systematic review of the literature. This review was carried out in the *Web of Science* databases for the 2011–2020 period. After the initial filtering, a total of 36 articles were analysed and divided into four areas of relevance: phonetics in brand names, audiovisual advertising and branding, local city or country branding, and political branding.

Keywords

Audio branding; Audio communication; Audiovisual advertising; Advertising; Music; Sound; Branding; Brands; City branding; Country branding; Political branding; Audio; Sound identity; Systematic review.

1. Introduction

The strategic use of sound by brands is a practice that is growing at an exponential rate. In the past, brands were born mute and focused their efforts on other elements of communication. As a result of the constant overexposure of advertising stimuli and the over-saturation of offerings, brands have been forced to investigate new inputs that allow them to stand out. Among these inputs, we find the use of sonic logos, brand voices, music created ad hoc, increasingly identifiable product sounds and even advertisements based on an assortment of all these. This is not the spontaneous and unplanned use of a song in an advertisement, or the use of a trending band in a campaign. This is the generation of an audio identity comparable to the consolidation of a logo, a colour or a corporate typography (**Vidal-Mestre**, 2018).

We understand sound branding as:

> "The process of forming an emotional connection between transmitter and receiver through sound, an associative anchor of recognition, communication of messages, image transfer and image consolidations" (**Spehr**, 2009, p. 27).

Consequently, sound branding as a discipline is:

> "set of strategically planned sound stimuli that serve as an intangible and expressive variable for a brand, enhancing its identification and differentiation and reinforcing its permanence in the minds of consumers thanks to its emotional aspect" (**Vidal-Mestre**, 2017, p. 57).

Thus, sound branding is the part of branding that strategically analyses and exploits the power of sound in the generation, administration, and positioning of brand communication (**Jackson**, 2003; **Minsky**; **Colleen**, 2017).

In this sense, one of the branding elements that brands tend to use to generate emotional ties with consumers is

> "the subtle introduction of key visuals or key audials, that is, visual or auditory elements that allow the brand to be identified" (**Freire**, 2017, p. 85).

All these sound elements are of great interest for the study of this interdisciplinary field where sound, music and advertising converge. And in order to understand them properly, the published scientific literature on the subject should be taken into account.

The generation and dissemination of scientific knowledge in any field is a common task for any researcher. To do so, it is essential to be aware of the studies, procedures, selection processes and criteria followed by predecessors (**Hernández-González**; **Reverter-Masia**; **Jové-Deltell**, 2017). Systematic reviews respond to this need by synthesising findings from the analysis of primary studies (**Siddaway**; **Wood**; **Hedges**, 2019). In other words, they seek to detect the current state of a given topic within a chosen field in order to establish guidelines for future research (**Morales** *et al*., 2017).

Therefore, this article aims to determine the specific role that music and sound have had in audio branding and how researchers have reflected it in journals indexed in the *Web of Science* databases between 2011 and 2020. Two specific objectives are also set:

- to categorise and describe the scientific production published on this subject in the selected database during the reference period; and
- to synthesise the evidence reported in the scientific literature on the subject in question. In doing so, knowledge in this field is updated and reaffirmed.

These objectives try to answer the following research questions:

- What have been the main objectives pursued by researchers around the object of study?
- What methodology has been followed?
- What have been the main results?
- What are the implications that these investigations have raised?

2. Methodology

A systematic review was carried out of articles published in journals indexed in the *Science Citation Index* (*SCI*) and *Social Sciences Citation Index* (*SSCI*) databases that are part of the *Web of Science Core Collection*. For such journals *Clarivate*, the company that produces them, calculates the so-called impact factors, which are published in the *Journal Citation Reports* (*JCR*) numerical database. The Journal Impact Factor (JIF) is the quality indicator of scientific publications best valued by researchers (**Calderón-Garrido**; **Gustems-Carnicer**, 2018), since it is linked to the prestige, the international impact of publications and to a presumption of extraordinary quality due both to *Clarivate*'s rigorous journals selection to be indexed, and by the original manuscript selection of the journals themselves. Although these databases have a certain linguistic and geographic bias towards English-speaking countries, this does not substantially affect the objective of this research.

> After a content analysis, four domains were established for the scientific literature: phonetics in brand names, audiovisual advertising and branding, local city and country branding and ideological branding

The systematic review was conducted using articles published in the last ten years (2011-2020), by combining the keywords or descriptors (Branding AND Sound) OR (Branding AND Music). These were selected due to a previous search among the titles, keywords, and abstracts of the most cited articles in sound branding in these ten years. In this way, it was possible to corroborate the repetitive appearance of the descriptors used to the detriment of other synonyms or references to the sound event (like the voice or sound effects). Access to *WoS* was carried out via the web portal of the *Spanish Foundation for Science and Technology* (*Fecyt*). The entire process, the results of the reviews and meta-analyses, followed the indications of the protocol designed in the *Preferred reporting items for systematic reviews and meta-analyses* (*Prisma*) (**Hutton**; **Catalá-López**; **Moher**, 2016).

For the analysis, the first step was to scrub the data provided by the platform itself by including the descriptors in the thematic area. All articles were reviewed individually in order to extract each of the results shown. Thus, in the period 2011–2020, 472 papers were published with the above-mentioned descriptors and included in the main collection of *Web of Science* (*SCI*, *SSCI*, *A&HCI*, *CPCI-S*, *CPCI-SSH*, *BKCI-S*, *BKCI-SSH* and *ESCI*). The time limitation is due to a clear increase in the number of investigations related to the object of study, starting in 2011. Of these, 161 were indexed in the *SCI* and *SSCI* databases, of which only 92 belonged to the "article" or "review" category. These 92 articles were independently reviewed by two researchers looking for material relevant to the central theme of the research. The main reason for discarding some of the articles that were not subsequently analysed was the inclusion in the keywords of terminology related to audio branding (or music branding) but whose content did not correspond to the discipline under study here. In the event of a disagreement between the two researchers, a third was called in. Table 1 shows the inclusion and exclusion criteria used.

Table 1. Inclusion and exclusion criteria.

Criteria's inclusion	Criteria's exclusion
Research on sound branding, audio branding or musical branding. Those that focus the study in any social context are included. Languages: English or Spanish. Year of publication: period between 2011 and 2020. Document type: article or review. Knowledge areas: all.	Works that tangentially approach sound branding, audio branding or musical branding but do not use it as a central axis. Languages: anyone other than English or Spanish. Year of publication: any other outside the period between 2011 and 2020. Type of document: Books, minutes, congress chapters or letters. Duplications.

Finally, the sample analysed comprised 36 articles. Figure 1 shows the selection process carried out.

The analysis of the texts was carried out through the qualitative analysis software *Atlas.ti*, in its version 22. As a result, in addition to detecting the main aspects of each work, it was possible to extract a series of codes that interrelate and contextualise the investigations analysed.

3. Results

After a content analysis (**Porta**; **Silva**, 2003) of the abstracts and texts of the 36 articles, four domains were established for the scientific literature: phonetics in brand names (n= 14; 38.8%); audiovisual advertising and branding (n= 10; 27.7%); local city and country branding (n= 9; 25%), and political branding (n= 3; 8.5%). Figure 2 shows the evolution of the publications according to topics and years. Although no clear trend is detected, two significant moments can be seen: published works in 2015 and the ones published in 2020.

Regarding the methodology followed, the majority (58.3%) of the pieces were based on different sound analyses carried out by the researchers themselves, 27.8% analysed the reaction of a sample of participants, and 13.9% carried out a systematic review on different specific aspects.

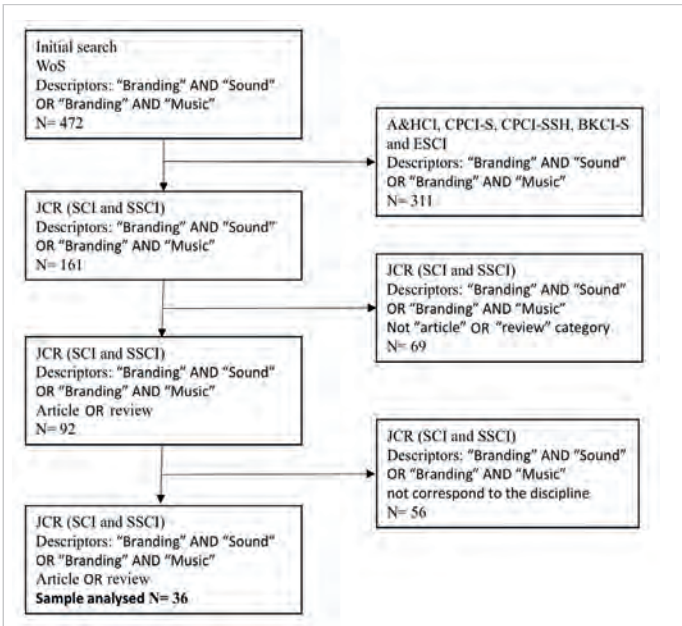

Figure 1. Flow chart for item selection

From a qualitative perspective, the main results of the content of these works are detailed below.

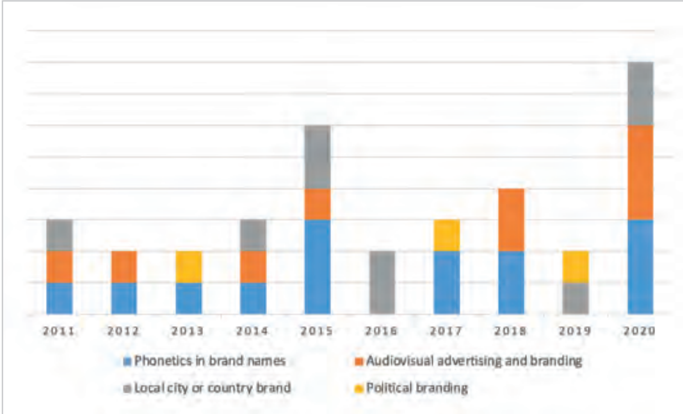

Figure 2. Evolution of the works by year and theme

4. Phonetics in brand names

Based on the results obtained with the analysis, the study of brand naming has been a field that has been widely explored and exploited in communication sciences due to its influence and implication in the identity, positioning and even consumer behaviour towards a brand. Within this field, analysis of phonetics is one of the most frequent aspects.

In this regard, **Spence** (2012) systematic review of the use of sound and sound symbolism in food and drink brand names and how it affected consumers is revealing. Spence's work established a clear link between the sound of brands and consumer experiences. The author discovered how

> "that sourness, bitterness, crunchiness, and carbonation, correspond crossmodally with angular shapes and sharper/harder plosive stop consonants as well as with higher-pitched frontal vowels. By contrast, sweet, still, and creamy food and beverage products appear to share a crossmodal correspondence with rounder shapes and speech sounds, as well as with back vowels" (**Spence**, 2012, p. 50).

The research by **Pogacar** *et al.* (2018), in which 78 participants were presented with a subset of 25 words drawn randomly from the group of ten decoys and 20 pairs of test words, established that certain sounds should be prioritised when creating brand names. This confirmed the importance of the phonetics of brand names on consumer preferences. However, his research was not as deep as that of **Spence** (2012), leaving with somewhat more superficial conclusions focused on demonstrating that consumers prefer common sounds such as "S", "M", "L" and "E" in the naming of brands. This fact is related to its ease of pronunciation and its familiarity.

Klink and **Wu** (2014) wanted to provide a more symbolic vision of the meaning of sound in the phonetics of brand names. In their research, 138 university business students analysed the name of some iconic brands, such as *NIKE*, and examined potential names for a new brand of cars. The findings showed that brand meaning can be conveyed by the sound symbolism embedded in the first or second syllables of the brand name. In addition, brand meaning is also better communicated by vowels than consonants and that the use of more than one imbed can better convey the meaning of a brand. A relevant contribution that, together with the previous articles, helps to configure a more global idea about the direct impact between sound and perception of a brand's personality.

The sound of brand names has therefore been linked to various elements. For example, **Ngo**, **Misra** and **Spence** (2011) aimed to assess how the names of chocolate brands are linked to the percentage of cocoa and milk they contain. Through three experiments, they found that words with rounded shapes and a lower pitch and softer sound were associated with milk chocolates (approx. 30% cocoa), while chocolates with a high cocoa content (70% to 90%) were associated with sharper, more angular calligraphic outlines.

More generally, **Favalli** *et al.* (2013) add to the literature with their research in which they discover an association between naming and certain sensory attributes, whereby a change in the name of a traditional brand in turn entails a transformation of perception in terms of appearance, smell, texture and even taste. **Pathak**, **Velasco** and **Spence** (2020b), on the other hand, years later, suggest a connection between sounds and tastes, pointing out how the presence of long vowels in some brand names generates expectations of sweeter tastes. In another study (**Pathak**; **Calvert**; **Lim**, 2020a) these authors discuss how consonants influence the sensation of clogging, roughness or smoothness referring to beers, skin cleanser, and toilet cleaner.

Other studies looked at how vowel length affects the transmission of pleasure or euphony and displeasure. In terms of its relationship with purchase intention, **Topolinski**, **Zürn** and **Schneider** (2015) argue that brands in which the consonant points of articulation are located in the innermost part of the mouth are preferred, as they seem to elicit greater purchase intent and even trigger a greater willingness to pay.

Despite the strong influence of the brand name on the consumer, studies such as those by **Round** and **Roper** (2015) consider that prior brand awareness also has a strong influence on the consumer. In their research they used an experimental approach with 100 English adults, who were given a choice between traditional branded products at an increased price and new branded products, albeit with names phonetically similar to the existing ones. Most participants in the experiment opted for the established brands.

In the field at hand, **Klink** and **Wu** (2017) studied the correspondence between the phonetics of a brand name and its ethical attribution. In their study, based on two perception tests applied to students, they found that there is a positive impact of higher frequency sounds and ethical consideration of brands. In the same way, other authors wanted to relate the topic to other aspects such as **Smith** (2017) who, for an identity study, analysed the similarities between band names, album titles and song titles in a sub-genre of indie and alternative rock music (shoegazing) in terms of their phonemes. The focus was on onomastic similarities and phonemes (submorphemic sound/meaning pairs). Smith concluded that band names, especially in rock music, often evoke particular semantic spaces as an act of self-identity. These names adopted in particular the phonemes gl- or sn- in the onomastic title.

> The results obtained in this systematic review show a considerable amount of relevant precedents in the study of audio branding in the literature of the last decade

Finally, the research by **Pathak**, **Velasco** and **Spence** (2020) is very illuminating. In it they analysed the names of the main brands containing the phoneme "k", extending later to other phonemes such as "f" and "y". From here, several parallel studies were undertaken: 1) Comparing the results with those obtained by previous research of **Van-Doorn**, **Paton** and **Spence** (2016); 2) analysing the use of the phoneme "k" in everyday words and not in dictionary words; 3) applying the results of studies 1 and 2 to analyse the preferred names given to newborns in America between 2010 and 2016. The results showed that **Van-Doorn**, **Paton** and **Spence** (2016) only took into account the "k" and not phonemes that sounded like "k". Study 2 reported that the comparisons made with study 1 were problematic because the language was "old" and not up to date for everyday use. Finally, study 3 reported how baby names given by parents follow the same patterns as those in advertising.

In a context of internationalisation of products, another point of interest is the translation of brand names. For example, **Fetscherin** *et al*. (2015) reflect on English versions of Chinese brands and how such language adaptation can have an impact on the memorability, meaningfulness and likability of Chinese brands. They revealed that short names are more accepted and remembered, and that, in addition, their sonority has a direct impact on recallability and likeability.

Other authors took this study more generically: **Graakjær** and **Bonde** (2018) who analysed 99 articles focusing on non-musical sound, concluding that there were two areas for further research: non-musical atmospheres and non-musical sonic logos. In addition, they felt that future research on brand sounds should examine in more detail the potential of developed versus annexed object sounds, and mediated versus unmediated brand sounds.

In summary, the above studies reveal the importance of phonetics in brand names with respect to consumer experiences and preferences, on a symbolic or sensory level. Many of these studies focus on minimal units, phonemes or syllables, and take into account the sensory and symbolic attributions of their oral articulation (in the case of consonants) or the height or length of vowels, which is sometimes embodied in the complex etymological network of languages. Not surprisingly, many of these studies have focused on food products, where the mouth-based experience of taste may be linked in some way to the vocal experience of speech. Likewise, as it is a pleasurable experience associated with food, the relationship of sounds with emotions justifies our predilection for names or phonemes that are more comfortable, shorter and friendlier, and which make them easier to remember. All this has repercussions for the commercial purposes of brands and products, which seek to provoke greater purchase intent and better positioning in the market. Phonetics thus makes it possible to create particular semantic spaces as an act of self-identity.

5. Audiovisual advertising and branding

Analysis of the scientific literature shows that many authors have studied the influence of music in advertising, but it is also true that few of them have done so from a perspective of strategy. Until relatively recently, brands did not make planned use of the aspect of sound, basing their choice on more commercial parameters. Studies such as the one by **Eckhardt** and **Bradshaw** (2014) on the convergence between advertisers, musicians and producers in the selection and production of music for advertising are halfway between an isolated study and the globalised use of music in advertising, which we could more properly call sound or audio branding.

Other authors, however, did begin the study of sound branding as its discipline, based on the strategic use of sound to represent brands. Thus, **Brodsky** (2011) made an important contribution to the development of the discipline of audio branding, generating a research design that verified how consumers perceived certain characteristics of brands and their products through the music that accompanied them in their advertising. According to Brodsky, and following the same conception, **Herzog** *et al*. (2020) have developed an inventory of categories and adjectives that represent all aspects of brand identities that can be conveyed through music, facilitating communication between all experts in the sector of musical branding and observing their effectiveness.

Besides, **Graakjær** (2012) wanted to see how these effects directly influence retail and similar semi-public settings through a critical analysis of the music used in *Abercrombie & Fitch* (*A&F*). Specifically, he discusses three functions of music in *A&F*: an "architectural function", a "psychobiological function" and a "knowledge activation function".

Similarly, almost a decade later, **Lepa** *et al*. (2020) developed a computational model that would allow musical elements to be related to certain expressions and elements of brand image. More specifically, they looked at how rhythm, instrumentation and musical style were the sound attributes most strongly linked, and potentially manipulated, to relate to a brand image.

> The studies reveal the importance of phonetics in brand names with respect to consumer experiences and preferences, on a symbolic or sensory level

Many authors were then encouraged to analyse the effects of sound branding in particular spheres of communication: **Ballouli** and **Heere** (2015), in the world of sports communication, proposed a model based on the emotions of the intended audience of the music at the specific moment when they receive it. **Hallegatte**, **Ertz** and **Marticotte** (2018) were interested in its application in brands considered retro, analysing the triangular relationship between retro brands, propensity for nostalgia and purchase intention. They were able to confirm this hypothesis thanks to an experiment with 181 subjects in which they manipulated the playlist and band line-up, and found that mixing the present and the past works and directly influences consumers' purchase intentions and willingness to pay for "retro" brands. Focusing on the environment, **Joshi** and **Kronrod** (2020) sought to investigate how the sound of certain brands conveyed respect for the environment in a metaphorical way. Through four different studies they tested this hypothesis, concluding that subtle differences in sounds can have a great influence on the communication of not only literal product attributes, but also of secondary metaphorical traits.

Another set of theorists chose to analyse specific elements of sound branding, such as the sonotype or audio logo or the covers. **Mas** *et al*. (2021) sought to determine how the acoustic/musical characteristics of sonic logos (in particular intensity, pitch and rhythm) based on instrumental melodies affect consumer response, attract attention, elicit levels of enjoyment and calm, and convey brand personality traits. To do so, they applied an experimental factorial design to measure emotional arousal in each subject (electrodermal activity) and improvement in perceptual processing (heart rate), as well as other self-reported factors, such as calmness/emotion, enjoyment and brand personality scales. The results obtained showed a significant increase in electrodermal activity associated with fast-paced sound logos and a decrease in heart rate for long, slow-paced sonic logos. In addition, fast, rising-pitched sound logos with increasing intensity have been defined as more exciting, while falling-pitched sound logos are more pleasant. In his Nietzsche-inspired philosophical essay, **Babich** (2018) considers the role of original and cover versions. He focused on "covers" of popular songs and analysed the language of "sonic branding" as a type of self-creation of the mass consumer which influences the transmission of music branding campaigns, to the point of preferring the copy to the original.

In short, brand advertising uses elements of sound to establish a better emotional link with the consumer, by identifying with the style, authors, versions or sonic logos used in audiovisual advertising. As these are audiovisual settings, studies have not focused on one type of product, but rather range from sports brands to clothing, analysing their sonic logos through classical analyses that consider certain qualities of sound (especially intensity and pitch) or elements of the music (such as style, instrumentation, form, melody, harmony or rhythm). The acoustic/musical characteristics of sonic logos can guide consumers' responses, affect their emotions, attract their attention and convey brand personality traits. All these characteristics apply both to audiovisual advertising productions and to the use of music in shops and semi-public environments. Again, this directly influences consumers' purchase intentions and willingness to pay.

6. Local city or country brand

The analysis of the systematic review carried out reports that another area where sound has started to become relevant is that of local brand personality, whether that be for a city or a country. This field is closely related to tourism studies and touches on a number of other fields such as politics, local economy, history and culture.

Some of the studies focused on specific countries, such as **Pier** (2011) who relates the social and political use of African musical rituals to the commercial use of music in advertising. To this end, he analysed the dances and music of the *Senator National Cultural Extravaganza* traditional music competition to promote an African beer of the same name (*Senator Extra Lager*). The results showed that, in Africa, the use of musical traditions in the branding of companies helps to bring products closer to a larger number of consumers. **Trainer** (2015) looked to analyse how Australia's national music culture was strongly linked to the popularity of indie rock and how even today this musical style continues to be used both as a lure and as a tool for record labels and the media in the country.

Another contribution in this area is the investigation of **Lee** (2015) who in Korea found that the promotion and subsequent disappearance of the *Dynamic Korea* slogan was linked to both the semantic ambiguity of the sound "dynamic" and also the powerful sound registers that forced re-evaluations of other aspects seemingly unrelated to music: a country's national branding campaign. Years later, in 2018, **Kim** and **Lee** investigated how and why Korean classical musicians have collaborated with the government to promote national pride and project a positive image of Korea internationally, with the support of private corporations and a new government agenda ("*K-Classic*"). **Fung** (2016) explored how China has designed strategies for its various creative industries, including music, film, animation and online games, through a cultural branding policy at both the national and international level. Through expert interviews, Fung found contradictions between the creative content generated by China's cultural industry and the censorship and control exercised by the regime's bureaucracy. Importing global content with a high market value can be seen as a government strategy designed to meet market needs and boost domestic creative industries with expertise drawn from abroad, but without relaxing ideological control over their content. **Haworth** (2019) wanted to be included in this group, and analysed the use of a popular music star, in this case Mina, to contribute to and enhance the brand narrative of Cremona, the star's hometown. In 2018, the city made use of the iconic singer in its brand narrative when it organised a programme of events entitled "Cremona canta Mina", which generated a new narrative around the city's relationship with the star, helping to remake the city's image. On the other hand, and being one of the most recent studies, **Wheeler** (2020) aimed to explore how and why music played a key role in the success of the 1992 *Barcelona Olympics*. One conclusion was that the *Olympic Games* made the city of Barcelona a leading reference for international concert tours and made music a tourist attraction in the city. As well as **Isabelle** (2020), who wanted to contribute with a similar approach but focused on France's external projection, and contributed to the study of audio branding by countries by analysing how French institutions abroad use and disseminate French popular music to increase international influence. One of its evidences links the use of trendy music abroad to the renewal and modernisation of France's brand as a country.

> Brand advertising uses elements of sound to establish a better emotional link with the consumer, by identifying with the style, authors, versions or sonic logos used in audiovisual advertising

In a more generic way and applicable to different cultures, **Roberts** (2014) explored whether the appeal of popular musical heritage from a perspective of local tourism and marketing can be attributed in part to the 'contagious magic' factor, analysing the links between cultural heritage, consumption and location, examining the extent to which the 'contagion' of musical cultural capital can influence the development of the local economy.

Thus, as far as city or country brands are concerned, it bears noting that, throughout history, many places have become the leading name in sound and music trends, styles or practices (**Faure-Carvallo**; **Gustems-Carnicer**, 2020). However, according to **Minsburg** (2016), such an identity must be analysed in terms of a socially shared subjective consciousness; the result of a sound memory projected into the future. According to **Arnheim** (2005), certain abstract elements, such as sound, acquire concrete symbolic meanings over time and in a given setting, by repeated application in the media. These sound symbols therefore acquire a great practical utility that combines aesthetic, cultural, functional and semantic aspects (**Chalkho**, 2014). This functionality may be translated into a brand that, gradually built up, can prove a valuable resource for positioning itself in the global market of cities and nations; to cite Borja and Castells: "big cities are the multinationals of the 21st century" (**Borja**; **Castells**, 1997, p. 190). It is no coincidence that having impactful brand value is now a major component of cities' marketing plans (**Anholt**, 2007; **Fernández**; **Paz**, 2005).

The research gathered here has provided information from a variety of perspectives, be it at the local, city or national level. Mainly, the phenomenon of music as relates to cities or countries, and its repercussion on audiences on a social, political and commercial level, have been studied. Results that bear highlighting include the effectiveness of musical rituals and traditions for the reinforcement of cultural identity, and the use of popular music as a lure and internationalising tool in the construction of a modern and attractive national brand. The use of audio branding as a governmental strategy to satisfy market needs and boost industry has also been confirmed.

7. Political branding

Although less profuse in the analysed literature, the political values assigned to sound in advertising settings should not be underestimated. We are all aware of the importance of national anthems in the formation of a country's identity, as well as the importance of the various instruments, songs and dance repertoires related to that identity. In the same way, some human groups or societies seek to identify and differentiate themselves through certain sounds that they feel are distinctive and closely linked to them.

In a study on electoral campaigns, **Mas**, **Collell** and **Xifra** (2017) aimed to analyse the potential of music in implementing a political branding strategy in the US presidential campaign. The results suggest that the Clinton and Trump campaigns used music strategically to communicate values in the emotional field. In particular, the music used by Trump associated branding and personality strategies based on the construction of a war hero who took action to save his homeland in times of crisis.

In terms of values and consumption patterns, **Yoganathan**, **Osburg** and **Akhtar** (2019) demonstrated in an online experiment with 308 participants that multi-sensory marketing was remarkably effective in encouraging sensible consumption (taking into account the natural and social settings and their inhabitants) by creating a context of experience-based customer discretion in both mass-market and niche commercial lines. This ability to imbue brands with understandable semantics, even at a global level, through multimodal models (combining, for example, image and sound) had been demonstrated previously in the research of **Hernández** (2013).

This potential of music in contexts of social and cultural identity can be translated into a political brand, as has been demonstrated in studies of audio branding applied to political branding strategies, in electoral campaigns, or ethical and moral strategies, in commercial campaigns for responsible consumption.

8. Conclusions

Thanks to the analysis carried out, it has been possible to establish the main centred emerging categories that organized the results obtained, which allows the main trends to be identified. Thus, for example, it can be seen how in the field of "local city and country branding", popular music, rituals and artists participate in the construction of the external image of a brand, however, the country's censorship conditions some musical traditions and some artists.

Regarding the subject of "audiovisual advertising and branding", three aspects have been vital:

- the influence of sound landscapes in the creation of identity,
- the categorization of the brand, and
- the convergence between sound and the expected response of the consumer.

Concerning the "phonetics in brand names", the symbolism, the placement of consonants and vowels, as well as the updating and contextualization of language, have acted as catalysts that reflect the attributes of the different products and the perceptions that consumers have about them.

Finally, "political branding" has reflected both the use of sound branding in political campaigns and the construction of identity, as well as the establishment of different consumption models.

Figure 3 shows the main codes extracted and the relationship between them in the analysis carried out.

Once the bibliographic sample of the specific literature has been categorized according to *WoS* (2011-2020), the results obtained in the review show a considerable presence of antecedents in the study of audio branding in the impact literature of the last decade. From different parts of the world, numerous scientific communities have obtained relevant data about the importance of sound in the construction and architecture of brands.

Regarding the second specific objective, we can synthesise the following contributions in the field of study:

1. In the same way as corporate visual identity, the sound of brands and their products influences the consumer experience. That is why more and more is being invested in sound communication and the sound of the products, understanding that sound branding must be present at all moments of the user journey.

2. Although there are many contrary theories that reject that sound symbolism contains meaning per se, studies carried out in this area support the use of sound symbolism in the first syllables, as it helps consumers' perception.

3. Phonetics is an aspect to be taken into account in naming, some studies recommend the use of vowels in the first syllables, while others believe that certain letters are more in line with one type of product than another, as demonstrated in the market study of the perception of chocolate products in which consumers associated soft-sounding syllables with milk chocolate and hard-sounding syllables with plain chocolate. In this sense, some authors believe that the use of acute syllables may be related to a better perception of the brand from an ethical point of view.

4. Again, regarding phonetics, the length of the vowels must be taken into account. In light of this, studies show that brand reputation and the language in which the brand is pronounced and in which consumers pronounce it are relevant elements in terms of the perception generated by phonetics itself, as evidenced by the fact that Chinese brands translated into English make them better perceived by European and American consumers.

5. Although the study of sound branding can be taken from a holistic perspective, it is recommended to differentiate and consider the elements that make it up (sonotypes, brand voice, soundtracks, etc.). Some may not be part of sound branding, but part of brand communication or present in the consumer experience.

6. Sound branding is a relevant aspect for brand repositioning since it has been shown that a phonetic change or a change in any sound element of the brand also leads to a change in the brand's perception.

7. Concerning sound branding in constructing the personal brand of politicians and external communication of a country brand, music continues to be the most used element, above sonotypes. In respect of the personal brand of politicians, on many occasions, they use epic music to try to equate the figure of politicians to that of film heroes. While, as far as the country brand is concerned, it has been shown that it is essential to mix folk and popular music that denotes familiarity, pride of belonging and respect for traditions with current music,

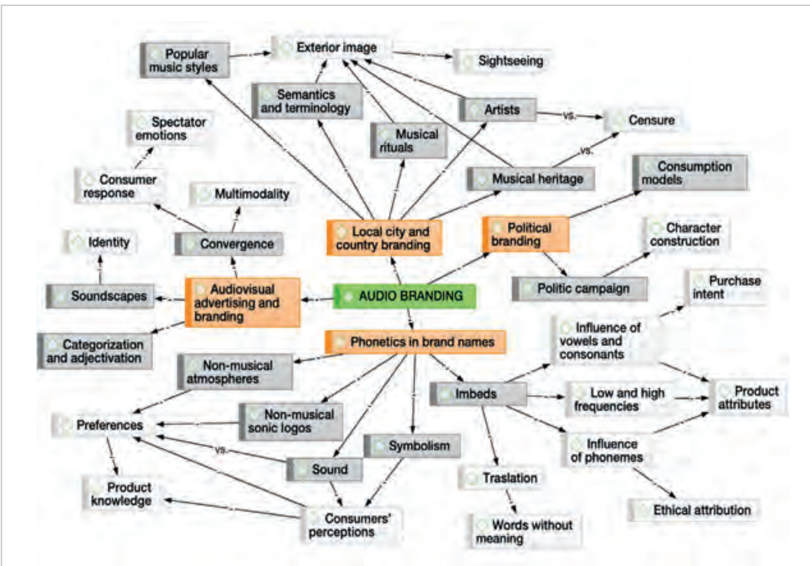

Figure 3. Relationship between the codes extracted in the analysis. Source: Produced with *Atlas.ti*

which contributes modernity and links with the new generations. In these two areas, the construction of sonotypes as part of sound branding is still in a very primitive phase.

8. Although the use of music in advertising goes back practically to the beginning of modern advertising on radio and later on television, whether with singles or soundtracks, in branding it is in the last two decades where its use has been professionalised. While before the evolution of sound branding or audio branding, brands were born silent, nowadays, it is strange that an international brand does not have sonotypes and sound identity. Many brands are now born with sound.

In addition to these eight points that summarise the main contributions, it is important to point out that the four areas in which the articles analysed have been located present very different interests and very heterogeneous dimensions, which suggests that the study of sound branding is still in an embryonic stage. Some of the new elements to take into account in future research regarding the use of phonetics in sound branding, audiovisual advertising and the brand, the local city or country brand and or the political brand are, to name the most relevant, the interaction of users / consumers in the co-creation of content, the incipient influence of neuroadvertising in branding and virtual technologies that are leading to the immersion of brands and their corporate in virtual worlds and metaverses.

> The use of audio branding as a governmental strategy to satisfy market needs and boost industry has also been confirmed

9. References

Anholt, Simon (2007). *Competitive identity: The new brand management for nations, cities and regions*. Basingstoke: Palgrave Macmillan. ISBN: 0230500285

Arnheim, Rudolf (2005). *Arte y percepción visual: psicología del ojo creador*. Madrid: Alianza. ISBN: 8420678740

Babich, Babette (2018). "Musical covers and the culture industry from antiquity to the age of digital reproducibility". *Research in phenomenology*, v. 48, pp. 385-407.
https://research.library.fordham.edu/phil_babich/92

Ballouli, Khalid; **Heere, Bob** (2015). "Sonic branding in sport: a model for communicating brand identity through musical fit". *Sport management review*, v. 18, n. 3, pp. 321-330.
https://doi.org/10.1016/j.smr.2014.03.001

Borja, Jordi; **Castells, Manuel** (1997). *Local y global. La gestión de las ciudades en la era de la información*. Madrid: Taurus. ISBN: 968190950

Brodsky, Warren (2011). "Developing a functional method to apply music in branding: design language-generated music". *Psychology of music*, v. 39, n. 2, pp. 261-283.
https://doi.org/10.1177/0305735610387778

Calderón-Garrido, Diego; **Gustems-Carnicer, Josep** (2018). "Análisis bibliométrico de la producción científica sobre educación musical en el período 2007–2016 en revistas incluidas en JCR". *BiD: textos universitaris de biblioteconomia i documentació*, n. 41.
https://doi.org/10.1344/BiD2018.41.10

Chalkho, Rosa-Judith (2014). "Diseño sonoro y producción de sentido: la significación de los sonidos en los lenguajes audiovisuales". *Cuaderno. Cuadernos del centro de estudios en diseño y comunicación. Ensayos*, v. 50, pp. 127-252.
https://doi.org/10.18682/cdc.vi50.1372

Eckhardt, Giana M.; **Bradshaw, Alan** (2014). "The erasure of antagonisms between popular music and advertising". *Marketing theory*, v. 14, n. 2, pp. 167-183.
https://doi.org/10.1177/1470593114521452

Faure-Carvallo, Adrien; **Gustems-Carnicer, Josep** (2020). "En busca del sonido made in Barcelona". *Opus*, v. 26, n. 3.
https://doi.org/10.20504/opus2020c2609

Favalli, Sara; **Skov, Thomas**; **Spence, Charles**; **Byrne, Derek V.** (2013). "Do you say it like you eat it? The sound symbolism of food names and its role in the multisensory product experience". *Food research international*, v. 54, n. 1, pp. 760-771.
https://doi.org/10.1016/j.foodres.2013.08.022

Fernández, Gabriel; **Paz, Sergio** (2005). "Más allá del marketing de ciudades: hacia una política pública de diseño y gestión de los signos de identificación de ciudad". *Scripta nova*, v. 154, n. 9.
https://raco.cat/index.php/ScriptaNova/article/view/64221

Fetscherin, Marc; **Diamantopoulos, Adamantios**; **Chan, Allan**; **Abbott, Rachael** (2015). "How are brand names of Chinese companies perceived by Americans". *Journal of product & brand management*, v. 24, pp. 110-123.
https://doi.org/10.1108/JPBM-02-2014-0501

Freire-Sánchez, Alfonso (2017). *¿Cómo crear un storytelling de marca? De la teoría a la práctica profesional*. Barcelona: UOC. ISBN: 978 84 91168850

Fung, Anthony (2016). "Strategizing for creative industries in China: contradictions and tension in nation branding". *International journal of communication*, v. 10, pp. 3004-3021.
https://ijoc.org/index.php/ijoc/article/view/4168

Graakjær, Nicolai J. (2012). "Dance in the store: on the use and production of music in *Abercrombie & Fitch*". *Critical discourse studies*, v. 9, n. 4, pp. 393-406.
https://doi.org/10.1080/17405904.2012.713208

Graakjær, Nicolai J.; **Bonde, Anders** (2018). "Non-musical sound branding - a conceptualization and research overview". *European journal of marketing*, v. 52, n. 7/8, pp. 1505-1525.
https://doi.org/10.1108/EJM-09-2017-0609

Hallegatte, Damien; **Ertz, Myriam**; **Marticotte, François** (2018). "Blending the past and present in a retro branded music concert: the impact of nostalgia proneness". *Journal of product & brand management*, v. 27, n. 5, pp. 484-497.
https://doi.org/10.1108/JPBM-08-2017-1546

Haworth, Rachel (2019). "City branding and the popular music star: the case of Mina, Cremona, and 'Cremona canta Mina' (2018)". *Italian studies*, v. 74, n. 4, pp. 413-426.
https://doi.org/10.1080/00751634.2019.1658956

Hernández-González, Vicenç; **Reverter-Masia, Joaquim**; **Jové-Deltell, María-Carmen** (2017). "Producción científica de los profesores del área de educación física y deportiva en Cataluña (quinquenio 2005-2009 versus 2010-2014)". *Sport TK-revista euroamericana de ciencias del deporte*, v. 6, n. 1, pp. 17-24.
https://doi.org/10.6018/280361

Herzog, Martin; **Lepa, Steffen**; **Egermann, Hauke**; **Schoenrock, Andreas**; **Steffens, Jochen** (2020). "Towards a common terminology for music branding campaigns". *Journal of marketing management*, v. 36, n. 1-2, pp. 176-209.
https://doi.org/10.1080/0267257X.2020.1713856

Hutton, Brian; **Catalá-López, Ferrán**; **Moher, David** (2016). "La extensión de la declaración Prisma para revisiones sistemáticas que incorporan metaanálisis en red: Prisma-NMA". *Medicina clínica*, v. 147, n. 6, pp. 262-266.
https://doi.org/10.1016/j.medcli.2016.02.025

Isabelle, Marc (2020). "Around the world: France's new popular music diplomacy". *Modern & contemporary France*, v. 28, n. 3, pp. 253-270.
https://doi.org/10.1080/09639489.2019.1682533

Jackson, Daniel M. (2003). *Sonic branding*. New York: Palgrave. ISBN: 1349509779

Joshi, Pradnya; **Kronrod, Ann** (2020). "Sounds of green: how brand name sounds metaphorically convey environmental friendliness". *Journal of advertising*, v. 49, n. 1, pp. 61-77.
https://doi.org/10.1080/00913367.2019.1696720

Kim, Jinwon; **Lee, Meebae** (2018). "Nation branding or marketization?: K-classic and Korean classical musicians in an era of globalization". *International journal of cultural policy*, v. 24, n. 6, pp. 756-772.
https://doi.org/10.1080/10286632.2018.1529761

Klink, Richard R.; **Wu, Lan** (2014). "The role of position, type, and combination of sound symbolism imbeds in brand names". *Marketing letters*, v. 25, pp. 13-24.
https://doi.org/10.1007/s11002-013-9236-3

Klink, Richard R.; **Wu, Lan** (2017). "Creating ethical brands: the role of brand name on consumer perceived ethicality". *Marketing letters*, v. 28, pp. 411-422.
https://doi.org/10.1007/s11002-017-9424-7

Lee, Katherine-In-Young (2015). "Dynamic Korea: amplifying sonic registers in a nation branding campaign". *Journal of Korean studies*, v. 20, n. 1, pp. 113-147.
https://doi.org/10.1353/jks.2015.0006

Lepa, Steffen; **Herzog, Martin**; **Steffens, Jochen**; **Schoenrock, Andreas**; **Egermann, Hauke** (2020). "A computational model for predicting perceived musical expression in branding scenarios". *Journal of new music research*, v. 49, n. 4, pp. 387-402.
https://doi.org/10.1080/09298215.2020.1778041

Mas, Lluís; **Bolls, Paul**; **Rodero, Emma**; **Barreda-Ángeles, Miguel**; **Churchill, Ashley** (2021). "The impact of the sonic logo's acoustic features on orienting responses, emotions and brand personality transmission". *Journal of product & brand management*, v. 30, n. 5, pp. 740-753.
https://doi.org/10.1108/JPBM-05-2019-2370

Mas, Lluís; **Collell, Maria-Rosa**; **Xifra, Jordi** (2017). "The sound of music or the history of Trump and Clinton family singers: music branding as communication strategy in the 2016 presidential campaign". *American behavioural scientist*, v. 61, n. 6, pp. 584-599.
https://doi.org/10.1177/0002764217701214

Minsburg, Raúl (2016). "Identidad y arte sonoro: el proyecto 'Argentina suena'". *OuvirOuver*, v. 12, n. 1, pp. 44-52.
https://doi.org/10.14393/OUV18-v12n1a2016-3

Minsky, Laurence; **Colleen, Fahey** (2017). *Audio branding. Using sound to build your brand*. London: KoganPage. ISBN: 0749478578

Morales, Ángela; **Ortega, Enrique**; **Conesa, Elena**; **Ruiz-Esteban, Cecilia** (2017). "Análisis bibliométrico de la producción científica en educación musical en España". *Revista española de pedagogía*, v. 268, pp. 399-414.
https://doi.org/10.22550/REP75-3-2017-07

Ngo, Mary-Kim; **Misra, Reeva**; **Spence, Charles** (2011). "Assessing the shapes and speech sounds that people associate with chocolate samples varying in cocoa content. *Food quality and preference*, v. 22, n. 6, pp. 567-572.
https://doi.org/10.1016/j.foodqual.2011.03.009

Pathak, Abhisek; **Calvert, Gemma-Anne**; **Lim, Lewis K. S.** (2020). "Harsh voices, sound branding: how voiced consonants in a brand's name can alter its perceived attributes". *Psychology & marketing*, v. 37, n. 6, pp. 837-847.
https://doi. org /10.1002/mar.21346

Pathak, Abhisek; **Velasco, Carlos**; **Spence, Charles** (2020). "The sound of branding: an analysis of the initial phonemes of popular brand names". *Journal of brand management*, v. 27, pp. 339-354.
https://doi.org/10.1057/s41262-019-00183-5

Pérez-Hernández, Lorena (2013). "Approaching the utopia of a global brand: the relevance of image schemas as multimodal resources for the branding industry". *Review of cognitive linguistics*, v. 11, n. 2, pp. 285-302.
https://doi.org/10.1075/rcl.11.2.05per

Pier, David (2011). "The branded arena: Ugandan 'traditional' dance in the marketing era". *Africa: journal of the international African institute*, v. 81, n. 3, pp. 413-433.
http://www.jstor.org/stable/41484996

Pogacar, Ruth; **Kouril, Michal**; **Carpenter, Thomas P.**; **Kellaris, James J.** (2018). "Implicit and explicit preferences for brand name sounds". *Marketing letters*, v. 29, n. 2, pp. 241-259.
https://doi.org/10.1007/s11002-018-9456-7

Porta, Luis; **Silva, Miriam** (2003). "La investigación cualitativa: el análisis de contenido en la investigación educativa". *Anuario digital de investigación educativa*, n. 14, pp. 2618-3862.
http://revistas.bibdigital.uccor.edu.ar/index.php/adiv/article/view/3301

Roberts, Les (2014). "Marketing musicscapes, or the political economy of contagious magic". *Tourist studies*, v. 14, n. 1, pp. 10-29.
https://doi.org/10.1177/1468797613511683

Round, Griff; **Roper, Stuart** (2015). "Untangling the brand name from the branded entity: the conceptualisation and value of the established brand name". *European journal of marketing*, v. 49, n. 11/12, pp. 1941-1960.
https://doi.org/10.1108/EJM-09-2014-0541

Siddaway, Andy P.; **Wood, Alex M.**; **Hedges, Larry V.** (2019). "How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses". *Annual review of psychology*, v. 70, pp. 747-770.
https://doi.org/10.1146/annurev-psych-010418-102803

Smith, Zac (2017). "The role of phonesthemes in shoegaze naming conventions". *Names. A journal of onomastics*, v. 65, n. 3, pp. 143-153.
https://doi.org/10.1080/00277738.2017.1304105

Spehr, Georg (2009). "Audio branding - all new?". In: Bronner, Kai; Hirt, Rainer (eds.). *Audio branding. Brands, sound and communication*. Munich: Nomos, pp. 27-33. ISBN: 3832943528

Spence, Charles (2012). "Managing sensory expectations concerning products and brands: capitalizing on the potential of sound and shape symbolism". *Journal of consumer psychology*, v. 22, n. 1, pp. 37-54.
https://doi.org/10.1016/j.jcps.2011.09.004

Topolinski, Sascha; **Zürn, Michael**; **Schneider, Iris K.** (2015). "What's in and what's out in branding? A novel articulation effect for brand names". *Frontiers in psychology*, v. 6, n. 585.
https://doi.org/10.3389/fpsyg.2015.00585

Trainer, Adam (2015). "Sleepy township: Perth indie rock in the 1990s". *Continuum. Journal of media & cultural studies*, v. 29, n. 4, pp. 650-662.
https://doi.org/10.1080/10304312.2015.1025364

Van-Doorn, George; **Paton, Bryan**; **Spence, Charles** (2016). "Is J the new K? Initial letters and brand names". *Journal of brand management*, v. 23, pp. 666-678.
https://doi.org/10.1057/s41262-016-0007-3

Vidal-Mestre, Montserrat (2017). *Branding sonoro. El sonotipo como impulso emocional y mnemotécnico en las marcas.* Tesis doctoral. Barcelona: Universidad Abat Oliba CEU.
http://hdl.handle.net/10637/11604

Vidal-Mestre, Montserrat (2018). *Branding sonoro: Sonokey. El método de impulso emocional y mnemotécnico para las marcas.* Barcelona: UOC. ISBN: 8491802606

Wheeler, Duncan (2020). "Barcelona, a musical olympus? Live concerts, club cultures, television and city branding". *Journal of Spanish cultural studies*, v. 21, n. 1, p. 79-96.
https://doi.org/10.1080/14636204.2020.1720983

Yoganathan, Vignesh; **Osburg, Victoria-Sophie**; **Akhtar, Pervaiz** (2019). "Sensory stimulation for sensible consumption: multisensory marketing for e-tailing of ethical brands". *Journal of business research*, v. 96, pp. 386-396.
https://doi.org/10.1016/j.005

Characteristics of the Spanish podcast sphere: between democratization and commercial logic

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Abstract

After an initial period characterized by experimentation, amateurism, small audiences, technological difficulties, and scarce funding, podcasting is now fully consolidated. The aim of this paper is to analyze the characteristics of the Spanish podcast sphere: its structural, personal, thematic, formal, economic, and dissemination aspects. To this end, a content analysis of 21 variables was applied to the 206 programs that attained the highest popularity in the general rankings of *Spotify*, *Apple Podcasts*, and *iVoox* during the first quarter of 2021. Along the structural dimension, the results reveal the preponderance of digital-native podcasts in comparison with previously broadcast podcasts, and of podcasts promoted by radio stations or those associated with networks over independent ones. Regarding the personnel involved, programs produced by professionals from the media or other cultural industries are more popular than those produced by amateurs, while those presented by men are more popular than those presented by women. Regarding their themes, content related to mystery and/or crime, history, entertainment, and emotional well-being predominates. In the formal sphere, the majority of programs are exclusively audio programs, produced weekly and in Spanish, with a limited presence of the other co-official languages in Spain. In terms of funding, the most common situation is production by media groups or podcast networks, followed by monetization on *YouTube* and offering additional services. Based on all this, the main conclusion of this study is that podcasting in Spain has abandoned the democratizing potential attributed to it by some theorists and researchers in its beginnings to become embedded in a largely commercial logic.

Keywords

Podcasts; Podcasting; Online radio; On-demand radio; Digital media; User-generated content; UGC; Audio communication; *Spotify*; *Apple Podcasts*; *iVoox*; Content analysis; Spain.

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1. Introduction

In 1927, seven years after the start of the first regular commercial radio broadcast (**Stiegler**, 2008), the playwright **Bertolt Brecht** (2003) suggested several measures to achieve a truly democratic medium. These included the involvement of the audience in the creation of content as well as transparency regarding income and expenses. Six years later, in 1933, the psychologist of perception **Rudolf Arnheim** (1980) advocated the creation of authentic radio art, exclusively articulated around sound, without evocation of the image and clearly differentiated from other preexisting media, in what he called a "praise of blindness." When these authors raised their concerns, radio was still building its discourse (**Fernández**, 2008), which finally followed paths far from their postulates (**Gavaldà**, 1999), being based on the commercial concepts of program and programming.

For decades, the semiotics of communication described radio discourse as a continuous and incessant flow of content, formed by different closed and independent textual units, the programs, which were related to each other and which, as a whole, constituted the programming as a global macrotext (**Cebrián-Herreros**, 1999) whose coherence, as in the case of generalist television (**González-Requena**, 1995), was provided by the advertising logic. This characterization was linked to the synchronous consumption model of analog broadcasting, which began to enter a crisis when radio started to converge with the Internet. Even at the initial stage of that process, when only the simultaneous broadcasting of content in both media and the storage of content from the former in the latter for subsequent asynchronous consumption was practiced (**Franquet**, 2003), on-demand radio transformed continuous programming into programming stored on the Internet (**Pérez-Alaejos**; **López-Merayo**, 2013). This enabled listeners to develop new consumption strategies detached from the time factor (**Cebrián-Herreros**, 2008). This rupture of synchronism thus resulted in the fragmentation of the macrotextual discursive flow; the content, however, remained the same as in traditional radio and thus continued to be produced by podcast networks and broadcasters with an eminently commercial logic.

Conceptualized in its beginnings as an automated audio file distribution system through syndication and prior subscription (**Berry**, 2006), the emergence of podcasting in 2004 inaugurated the next stage of convergence and opened the doors to personalized and on-demand consumption (**Crofts** *et al*., 2005) by allowing users to program the downloading of audio content of their choice, which was generally produced independently. Like Brecht in 1927 with respect to radio, some authors saw the democratizing potential of this new format (**Gallego-Pérez**, 2006), since by decoupling distribution from the conventional radio networks and broadcasters, users could disseminate content of their own creation without relying on them (**Dearman**; **Galloway**, 2005). Thus, in line with the mass self-communication described by **Castells** (2009), audiences could also become producers (**Berry**, 2006), which in turn would contribute to the deinstitutionalization of the radio system (**Bonini**, 2006).

However, as in the case of radio, such observations were typical of the first stage of podcasting development, characterized by experimentation, amateurism, technical difficulties, and small audiences (**García-Marín**, 2019), with hardly any presence of traditional radio networks and no mechanisms for monetization. It was not until 2012, with the launch of the first business models in the United States, that podcasting began a second age, during which it has been transforming into "a commercial productive practice and a medium for mass consumption" (**Bonini**, 2015, p. 23). In fact, only two years later, the most prominent podcasts in that country were being promoted by services, brands, and individuals with an established public presence (**Berry**, 2015). In practice, the podcast sphere was dominated by the media establishment (**Berry**, 2016), despite the multitude of programs created by nonprofessional users, which has led some authors to conceptualize it as a long-tail communicative space (**Sullivan**, 2018).

In Spain, meanwhile, broadcasters used the format exclusively as an on-demand radio service (**Sellas**, 2012) but did not exploit it commercially (**Gallego-Pérez**, 2012). While in the United States podcasting had reached maturity in 2014, with the widespread diffusion of podcasts such as *Serial* (**Berry**, 2015; 2016), in Spain the beginning of consolidation had to wait until mid-2016, with the creation of *Podium Podcast* by *Prisa Group* (**García-Marín**, 2019; **Sellas**; **Solà**, 2019).

Since the tipping point pointed out by **Bonini**, podcast consumption has grown remarkably. In the United States, monthly listening increased from 12% in 2012 to 41% in 2021 (*Pew Research Center*, 2021). According to data from the *Digital News Report* global survey (**Newman** *et al*., 2021) conducted in January 2021, 31% of the population in the 20 countries where it is a known term had accessed a podcast in the past month. Among these, Spain was the territory with the second highest penetration (38%), only behind Ireland (41%). The percentage of the Spanish Internet population that listened to podcasts increased from 41.5% in 2019 to 47.1% in 2020 (*SEIM*, 2020); moreover, demand for audio content in podcast format was higher among people under 35 years old (**Amoedo**; **Moreno**, 2021).

Podcasting has already led to a reconfiguration of the relationships established between those who create and produce content and those who consume it (**Morris**; **Patterson**, 2015). While some authors conceptualized it in its beginnings as an extension of radio (**Sterne** *et al*., 2008) or cyberradio (**Cebrián-Herreros**, 2009), others have observed more recently the development of diffe-

> After an initial period characterized by experimentation, amateurism, small audiences, technological difficulties, and scarce funding, podcasting is now fully consolidated

rential characteristics, such as hyperintimacy and greater proximity with the audience (**Berry**, 2016) or, even, "self-identity" (**García-Marín**, 2019, p. 190), as a consequence of factors such as:

- the digitization of recording, editing, hosting, and broadcasting;
- the modular nature of the content;
- the automation of distribution processes;
- the variability of the content according to conditions in which it is consumed by users;
- the propagability of the programs; and
- interactivity.

Its identity would derive, in short, from the combination of the language of radio, the serialization of blogs, the staging of theater, and the avatarization of social media (**García-Marín**, 2020a).

In full consolidation of the format in Spain, it is worthwhile to ask whether the democratizing potential initially proposed from an eminently European perspective has been fulfilled or whether, on the contrary, as happened in the case of radio with respect to Brecht's egalitarian proposals (**Brecht**, 2003) and Arnheim's artistic arguments (**Arnheim**, 1980), the new format has embraced the same, eminently commercial and intermediate logic as in other countries, where podcasting is dominated by conventional radio networks (**Berry**, 2016), with a proliferation of hybrid audio and audiovisual formats (**Johansson**, 2021).

The objective of this study is to analyze the main characteristics of the current age of podcasting in Spain. The starting hypothesis is:

> H: Having become established, the Spanish podcasting scene (understood as the communicative space constituted by audio programs distributed outside conventional radio and consumable asynchronously, regardless of the nature of their production) has abandoned its democratizing potential to become immersed in a mostly commercial logic.

To verify this, the study examines the structural, personal, thematic, formal, economic, and dissemination dimensions of the most prominent Spanish podcasts, and in the case of independent podcasts, the differences in access to funding depending on the program's theme and the gender and professionalism of the podcaster.

2. Literature review

Although podcasting is now consolidated after a decade of exploration and experimentation (**Berry**, 2016; **García-Marín**, 2019), academic research on this format was scarce until a few years ago (**Galán-Arribas** *et al.*, 2018). The following is a review of its main findings, articulated around the six dimensions analyzed in this paper.

Structure

Regarding the structural dimension, referring to the media group support from which the content is developed, the Spanish media initially used the Internet as a mere repository for previously broadcast programs (**Gallego-Pérez**, 2012; **Sellas**, 2012). In fact, only 8.7% of the podcasts broadcast in 2011 by the then five main Spanish generalist radio networks (*SER*, *COPE*, *Onda Cero*, *RNE1*, and *Punto Radio*) were digital natives (**Pérez-Alaejos**; **López-Merayo**, 2013), with *SER* being the conventional radio network that developed the most native formats, while it was not until 2019 that Spanish public radio (*RNE*) produced its first digital-native podcast (**Müller**; **Martínez-Costa**; **Villar**, 2020). *Prisa Radio*'s leadership in the development of audio content for the Internet intensified in 2016 with the creation of *Podium Podcast*, the first Spanish podcast platform driven by a communication group. This marked the beginning of the commercialization and economic exploitation of the format (**Sellas**; **Solà**, 2019) and constituted the tipping point toward the maturity of Spanish podcasting (**García-Marín**, 2019), similar to the evolution from DIY production to a massive and professional approach that was initiated two years previously in the United States (**Bonini**; 2015). More recent studies on the Spanish podcasting scene show that most programs are produced independently and by amateur users (**Antunes**; **Salaverría**, 2018; **García-Marín**; **Aparici**, 2018), and that the most prominent among those promoted by well-established media groups are developed by *Podium Podcast* (**Antunes**; **Salaverría**, 2018).

Authorship

Regarding the personnel active in the podcast sphere, referring to the characteristics of those who host programs, national (**Fernández-Sande**, 2015) and international (**Sullivan**, 2018) research has detected the creation of independent podcasts by conventional radio professionals, in competition with those produced by amateurs, but without establishing their relative proportion. In Danish independent podcasting, for example, content creators are not usually communication professionals (**Adler-Berg**, 2021). On the other hand, in terms of gender, the majority of independent Spanish podcasters are men (**Antunes**; **Salaverría**, 2018), as also found in other environments internationally (**Werner** *et al*., 2020).

> While in the United States podcasting had reached maturity in 2014, with the widespread diffusion of podcasts such as *Serial*, in Spain the beginning of consolidation had to wait until mid-2016, with the creation of *Podium Podcast* by *Prisa Group*

Topics

In terms of the thematic dimension, differences emerge depending on the type of production. On the one hand, podcasts produced by public media (**Müller**; **Martínez-Costa**; **Villar**, 2020) or regional media (**Martínez-Costa** *et al*., 2021) are linked to news, dissemination, and entertainment, like traditional radio formats. On the other hand, digital-native programs produced by private media groups mostly focus on fiction or entertainment, in particular those promoted by *Podium Podcast* (**Antunes**; **Salaverría**, 2018). In this sense, studies on the content developed by *Prisa Radio*'s podcasting platform argue that its production is based on journalistic content (from current affairs to biographies of prominent figures, or events) (**Legorburu**; **Edo**; **García-González**, 2021), entertainment, and fiction, although it also includes cultural affairs and programs considered to be niche (**Moreno-Cazalla**, 2017; **Sellas**; **Solà**, 2019). Finally, most independent Spanish podcasts address issues related to science and technology, fiction, entertainment, and culture (**Antunes**; **Salaverría**, 2018), in contrast to the situation in other countries such as Denmark, where most of their content is based on conversations with personalities of interest or deals with hobbies (**Adler-Berg**, 2021). The presence of non-news genres from traditional radio in the Spanish podcast sphere has been corroborated recently (**Gallardo-Camacho**; **Pulido-Núñez**, 2022).

Formats

The formal dimension has undergone significant evolution since the beginnings of podcasting. At the beginning of the last decade, generalist Spanish channels used this format to enable on-demand consumption of previously broadcast content (which they uploaded in its entirety, including advertising space), while only a minority of the content offered was native (**Pérez-Alaejos**; **López-Merayo**; 2013). Subsequently, the channels modified the publication format of the previously broadcast content so that, as in the case of the magazine programs of generalist channels, they could be consumed in full, by hour, by section, or as highlights, thus satisfying both traditional and digital audiences (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu**, 2020). In recent years, podcasts have begun to make narrative extensions and diversify their format according to the characteristics of the media in which they are broadcast, such as video or social media (**García-Marín**, 2019). Sometimes, video is used not only as a narrative extension but even as a hybrid format that uses images to complement the audio distributed on other platforms in what **Johansson** (2021) calls *YouTube Podcasts*. This narrative expansion of the programs also occurs in a transmedia way (**García-Marín**; **Aparici**, 2018; 2020; **García-Marín**, 2020b), so that, in addition to the multiple repositories from which the audio of a podcast can be listened to, such as *iVoox*, *Apple Podcasts*, or *Spotify*, up to six additional media that can complement its contents have been identified: their own websites, social media, conventional radio, live face-to-face shows, online video channels, and newsletters (**García-Marín**; **Aparici**, 2018).

Funding

The funding dimension has traditionally been the most complex to analyze because of the lack of information on costs and income provided by producers, distributors, and advertisers (**Moreno-Cazalla**, 2017). According to the study by **Banqueri-Barra** (2020), almost 80% of independent podcasts in Spain have two or three sources of income; of the 13 forms of financing identified, the most frequent are subscriptions (40%), exclusivity on a platform (38%), and sponsorship (17%). In the same sense, **Antunes** and **Salaverría** (2018) found that the most widely used formula is crowdfunding, followed by merchandising. In fact, according to **Bonini** (2015), the second age of podcasting began in the USA when successful programs achieved economic independence through digital sponsorship.

In addition to these formulas, the so-called corporate podcast or branded podcast is booming, being promoted by large companies (**Barbeito-Veloso**; **Perona-Páez**, 2019) as an element of audio branding (**Piñeiro-Otero**, 2015) that they use to promote themselves as a direct way to reach their audience of interest (**Lögdberg**; **Wahlqvist**, 2020). Such programs are also being introduced in Spain, as evidenced by the pioneering cases of *Aerolínea Momentos*, co-produced by *Podium Podcast* and *Iberia* (**Sellas**, 2018), or *Blink*, produced by the BBVA bank (**Barbeito-Veloso**; **Perona-Páez**, 2019). In Latin America and considering only journalistic podcasts belonging to communication groups, **Rojas-Torrijos**, **Caro-González**, and **González-Alba** (2020) identified as many as 16 financing formulas, the most widely used being the creation of content for brands.

However, attracting funding for independent podcasts is not an easy task. Not only does the monetization of content depend on the functionalities of the podcasting platforms on which they are broadcast, but various studies have pointed to the tendency/need to diversify income sources, with the main one always being the listeners (**Banqueri-Barra**, 2020; **Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020). Research conducted in Australia found that most independent productions do not generate profits, but that the diversification of their funding sources gives them creative freedom by granting an autonomy that allows them to experiment (**Jorgensen**, 2021).

Dissemination

Finally, in terms of dissemination, podcasts have gone from being listened to through the syndication of their content through any RSS application (podcatcher) to having to adapt to the rules of the platform chosen as the main vehicle for their distribution. This platformization of the podcast sphere is being accelerated by the international rise of major distributors such as *Apple*, *Spotify*, or *Google*, but also by the consumption and discovery of programs through social media platforms such as *YouTube*, *Facebook*, or *Twitter* (**Sullivan**, 2019). According to data from *SEIM* (2020), *Spotify* is the most widely used application in Spain (48.2%), followed by *iVoox* (25.5%), *Google Podcasts* (21.9%), and *Apple Podcasts* (15.4%). However, another relevant report in the sector, the *Digital News Report* (**Newman** *et al*., 2021), lists *YouTube* (27%), *iVoox* (20%), *Spotify* (18%), and *Google Podcast* (16%) as the most widely used in the country. These data reveal that, while *YouTube* is the preeminent audiovisual content consumption platform, there is no clear hegemony in the dissemination of audio content (**Banqueri-Barra**, 2020).

3. Materials and method

In this study, content analysis (**Krippendorff**, 2004; **Neuendorf**, 2002) was applied to a sample formed by the most outstanding podcasts in Spain during the first quarter of 2021. The corpus was composed of the 206 original content programs that, at some point during the period between January 1 and March 31 of that year, were among the top 50 positions in the general daily rankings of *Spotify* and *Apple Podcasts* for Spain or in the weekly rankings of *iVoox*, a pioneering platform for the storage, distribution, and monetization of programs in the country. The data corresponding to the former two were obtained through *Chartable*, a podcast analysis tool certified by the *Interactive Advertising Bureau* (*IAB*), while those corresponding to the latter were obtained through *iVoox*'s own website. According to a survey of Internet users conducted in October 2020, these three selected platforms are, together with *Google Podcasts*, whose ranking was not territorialized by *Chartable* at the time of data collection, the most widely used by Spanish consumers to listen to audio content (*SEIM*, 2021). A lack of originality led to the exclusion from the sample of five podcasts previously broadcast on radio or television that met the popularity criterion but had been uploaded by users who were not involved in their production.

The analysis included the categorization of 21 variables based on the previous literature review and distributed along six study dimensions (Table 1): structural, personal, thematic, formal, non-discursive funding, and dissemination. The information used to code the variables was obtained through a proactive and intensive manual search on the Internet, which allowed the consultation of the program files on the podcasting platforms analyzed and on the websites of conventional radio networks as well as, if available, the websites and *Facebook*, *Twitter*, and *YouTube* accounts of the podcasts. In addition, the variables corresponding to theme, funding, language, and gender were coded after listening to at least one episode of each program.

Table 1. Analysis variables and categories

Dimension	Variable	Category
Structural	Origin	Conventional radio / Conventional television / Digital native associated with a podcast network / Independent digital native
	Radio network	[only if origin = conventional radio]
	Group	[only if origin = conventional radio]
	Territorial scope	[only if origin = conventional radio] Local / Regional / Spanish / Global
	Podcast network	[only if origin = digital native associated with a podcast network]
Authorship	Professionalism	Yes / No / Without host
	Gender	Men / Women / Men and women
Thematic	Subject matter	General news / Politics or economics / Business or marketing / Sports news / Entertainment / Music only / Fiction / Mystery or crime / History / Science and technology / Culture / Fandom / Fitness / Emotional wellness / Childhood and parenting / Language learning / Conversational / Other
Formal	Format	Podcast only / Podcast and video
	Periodicity	Daily / Several times a week / Weekly / Every two weeks / Monthly / Irregular
	Language	Spanish / Catalan / English / Only music
Funding	Audience	Yes / No
	Services	Yes / No
	Brands	Yes / No
	Media	Yes / No
	YouTube	Yes / No
	Others	Yes / No
Dissemination	*Spotify*	Present / Absent
	iVoox	Present / Absent
	Google	Present / Absent
	Apple	Present / Absent

The coding was carried out by the authors after a test on a random sample of 26.2% of the corpus (n = 54). The Krippendorff alpha coefficients obtained, always above α = 0.8, confirmed the reliability of the results (**Igartua**, 2006).

4. Results

4.1. Structural dimension

The analysis of the structural dimension of the most prominent podcasts in Spain during the first quarter of 2021 showed that 72.3% of them were digital natives (*n* = 149), with a similar presence of independent ones (35.9%, *n* = 74) and those associated with a podcast network or promoted by a production company (36.4%, *n* = 75). Programs previously broadcast via conventional media were in the minority (27.7%, *n* = 57), with an absolute predominance of those coming from conventional radio (26.7%, *n* = 55) over those from conventional television (1%, *n* = 2).

Of the podcasts from conventional radio:

- 20 were broadcast on *Cadena SER*;
- 8 on *Onda Cero*;
- 6 on *COPE*;
- 5 on *esRadio*;
- 4 on *RAC1*;
- 3 on *Catalunya Ràdio*;
- 1 on *Radio Nacional*, *Los40*, *Rock FM*, and *Radio Marca*; and
- 5 on independent stations.

Thus:

- the *Prisa Group* produced 38.2% (*n* = 21) of the radio programs that were among the most outstanding podcasts;
- *Atresmedia*, 14.5% (*n* = 8);
- *COPE*, 12.7% (*n* = 7);
- *Libertad Digital*, 9.1% (*n* = 5);
- *Grupo Godó*, 7.3% (*n* = 4);
- *Corporació Catalana de Mitjans Audiovisuals*, 5.5% (*n* = 3);
- *Corporación de Radio y Televisión Española*, 1.8% (*n* = 1); and
- *Unidad Editorial*, 1.8% (*n* = 1).

In turn, 76.4% of them had been broadcast nationally (*n* = 42), while 16.4% came from regional coverage (*n* = 9); 5.5%, local (*n* = 3); while only 1.8% were global (*n* = 1).

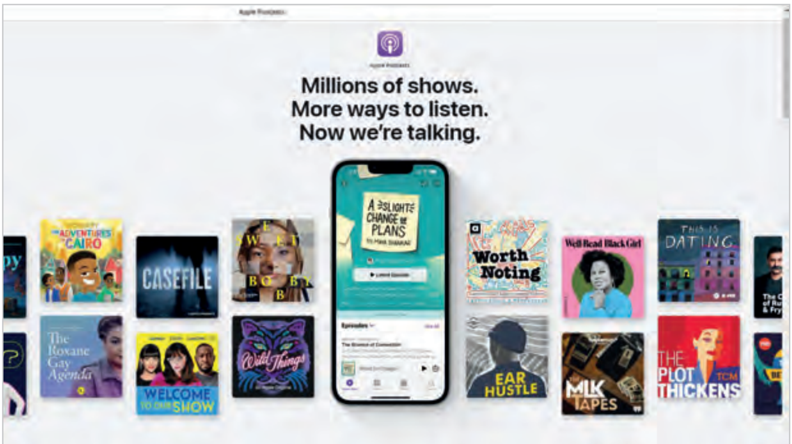
Among the digital-native podcasts that were not fully independent:

- 48% (*n* = 36) were linked to *iVoox Originals*, an exclusive partnership network created by *iVoox* at the beginning of 2019 that facilitates the monetization of programs at the listener's expense;
- 16% (*n* = 12) had been produced by *Podium Podcast*, belonging to *Prisa Radio*;
- 2.7% (*n* = 2), by *Spotify*;
- 1.3% (*n* = 1), by *Cuonda*;
- 1.3% (*n* = 1), by *Subterfuge Radio*;
- 1.3% (*n* = 1), by *Radio Primavera Sound*;
- and the remaining 29.3% (*n* = 22), by international or national communication companies not exclusively linked to audio communication, none of which promoted more than one program included in the corpus.

4.2. Personal dimension

The analysis of the authorship of the podcasts revealed the predominance of professional podcasters (72.8%, *n* = 150) over amateurs (25.7%, *n* = 53), and of men (63.6%, *n* = 131) over women (23.3%, *n* = 46) or the presence of both genders (11.6%, *n* = 24). Authorship was considered to be professional when the persons presenting the programs were journalists or had a consolidated public presence owing to their activity in other fields of communication and culture. Meanwhile, authorship was considered to be amateur when the main professional activity of the podcasters was not related to this field or when they do not have such an established public presence.

Cross-sectional analysis of the professionalism and gender variables with the variable describing the origin of the programs (Table 2) revealed that the



https://www.apple.com/apple-podcasts

predominance of professional hosts was common to all the types of podcasts analyzed, but decreased according to the resources available to them, being 98.2% in the case of programs from conventional radio, 69.3% for digital-native programs associated with a network, and 56.8% for independent digital-native programs (56.8%). Similarly, presentation by men was also found to be in the majority for all three cases (68.4%, 62.7%, and 60.8%, respectively), with exclusive authorship by women increasing according to the degree of independence of the programs, being 15.8% for conventional programs, 21.3% for natives associated with podcast networks, and 31.1% for natives not linked to any podcast network.

> The results reveal the preponderance of digital-native podcasts in comparison with previously broadcast podcasts, and of podcasts promoted by radio stations or those associated with networks over independent ones

Table 2. Professionalism and gender in the authorship of the most outstanding podcasts, according to their origin

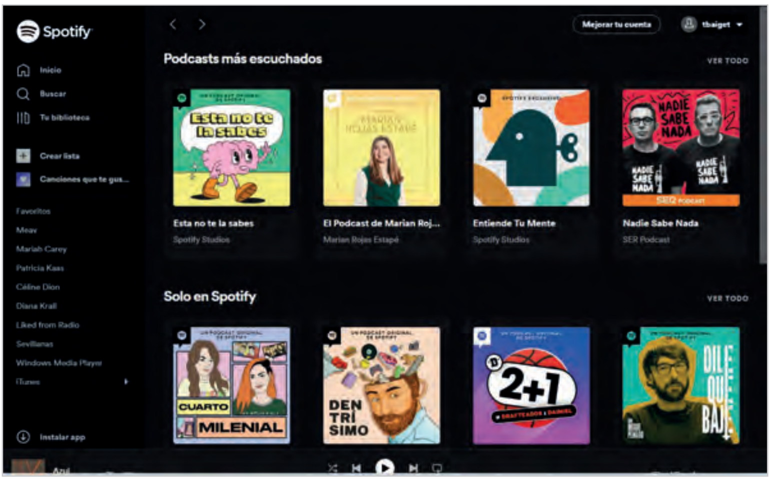
	Conventional		Associated digital natives		Independent digital natives		Total	
	n	%	n	%	n	%	n	%
Professional	56	98.2	52	69.3	42	56.8	150	72.8
Men	38	66.7	32	42.7	26	35.1	96	46.6
Women	9	15.8	13	17.3	13	17.6	35	17.0
Both genders	9	15.8	7	9.3	3	4.1	19	9.2
Nonprofessional	1	1.8	23	30.7	29	39.2	53	25.7
Men	1	1.8	15	20.0	19	25.7	35	17.0
Women	0	0.0	3	4.0	10	13.5	13	6.3
Both genders	0	0.0	5	6.7	0	0.0	5	2.4
Without host	0	0.0	0	0.0	3	4.1	3	1.5
Total	57	100.0	75	100.0	74	100.0	206	100.0

4.3. Thematic dimension

The predominant themes were:

- mystery and/or crime (14.1%, *n* = 29);
- history (12.6%, *n* = 26);
- entertainment (12.1%, *n* = 25), regardless of whether the subject matter was political, cultural, or social;
- emotional well-being (10.2%, *n* = 21), which includes psychology as well as self-help, relaxation, and personal growth;
- general current affairs (9.7%, *n* = 20), in both news and magazine format; and
- science and/or technology outreach (7.8%, *n* = 16).

The cross-sectional analysis of the subject matter and origin of the programs (Table 3) shows, however, relevant differences depending on the nature of the podcasts. Among the programs previously broadcast on conventional radio, general current affairs (26.3%), entertainment (24.6%), and sports current affairs (14%) predominate. Among the digital natives associated with a podcast network, mystery and crime (25.3%), historical information (18.7%), and science and/or technology information (10.7%) are most important. Among the independent digital natives, whose topics are more diversified, emotional well-being (20.3%), science and/or technology (10.8%), and business and/or marketing (8.1%) come first.



https://open.spotify.com/genre/podcasts-web

Table 3. Subject matter of the most outstanding podcasts, according to their origin

	Conventional		Associated digital natives		Independent digital natives		Total	
	n	%	n	%	n	%	n	%
General news	15	26.3	4	5.3	1	1.4	20	9.7
Politics or economics	1	1.8	5	6.7	1	1.4	7	3.4
Business or marketing	0	0.0	0	0.0	6	8.1	6	2.9
Sports news	8	14.0	0	0.0	2	2.7	10	4.9
Entertainment	14	24.6	6	8.0	5	6.8	25	12.1
Music only	0	0.0	0	0.0	2	2.7	2	1.0
Fiction	0	0.0	1	1.3	2	2.7	3	1.5
Mystery or crime	6	10.5	19	25.3	4	5.4	29	14.1
History	7	12.3	14	18.7	5	6.8	26	12.6
Science and technology	0	0.0	8	10.7	8	10.8	16	7.8
Culture	3	5.3	5	6.7	3	4.1	9	4.4
Fandom	0	0.0	0	0.0	1	1.4	1	0.5
Fitness	1	1.8	1	1.3	6	8.1	8	3.9
Emotional wellness	1	1.8	5	6.7	15	20.3	21	10.2
Childhood and parenting	0	0.0	0	0.0	3	4.1	3	1.5
Language learning	0	0.0	2	2.7	5	6.8	7	3.4
Conversational	0	0.0	5	6.7	4	5.4	9	4.4
Other	1	1.8	0	0.0	1	1.4	2	1.0
Total	57	100.0	75	100.0	74	100.0	206	100.0

4.4. Formal dimension

The most common format (Table 4) was exclusively audio, both for programs broadcast via conventional media (70.2%) and for digital-native programs promoted by a podcast network or production company (81.3%) as well as independent digital-native programs (74.3%). The distribution of the podcast in hybrid format, in which the sound is accompanied by a full video of its recording, without fragmentation, had a greater presence in the podcasts linked to conventional media (29.8%) and in the independent digital natives (25.7%).

Table 4. Format of the most outstanding podcasts, according to their origin

	Conventional		Associated digital natives		Independent digital natives		Total	
	n	%	n	%	n	%	n	%
Podcast only	40	70.2	61	81.3	55	74.3	156	75.7
Podcast and video	17	29.8	14	18.7	19	25.7	50	24.3
Total	57	100.0	75	100.0	74	100.0	206	100.0

The predominant broadcasting frequency among the programs studied was weekly (41.7%), followed by daily (20.4%). According to their origin (Table 5), podcasts linked to traditional media showed a greater fraction of daily (49.1%) than weekly production (36.8%). However, the digital natives, both independent and produced by a podcast network, offered mostly weekly updates (45.9% and 41.3%, respectively).

Table 5. Periodicity of the most outstanding podcasts, according to their origin

	Conventional		Associated digital natives		Independent digital natives		Total	
	n	%	n	%	n	%	n	%
Daily	28	49.1	8	10.7	6	8.1	42	20.4
Several times a week	5	8.8	15	20.0	6	8.1	26	12.6
Weekly	21	36.8	31	41.3	34	45.9	86	41.7
Every two weeks	0	0.0	7	9.3	5	6.8	12	5.8
Monthly	1	1.8	4	5.3	3	4.1	8	3.9
Irregular	2	3.5	10	13.3	20	27.0	32	15.5
Total	57	100.0	75	100.0	74	100.0	206	100.0

The preferred vehicular language in the set of podcasts studied was Spanish (87.9%, *n* = 181), followed by English (6.3%, *n* = 13) and Catalan (4.9%, *n* = 10). Within this selection of outstanding podcasts, there was also a minority of nonspoken programs consisting exclusively of a musical background (1%, *n* = 2).

4.5. Funding dimension

Regarding nondiscursive financing sources (not based on the spoken formulation of advertising references by the presenters):

- 46.1% of the programs studied resorted to the monetization of videos on *YouTube*;
- 44.7%, to production by the media or podcast networks;
- 32.5%, to additional services such as courses, books, or live shows;
- 29.6%, to contributions from listeners, through donations or subscriptions; and
- 8.7%, to sponsorship by commercial brands not related to the media sector.

In the case of podcasts previously broadcast via traditional media, the most frequent source was, as might be expected, production by the corresponding media, followed by monetization on *YouTube* (42.1%), with little presence of other formulas. Regarding programs broadcast by podcast networks, monetization through the listeners (49.3%) was the most common source, followed by advertising on *YouTube* (41.3%) and production by the podcast network itself (41.3%) (on many occasions, association with a network, such as *iVoox Originals*, implies the possibility of receiving funding from users but not direct receipt of resources from this association). Finally, the most common source of financing among independent podcasts was add-on services (59.5%), followed by the monetization of videos on *YouTube* (54.1%) and contributions from listeners (28.4%). The sources of funding studied are not mutually exclusive, so as seen in Table 6, the same program may, and in general does, resort to more than one method.

Table 6. Nondiscursive funding sources of the most outstanding podcasts, according to their origin

	Conventional (*N* = 57)		**Associated digital natives (*N* = 75)**		**Independent digital natives (*N* = 74)**		**Total (*N* = 206)**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Audience	3	5.3	37	49.3	21	28.4	61	29.6
Additional services	5	8.8	18	24.0	44	59.5	67	32.5
Brands	1	1.8	8	10.7	9	12.2	18	8.7
Media and/or networks	57	100,0	31	41.3	4	5.4	92	44.7
YouTube	24	42.1	31	41.3	40	54.1	95	46.1
Others	1	1.8	1	1.3	4	5.4	6	2.9

In the case of independent podcasting, we also studied the differences in access to funding depending on the professionalism and gender of the podcaster. As noted from Table 7, while the majority of independent programs that are financed through brand sponsorship (88.9%), additional services (63.6%), and monetization on *YouTube* (60%) are made by communication or cultural professionals, most of those that resort to subscriptions or donations are driven by nonprofessionals (52.4%). In terms of gender, programs presented by men represent the majority in the distribution of all funding sources, except for access to sponsorship by commercial brands, which is concentrated in independent podcasts presented by women (55.5%).

Table 7. Nondiscursive funding sources of the most outstanding independent podcasts, according to the gender and professionalism of their authors

	Audience (*N* = 21)		**Services (*N* = 44)**		**Brands (*N* = 9)**		**Media (*N* = 4)**		***YouTube* (*N* = 40)**		**Others (*N* = 4)**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Professional	9	42.9	28	63.6	8	88.9	4	100	24	60.0	3	75
Men	8	38.1	15	34.1	3	33.3	4	100	15	37.5	1	25
Women	0	0.0	10	22.7	4	44.4	0	0	9	22.5	2	50
Both genders	1	4.8	3	6.8	1	11.1	0	0	0	0.0	0	0
Nonprofessional	11	52.4	16	36.4	1	11.1	0	0	16	40.0	1	25
Men	8	38.1	9	20.5	0	0.0	0	0	11	27.5	1	25
Women	3	14.3	7	15.9	1	11.1	0	0	5	12.5	0	0
Both genders	0	0'.	0	0.0	0	0.0	0	0	0	0.0	0	0
Without host	1	4.8	0	0.0	0	0.0	0	0	0	0.0	0	0

Similarly, cross-sectional analysis of the financial and thematic variables in the independent podcast sphere (Table 8) reveals that access to the most widely used source, i.e., additional services, was higher for programs related to emotional well-being (20.5%), physical well-being (13.6%), language learning (11.4%), entertainment (11.4%), and entrepreneurship (11.4%). Monetization on *YouTube*, the second most widely used source of funding, was also led by programs on those topics (22.5%), followed by those dedicated to fitness (15%) and business or marketing (12.5%). Meanwhile, subscriptions or listener donations, the third most important source of funding for independent podcasters, were led by programs dedicated to mystery or crime (19%), with those focused on psychology or self-help in second place (14.3%). Finally, access to brand sponsorship was again led by programs dedicated to personal growth (22.2%), along with those dedicated to entrepreneurship and business (22.2%).

Table 8. Nondiscursive funding sources of the most outstanding independent podcasts, according to their subject matter

	Audience (*N* = 21)		**Services (*N* = 44)**		**Brands (*N* = 9)**		**Media (*N* = 4)**		***YouTube* (*N* = 40)**		**Others (*N* = 4)**	
	n	**%**	**n**	%	n	%	n	%	n	%	n	%
General news	1	4.8	1	2.3	0	0	0	0	1	2.5	0	0
Politics or economics	1	4.8	1	2.3	0	0	0	0	1	2.5	0	0
Business or marketing	0	0	5	11.	2	22.2	0	0	5	12.5	0	0
Sports news	1	4.8	1	2.3	1	11.1	0	0	1	2.5	0	0
Entertainment	2	9.5	5	11.4	0	0	0	0	2	5	0	0
Music only	1	4.8	0	0	0	0	0	0	0	0	0	0
Fiction	1	4.8	1	2.3	1	11.1	0	0	0	0	1	25
Mystery or crime	4	19	1	2.3	0	0	0	0	1	2.5	0	0
History	2	9.5	1	2.3	1	11.1	0	0	2	5	1	25
Science and technology	0	0	3	6.8	0	0	4	100	4	10	1	25
Culture	1	4.8	0	0	0	0	0	0	1	2.5	0	0
Fandom	0	0	0	0	0	0	0	0	0	0	1	25
Fitness	0	0	6	13.6	0	0	0	0	6	15	0	0
Emotional wellness	3	14.3	9	20.5	2	22.2	0	0	9	22.5	0	0
Childhood and parenting	0	0	3	6.8	1	11.1	0	0	3	7.5	0	0
Language learning	2	9.5	5	11.4	1	11.1	0	0	0	0	0	0
Conversational	2	9.5	2	4.5	0	0	0	0	3	7.5	0	0
Other	0	0	0	0	0	0	0	0	1	2.5	0	0

4.6. Dissemination dimension

The platforms that led the diffusion of the analyzed podcasts were *iVoox* (97.6%, *n* = 201), *Google Podcasts* (97.1%, *n* = 200), and *Apple Podcasts* (94.7%, *n* = 195), while *Spotify* (85.4%, *n* = 176) recorded a lower presence among the highlighted programs studied.

Half of the analyzed podcasts had a specific channel on *YouTube* that is regularly updated with their episodes, regardless of whether their format was hybrid or exclusively audio, or whether they were broadcast in full or fragmented form. As shown in Table 9, this percentage was slightly higher for independent digital-native podcasts (54.1%), but the range of percentages among the different modalities according to their origin does not reveal a distinct difference in this regard.

Table 9. The presence of *YouTube* among the most outstanding podcasts, according to their origin

	Conventional		**Associated digital natives**		**Independent digital natives**		**Total**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
With *YouTube* channel	24	42.1	31	41.3	40	54.1	95	46.1
Without *YouTube* channel	33	57.9	44	58.7	34	45.9	111	53.9
Total	57	100.0	75	100.0	74	100.0	206	100.0

5. Discussion and conclusions

This work analyzed the characteristics of the Spanish podcasting sphere by studying its structural, personal, thematic, formal, funding, and dissemination aspects on the basis of a content analysis applied to the 206 most popular programs in the first quarter of 2021.

The results regarding the structural dimension of the Spanish podcasting scene reveal its expansion and professionalization, with a clear majority of digital-native programs among the most popular ones on the most widely used platforms. Although, according to previous

> Regarding their themes, content related to mystery and/or crime, history, entertainment, and emotional well-being predominates

studies (**Antunes**; **Salaverría**, 2018; **García-Marín**; **Aparici**, 2018), most Spanish podcasts are produced independently, this study also found that those produced by media or those associated with podcast networks predominate among the most outstanding ones,. *Prisa Radio* continues to be (**Antunes**; **Salaverría**, 2018; **Pérez-Alaejos**; **López-Merayo**, 2013) the group with most programs rated among the most popular, either previously broadcast on *SER* or produced natively by *Podium Podcast*. In turn, *iVoox Originals* is the podcast network with the most podcasts. Although the podcast sphere is a long-tail space (**Sullivan**, 2018), its head in Spain is promoted by a few actors, mostly coming from the same media field. As noted previously by **Berry** (2016), the traditional establishment of audio communication is thus repeated in this field.

> The most commonly used financing sources are production by media groups or podcast networks, monetization of audios or videos on *YouTube*, and marketing of additional services (courses, shows, books, etc.)

Podcasters are mainly men and professionals from the media or others cultural industries, in both previously broadcast and digital-native programs, whether they are independent or associated with a podcast network. Differences with respect to gender were previously detected both nationally (**Antunes**; **Salaverría**, 2018) and internationally (**Werner** *et al*., 2020). The fact that, among independent podcasts, there is also a majority of professional and male presenters is in accord with the findings of **Fernández-Sande** (2015) and **Sullivan** (2018), since it is (mainly male) media professionals who start independent productions, although this is totally different in international scenarios such as the Danish one (**Adler-Berg**, 2021). The absolute predominance of professional and male podcasters distances the most popular podcasts from the democratization forecast at the format's beginnings, according to which audiences would become producers (**Berry**, 2006; **Dearman**; **Galloway**, 2005) and would have an impact on the public sphere. Indeed, if it exists, the deinstitutionalization of the radio system (**Bonini**, 2006) is not identified in this research.

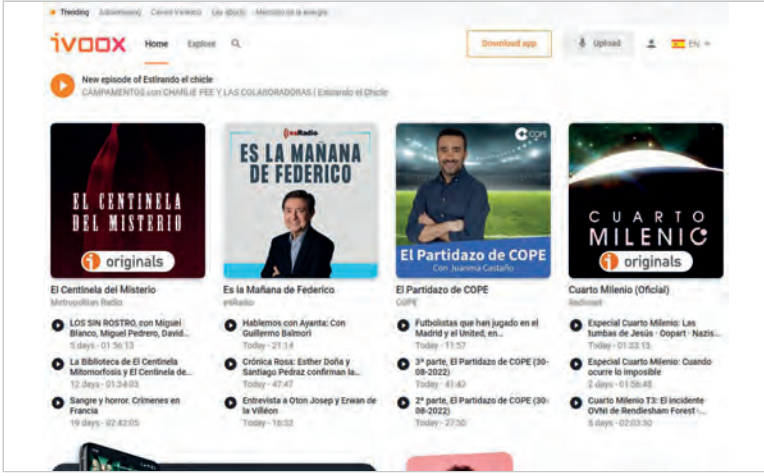
In general, the predominant themes of the most outstanding podcasts were mystery and/or crime, history, entertainment, and emotional well-being. However, differences were found depending on their structure. The media-driven podcasts highlight general current affairs, entertainment, and sports news, following a pattern more similar to that found previously in public and regional media (**Müller**; **Martínez-Costa**; **Villar**, 2020; **Martínez-Costa** *et al*., 2021) than that detected in other studies on private media groups (**Antunes**; **Salaverría**, 2018). While the podcasts associated with or produced by networks address more niche topics, such as mystery and crime or historical disclosure or about science and technology, the most prominent independent ones address more diverse issues related to personal growth, whether from mental health (such as emotional well-being), training (such as science and technology), or business learning (such as entrepreneurship and marketing). In this sense, it appears that podcasting in Spain has recovered a thematic diversity that was more typical of the radio discourse in the past, structured in a mosaic with numerous and varied programs, in comparison with the current situation that is structured in blocks, consisting of few shows that are moreover generally magazine, news, or sports programs (**Martí-Martí**, 2004). Mosaic programming is thus limited to some public broadcasters to comply with the mission of their owners.

From the formal perspective, the exclusively audio format is predominant, while *YouTube* podcasts (**Johansson**, 2021) consisting of hybrids of audio and video remain in the minority, notwithstanding who produces them. The transmedia expansion of narrative universes (**García-Marín**; **Aparici**, 2018; 2020; **García-Marín**, 2020b) is not, therefore, a generalized trend as far as audiovisual content is concerned. The majority of the studied podcasts are in Spanish and with weekly periodicity, except in the case of those previously broadcast by conventional radios, which generally have a daily frequency. In terms of language, there are more podcasts in English (13) than in Catalan (10), which is also the only co-official language, apart from Spanish, present among the most popular Spanish podcasts.

The most commonly used financing sources are production by media groups or podcast networks, monetization of audios or videos on *YouTube*, and marketing of additional services (courses, shows, books, etc.). Independent podcasts, which depend on their financial strategy to continue their production, resort to diversified financing sources (**Banqueri-Barra**, 2020) and opt (in this order) for the sale of additional services, monetization on *YouTube*, and contributions from listeners. Micro-sponsorship or subscription are formulas used by a minority of the independent podcasts analyzed, which represents an evolution with respect to the findings of previous studies (**Antunes**; **Salaverría**, 2018; **Banqueri-Barra**, 2020; **Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020). This source, which involves direct payment for the content of the podcast as enabled by *iVoox* without the need to rely on external tools to receive donations, is only used in the majority of some niche programs, such as those specialized in mystery or crime. It is also interesting to note that income through additional services is more frequent in programs on emotional wellness, fitness, and learning, revealing that podcasts are in themselves an advertising resource (**Lögdberg**; **Wahlqvist**, 2020). The financing of the most popular podcasts does not depend on listeners but on other resources, which implies the transposition of the commercial logic that underlies traditional radio programming to this format (**Cebrián-Herreros**, 1999).

> Programs produced by professionals from the media or other cultural industries are more popular than those produced by amateurs, while those presented by men are more popular than those presented by women

The data related to broadcasting corroborate the platformization (**Sullivan**, 2019) and adaptation of podcasts to the most widely used applications. Although the most frequent are *iVoox* and *Google Podcasts*, most of the programs have a multiplatform presence, which facilitates consumption using the tools habitually used by each listener, including the possibility to watch or listen to the podcast on *YouTube* in almost half of cases (**Johansson**, 2021). The most popular podcast sphere thus offers different types of access to the same content, allowing it to adapt to different modes of consumption and audience profiles (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu**, 2020).



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Based on the study of the six dimensions herein, the initial hypothesis of this work is confirmed. Despite the thematic diversification and the multiplicity of funding and dissemination channels, the consolidation of podcasting in Spain has abandoned the democratizing potential that some theorists and researchers attributed to the format in its beginnings (**Berry**, 2006; **Bonini**, 2006; **Crofts** *et al*., 2005; **Dearman**; **Galloway**, 2005; **Gallego-Pérez**, 2006). As in other countries (**Berry**, 2016; **Bonini**, 2015), the most popular Spanish podcast sphere is thus embedded in an eminently commercial logic.

The main limitation of this work derives from the composition of the research corpus, formed by the most prominent podcasts in the rankings of the broadcasting platforms, which as pointed out previously by other researchers (**Berry**, 2016) may reflect the popularity of the programs but not exclusively the volume of listeners. However, we believe that, in the absence of public audience measurements, collecting the sample on three different platforms over three months helps to address this limitation. Moreover, as podcasting is in continuous evolution, future research should analyze the variation in such results at later stages of its development. Similarly, as a result of the rise and consolidation of *Twitch*, especially among the younger population, future work should also study the presence of programs on this platform, which in fact already has a category called *Talk Shows & Podcasts*.

6. References

Adler-Berg, Freja-Sørine (2021). "Independent podcasts on the *Apple Podcast* platform in the streaming era". *MedieKultur: journal of media and communication research*, v. 37, n. 70, pp. 110-130.
https://doi.org/10.7146/mediekultur.v37i70.122390

Amoedo, Avelino; **Moreno, Elsa** (2021). "El consumo de podcast en España permanece estable". *Digital news report España 2022.*
https://www.digitalnewsreport.es/2021/el-consumo-de-podcast-en-espana-permanece-estable

Antunes, Maria-João; **Salaverría, Ramón** (2018). "PodcastSpain: análisis de los podcasts de audio más populares en *iTunes* de España". En: Antunes, Maria-João; Salaverría, Ramón (coords.). *Actas del VI Congreso internacional de la AE-IC, comunicación y conocimiento. Libro de comunicaciones*. Madrid: Asociación Española de Investigación de la Comunicación, pp. 1753-1770. ISBN: 978 84 09 03393 5
https://dadun.unav.edu/handle/10171/55806

Arnheim, Rudolf (1980). *Estética radiofónica*. Barcelona: Gustavo Gili. ISBN: 978 84 252 0994 9

Banqueri-Barra, Raúl (2020). *El podcasting en España: principales métodos de monetización*. Trabajo de fin de grado. Universidad de Zaragoza.
https://zaguan.unizar.es/record/95262/files/TAZ-TFG-2020-2244.pdf

Barbeito-Veloso, María-Luz; **Perona-Páez, Juan-José** (2019). "Comunicación organizacional en clave sonora: el caso de *Blink*, los podcasts de *BBVA*". *Profesional de la información*, v. 28, n. 5, e280511.
https://doi.org/10.3145/epi.2019.sep.11

Berry, Richard (2006). "Will the *iPod* kill the radio star? Profiling podcasting as radio". *Convergence: the journal of research into new media technologies*, v. 12, n. 2, pp. 143-162.
https://doi.org/10.1177/1354856506066522

Berry, Richard (2015). "A golden age of podcasting? Evaluating serial in the context of podcast histories". *Journal of radio & audio media*, v. 22, n. 2, pp. 170-178.
https://doi.org/10.1080/19376529.2015.1083363

Berry, Richard (2016). “Part of the establishment: reflecting on 10 years of podcasting as an audio medium”. *New media technologies*, v. 22, n. 6, pp. 661-671.
https://doi.org/10.1177/1354856516632105

Bonini, Tiziano (2006). *La radio nella rete: storia, estetica, usi sociali*. Milano: Costa & Nolan. ISBN: 978 88 7437 033 7

Bonini, Tiziano (2015). “La ‘segunda era’ del podcasting: el podcasting como nuevo medio de comunicación de masas digital”. *Quaderns del CAC*, v. 18, n. 41, pp. 23-33.
https://www.cac.cat/sites/default/files/migrate/quaderns_cac/Q41_ES.pdf

Brecht, Bertolt (2003). “Teorías de la radio (1927-1932)”. *Revista de economía política de las tecnologías de la información y comunicación*, v. 5, n. 2, pp. 5-16.

Castells, Manuel (2009). *Comunicación y poder*. Madrid: Alianza Editorial. ISBN: 978 84 2068 499 4

Cebrián-Herreros, Mariano (1999). *Información radiofónica: mediación técnica, tratamiento y programación*. Madrid: Síntesis. ISBN: 978 84 7738 221 8

Cebrián-Herreros, Mariano (2008). *La radio en internet: de la ciberradio a las redes sociales y la radio móvil.* Buenos Aires: La Crujía. ISBN: 9876010638

Cebrián-Herreros, Mariano (2009). “Expansión de la ciberradio”. *Enl@ce: revista venezolana de información, tecnología y conocimiento*, v. 6, n. 1, pp. 11-23.
https://produccioncientificaluz.org/index.php/enlace/article/view/13474

Crofts, Sheri; **Dilley, Jon**; **Fox, Mark**; **Retsema, Andrew**; **Williams, Bob** (2005). “Podcasting: a new technology in search of viable business models”. *First Monday*, v. 10, n. 9.
https://firstmonday.org/article/view/1273/1193

Dearman, Phillip; **Galloway, Chris** (2005). “Putting podcasting into perspective”. In: Healy, Sianan; Berryman, Bruce; Goodman, David (eds.). *Radio in the world: papers from the 2005 Melbourne radio conference*. Melbourne: RMIT University Press, pp. 535-546. ISBN: 1921166126

Fernández, José-Luis (2008). “Modos de producción de la novedad discursiva: introducción a la construcción de lo radiofónico”. En: Fernández, José-Luis (dir.). *La construcción de lo radiofónico*. Buenos Aires: La Crujía, pp. 9-73. ISBN: 978 98 7601 048 1

Fernández-Sande, Manuel (2015). “Radio Ambulante: narrative radio journalism in the age of crowdfunding”. In: Bonini, Tiziano; Monclús, Belén (eds.). *Radio audiences and participation in the age of network society*. London: Routledge, pp. 176-194. ISBN: 978 1 138548633

Franquet, Rosa (2003). “La radio ante la digitalización: renovarse en la incertidumbre”. En: Bustamante, Enrique (ed.). *Hacia un nuevo sistema mundial de comunicación: industrias culturales en la era digital*. Barcelona: Gedisa, pp. 139-160. ISBN: 978 84 7432 966 7

Galán-Arribas, Rafael; **Herrero-Gutiérrez, Francisco-Javier**; **Vergara-Fragoso, Martha**; **Martínez-Arcos, Cruz-Alberto** (2018). “Radio podcasting: studies on radio podcasting: a systematic literature review in WoS and Scopus that reveals a low scientific production”. *Revista latina de comunicación social*, n. 73, pp. 1398-1411.
https://doi.org/10.4185/RLCS-2018-1313en

Gallardo-Camacho, Jorge; **Pulido-Núñez, Fátima** (2022). “Radiophonic genres with the most audience in Spain: From waves to podcast”. *Techno review. International technology, science and society review*, v. 11, n. 1, pp. 69-87.
https://doi.org/10.37467/gkarevtechno.v11.3075

Gallego-Pérez, Juan-Ignacio (2006). “El podcasting en España, del uso privado a las grandes emisoras”. *Razón y palabra*, n. 49.
http://www.razonypalabra.org.mx/anteriores/n49/bienal/Mesa3/JuanIgnacio.pdf

Gallego-Pérez, Juan-Ignacio (2012). “Podcasting in Spain: a new business model or a reflection of traditional radio?”. *Radio journal: international studies in broadcast & audio media*, v. 10, n. 1, pp. 23-34.
https://doi.org/10.1386/rjao.10.1.23_1

García-Marín, David (2019). “La radio en pijama. Origen, evolución y ecosistema del podcasting español”. *Estudios sobre el mensaje periodístic*o, v. 25, n. 1, pp. 181-196.
https://doi.org/10.5209/ESMP.63723

García-Marín, David (2020a). “Mapping the factors that determine engagement in podcasting: design from the users and podcasters’ experience”. *Communication & society*, v. 33, n. 2, pp. 49-63.
https://doi.org/10.15581/003.33.2.49-63

García-Marín, David (2020b). "Universo transpodcast: modelos narrativos y comunidad independiente". *Historia y comunicación social*, v. 25, n. 1, pp. 139-150.
https://doi.org/10.5209/hics.69232

García-Marín, David; **Aparici, Roberto** (2018). "Nueva comunicación sonora: cartografía, gramática y narrativa transmedia del podcasting". *Profesional de la información*, v. 27, n. 5, pp. 1071-1081.
https://doi.org/10.3145/epi.2018.sep.11

García-Marín, David; **Aparici, Roberto** (2020). "Voces domesticadas y falsa participación: anatomía de la interacción en el podcasting transmedia". *Comunicar: revista científica de comunicación y educación*, v. 28, n. 63, pp. 97-107.
https://doi.org/10.3916/C63-2020-09

Gavaldà, Josep-Vicent (1999). *Una cultura acústica: notas de otra radio*. Valencia: Episteme. ISBN: 978 84 8329 029 3

González-Requena, Jesús (1995). *El discurso televisivo: espectáculo de la posmodernidad*. Madrid: Cátedra. ISBN: 978 84 3760 756 6

Igartua, Juan-José (2006). *Métodos cuantitativos de investigación en comunicación*. Barcelona: Bosch. ISBN: 978 84 97902717

Johansson, Christer (2021). "YouTube podcasting, the new orality, and diversity of thought: intermediality, media history, and communication theory as methodological approaches". In: Petersson, Sonya (ed.). *Digital human sciences: new objects-new approaches*. Stockholm: Stockholm University Press, pp. 253-284. ISBN: 978 91 7635 144 4
https://doi.org/10.16993/bbk.k

Jorgensen, Britta (2021). "The 'cultural entrepreneurship"' of independent podcast production in Australia". *Journal of radio & audio media*, v. 28, n. 1, pp. 144-161.
https://doi.org/10.1080/19376529.2020.1853126

Krippendorff, Klaus (2004). *Content analysis: an introduction to its methodology*. Thousand Oaks, California: Sage Publications. ISBN: 0 7619 1544 3

Legorburu, José-María; **Edo, Concha**; **García-González, Aurora** (2021). "Reportaje sonoro y podcasting, el despertar de un género durmiente en España: el caso de *Podium Podcast*". *Estudios sobre el mensaje periodístico*, v. 27, n. 2, pp. 519-530.
https://doi.org/10.5209/esmp.71204

Lögdberg, Arvid; **Wahlqvist, Oscar** (2020). *Podcasting as a digital content marketing tool within B2B: a qualitative case study exploring why and how Swedish B2B companies use podcasts as a marketing tool.* Master dissertation, Linköping University, Sweden.
https://www.diva-portal.org/smash/get/diva2:1450637/FULLTEXT01.pdf

Martí-Martí, Josep-Maria (2004). "La programación radiofónica". En: Martínez-Costa, María-del-Pilar; Moreno, Elsa (coords.). *Programación radiofónica: arte y técnica del diálogo entre la radio y su audiencia*. Barcelona: Ariel, pp. 21-46. ISBN: 84 344 1299 3

Martínez-Costa, María-del-Pilar; **Sánchez-Serrano, Consuelo**; **Pérez-Maillo, Aurora**; **Lus-Gárate, Eva** (2021). "La oferta de podcast de la prensa regional en España: estudio de las marcas centenarias de Castilla y León y Navarra". *adComunica*, n. 21, pp. 211-234.
https://doi.org/10.6035//2174-0992.2021.21.11

Moreno-Cazalla, Lourdes (2017). "Podium Podcast, cuando el podcasting tiene acento español". *Prisma social*, n. 18, pp. 334-364.
https://revistaprismasocial.es/article/view/1418

Morris, Jeremy-Wade; **Patterson, Eleanor** (2015). "Podcasting and its apps: software, sound and the interfaces of digital audio". *Journal of radio & audio media*, v. 22, n. 2, pp. 220-230.
https://doi.org/10.1080/19376529.2015.1083374

Müller, María-José; **Martínez-Costa, María-del-Pilar**; **Villar, Marta** (2020). "La expansión del podcast en la radio pública: estudio comparado de *Radio Nacional Argentina* y *Radio Nacional de España* (2019)". *Hipertext.net*, n. 20, pp. 55-67.
https://doi.org/10.31009/hipertext.net.2020.i20.05

Neuendorf, Kimberly A. (2002). *The content analysis guidebook*. Thousand Oaks, California: Sage Publications. ISBN: 0 7619 1977 5

Newman, Nic; **Fletcher, Richard**; **Schulz, Anne**; **Andı, Simge**; **Robertson, Craig T.**; **Nielsen, Rasmus-Kleis** (2021). *Digital news report 2021*. Oxford: Reuters Institute for the Study of Journalism; University of Oxford.
https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2021

Pérez-Alaejos, María-de-la-Peña-Mónica; **López-Merayo, Alejandro** (2013). "Entre ondas y bits: El podcasting en las redes nacionales de radio españolas". *Revista comunicação midiática*, v. 8, n. 3, pp. 181-202.
https://dialnet.unirioja.es/servlet/articulo?codigo=4790821

Pew Research Center (2021). *Audio and podcasting fact sheet*. Pew Research Center, 29 June.
https://www.pewresearch.org/journalism/fact-sheet/audio-and-podcasting

Piñeiro-Otero, Teresa (2015). "Del jingle a las radios corporativas: Una aproximación al concepto de audiobranding". *Prisma social*, n. 14, pp. 663-668.
https://dialnet.unirioja.es/descarga/articulo/5435340.pdf

Rodríguez-Luque, Cristina; **Alonso-Fernández, José-Antonio**; **Legorburu, José-María** (2020). "De la fonoteca al podcast: análisis de los magacines estrella de la radio generalista española en los repositorios abiertos". *Documentación de las ciencias de la información*, n. 43, pp. 15-22.
https://doi.org/10.5209/dcin.67234

Rojas-Torrijos, José-Luis; **Caro-González, Francisco-Javier**; **González-Alba, José-Antonio** (2020). "The emergence of native podcasts in journalism: editorial strategies and business opportunities in Latin America". *Media and communication*, v. 8, n. 2, pp. 159-170.
https://doi.org/10.17645/mac.v8i2.2699

SEIM (2021). *Con P de ~~pandemia~~ podcast: II estudio sobre la voz y el audio en España*. Prodigioso Volcán. Soluciones Estratégicas de Investigación de Mercados.
https://www.prodigiosovolcan.com/sismogramas/informe-voz-2020

Sellas, Toni (2012). "A two-dimensional approach to the study of podcasting in Spanish talk radio stations". *Radio journal: international studies in broadcast & audio media*, v. 10, n. 1, pp. 7-22.
https://doi.org/10.1386/rjao.10.1.7_1

Sellas, Toni (2018). "El uso del podcasting como herramienta de la identidad corporativa en la campaña del 90 aniversario de *Iberia*: el caso del podcast *Aerolínea Momentos*". *Communication papers*, v. 7, n. 15, pp. 155-170.
https://doi.org/10.33115/udg_bib/cp.v7i15.22189

Sellas, Toni; **Solà, Sergi** (2019). "Podium Podcast and the freedom of podcasting: beyond the limits of radio programming and production constraints". *Radio journal: international studies in broadcast & audio media*, v. 17, n. 1, pp. 63-81.
https://doi.org/10.1386/rjao.17.1.63_1

Sterne, Jonathan; **Morris, Jeremy**; **Baker, Michael-Brendan**; **Freire, Ariana-Moscote** (2008). "The politics of podcasting". *Fibreculture journal*, n. 13.
https://thirteen.fibreculturejournal.org/fcj-087-the-politics-of-podcasting/

Stiegler, Zack (2008). "Radio revisionism: media historiography and the KDKA myth". *Journal of radio & audio media*, v. 15, n. 1, pp. 90-101.
https://doi.org/10.1080/19376520801978191

Sullivan, John L. (2018). "Podcast movement: aspirational labour and the formalisation of podcasting as a cultural industry". In: Llinares, Darío; Fox, Neil; Berry, Richard. *Podcasting: new aural cultures and digital media*. Cham: Palgrave Macmillan, pp. 35-56. ISBN: 978 3 319 90055 1
https://doi.org/10.1007/978-3-319-90056-8_3

Sullivan, John L. (2019). "The platforms of podcasting: past and present". *Social media + society*, v. 5, n. 4, 2056305119880002.
https://doi.org/10.1177/2056305119880002

Werner, Jessie L.; **Lewiss, Resa E.**; **Pensa, Gita**; **McGregor, Alyson J.** (2020). "Women in podcasting: we should tune in". *The permanente journal*, v. 24, n. 3.
https://doi.org/10.7812/TPP/19.241

The value of podcasts to journalism: analysis of digital native media brands' offerings, production and publishing in Spain

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Abstract

The growing popularity of podcasting is an opportunity for the news industry to identify new ways of delivering journalism and to find solutions to the challenges of digital transformation. Podcasts are tools that help the media adapt to the digital sphere by giving prominence to audio to extend their journalistic influence in the sonosphere. Given its disruptive nature, and since it breaks with the traditional content choices available, the analysis of this article focuses on what is offered in the form of podcasts by digital native media brands in Spain. It looks at the extent to which they are committed to this audio content and the type of journalism-based productions they promote and publish. To do this, a qualitative and quantitative content analysis methodology was used. This included an interpretation of data recorded in the *Digital media map 2021* (*Mapa de medios digitales 2021*), updated as part of the *Diginativemedia* project (2019-2021). An in-depth study of a corpus –or sample– of 29 titles or series of podcasts published by 7 native news brands is also provided. These brands were selected because they publish podcasts and because, according to the *Digital news report Spain* 2021, they have the largest weekly reach among Spanish internet users. The results of the research show that only 1 in 4 digital media brands that offer podcasts (925) are native (232), and that it is the specialist native media outlets that are most committed to podcasting (140). Native media brands view podcasts as part of their journalism-based products and services, whose presence is beginning to grow as an exploration of their informative and expressive potential. In addition, it is podcasts that tackle current affairs using conversational formats –both audio and video– through serialised, original productions for the media outlet's website and to provide a range of platforms.

Keywords

Digital audio; Audio communication; Digital journalism; Digital media; Cybermedia; Digital-native media; Digital-born news media; Narratives; Storytelling; Podcasts; Podcasting.

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1. Introduction

After 25 years of development, digital news media is entering the fourth stage of its evolution. The first phase of repeating the content was followed by periods of enriching, renewing and, finally, innovating (**Salaverría**, 2019; 2021). Digital news media, and in particular those that started out online –referred to in this paper as *native media brands*– have been able to attract new audiences, offer interactive themes and narratives, and promote participation and innovative culture in the newsrooms, as well as rethink business models (**Negredo** *et al.*, 2020). Although they use various approaches across brands and countries (**Rodríguez-Hidalgo**; **Rivera-Rogel**; **Romero-Rodriguez**, 2020), native media brands have an average weekly reach of 61% among internet users surveyed in the *Digital news report 2021*'s 46 countries (**Negredo**; **Kaufmann-Argueta**, 2021, p. 128). They also share a common denominator: change.

In the context of the digital transformation of journalism, it is interesting to note whether media that started out online assume the disruption of podcasting (**Berry**, 2018; **Newman**; **Gallo**, 2019) in the form of a journalism-based innovation of its product or service (**García-Avilés** *et al.*, 2018) as part of offering original productions that break with the traditional offer of text and images, and extend their information service and editorial influence among audiences on different digital platforms. Podcast consumption is building across all markets, particularly in Spain (**Amoedo-Casais**; **Moreno-Moreno**, 2021; *Prodigioso Volcán*, 2022). Podcasting is a success in today's sound and information ecosystem, where voice and audio are presented as the main interface for relationships across devices and enable screen independence (*IAB Spain*, 2022).

Taking the current map of digital news media in Spain as a framework for analysis, this research asks the following question:

> How do native media brands view and relate to podcasts?

In answering this question, the main objective of this article is to identify and analyse native media brands' podcast offerings in Spain. Three specific objectives were also set:

a) to determine whether native media brands particularly promote podcasts over other digital media brands;

b) to check which types of native media (specialist or generalist) are more committed to original production podcasts for the internet; and

c) to characterise the type of topics, serial or special productions, and publications of native media brands' podcasts.

To do this, a qualitative and quantitative content analysis methodology was used. This includes an interpretation of data recorded in the *Digital media map 2021* (*Mapa de medios digitales 2021*), updated as part of the *Diginativemedia* project (2019-2021) (**Salaverría**; **Martínez-Costa**, 2021). It also includes an in-depth study of a corpus –or sample– of 29 titles or series of podcasts from 7 native journalism-related brands, selected because they offer podcasts and have the greatest weekly reach among Spanish internet users according to the *Digital news report Spain 2021* (**Amoedo-Casais** *et al.*, 2021).

This article makes two main contributions to the literature. Firstly, from a theoretical perspective, we determine how native news media view and relate to podcasting. Secondly, taking an empirical approach, we identify and characterise the choices available, as well as the production and publication of podcasts by the native news brands that have the largest following among Spain's internet users. These are issues that have not been addressed by previous studies.

2. Current situation

2.1. The rise of podcasting in journalism

The progressive rise of podcasting has meant a revolution for the newspaper industry (**Berry**, 2018; **Martínez-Costa**; **Lus-Gárate**, 2019; **Newman**; **Gallo**, 2019; **Spinelli**; **Dann**, 2019). Over the last decade and a half, news media brands' podcast offerings have promoted different specialist topics (**Reis**, 2018; **Rojas-Torrijos**, 2018), personal storytelling and cross-media narratives (**Dowling**; **Miller**, 2019; **García-Marín**; **Aparici**, 2018; **Lindgren**, 2016), and the accessibility of journalist and media outlet bylines and authorship (**Barbeito-Veloso**; **Perona-Páez**, 2019; **Martínez-Costa** *et al.*, 2021). In this context, a podcast is defined as a digital audio product created for multi-platform, on-demand, subscription-based distribution using RSS (really simple syndication) content syndication technology.

Along with video, the podcast is already a significant tool in national, regional and local multimedia news coverage (**Ali** *et al.*, 2019; **Radcliffe**; **Ali**; **Donald**, 2017). However, the internet's highly visual publications and journalistic designs favour video storytelling, and live video on networks (*Facebook Live*, *Periscope*, *Instagram*, *TikTok* and *Twitch*), over podcasts' storytelling (**Ali** *et al.*, 2019). Nevertheless, podcasting is a positively rated option for storytelling in newsrooms and as a way of renewing journalistic approaches, deepening regional and local stories (**Jenkins**; **Nielsen**, 2020), and attracting audience attention and understanding (**Perreault**; **Ferrucci**, 2020). Podcasts also introduce distinctive journalistic styles as well as other presentation formats such as virtual and augmented reality, data visualisation, infographics, push notifications and conversational interfaces (**Gutsche**; **Hess**, 2020). The maturation of podcasting in this process of digital remediation means that audiences perceive news as more personalised and interactive than ever before (**Zelizer**, 2019).

> The progressive rise of podcasting has meant a revolution for the newspaper industry. It is able to attract new audiences, offer interactive themes and narratives, and promote participation and innovative culture in the newsrooms, as well as rethink business models

It is the highly regarded newspaper and radio brands (legacy media) that make successful original podcasts (*Podtrac*, 2021), aware that they are part of the media repertoires of young and young adult audiences (**Berthelsen**; **Hameleers**, 2021; **Peters** *et al.*, 2021). In Spain and other countries, podcasts are mainly of interest to audiences under the age of 35, with high education and income levels (**Amoedo-Casais**; **Moreno-Moreno**, 2021; **Newman** *et al.*, 2021). As motivations for listening, internet users highlight the control they have over content, auditory immersion that is compatible with multitasking, and engagement with presenters and other users (**Chan-Olmsted**; **Wang**, 2020; **Perks**; **Turner**; **Tollison**, 2019).

These journalistic qualities of podcasts help news brands increase their credibility, trust and visibility among audiences across a number of digital platforms. In addition is their potential for media interaction (**García-Marín**, 2020). These issues are particularly applicable to media that started on the internet (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020). Native media brands have to defend their disruptive power in order to operate in markets that have deeper change, speed and heterogeneity (**Küng**, 2017, pp. 204-205).

2.2. The disruptive nature of native media brands

Considered as emerging models in journalism, native media brands are positioned against non-native or declining models (**López-García**; **Vizoso**, 2021; **Scolari**, 2012). The former are publications created on the internet, regardless of whether they subsequently or simultaneously began as some form of print edition or television or radio broadcast. The latter, on the other hand, derive from pre-internet news brands. Their founding origin is a traditional parent –press, radio or television– even if they later interrupted this by continuing their activity on the internet only or migrating their professional structures and routines to the digital ecosystem. Both types of media brand have contributed to the fact that journalism today is "a digital profession" (**Salaverría**, 2021).

Due to their disruptive and digital nature (**García-Avilés** *et al.*, 2018; **Nelson**, 2020; **Salles**, 2019), the functioning of native news media brands has created its own traits that non-native news brands have subsequently incorporated:

- adopt technological changes at speed (**López-García**; **Vizoso**, 2021; **Nee**, 2013);
- introduce flexible production processes and break with traditional editorial roles (**Caminero-Fernández**; **Sánchez-García**, 2018; **López-García**; **Rodríguez-Vázquez**; **Pereira-Fariña**, 2017);
- experiment with multimedia narratives and new formats (**García-Avilés** *et al.*, 2018; **Pérez-Seijo**, 2021; **Scolari**, 2009; **Shin**; **Biocca**, 2018);
- connect more with their audience and create community (**Malmelin**; **Villi**, 2015; **Sixto-García**; **López-García**; **Toural-Bran**, 2020; **Sparviero**, 2019; **Vara-Miguel**, 2020);
- diversify funding channels (**Arrese-Reta**; **Kaufmann-Argueta**, 2016; **Picard**, 2011; **Tejedor**; **Pla-Pablos**, 2020; **Vara-Miguel**; **Breiner**, 2021); and
- be creative and resilient in crisis situations (**Negredo** *et al.*, 2020).

Some native media brands also promote journalistic quality (**Nicholls**; **Shabbir**; **Nielsen**, 2016), home-grown news values (**Kilgo** *et al.*, 2018) and distinctive coverage (**Thomas**; **Cushion**, 2019). However, there are significant variations from one newspaper brand to another, although the personality of these titles makes it easy for them to adapt swiftly to extremely volatile markets (**Küng**, 2017, p. 8).

In Spain, native media brands are strong and diversified (**Negredo**; **Martínez-Costa**, 2021, p. 35). These titles grew exponentially during 2012 and 2013 in response to the Great Recession (2008-14), new technologies and digital consumption (**Martínez-Costa**; **Salaverría**; **Breiner**, 2019, p. 225). They also relied on knowledge transfer to establish an innovative culture (**Valero-Pastor**; **Carvajal**, 2019). However, there are two main challenges. Firstly, Spanish native media brands are able to grow in loyalty and credibility as traditional press and audiovisual brands on the internet gain greater support in society (**Negredo**; **Kaufmann**, 2021, p. 140). Although 54% of Spanish internet users read native titles on a weekly basis (**Negredo**; **Kaufmann**, 2021, p. 138), legacy media brands are more authoritative sources compared to native media brands. Young people however confer a significant intermediary power on the latter (**Majó-Vázquez** *et al.*, 2020, p. 107). Secondly, there is a need to build new financing models that are profitable in the medium and long term. Whilst some media outlets have implemented membership or subscription-based payment strategies, the adoption of new funding channels is neither varied nor widespread (**Vara-Miguel**; **Breiner**, 2021). Finding flexible funding formulas is all the more pressing at a time when the full effects of the crisis generated by the Covid-19 pandemic have not yet been seen.

The journalistic value of podcasts presents itself as an opportunity for native media brands to address both issues: to inform using narrative modes and styles different from those of legacy media; and to explore other financing formulas that render the talent and creativity of their journalism-based productions profitable.

3. Hypotheses and methodology

3.1. Hypothesis

As native media brands adopt technological changes quickly (**López-García**; **Vizoso**, 2021; **Nee**, 2013) and experiment with new narrative formats (**García-Avilés** *et al.*, 2018; **Pérez-Seijo**, 2021; **Scolari**, 2009; **Shin**; **Biocca**, 2018) to create community, it is assumed that the native journalism-based brands that are most referenced among Spanish internet users (**Amoedo-Casais** *et al.*, 2021) should have a podcast offering as part of their product or service. However, the disruptive power of native media brands shows different levels of consolidation and quality depending on the brand and country (**Rodríguez-Hidalgo**; **Rivera-Rogel**; **Romero-Rodríguez**, 2020).

The hypotheses for this work are formulated as follows for Spain:

H1. Native media brands promote podcasts as their own news product or service.

H2. The main purpose of native media brands producing podcasts is to give greater visibility to the media title's informative content and journalistic investigations. Only secondarily do they explore new ways of telling audio-based stories.

H3. Native media brands publish their productions on the most powerful podcast distribution and playback platforms in order to expand dissemination of their content.

3.2. Methodology

The design of the methodology was based on quantitative and qualitative content analysis. This double methodological approach is suitable for studying complex social realities or multifaceted phenomena in the digital environment (**Díaz-Noci**, 2020). It is therefore useful to observe how Spanish native media brands view and use podcasts in the current information ecosystem. The quantitative study systematically collected data on native media brands that offer some type of podcast (native and non-native). The qualitative study meanwhile delved into the significant aspects of the native journalism-based brands' behaviour with the greatest weekly reach among Spanish internet users regarding the content, production and publication of podcasts.

3.2.1. Quantitative survey

The quantitative content analysis identified and characterised native media brands operating in Spain that included a podcast offering between January and April 2021. This record taking was done as part of the *Diginativemedia 2019-2021* research project and previous studies (**Negredo** *et al.*, 2020; **Salaverría**; **Martínez-Costa**, 2021; **Salaverría**; **Martínez-Costa**; **Breiner**, 2018), one of the main objectives of which is to periodically update the *Map of Online Media in Spain* (*Mapa de medios digitales en España*) and identify trends, by means of an analysis matrix with a corresponding coding guide, as befits this type of research (**Krippendorff**, 1990; **Neuendorf**, 2002). The map updates its records using search strategies based on various documentary sources (media directories, sector reports, monitoring of specialist media, analysis of the supply of media groups, and so on). This map totals 3,949 active cybermedia, 1,361 of which are digital natives. The media outlet is considered active when it has published new content at least three months prior to the status review –in this case, between January and April 2021. Identifying details were completed for each outlet, referring to 11 variables: current status, whether native or non-native, distribution platforms used, thematic scope, reach, geographical distribution, use of languages, financing channels, publisher's company name, presence on social media and whether they do not offer podcasts. For this article, we worked specifically with five variables directly related to the main objective, which is to identify and analyse the choices of native media brands' podcasts available (Table 1).

Table 1. Variables selected for quantitative content analysis

Current status of digital media	Active Inactive
Nature of digital media	Native Non-native
Distribution platforms used	Website Print Radio Television Website and/or mobile app
Thematic area	Generalist Specialist
Podcast offered	Yes or no Native or non-native

In particular, in order to register whether podcasts are offered or not, we searched for and identified the generic option "podcast" on the front page and menu of each digital media, as well as whether the media featured on the main audio hosting platforms (*YouTube*, *iVoox*, *Spotify* and *Google Podcasts*). Occasional publications by private individuals or parties other than the media itself were excluded. Inter-coder verification tests were conducted to adjust the search, identification and

Table 2. Description of the corpus or sample of podcasts

Digital native brand	Weekly brand reach (% of internet users consuming news according to *Digital news report España 2021*)	Podcast title
elDiario.es	14%	*Conectados* (*Connected*)
		Máster (*Master*)
		El campamento más largo (*The longest camp*)
		Las entrevistas de elDiario.es (*elDiario.es's interviews*)
		Eventos de elDiario.es (*elDiario.es's events*)
		Un tema al día (*One topic a day*)
El Confidencial	12%	*Descifrando el virus* (*Decoding the virus*)
		Diez años 15 M (*Ten years 15M*)
		Observatorio 4M (*4M Observatory*)
		Florentino, en bruto (*Florentino - raw*)
		Brexit, año cero (*Brexit, year zero*)
		Dentro del Paddock (*Inside the paddock*)
		Las nuevas guerras políticas (*The new political wars*)
		A sangre fría (*In cold blood*)
		La declaración de José Luis Moreno (*Statement by José Luis Moreno*)
Okdiario	11%	*Las noticias de Okdiario* (*The news from Okdiario*)
		Levántate OK con Javier Cárdenas (*Wakeup OK with Javier Cárdenas*)
HuffPost	8%	*No es para tanto* (*It's not that big a deal*)
El Español	8%	*En tiempos de pandemia* (*In times of pandemic*)
		Juntas hasta el podio (*Together until the podium*)
		Mientras dure el encierro (*For the duration of the lockdown*)
		Las entrevistas de El Español (*El Español interviews*)
		La actualidad según Pedro J (*Current affairs with Pedro J*)
Libertad Digital	6%	*Dentro del vestuario* (*In the changing room*)
		Desmemoria histórica (*Historical amnesia*)
		Economía para quedarte sin amigos (*Economics to end up with no friends*)
		Par-Impar (*Odds-Evens*)
Vozpópuli	3%	*Barra libre* (*Open bar*)
		El sermón de Giménez (*Giménez's sermon*)

recording criteria on a statistically significant sample of 350 active media out of the total, with a margin of error of ±5% and a confidence level of 95%. After double-blind coding, Cohen's kappa coefficient was calculated for inter-coder agreement, which was slightly less than 0.8 (good agreement, near-optimal). Thus, it was agreed among coders to register the presence of podcasts when regular, periodic and up-to-date or time non-limited podcasts were offered under the brand name of the outlet or group. A distinction was also made between "native podcasts" and "non-native podcasts". All original productions for internet platforms that did not match the name of a traditional radio programme were treated as native podcasts; and any radio productions redistributed as on-demand or on-demand radio were treated as non-native podcasts.

3.2.2. Qualitative survey

The qualitative content analysis focused on the podcast offering of the seven native digital newspapers that have the highest weekly reach among Spanish internet users, according to the report *Digital news report Spain* 2021 (**Amoedo-Casais** *et al.*, 2021). The report survey looked at 12 native media brands, taking into account their reach and ensuring ideological representation and territorial variety. From this list, native brands that offered podcasts were selected. The native news brands analysed were: *elDiario.es*, *El Confidencial*, *Okdiario*, *HuffPost*, *El Español*, *Libertad Digital* and *Vozpópuli*. These are generalist native media brands. By looking at these 7 brands, a corpus or sample of 29 podcasts was formed (Table 2). All of them are native productions published by the above-mentioned news brands during the 2019-20 and 2020-21 seasons, and found on the media websites and/or podcast platforms.

A qualitative content analysis matrix was designed to be applied to each of the listed podcasts and which delves into the following aspects (Table 3).

Table 3. Variables selected for qualitative content analysis

Digital native media details	Brand and media URL
Podcast details	Product title and URL
Features of the podcast content	Topics, as classified in *Digital news report España 2021* (1. News: politics, international events; 2. Specialist: science, technology, business, media, health; 3. Lifestyle: food, fashion, art, literature, travel, leisure; 4. Social matters and events: crimes, human stories; 5. Sports; 6. Other) Journalism genres (news, interviews, round tables, talk shows, reports, documentaries)
Features of the podcast production	Type (native or non-native) Original format (audio, video) Source (own, external or mixed) Series status (open, closed, discontinued, one off) Number of episodes prior to sample collection Average duration (up to 5 min, up to 15 min, up to 30 min, up to 60 min, more than 60 min, not defined)
Podcast publishing features	Frequency of publication (daily, Monday-Friday, weekly, fortnightly, monthly, unspecified, specific or specified period) Date of the first and last episode Publication: the media outlets website and platforms (*iVoox*, *Spotify*, *Apple Podcast*, *Google Podcast*, *YouTube*, *SoundCloud*, others)
Funding sources for the podcast	Advertising Sponsorship Subscription Branded content Other

Also in the qualitative study, following verification and variable definition tests, two coders completed the content analysis matrix over three weeks between 15 September and 8 October 2021. These two coders identified the final sample of 29 products and, given that the web presence for each media outlet's podcast content is heterogeneous, they agreed on the records for which there was no initial agreement by conducting supplementary searches until a 100% match was achieved.

4. Findings

The results enable us to identify and characterise the current choice, production and publication of native media brands' podcasts. Emerging trends can also be identified, along with some challenges posed from integrating podcasting into emerging media titles' news reporting strategy. In other words, to make progress in terms of defining the informational value of podcasts.

4.1. Native media brands do not lead the way in the choice of available podcasts

The quantitative study showed that 47.36% (1,361) of all active digital media brands in Spain are native, compared to 52.64% that are non-native (1,513). Native brands represent almost half of all digital media in Spain (2,874). This is an important part of Spain's newspaper market. Native media brands do not, however, lead the way in the choice of available podcasts. Out of all the digital media brands that publish podcasts (n=925), three out of four are non-native, compared to one that is native (Table 4).

Likewise, active digital media brands that publish podcasts make a wide use of radio, print, TV, app and web platforms. In particular, native brands with radio platforms that offer podcasts are a minority (67) compared to the majority of non-native brands with radio platforms (582) that do indeed offer podcasts. This may be due to the development of on-demand radio and podcasts from internet broadcasters. There are 173 digital media brands that have some kind of print edition (paper platform) and podcasts: of these, 136 are non-native and 37 are native. Thus, traditional print titles produce more podcasts compared to native titles.

When the theme of active digital media brands is related to publishing podcasts, it can be seen that generalist titles (67.24%) have twice as many podcasts as specialist ones (32.76%). However, when assessing the proportion by type of media outlet, we found that six out of ten specialist native outlets offer podcasts compared to four out of ten generalist outlets (Table 5).

The difference in proportion between non-native digital media brands with podcasts (693) is reversed: almost eight out of ten are generalist (76.48%) and two out of ten are specialist (23.52%).

Table 4. Active digital media brands that offer podcasts (n=925)

Native media brands	232	25.08%
Non-native media brands	693	74.92%
Total	925	100.00%

Table 5. Focus of active native media brands with podcasts (n=232)

Generalist	92	39.66%
Specialist	140	60.34%
Total	232	100.00%

4.2. Native media brands drive native podcasting

Taking account of the fact that there are some digital media brands that offer both types of podcasts (native and non-native), 685 titles with non-native podcasts have been identified and 483 with native podcasts. Native media brands are the driving force behind native podcasts, as almost seven in ten of podcasts (68.53%) by this type of title are original productions made for the internet (Table 6).

Table 6. Native media brands - podcast production types (n=232)*

Native podcasts	159	68.53%
Non-native podcasts	87	37.50%

*Some digital-native media have both types of podcast

By contrast, non-native digital media brands with podcasts (693) opt more for non-native podcasts (598), and these are almost twice as popular as those produced for the internet (324). In other words, eight out of ten podcasts (85.42%) are rebroadcasts offered on other platforms. In part, this may be due to the fragmentation of radio programming (by time slots, sections or whole programmes) offered on demand on the websites for digital media brands. However, 182 cases were also identified of native and non-native radio stations that do not offer on-demand content or original podcasts. Many of these broadcasters are local and use the internet only as a medium for broadcasting their live programmes online, accompanied by supplementary texts or videos.

4.3. Current affairs and conversational genres define the range of available podcasts

The qualitative analysis shows that Spain's native media brands are committed to having current affairs as the main content for podcasts, as they see it as a tool for deploying their own news production –in particular national political current affairs and conversational genres.

The nature of general current affairs is seen more clearly among podcasts by *elDiario.es*, *El Español*, *Okdiario*, *Vozpópuli* and *El Confidencial*. Specialist information topics meanwhile are found more frequently with productions by *Libertad Digital* and *HuffPost*. However, the diversity of content is evident among the 29 productions that make up the sample, in which news-themed podcasts predominate (14) compared to other categories such as specialist topics (4), lifestyle (2), social affairs and events (2), sports (3) and others (4). Being a form of multi-faceted content, the pandemic appears both under current affairs and specialist productions.

With regard to news podcasts, which are the most numerous (14), national politics makes up the content of 7 podcasts, while general daily news from Monday to Friday accounts for 4 productions. Finally, 3 podcasts deal with other topics, related to international news, court reports and the effects of the pandemic in Spain during the 2020 lockdown.

> In Spain and other countries, podcasts are mainly of interest to audiences under the age of 35, with high education and income levels

With regard to the use of journalistic genres –and bearing in mind that some productions use several genres– we note that the interview format is most used, and found in 12 podcasts: 5 of which are news, 2 are sports, 2 specialist, 1 lifestyle and 2 other. The next most common format is the talk show, which is used in 11 podcasts. Its use is divided between news (4), sports (3), specialist topics (2), lifestyle (1) and other (1). News as a journalistic genre appears under news (6) and sports (1) productions. Journalism-based commentary is found in 5 news productions and 5 others use reportage: 2 of which are news, 2 are social affairs and events, and 1 is on other subjects. The least used formats are round tables, found in 2 specialist podcasts; and, lastly, 1 news and 1 social affairs and events podcast include sections in which events are reconstructed through fiction.

Table 7 shows the elements that characterise the content of the offer, by media outlet.

Table 7. Content of native media brands' podcasts

Title	Topic	Content	Genres used	First and last date of publication
ElDiario.es				
Máster (*Master*)	News	Political news: the Cifuentes case	Reportage Documentary	05/06/2019 - 04/07/2019
Las entrevistas de elDiario.es (*elDiario.es's interviews*)	News	Political news	Interview	18/09/2019 - open
Eventos de elDiario.es (*elDiario.es's events*)	Specialist topics	Journalism, society, culture, economy	Round table	17/10/2019 - 15/12/2020
Conectados (*Connected*)	Other	Culture, science, economy, politics	Interview	08/04/2020 - 05/07/2021
El campamento más largo (*The longest camp*)	Social affairs and events	Human stories, Spanish Civil War	Reportage Documentary	15/07/2021
Un tema al día (*One topic a day*)	News	General current affairs	News Comment	20/09/2021 - open

Title	Topic	Content	Genres used	First and last date of publication
El Confidencial				
Dentro del paddock (*Inside the paddock*)	Sport	Formula 1 News	Talk show	24/02/2020 - 09/03/2020
Las nuevas guerras políticas (*The new political wars*)	News	Political news	Talk show Interview	28/02/2020 - 13/03/2020
Descifrando el virus (*Decoding the virus*)	Specialist topics	Coronavirus research	Round table Interview	11/09/2020 - 05/06/2021
Brexit, año cero (*Brexit, year zero*)	News	Brexit	Talk show Interview News	10/12/2020 - 04/02/2021
Observatorio 4M (*4M Observatory*)	News	Political news: Community of Madrid elections	Talk show	06/04/2021 - 30/04/2021
Diez años 15M (*Ten years since 15M*)	News	Political news: 10th anniversary of 15M	Talk show	14/05/2021
Florentino, en bruto (*Florentino - raw*)	Other	Journalism-based investigation: statements by Real Madrid president	Reportage	16/07/2021 - 17/07/2021
La declaración de José Luis Moreno (*Statement by José Luis Moreno*)	News	Courts: statement by José Luis Moreno	News	06/09/2021
A sangre fría (*In cold blood*)	Social affairs and events	Crimes	Reportage	15/09/2021
Okdiario				
Las noticias de Okdiario (*The news from Okdiario*)	News	National current affairs	News	02/12/2020 - 24/03/2021
Levántate OK con Javier Cárdenas (*Wakeup OK with Javier Cárdenas*)	News	National current affairs	News Comment Interview	06/09/2021 - open
HuffPost				
No es para tanto (*It's not that big a deal*)	Other	Humour	Talk show	26/09/2019 - 26/10/2020
El Español				
Las entrevistas de El Español (*El Español interviews*)	Other	Miscellaneous	Interview	31/01/2020, 16/04/2021 and 19/04/2021
En tiempos de pandemia (*In times of pandemic*)	News	The pandemic in Spain	News Reportage	26/03/2020 - 04/05/2020
Mientras dure el encierro (*For the duration of the lockdown*)	Lifestyle	Human interest interviews	Interview	03/04/2020 - 06/05/2020
La actualidad según Pedro J (*Current affairs with Pedro J*)	News	Political news	Comment	06/04/2021 - open
Juntas hasta el podio (*Together until the podium*)	Sport	Spanish sportswomen at the Tokyo Games	News Interview Talk show	27/07/2021 - 09/08/2021
Libertad Digital				
Par-Impar (*Odds-Evens*)	Lifestyle	Culture: cinema, films and series	Talk show	31/10/2019 - open
Economía para quedarte sin amigos (*Economics to end up with no friends*)	Specialist topics	Economic current affairs	Talk show	31/10/2019 - open
Desmemoria histórica (*Historical amnesia*)	Specialist topics	History of Spain	Interview Talk show	08/11/2019 - open
Dentro del vestuario (*In the changing room*)	Sport	Football coaches	Interview	15/03/2021 - open

Title	Topic	Content	Genres used	First and last date of publication
Vozpópuli				
El sermón de Giménez (*Giménez's sermon*)	News	Political news	Comment	03/12/2020 - 01/02/2021
Barra libre (*Open bar*)	News	Political, social and economic current affairs	News Interview Talk show Comment	01/02/2021 - open

4.4. Podcasts are produced in-house as series

The serialised nature of podcasts is evident in the sample analysed, consisting of 27 series and 2 single-episode productions. In terms of the production status of the 27 series during the period under analysis, 10 are open, 9 are closed and 8 appear to be discontinued.

To a greater or lesser extent, current affairs is the subject of the open productions in the sample - both in terms of the news and specialist themed programmes. Among the news programmes, daily broadcasts appear as an emerging product for native media brands in Spain, as 3 podcasts (*Un tema al día*, *Levántate OK con Javier Cárdenas*, *Barra libre*) were launched in 2021, during the period of analysis of this study. By way of background information, *OKdiario* published 97 episodes of *Las noticias de Okdiario* between December 2020 and March 2021.

On the other hand, 8 of the 9 closed series in the sample consist of 2 to 11 episodes published over two months. The exception is *El Confidencial*'s *Descifrando el virus*, which produced 20 episodes.

Furthermore, discontinuation of the production of almost a third of the podcasts (8) indicates the experimental nature of *El sermón de Giménez*, *Eventos de elDiario.es* (both of which continued in video format), *No es para tanto*, *Las Noticias de Okdiario*'s, and *El Español*'s *Las entrevistas*. Meanwhile, two *El Confidencial* podcasts (*Dentro del paddock* and *Las nuevas guerras políticas*) ceased publication as soon as they started, following the suspension of non-essential activities due to the coronavirus pandemic in March 2020. On the contrary, the pandemic was an opportunity to start *elDiario.es*'s series *Confinados* which continued under the name of *Conectados* until it reached 70 episodes in 15 months, and then production was discontinued.

The journalistic and editorial identity of the native media is reflected in the production of podcast: journalists and contributors are actively involved in 26 of the 29 titles. In addition, members of the management team, editors and staff are directly involved in the production of 14 current affairs and opinion podcasts linked to the editorial line of the media titles: daily broadcasts (*Un tema al día* and *Barra libre*); interviews (*elDiario.es*'s *Entrevistas* and *Conectados*); reports and research (*Máster* and *En tiempos de pandemia*); political current affairs analysis talk shows (*Las nuevas guerras políticas*, *Observatorio 4M*, *10 años 15M*, *Brexit, año cero*); round tables on specialist topics (*Descifrando el virus*); opinion commentary (*La actualidad según Pedro J*, *El sermón de Giménez*); and, finally, promotion of the medium and engagement with the audience (*elDiario.es*'s *Eventos*).

As an alternative to its own production, the production of two podcasts is handled by professionals from outside the media outlet (Toni Garrido for *Máster* and Javier Cárdenas for *Levántate OK con Javier Cárdenas*). They also involve professionals from the media titles in question. Finally, there is only one case of external production in the sample: *Juntas hasta el podio*, on *El Español*'s website.

In terms of format, most native media brands' podcasts are originally audio productions. However, in 8 cases, the podcast results from the editing of a video product. 2 derive from the multimedia production of a journalistic coverage or promotional event (*elDiario.es*'s *Entrevistas* and *Eventos*); 3 originate from a specific video for the internet (*La actualidad de Pedro J* –in *El videoblog del director*–; *El sermón de Giménez* –from the video of the same name–; and *Barra libre* –from the videopodcast of the same name. Three others are edited from the recording of a computer videoconference meeting (*Conectados*, *Descifrando el virus*, and *Brexit, año cero*).

In terms of episode length, only 2 podcasts have episodes of under 5 minutes and 7 have episodes of up to 15 minutes. These podcasts lasting less than 15 minutes are serialised opinion monologues (*La actualidad según Pedro J*; *El sermón de Giménez*) and news summaries (*Las noticias de Okdiario*, *Un tema al día*). In addition, single episodes and short series (*La declaración de José Luis Moreno*; *Florentino, en bruto*), crime reporting (*A sangre fría*) and reports (*En tiempos de Pandemia*; *El campamento más largo*).

Four podcasts are up to 30 minutes long, 11 are between 30 and 60 minutes long and 3 podcast chapters run for more than an hour. In terms of formats, interviews, talk shows and round tables are accommodated in these longer formats, as are podcasts that are edited from videos

> Native brands represent almost half of all digital media in Spain, however they do not lead the way in the choice of available podcasts

(*elDiario.es*’s *Entrevistas* and *Conectados*, and *El Confidencial*’s *Descifrando el virus* and *Brexit, año cero*).

> Native media brands in Spain view and relate to podcasts as a way of exploring its journalistic possibilities

The commercialisation of podcasts appears to be a challenge, as few forms of funding for native media brands’ podcasts are recognised. There is no subscription option in the sample and hardly any advertising was recorded. Only 6 podcasts contain advertising and 2 are sponsored by a commercial brand, while one production is a branding podcast.

The sponsorship appears in the first episodes of the daily shows *Un tema al día* and *Levántate OK con Javier Cárdenas*. In addition, *Las noticias de Okdiario*, *Levántate OK con Javier Cárdenas* and *Libertad Digital*’s podcasts *Par-Impar*, *Economía para quedarte sin amigos*, *Desmemoria histórica* and *Dentro del vestuario* include advertising spots.

However, advertisements have been found when playing video podcasts on the media outlets’ websites. For example, *El Confidencial*’s *Brexit, año cero* and *El Español*’s *El videoblog del director*. Also, found in those published on *YouTube* –such as, *Conectados*, *El campamento más largo*, *Las entrevistas* de *elDiario.es*, *Un tema al día* and *Descifrando el virus*.

4.5. Publication of podcasts goes beyond the media website and is multimedia

Native media brands have added podcasts to the multimedia publication of texts, photographs and videos as supplementary elements integrated into the media title’s website. Thus, 24 podcasts are housed on their respective websites, and are shown under different guises. Sometimes, podcasts sit alongside text and videos (*Las entrevistas de elDiario.es*). Other times, it appears as the main product among other graphics and text on the same page (*10 años 15M*). Then again, on other occasions, it is found as an autonomous product compared to other content published on the media outlet’s website (*Las nuevas guerras políticas*).

However, 5 podcasts are hosted only on the platforms. Four of these are published in their original video format on the media outlet’s website: *Eventos* de *elDiario.es*, *El videoblog del director*, *El sermón de Giménez* and *Barra libre*. The fifth is the podcast *Las entrevistas de El Español*, which is not published on the website.

In addition, 28 of the 29 titles are published on media channels on the 6 most used platforms in Spain for looking for and playing podcasts: 27 are published on *iVoox*, 25 on *Spotify*, 26 on *Google Podcasts*, 21 on *Apple Podcasts,* 10 on *YouTube* and 2 on *Soundcloud*. The exception is the series *Juntas hasta el podio*, which is found on the website of *El Español* and on *Iberdrola*’s *Spotify* channel, the company that produces this podcast.

As for the frequency of publication, it is not always regular. The dynamics of the podcasts are in line with the planning and journalistic production of the native media outlet. Thus, out of the 27 series, half (13) of the episodes are not published to a specific frequency, while the others are published weekly (5), from Monday to Friday (4), daily (1), fortnightly (1) or based on a specific publication period (3), generally linked to a specific anniversary or research.

The episodes of *Las entrevistas* of *elDiario.es* and *Conectados* of *elDiario.es*; *El Confidencial*’s *Las nuevas guerras políticas* and *El Español*’s *Mientras dure el encierro* and *La actualidad según Pedro J* are all published to no specific frequency. These are examples of discretionary current affairs productions, whose publication is not subject to strict regular news patterns. On the other hand, the regular publication of podcasts has resulted in daily current affairs podcasts being promoted, as discussed in the previous section.

As for the 5 weekly productions, only *Libertad Digital*’s *Dentro del vestuario* is active and started its second season in September 2021. The remaining 4 are short series, of up to two months. On the other hand, only one fortnightly series has been recorded (*El Confidencial*’s *Descifrando el virus*) and is one of the most regular in the sample. It has been published for a full nine months, between September 2020 and June 2021.

5. Discussion and Conclusions

Transformative leadership is an increasingly necessary requirement to achieve full digital change within the newspaper industry (**Kueng**, 2020, p. 1). Hence, it is understandable that a third (925) of the active digital media brands in Spain (non-native and native) use podcasts, which is considered to be a media and journalistic tool that enriches their content offering (**Berry**, 2018; **García-Avilés** *et al.*, 2018; **Newman**; **Gallo**, 2019). Many of them (3 out of 4) are linked to traditional media brands (legacy media). Only 1 out of 4 are native media brands.

Although native media brands do not lead the way in the podcasts they offer when considered from a quantitative analysis perspective, native newspapers that offer podcasts (232) drive original journalism-based production online (almost 7 out of 10). The results from this research therefore prove Hypothesis 1, as native media brands in Spain promote native podcasts as their own news product or service. When considering the disruptive nature of podcasting, it is again found that native media brands adopt technological changes quickly (**López-García**; **Vizoso**, 2021; **Nee**, 2013) and experiment with new formats (**García-Avilés** *et al.*, 2018; **Pérez-Seijo**, 2021; **Scolari**, 2009; **Shin**; **Biocca**, 2018) to create community, especially around specialist topics.

Similarly, Hypothesis 2 is validated as the main purpose of the production of podcasts among Spain’s digital native media brands is to provide greater visibility to the outlet’s news content and journalistic investigations, and only secondarily is its role to explore new narratives that transcend the limits of the known genres. Based on the qualitative analysis, it is significant that most of the brands analysed use conversational formats to provide journalistic and editorial identity to the current affairs issues addressed. Native podcasting values voices, bylines and journalistic authorship. It is also important to note that the podcasts studied meet the news criteria of serialised in-house production, to greater or lesser regularity depending on the case. As in other countries, podcasting is a valued tool in the newsrooms of Spain's native media brands for regular and special news coverage (**Ali** *et al.*, 2019; **Radcliffe**; **Ali**; **Donald**, 2017). This work is promoted by the publisher's editorial management and is done by multi-skilled professionals and specialist collaborators. Sometimes these are in-house journalists; other times they are researchers or experts in the subject areas on which the public is informed.

However, for now, native media brands in Spain view and relate to podcasts as a way of exploring its journalistic possibilities. The 29 cases that were studied in depth exhibit a range of approaches in terms of content, production, publication and advertising. In terms of incorporating podcasts, in Spain we also note that native media brands achieve different degrees of development and quality depending on the news brand (**Rodríguez-Hidalgo**; **Rivera-Rogel**; **Romero-Rodríguez**, 2020). However, some significant features can be described.

The content focuses on current affairs (14) as opposed to other topics. In particular, the pandemic is a recurrent issue and is addressed across 3 series. It is also a topic among the news podcasts during the period of the study. This means that, in Spain, native media brands' podcasts are not perceived to drive specialisation the way they do in Portugal and Latin America (**Reis**, 2018; **Rojas-Torrijos**, 2018). The cases studied are developed using conversational genres (25) and occasionally explore alternative forms of storytelling, such as the reconstruction of scenes and documentary events (2) and reportage (5). The dailies have not yet taken root strongly among Spain's native media brands, with only 3 cases having been identified - although one of them adopts the narrative style of a radio magazine show (*Levántate OK con Javier Cárdenas*) and another follows a similar presentation rhythm to that of morning shows on TV (*Barra libre*). Native media brands can therefore try out new themes and narratives to confirm audio in the journalism-related languages of the internet (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020; **Salaverría**; **García-Avilés**, 2008). For the time being, these titles are committed to the audio format for podcasts, but they also use video productions to publish audio content –as recorded in 8 cases. In these cases, there is no general finding of specific journalism-based editions and designs that emphasise video narrative over podcast storytelling, as noted in other studies (**Ali** *et al.*, 2019).

The serial nature of podcasts is also evident, regardless of the number of episodes, frequency and publication period covered, where there are significant variations. *Okdiario*, *Huffpost*, *Libertad Digital* and *Vozpópuli* mostly publish long series; *elDiario.es* and *El Español* offer single episodes, short and long-run productions; while *El Confidencial* publishes short podcasts, although the most regular series in the whole sample (*Descifrando el virus*) is a notable exception. Albeit in an exploratory way, podcasts are beginning to appear on a regular basis among native media brands' journalism-based productions.

Native media brands also publish on Spain's 6 most used platforms for finding and playing podcasts (*iVoox*, *Spotify*, *Google Podcasts*, *Apple Podcasts*, *YouTube* and *Soundcloud*), as well as on their own websites. Hypothesis 3 is therefore proven. Publishing on the most powerful podcast distribution and playback platforms amplifies the presence of native news brands within the sonosphere. This reinforces the process of reintermediation of content between audiences who adopt new forms of consumption (**Sparviero**, 2019; **Vara-Miguel**, 2020).

Marketing of new-based podcasts is still limited and relies only on advertising formats (6) and sponsorship (2), and there is still a lot of ground to be explored with regard to other funding channels and the field of podcast branding (1).

In summary, native digital news media in Spain implement podcasting as a disruptive and differentiating option within their offer (**Berry**, 2018; **García-Avilés** *et al.*, 2018; **Newman**; **Gallo**, 2019). The 7 native news brands that we evaluated view podcasts as a product or service innovation in their own right, one that helps to reach markets more deeply and with greater speed and heterogeneity (**Küng**, 2017, pp. 204-205). Firmly integrating podcasting into the strategy of native news brands can help them enrich the quality and focus of their news coverage (**Jenkins**; **Nielsen**, 2020). It is also about enhancing its editorial identity among online audiences by offering journalism that makes it easier to understand what is happening every day (**Perreault**; **Ferrucci**, 2020). In short, podcasts contribute to a journalism that is more personalised and interactive, without losing the sense of community.

Future diachronic studies could enable changes to be identified or build on this research's findings and trends in regard to the use and characterisation of podcasts. They could also delve into the question of how native podcasters in Spain innovate with internet-based languages and apply specialist tactics to help them sustain profitable business models, as happens in Latin America (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020). It could also be of interest to analyse the way in which the *platformisation* of podcasts mediates this process (**Sullivan**, 2019), given

> Native media brands are committed to having current affairs as the main content for podcasts, as they see it as a tool for deploying their own news production –in particular national political current affairs and conversational genres

the use of platforms to increase reach. With this in mind, incorporating in-depth interviews with the heads of the media outlets analysed could be useful in answering certain questions.

Finally, it should be noted that this research has certain limitations. While significant, the qualitative findings presented here cannot be generally applied. The conclusions from the qualitative analysis are therefore provisional and will need to be confirmed in future projects.

6. References

Ali, Christopher; **Schmidt, Thomas R.**; **Radcliffe, Damian**; **Donald, Rosalind** (2019). "The digital life of small market newspapers: results from a multi-method study". *Digital journalism*, v. 7, n. 7, pp. 886-909.
https://doi.org/10.1080/21670811.2018.1513810

Amoedo-Casais, Avelino; **Moreno-Moreno, Elsa** (2021). "El consumo de podcast en España permanece estable". In: Amoedo-Casais, Avelino; Vara-Miguel, Alfonso; Negredo, Samuel; Moreno-Moreno, Elsa; Kaufmann-Argueta, Jürg (eds.). *Digital news report España 2021. Periodismo de calidad y cercanía para combatir la infodemia*. Pamplona: Servicio de Publicaciones de la Universidad de Navarra, pp. 106-118.
https://doi.org/10.15581/019.003

Amoedo-Casais, Avelino; **Vara-Miguel, Alfonso**; **Negredo, Samuel**; **Moreno-Moreno, Elsa**; **Kaufmann-Argueta, Jürg** (eds.) (2021). *Digital news report España 2021. Periodismo de calidad y cercanía para combatir la infodemia*. Pamplona: Servicio de Publicaciones de la Universidad de Navarra.
https://doi.org/10.15581/019.003

Arrese-Reca, Ángel; **Kaufmann-Argueta, Jürg** (2016). "Legacy and native news brands online: Do they show different news consumption patterns?". *International journal on media management*, v. 18, n. 2, pp. 75-97.
https://doi.org/10.1080/14241277.2016.1200581

Barbeito-Veloso, María-Luz; **Perona-Páez, Juan-José** (2019). "Comunicación organizacional en clave sonora: el caso de *Blink*, los podcasts de *BBVA*". *Profesional de la informació*n, v. 28, n. 5, e280511.
https://doi.org/10.3145/epi.2019.sep.11

Berry, Richard (2018). "Just because you play a guitar and are from Nashville doesn't mean you are a country singer: The emergence of medium identities in podcasting". In: Llinares, Darío; Fox, Neil; Berry, Richard (eds.). *Podcasting. New aural cultures and digital media*. Cham, Switzerland: Palgrave Macmillan, pp. 15-33. ISBN: 978 3 319 90055 1

Berthelsen, Rebecca; **Hameleers, Michael** (2021). "Meet today's young news users: An exploration of how young news users assess which news providers are worth their while in today's high-choice news landscape". *Digital journalism*, v. 9, n. 5, pp. 619-635.
https://doi.org/10.1080/21670811.2020.1858438

Caminero-Fernández, Lidia; **Sánchez-García, Pilar** (2018). "El perfil y formación del ciberperiodista en redacciones nativas digitales". *Hipertext.net*, n. 16, pp. 4-15.
https://doi.org/10.31009/hipertext.net.2018.i16.04

Chan-Olmsted, Sylvia; **Wang, Rang** (2020). "Understanding podcast users: Consumption motives and behaviors". *New media & society*, v. 24, n. 3, pp. 684-704.
https://doi.org/10.1177/1461444820963776

Díaz-Noci, Javier (2020). "Guía de métodos de investigación aplicados al entorno digital". In: Lopezosa, Carlos; Díaz-Noci, Javier; Codina, Lluís (eds.). *Methodos. Anuario de métodos de investigación en comunicación social*, n. 1, pp. 4-19. Barcelona: DigiDoc-Universitat Pompeu Fabra.
https://doi.org/10.31009/methodos.2020.i01.02

Dowling, David O.; **Miller, Kyle J.** (2019). "Immersive audio storytelling: Podcasting and serial documentary in the digital publishing industry". *Journal of radio & audio media*, v. 26, n. 1, pp. 167-184.
https://doi.org/10.1080/19376529.2018.1509218

García-Avilés, José-Alberto; **Carvajal-Prieto, Miguel**; **De-Lara-González, Alicia**; **Arias-Robles, Félix** (2018). "Developing an index of media innovation in a national market: The case of Spain". *Journalism studies*, v. 19, n. 1, pp. 25-42.
https://doi.org/10.1080/1461670X.2016.1161496

García-Marín, David (2020). "Hacia una lingüística de la interacción mediática. Aproximación al diseño de la participación significativa medio-usuario desde el podcasting independiente". *Profesional de la información*, v. 29, n. 5, e290505.
https://doi.org/10.3145/epi.2020.sep.05

García-Marín, David; **Aparici, Roberto** (2018). "Nueva comunicación sonora. Cartografía, gramática y narrativa transmedia del podcasting". *Profesional de la información*, v. 27, n. 5, pp. 1071-1081.
https://doi.org/10.3145/epi.2018.sep.11

Gutsche, Robert E.; **Hess, Kristy** (2020). "Placeification: The transformation of digital news spaces into 'places' of meaning". *Digital journalism*, v. 8, n. 5, pp. 586-595.
https://doi.org/10.1080/21670811.2020.1737557

IAB Spain (2022). *Libro blanco de audio digital 2022*. Madrid: IAB Spain y Audioemotion.
https://iabspain.es/estudio/libro-blanco-audio-digital-2022/

Jenkins, Joy; **Nielsen, Rasmus-Kleis** (2020). "Proximity, public service, and popularity: A comparative study of how local journalists view quality news". *Journalism studies*, v. 21, n. 2, pp. 236-253.
https://doi.org/10.1080/1461670X.2019.1636704

Kilgo, Danielle K.; **Harlow, Summer**; **García-Perdomo, Victor-Manuel**; **Salaverría, Ramón** (2018). "A new sensation? An international exploration of sensationalism and social media recommendations in online news publications". *Journalism*, v. 19, n. 11, pp. 1497-1516.
https://doi.org/10.1177/1464884916683549

Krippendorff, Klaus (1990). *Metodología de análisis de contenido. Teoría y práctica*. Barcelona: Paidós Comunicación.

Kueng, Lucy (2020). *Hearts and minds. Harnessing leadership, culture, and talent to really go digital*. Oxford: Reuters Institute for the Study of Journalism. ISBN: 978 1 907384 73 8
https://bit.ly/2IwjxYG

Küng, Lucy (2017). *Strategic management in the media. Theory to practice*. London: Sage Publications. ISBN: 978 1 47392 950 0

Lindgren, Mia (2016). "Personal narrative journalism and podcasting". *Radio journal: International studies in broadcast & audio media*, v. 14, n. 1, pp. 23-41.
https://doi.org/10.1386/rjao.14.1.23_1

López-García, Xosé; **Rodríguez-Vázquez, Ana-Isabel**; **Pereira-Fariña, Xosé** (2017). "Competencias tecnológicas y nuevos perfiles profesionales: desafíos del periodismo actual". *Comunicar*, v. 53, pp. 81-90.
https://doi.org/10.3916/C53-2017-08

López-García, Xosé; **Vizoso, Ángel** (2021). "Periodismo de alta tecnología: signo de los tiempos digitales del tercer milenio". *Profesional de la información*, v. 30, n. 3, e300301.
https://doi.org/10.3145/epi.2021.may.01

Majó-Vázquez, Sílvia; **Cardenal, Ana S.**; **Sagarra, Oleguer**; **Colomer-de-Simón, Pol** (2020). "Media roles in the online news domain: Authorities and emergent audience brokers". *Media and communication*, v. 8, n. 2, pp. 98-111.
https://doi.org/10.17645/mac.v8i2.2741

Malmelin, Nando; **Villi, Mikko** (2015). "Audience community as a strategic resource in media work". *Journalism practice*, v. 10, n. 5, pp. 589-607.
https://doi.org/10.1080/17512786.2015.1036903

Martínez-Costa, María-Pilar; **Lus-Gárate, Eva** (2019). "El éxito de los podcasts de noticias y su impacto en los medios de comunicación digital". *Miguel Hernández communication journal*, v. 10, pp. 317-334.
https://doi.org/10.21134/mhcj.v10i0.314

Martínez-Costa, María-Pilar; **Salaverría, Ramón**; **Breiner, James G.** (2019). "El ecosistema que viene". In: López-García, Xosé; Toural-Bran, Carlos (coords.). *Ecosistema de cibermedios en España. Tipologías, iniciativas, tendencias narrativas y desafíos*. Salamanca: Comunicación Social, pp. 225-240. ISBN: 978 84 17600 08 2

Martínez-Costa, María-Pilar; **Sánchez-Serrano, Consuelo**; **Pérez-Maíllo, Aurora**; **Lus-Gárate, Eva** (2021). "La oferta de podcast de la prensa regional en España: estudio de las marcas centenarias de Castilla y León y Navarra". *AdComunica*, v. 21, pp. 211-234.
https://doi.org/10.6035//2174-0992.2021.21.11

Nee, Rebecca (2013). "Creative destruction: An exploratory study of how digitally native news nonprofits are innovating online journalism practices". *International journal on media management*, v. 15, pp. 3-22.
https://doi.org/10.1080/14241277.2012.732153

Negredo, Samuel; **Kaufmann-Argueta, Jürg** (2021). "Las audiencias de los medios nativos digitales de noticias: competir entre las grandes marcas periodísticas". In: Salaverría, Ramón; Martínez-Costa, María-Pilar (coords.) (2021). *Medios nativos digitales en España. Caracterización y tendencias*. Salamanca: Comunicación Social, pp. 123-141. ISBN: 978 84 17600 60 0

Negredo, Samuel; **Martínez-Costa, María-Pilar** (2021). "Tipos de medios nativos digitales: plataformas, alcance geográfico, lenguas y grupos empresariales". In: Salaverría, Ramón; Martínez-Costa, María-Pilar (coords.). *Medios nativos digitales en España. Caracterización y tendencias*. Salamanca: Comunicación Social, pp. 35-54. ISBN: 978 84 17600 60 0

Negredo, Samuel; **Martínez-Costa, María-Pilar**; **Breiner, James G.**; **Salaverría, Ramón** (2020). "Journalism expands in spite of the crisis: Digital-native news media in Spain". *Media and communication*, v. 8, n. 2, pp. 73-85.
https://doi.org/10.17645/mac.v8i2.2738

Nelson, Jacob L. (2020). “The enduring popularity of legacy journalism: An analysis of online audience data”. *Media and communication*, v. 8, n. 2, pp. 40-50.
https://doi.org/10.17645/mac.v8i2.2736

Neuendorf, Kimberly (2002). *The content analysis guidebook*. California: Sage Publications. ISBN: 978 1 412 97947 4

Newman, Nic; **Fletcher, Richard**; **Schulz, Anne**; **Andı, Simge**; **Robertson, Craig T.**; **Nielsen, Rasmus-Kleis** (2021). *Reuters Institute*, *Digital news report 2021*. Oxford: Reuters Institute for the Study of Journalism.
https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2021-06/Digital_News_Report_2021_FINAL.pdf

Newman, Nic; **Gallo, Nathan** (2019). *News podcasts and the opportunities for publishers*. Oxford: Reuters Institute for the Study of Journalism.
https://reutersinstitute.politics.ox.ac.uk/news-podcasts-and-opportunities-publishers

Nicholls, Tom; **Shabbir, Nabeelah**; **Nielsen, Rasmus-Kleis** (2016). *Digital-born news media in Europe*. Oxford: Reuters Institute for the Study of Journalism.
https://ora.ox.ac.uk/objects/uuid:0037eea3-8f97-4bf3-a336-f86e21abfd0b

Pérez-Seijo, Sara (2021). “Uso del vídeo 360º por los medios nativos digitales. Análisis exploratorio de los primeros pasos en el ecosistema periodístico español”. *Profesional de la información*, v. 30, n. 3, e300304.
https://doi.org/10.3145/epi.2021.may.04

Perks, Lisa-Glebatis; **Turner, Jacob S.**; **Tollison, Andrew C.** (2019). “Podcast uses and gratifications scale development”. *Journal of broadcasting & electronic media*, v. 63, n. 4, pp. 617-634.
https://doi.org/10.1080/08838151.2019.1688817

Perreault, Gregory P.; **Ferrucci, Patrick** (2020). “What is digital journalism? Defining the practice and role of the digital journalist”. *Digital journalism*, v. 8, n. 10, pp. 1298-1316.
https://doi.org/10.1080/21670811.2020.1848442

Peters, Chris; **Schrøder, Kim-Christian**; **Lehaff, Josephine**; **Vulpius, Julie** (2021). “News as they know it: Young adults’ information repertoires in the digital media landscape”. *Digital journalism*, v. 10, n. 1, pp. 62-86.
https://doi.org/10.1080/21670811.2021.1885986

Picard, Robert G. (2011). *Mapping digital media: Digitization and media business models*. London: Open Society Foundations.
https://www.opensocietyfoundations.org/reports/digitization-media-business-models

Podtrac (2021). *Podtrac’s ranking of top podcasts*.
http://analytics.podtrac.com/podcast-rankings

Prodigioso Volcán (2022). *Mejor te mando un audio. III Estado de la voz y el audio en España.* Madrid: Prodigioso Volcán.
https://www.prodigiosovolcan.com/sismogramas/informe-voz-2021

Radcliffe, Damian; **Ali, Christopher**; **Donald, Rosalind** (2017). Life at small-market newspapers: Results from a survey of small market newsrooms. SSRN Scholarly Paper ID 3094661. Rochester, NY: Tow Center for Digital Journalism, Columbia University.
https://papers.ssrn.com/abstract=3094661

Reis, Ana-Isabel (2018). “Invisible audio: an analysis of the podcasts of portuguese newspapers”. *Revista lusófona de estudos culturais*, v. 5, n. 1, pp. 227-243.
https://repositorio-aberto.up.pt/bitstream/10216/113226/2/274683.pdf

Rodríguez-Hidalgo, Claudia; **Rivera-Rogel, Diana**; **Romero-Rodríguez, Luis M.** (2020). “Information quality in Latin American digital native media: Analysis based on structured dimensions and indicators”. *Media and communication*, v. 8, n. 2, pp. 135-145.
https://doi.org/10.17645/mac.v8i2.2657

Rojas-Torrijos, José-Luis (2018). “El potencial del podcast como formato para un periodismo deportivo hiperespecializado o de nicho”. *Blog Periodismo deportivo de calidad*, 12 noviembre.
http://periodismodeportivodecalidad.blogspot.com/2018/11/el-potencial-del-podcast-como-formato.html

Rojas-Torrijos, José-Luis; **Caro-González, Francisco-Javier**; **González-Alba, José-Antonio** (2020). “The emergence of native podcasts in journalism: Editorial strategies and business opportunities in Latin America”. *Media and communication*, v. 8, n. 2, pp. 159-170.
https://doi.org/10.17645/mac.v8i2.2699

Salaverría, Ramón (2019). “Digital journalism: 25 years of research. Review article”. *Profesional de la información*, v. 28, n. 1, e280101.
https://doi.org/10.3145/epi.2019.ene.01

Salaverría, Ramón (2021). "Veinticinco años de evolución del ecosistema periodístico digital en España". In: Salaverría, Ramón; Martínez-Costa, María-Pilar (coords.). *Medios nativos digitales en España. Caracterización y tendencias*. Salamanca: Comunicación Social, pp. 21-30. ISBN: 978 84 17600 60 0

Salaverría, Ramón; **García-Avilés, José-Alberto** (2008). "La convergencia tecnológica en los medios de comunicación: retos para el periodismo". *Trípodos*, v. 23, pp. 31-47.
https://www.raco.cat/index.php/Tripodos/article/view/118910

Salaverría, Ramón; **Martínez-Costa, María-Pilar** (coords.) (2021). *Medios nativos digitales en España. Caracterización y tendencias*. Salamanca: Comunicación Social. ISBN: 978 84 17600 60 0

Salaverría, Ramón; **Martínez-Costa, María-Pilar**; **Breiner, James G.** (2018). "Mapa de los cibermedios de España en 2018: análisis cuantitativo". *Revista latina de comunicación social*, v. 73, pp. 1034-1053.
https://doi.org/10.4185/RLCS-2018-1295

Salles, Chloë (2019). "Disrupting journalism from scratch: Outlining the figure of the entrepreneur-journalist in four French pure players". *Nordic journal of media studies*, v. 1, n. 1, pp. 29-46.
https://doi.org/10.2478/njms2019-0003

Scolari, Carlos-Alberto (2009). "Transmedia storytelling: Implicit consumers, narrative worlds, and branding in contemporary media production". *International journal of communication*, v. 3, pp. 586-606.
https://ijoc.org/index.php/ijoc/article/view/477/336

Scolari, Carlos-Alberto (2012). "Media ecology: Exploring the metaphor to expand the theory". *Communication theory*, v. 22, n. 2, pp. 204-225.
https://doi.org/10.1111/j.1468-2885.2012.01404.x

Shin, Donghee; **Biocca, Frank** (2018). "Exploring immersive experience in journalism". *New media & society*, v. 20, n. 8, pp. 2800-2823.
https://doi.org/10.1177/1461444817733133

Sixto-García, José; **López-García, Xosé**; **Toural-Bran, Carlos** (2020). "Oportunidades para la cocreación de contenidos en los diarios nativos digitales". *Profesional de la información*, v. 29, n. 4, e290426.
https://doi.org/10.3145/epi.2020.jul.26

Sparviero, Sergio (2019). "From passive consumption of media goods to active use of media brands: on value generation and other differences". *Communication & society*, v. 32, n. 3, pp. 67-79.
https://doi.org/10.15581/003.32.3.67-78

Spinelli, Martin; **Dann, Lance** (2019). *Podcasting. The audio media revolution*. London: Bloomsbury Academic. ISBN: 978 1 5013 2869 5

Sullivan, John L. (2019). "The platforms of podcasting: Past and present". *Social media + society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Tejedor, Santiago; **Pla-Pablos, Ariadna** (2020). "Análisis del modelo de ingresos en medios nativos digitales de carácter alternativo de España". *Revista de comunicación*, v. 19, n. 1, pp. 275-295.
https://doi.org/10.26441/rc19.1-2020-a16

Thomas, Richard; **Cushion, Stephen** (2019). "Towards an institutional news logic of digital native news media? A case study of BuzzFeed's reporting during the 2015 and 2017 UK general election campaigns". *Digital journalism*, v. 7, n. 10, pp. 1328-1345.
https://doi.org/10.1080/21670811.2019.1661262

Valero-Pastor, José-María; **Carvajal-Prieto, Miguel** (2019). "Transferencia de conocimiento para la innovación en las organizaciones periodísticas. Estudio de casos españoles". *Revista latina de comunicación social*, v. 74, pp. 1154-1172.
https://doi.org/10.4185/RLCS-2019-1376

Vara-Miguel, Alfonso (2020). "Cross-national similarities and differences between legacy and digital-born news media audiences". *Media and communication*, v. 8, n. 2, pp. 16-27.
https://doi.org/10.17645/mac.v8i2.2733

Vara-Miguel, Alfonso; **Breiner, James G.** (2021). "Vías de financiación en los medios nativos digitales". In: Salaverría, Ramón; Martínez-Costa, María-Pilar (coords.). *Medios nativos digitales en España. Caracterización y tendencias*. Salamanca: Comunicación Social, pp. 109-122. ISBN: 978 84 17600 60 0

Zelizer, Barbie (2019). "Why journalism is about more than digital technology". *Digital journalism*, v. 7, n. 3, 343-350.
https://doi.org/10.1080/21670811.2019.1571932

Radio does not die on the air: Podcasting and on-demand broadcast strategies among speech-based radio stations

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Abstract

In recent decades, speech-based radio stations in Spain, whose programmes have been aimed at the general public, have transformed their on-demand content broadcasting strategy by incorporating audio processes in the form of podcasts, followed by transmission through websites, aggregators and applications. The overall objective of this article is to provide a detailed account of the evolution and scope of the podcast as an on-demand distribution channel for speech-based Spanish radio broadcasters, and to reveal how this format is changing the approaches taken by the most prominent national radio stations [*Cadena SER*, *COPE*, *Onda Cero*, and *Radio Nacional de España* (*RNE*)], with special emphasis on prime-time morning shows. The methodology employed combines quantitative and qualitative techniques along with an analysis of the content uploaded to the website of these morning programmes, which are part of the weekly programming cycle, together with semi-structured interviews using closed-ended questions that have been given to the main heads of programming and digital areas of the broadcasters under study. The results show that radio stations have incorporated podcast distribution into their usual routine in order to give new life to the content emitted, with the aim of serving both traditional users as well as new generations of digitised native listeners. In addition, they process daily content in an increasingly systematic way, on the basis of a model of mixed management coordination between programmes and digital areas. Similarly, broadcasters have made considerable progress in the measurement and analysis of the time-shifted audience, as well as in broadcast multiplication techniques using push notifications, social media, and monetisation.

Keywords

Morning show; Podcasting; Radio on-demand; Speech-based radio; Web repository; On-demand; Broadcast strategies; Radio stations; Programming; Prime time; Speech-based radio stations; *Cadena SER*; *COPE*; *Onda Cero*; *RNE*; Spain.

1. Introduction

If anything has defined radio during its first hundred years of life, it is undoubtedly its ability to adapt generally to social changes, and specifically to those experienced by its audience. Such resilience is one of the hallmarks of the broadcasting media (**Martínez-Costa**; **Legorburu-Hortelano**, 2020), which is based on its ongoing attention to the demands, expectations and preferences of successive generations of listeners, along with its use of technical advances to overcome diverse threats that have arisen over the decades, especially from television.

In its quest to survive, radio has incorporated (and improved) methods for measuring and analysing its audience since the 1920s (**Pedrero-Esteban**; **Legorburu-Hortelano**, 2021). Moreover, from a technological point of view, it has also infused its production and distribution processes with inventions such as frequency modulation, satellite and digital broadcasting, and online transmission through the Internet (**Hilmes**; **Loviglio**, 2013; **Martínez-Costa**; **Prata**, 2017). To a large extent, the same can be said of podcasting at the present time, which offers new opportunities to the future of broadcasting (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021).

Regardless of the ongoing debate in professional and academic circles regarding the use of the term *podcast* in connection with radio (**Berry**, 2016), the fact is that this sound format has been used by traditional radio stations to give new life to content that is broadcast live. This is known as radio on-demand, which opens up new opportunities for the sector, not only in terms of distribution and marketing of its products, but also from a purely strategic point of view, the purpose of which is to attract and retain an audience segment that has become elusive in recent times, referring to young people.

Even though significant scientific literature has been produced on the different aspects of broadcasting digitisation in recent years, specific studies on the use of podcasts and their close relationship with radio on-demand are not as numerous (**Galán-Arribas** *et al.*, 2018). Therefore, this study could be of interest in gaining more precise knowledge related to the scope of this new audio distribution channel, while at the same time facilitating its use by the broadcasting sector.

2. Podcasting and radio on-demand: two decades of evolution

The acceptance of the podcast by traditional radio, which was previously the case with online broadcasting, must be seen in the context of the digitisation process that all media have been undergoing since the global spread of the Internet. Initially seen as just a useful tool, the Internet has gradually become a key element in this scenario. In fact, as stated by **Berry** (2014, p. 3), "The future of radio is the Internet, not just being on the Internet".

Likewise, from the time it was invented in 2001 by Dave Winer and Adam Curry (**Nuzum**, 2019), podcasting has undergone its own development. It has passed through different stages, ranging from a highly experimental phase between 2001 and 2014 (**Sellas**, 2011; **Spinelli**; **Dann**, 2019), which lasted nearly three lustrums. This was followed by the so-called *second era* (**Bonini**, 2015), which was characterised by the progressive professionalisation of the 'Serial' phenomenon (**Linares-Palomar**; **Neira-Borrajo**, 2017), as well as the widespread expansion of connectivity and the use of smartphones and apps (**Piñeiro-Otero**, 2015; **Ribes-Guàrdia** *et al*., 2016). Finally, the present stage, known as big podcasting (**Quah**, 2019), features a succession of million-dollar investments from multinational companies such as *Amazon*, *Apple*, and *Spotify*, as well as from radio corporations like *American iHeartRadio* and *SiriusXM*.

Although radio and podcasting share a common language, they have significant differences. Specifically, as **Newman** and **Gallo** (2019) point out, podcasting refers to an episodic series of audio files that can be consumed, downloaded, and subscribed through various digital technologies. These audio products can be specifically created for offline consumption (native podcasts) or previously broadcast radio programs that are made available to the audience in a digital repository (radio on-demand). Thus, it is logical that traditional broadcasters quickly discovered how useful this new sound format could be in making the passive, ritualized consumption of traditional broadcasting compatible with the much more intentional, selective, active instrumental consumption (**Chan-Olmsted**; **Wang**, 2020).

As such, on the one hand they could offer new listening opportunities to their most loyal audience, enabling its interaction with content according to their preferences and schedules (**Laor**, 2022; **McClung**; **Johnson** 2010; **McHugh**, 2022; **Nyre**, 2015). On the other hand, an opportunity was created in an attempt to connect with the new generations of digital native listeners (**Chignell**, 2009; **Hirschmeier**; **Tilly**; **Beule**, 2019; **Novaceanu**, 2020; **Soengas-Pérez**, 2013), for whom the mobile phone is the dominant access device (**Martínez-Costa**; **Moreno-Moreno**; **Amoedo-Casais**, 2018; **Pedrero-Esteban**; **Barrios-Rubio**; **Medina-Ávila**, 2019).

In Spain, broadcaster *Cadena SER* began using podcasts on April 10, 2005 followed weeks later by *COPE*, which immediately chose to process its programs as well (**Sellas**, 2012). From that moment on, its use became widespread. In fact, by 2009 all speech-based radio broadcasters had significantly developed this distribution channel, regularly updating their online news, uploading their latest hourly bulletins, and incorporating video as well (**Moreno-Moreno**; **Martínez-Costa**; **Amoedo-Casais**, 2009). In 2010, *RNE* (*National Spanish Radio*) produced approximately fifty daily podcasts and *COPE* generated around 30, a trend that increased two seasons later (2012-2013), especially with regard to the processing of morning shows (**Sellas**, 2012). By that time, it could be affirmed that podcasting had already become common practice for the distribution of previously broadcast content on a delayed basis (**Gallego-Pérez**, 2010; **García-Marín**, 2019; **Gutiérrez-García** *et al.*, 2014; **Pessoa**; **Prata**; **Avelar**, 2017).

> There has been a widespread effort to include text and images in the inserts, provide a date and metadata for all items, and to fine-tune the search engines as well

Moreover, at that same time it should be noted that according to the aforementioned phases of podcasting evolution, even though this type of listening was promising, it was not yet consolidated, neither on the webs nor in apps (**Videla-Rodríguez**; **Piñeiro-Otero**, 2013; 2017). Similarly, although Spanish operators used it quite extensively, in reality, they did so without a well-defined strategy (**Fernández-Sande**; **Rodríguez-Barba**; **Rodríguez-Pallares**, 2013). Their aim was initially to maintain the status they had already enjoyed in the broadcast radio market (**Martí-Martí** *et al.*, 2014).

However, parallel to digitisation and the rise of podcasting over time, programmers were also redefining their intra-media objectives (**Napoli**, 2011) and enhancing their content management techniques by mixing linear broadcasting (the classic grid) with asynchronous broadcasting (**Martínez-Costa**; **Prata**, 2017). In short, they mixed flow content with stock content (**Bonet**; **Sellas**, 2019), thereby enhancing their listening through the use of alerts (**Pedrero-Esteban**; **Herrera-Damas**, 2018) and social networks (**Sixto-García**, 2018; **Suing**; **Ordóñez**; **Herrero-Gutiérrez**, 2020; **Martínez-Otón**; **López-Schilchting**, 2022). Thus, the different programmes and their sections have become nodal content, which is processed and made available to the audience through web repositories that have since grown in volume and importance.

Thus, in the decade of the 20s, and parallel to the aforementioned boom in podcasting, speech-based radio stations in Spain now consider radio on-demand as an essential means of distributing their content. As such, they have been developing strategies to manage and amortise it as efficiently as possible. This approach, which applies to all programming, has had a significant impact on the most relevant and popular content, referring to the morning shows (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020). An example of this growing importance is the launch on 16 March 2021 of *SER Podcast*, which has "the aspiration of leading the Spanish podcast market" (*Cadena SER*, 2021). This initiative has been joined by regional corporations of the Basque Country, Galicia and Aragon and several of *Prisa Radio*'s thematic music stations.

While it was first thought that the podcasting boom would be exploited by native producers, the truth is that they share the spotlight with the more experienced content creators, which are radio stations with decades of experience behind them. This is evident from viewing the different rankings (*AIMC*, *Chartable*, *Edison Research*, *iVoox*, *Podtail*, *Triton Digital*, etc.), in which these recycled programmes have considerable influence, along with the fact that reprocessed podcasts nearly double the number of those that are native (65%-35%) (**Amoedo-Casais**; **Moreno-Moreno**; **Martínez-Costa**, 2021). Moreover, in this realm traditional broadcasters have also been carrying out the following actions: production of a significant number of native podcasts (**Pérez-Alaejos**; **López-Merayo**, 2013); the retrieval of neglected genres such as the audio feature (**Legorburu-Hortelano**; **Edo-Bolós**; **García-González**, 2021) and radio drama (**Markman**, 2015); experimentation with the so-called *reverse programming*, or in other words, the broadcasting of programmes during low-audience slots that are nonetheless very well received offline (**Legorburu-Hortelano**; **García-González**; **Dorado-Colmenar**, 2019); and lastly, the lack of objections to their entire production being accessible outside their own domain through other platforms and aggregators (**Piñeiro-Otero**; **Terol-Bolinches**; **Vilà-Talleda**, 2019; **Sullivan**, 2019).

Finally, it should be noted that in recent years the audience for podcasts has increased exponentially. Between 2019 and 2021, such growth was especially significant, exceeding 53% in the latter (*Prodigioso Volcán*, 2022). In this context, the trend toward listening to radio on-demand has also been growing, as it reached approximately one million listeners by the end of 2021 (*AIMC*, 2021), reaching the third most consumed digital audio format by Internet users (46.1%), only behind music and radio streaming itself (*IAB*, 2022).

3. Objectives and methodology

Based on the foregoing, the overall objective of this research is to determine the evolution and scope of the podcast as a means of on-demand broadcasting in speech-based radio in Spain in recent years, and more specifically between the 2019-20 and 2021-22 seasons, in which its evolution can be verified. In addition to this overall objective, two others that are more specific have been added as well:

- The first is to discover how this format is changing the broadcasting strategies of the main national broadcasters: *Cadena SER*, *COPE*, *Onda Cero* and *Radio Nacional de España* (*RNE*).
- The second focuses on carrying out a descriptive analysis of its use in the most popular programmes, which are the morning shows such as *Hoy por hoy*, *Herrera en COPE*, *Más de uno* and *Las mañanas*, which comprise two blocks (*España a las 6, 7, 8 y 9* and *De pe a pa*), respectively.

These specific objectives have been made more even explicit by asking the following research questions:

- How has on-demand broadcasting developed among morning shows in the 2019-20 and 2021-22 seasons from an organisational, business point of view?
- From a quantitative perspective, how have morning shows used the main platforms, aggregators, and social networks in the 2019-20 and 2021-22 seasons?

To achieve these objectives, and in order to answer the research questions, a mixed qualitative-quantitative methodology was used. On the one hand, an exhaustive review of the existing literature on podcasts and the management of live and on-demand audio content in the field of broadcasting was carried out, in addition to that of the websites and apps of the aforementioned radio stations and morning shows. Furthermore, in order to consult primary sources (**Vallés-Martínez**, 2014), a semi-structured interview with closed-end questions was conducted.

> Speech-based radio stations in Spain now consider radio on-demand as an essential means of distributing their content

Registry: Broadcaster/Name/Position/Date of completion

General issues
- How useful is on-demand broadcasting compared to live broadcasting?
- To which niche audience/s are these previously broadcasted content aimed?
- What is the name of this type of audio compared to native podcasting?

Processing the content
- Which area/department is responsible for processing the content (packaging, metadata, content preparation for online publication, uploading, etc.)?
- What strategy or system is followed when processing content?
- Are there different levels of processing endeavour depending on the relevance of the programme, especially flagship programmes? If so, how are such programmes processed?

Broadcasting the content
- By what procedure is this type of audience measured?
- How much knowledge of the listener/user is available?
- Do you obtain information, or metrics, regarding your audience on aggregators and platforms?
- Are metrics used to refine the broadcast strategy and set your advertising rates?
- By what means and strategies is the dissemination of this content expanded?

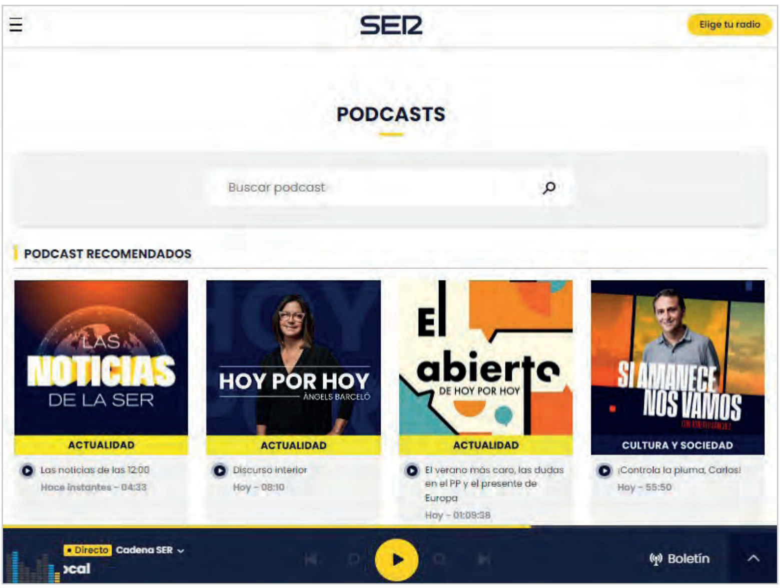
Comments

Figure 1. Questionnaire for managers of digital areas or programmes

The target population consisted of the heads of digital or programme areas of the above-mentioned radio stations, who are key individuals capable of providing the necessary information to achieve the aforementioned objectives:
- Ana Ormaechea, Chief Digital Officer (CDO) of *Prisa Radio* (*Cadena SER*);
- Javier Escartín, Digital Coordinator at *Ábside Media* (*COPE*);
- María Sainz, Head of Digital Product at *Atresmedia Radio* (*Onda Cero*); and
- Alfredo Laín, Director of Programmes at *Radio Nacional de España*.

The questionnaires were completed during the month of January, 2022.

This qualitative perspective has been complemented with content analysis (**Bardin**, 1986) of the morning shows, based on how broadcasters use the podcast on their respective websites. The sample selected was based on a constructed week (**Riffe**; **Aust**; **Lacy**, 1993) from the Monday to Friday programming cycle. Specifically, the broadcasts analysed were from January 3, 11, 19 and 27 of 2022, and February 4 of 2022, between the hours of 6:00 and 13:00, or in other words, there were five complete editions of each morning show, or a total of 20 programmes. As previously mentioned, in order to update a previous study that analysed the 2019-20 season (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020), we have also selected the 2021-22 season. For this purpose, a technical analysis sheet has been designed, consisting of the following registration variables based on the above-mentioned study.



https://cadenaser.com/podcast

Registry
- Broadcaster (*Cadena SER*, *COPE*, *Onda Cero*, *RNE*)
- Date (day/month/year)
- Time (included/not included)

Accessibility
- Number of access routes
- Presence of access routes on the website (homepage, highlights, menu bar, its own profile, etc.) (description)
- Search option and filters (yes/no)
- Features of the search option and filters (description)
- Number of clicks to access the offline content of the morning show

Processing
- Number of podcast segments per edition
- Data (date, duration, etc.) (yes/no)
- Summary of content (yes/no)
- Length of the podcast segments
- Taxonomy of processing:
- Full programmes (yes/no)
- Programmes per segment (yes/no)
- Permanent sections (yes/no)
- Description of permanent sections (monologues, commentaries, interviews, news, daily and weekly slots, etc.) (description)
- Exclusive online content (description)

Dissemination
- Web/app push alerts (yes/no)
- Social networks (yes/no)
- Social networks used: *Facebook*, *Flipboard*, *Instagram*, *Twitter*, others (description)
- Aggregators (yes/no)
- Presence in aggregators: *Apple Podcasts*, *Google Podcasts*, *iVoox*, *Podimo*, *SoundCloud*, *Spotify*, *Spreaker*, others (description)
- *YouTube* (yes/no)

Figure 2. Content analysis form.
Source: Adapted from **Rodríguez-Luque**; **Alonso-Fernández** and **Legorburu-Hortelano** (2020, p. 17)

This form was used for each of the analysis units. The data collected were then processed using the *SPSS* software (*IBM*) in order to carry out frequencies and the cross-referencing of variables, and also using *Word* (*Microsoft*) for the layout of the different tables.

Finally, all the information was cross-checked with that of the previous work mentioned above. Moreover, other publications that have addressed this issue have also been helpful, to a greater or lesser extent (**Fernández-Sande**; **Rodríguez-Barba**; **Rodríguez-Pallares**, 2013; **Moreno-Moreno**; **Martínez-Costa**; **Amoedo-Casais**, 2009; **Sellas**, 2012), as well as the contribution of **Peña-Jiménez** and **Pascual-García** (2013) on the specific issue of social network use as an amplifying factor in dissemination.

4. Results

Considering the stated objectives, as well as the research questions and methodologies applied, the results obtained from the interviews conducted and the data extracted from the content analysis are presented in the following paragraphs.

4.1. On-demand radio offered by speech-based radio stations

As pointed out above, the podcast has fostered a situation in which speech-based radio stations have been incorporating their programmes into their websites over the past decade, in order to enable their consumption at a later time. It should be noted that although *Cadena SER* started this practice in 2005 (**Sellas**, 2012), there are audios in its repository from 2003. Regarding other broadcasters, the *RNE* archive contains programmes broadcast since June 2008, the repository of *Onda Cero* since April 2011, and the data warehouse of *COPE* since January 2015 (there are also some files from 2013 and 2014), although the latter began processing content nearly a decade earlier.

With regard to the naming of this distribution channel, a consensus among broadcasters has still not been achieved for the 2021-22 season, which has been inferred from the in-depth interviews and can also be seen in the following section, which focuses on the analysis of supply. Both *Cadena SER* and *COPE* have replaced the term *on-demand* with *full hours* and *podcast*, depending on the level of processing used. *Onda Cero*, however, bundles all of its on-demand content under the umbrella term of *a la carte programmes* and reserves *podcast* for native production. *RNE* uses the term *on-demand audio programmes*. It bears recalling that in 2008 the preferred term was *audio* (**Moreno-Moreno**; **Martínez-Costa**; **Amoedo-Casais**, 2009), and just two seasons ago the terms that prevailed were *audio* and *podcast* (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020).

In any case, this practice has become fully institutionalised in speech-based radio and is currently based on two fundamental principles. Firstly, as in the 2019-20 season, the aim is to extend the life of the content once it has been broadcast, or at least this is what the heads of the digital or programme areas of the four broadcasters under study have stated. Moreover, they place special emphasis on the benefit to their listeners in allowing them to consume their favourite content offline, whether they are programmes or sections, because as Javier Escartín (*COPE*) points out,

> Radio has once again found an opportunity rather than a threat with Internet and the podcast, the latter of which is a new tool for distributing its content, thereby providing new life beyond the live broadcast

> "Even though live radio continues to be strong, we cannot ignore the fact that there are users who want to listen to it any time of the day, and in any place,"

which is an approach that is also fully agreed upon by María Sainz (*Onda Cero*) and Alfredo Laín (*RNE*). In a similar vein, Ana Ormaechea (*Cadena SER*) affirms that

> "for the listener, it's the best way to recapture the fragment of a broadcast they weren't able to consume, but that they want to retrieve, and for the broadcaster, it is the optimal means of distributing its linear broadcasts in an organised, structured, well-labelled way."

Secondly, this distribution method is used in order to maintain loyalty with traditional users who are adapting to the new technological environment, as well as to new generations of digital native listeners. This is how *COPE* explains it:

> "Even though studies have shown that young users between 18 and 40 years of age are the ones who consume it the most, in recent years we have found more and more people above that age range who are getting used to listening to radio on a delayed basis."

With this approach, *Cadena SER* has divided its on-demand distribution into two distinct areas:

- On the one hand, its website offers

  > "automatic hourly cuts and full time slots aimed at the loyal audience (recurrent and heavy users), who already know the programme and want to listen to a very specific fragment.

- On the other hand, in the *SER Podcast*,

  > "Content is selected, packaged and distributed thematically. Through this second means, the aim is to incorporate new listeners, following the niche consumption approach of podcasts."

Although *RNE* considers that "radio on-demand is not aimed at a specific niche audience", it does bear in mind that young people are the ones who use it the most:

> "One of the great advantages of this content is that it can be consumed by people who do not listen to the radio, either never or rarely, due to the fact that users have found these audios or programmes through social networks, or because they have searched for information on the Internet about a topic covered by a particular audio or programme."

In the case of *Onda Cero*, the opportunity to please regular followers prevail, as its on-demand broadcasts are aimed mostly at

> "loyal listeners of the programmes or sections", even offering them "the option of rewinding the live broadcast without having to wait for the programme to be available on-demand."

In terms of content processing, the three commercial broadcasters have chosen a mixed management model for the 2021-22 season, based on cooperation between the digital area and the individual programmes. For its part, public radio has chosen to centralise this endeavour. As Laín explains,

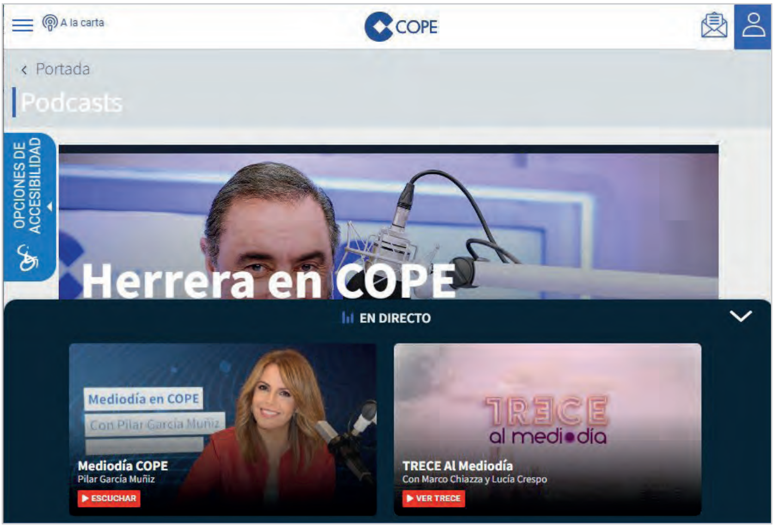
> "In the digital area there is a team that is dedicated exclusively to uploading the complete broadcasts to the website, and a second team that is responsible for broadcasting the most relevant content, both through the website and social networks."

According to the model used, the processing tasks are organised differently. For example, in the case of *Cadena SER*, as explained by Ormaechea, automatic processes (complete programmes) coexist with others that are more manual in nature (sections and highlights). In this way, the schedule is automatically edited and published on the website in a structured way according to time slots. On the other hand,

> "At the end of each block or section to be distributed, a technician removes the advertising, standardises the audio quality, and integrates the input and output covers. Moreover, an editor from each programme is responsible for publishing the metadata on *SER Podcast*."

The routines at *COPE* are similar, as full hours (and hourly news bulletins) are also uploaded automatically to the web, while everything related to processed content is manual, and advertising is not deleted. As Escartín points out,

> "We make news from the content of different programmes with text and audio (...) In this case, it is the digital team that indicates what is of interest to those in charge of each programme (...) the criteria are based on editorial aspects and relevance."



https://www.cope.es/podcasts

At *Onda Cero*, Sainz explains that

> "the newsroom follows all the programming live and takes the most important audio clips, as well as sections and full programmes, whose RSS feed is distributed to platforms and aggregators. Everything is processed through our content management system (...) All programmes are cut in the same way."

At *RNE*, Laín states that

> "there are protocols to guarantee correct uploading to the web, which are mainly related to metadata."

He then adds,

> "We take care in ensuring that there are no differences at the moment of uploading the full broadcasts of the programmes (...), although extracts are taken from the flagships of the radio station in order to give greater exposure to its main content."

In addition, he stresses that

> "care is also taken to make sure that not too much time elapses between the broadcasting of programmes and their availability."

Audience measurement and analysis has turned out to be a key issue for all the broadcasters studied, which was previously the case, though incipiently, in the 2019-20 season (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020). Most of the broadcasters use tools such as *Google Analytics*, as well as *Adobe Analytics*, with the exception of *Cadena SER*, which uses an external provider (*Triton Digital*), whose measurements conform to the 2.1 standards of the *Interactive Advertising Bureau* (*IAB*). The aim is to obtain in-depth knowledge of the user. For *Onda Cero*,

"Metrics are the key to everything, which include knowing and understanding our listeners, continuously improving our product, setting objectives and strategies, being able to monetize, etc."

At *COPE*, "consumer behaviour and content preferences" are also analyzed. *RNE* obtains

> "daily, weekly and monthly results that offer data such as the hours of highest consumption, the most heavily-consumed programmes and audios, rankings of Spanish cities and countries, and the type of device used."

A similar situation occurs in the case of *Cadena SER*, which also monitors parameters such as logins, total listening hours (TLH), downloads, and CUME figures (number of unique listeners within the market for at least 5 total minutes), which in the short term aims to identify the unique user, trace their audio path, and discover their average consumption rate, as well as the particular content that logged-in listeners consume. For this radio station, metrics are crucial in making any decision, whether it concerns the achievement of objectives, the editorial line, or advertising.

Similarly, the broadcasters analyzed measure the listening of their content outside their own domain. In this realm, significant progress can be seen with regard to the 2019-20 season, at which time there was still not enough information available (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020). *RNE* carries out this task through an internal dashboard. This is also the case with *Onda Cero* and *COPE*, who also use the dashboards of aggregators and platforms. For its part, *Cadena SER* relies on *Triton Digital*, yet it also calls on external agents "when it needs additional socio-economic data." It should also be noted that broadcasters collect data from *Comscore*, which measures the number of unique users, in order for the focus not to be aimed exclusively at the listening aspect. One should also keep in mind that the total sum of unique users exceeded 24 million in December of 2021 among the commercial broadcasters under study (*Comscore*, 2021).

Advertising rates are established according to the totality of these metrics, due to the fact that

> "the number of downloads or programmes consumed audibly influences marketing prices, as Escartín affirms (COPE),"

Ormaechea of *Cadena SER* points out

> "that audience data is used not only for direct sales, but for indirect sales as well, both for pre-roll and mid-roll audio podcasts, as well as for pre-roll streaming."

These formats have been increasingly used in recent years, in addition to classic banners and layers.

Finally, in the 2021-22 season, there has been significant development in terms of strategies for expanding the dissemination of this content, which in 2019-20 was limited to notifications and the use of social networks (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020). *Onda Cero* uses both internal and external means. Sainz explains that

> "the internal means involve disseminating such content on the website and app, thereby relying on social media profiles of both the station and the programmes, as well as on push notifications and a recirculation strategy with the different *Atresmedia* sites."

As for external means, these

> "include aggregators and platforms, as well as smart speakers."

According to Escartín, *COPE* uses mostly social networks, although these audios

> "are also displayed in a highly visible way on the web, so that the listener can access them directly and quickly, download them, etc. This improves the user experience."

He adds that they are also available on aggregators and platforms. *RNE* concurs with this strategy, which makes intensive use of social networks involving both the station's profile and those of each programme, as well as the website and the *RTVE Play Radio* platform. Finally, *Cadena SER* distinguishes between two different strategies, depending on whether the aim is only to reach regular users or to attract new listeners. For the former, it uses newsletters, alerts, push notifications, and cross-promotions; for the latter, it uses the broadcast itself, promotions on platforms and aggregators, pre-launch marketing initiatives, and exclusive content, according to Ormaechea.

4.2. Morning shows: audios in the display window

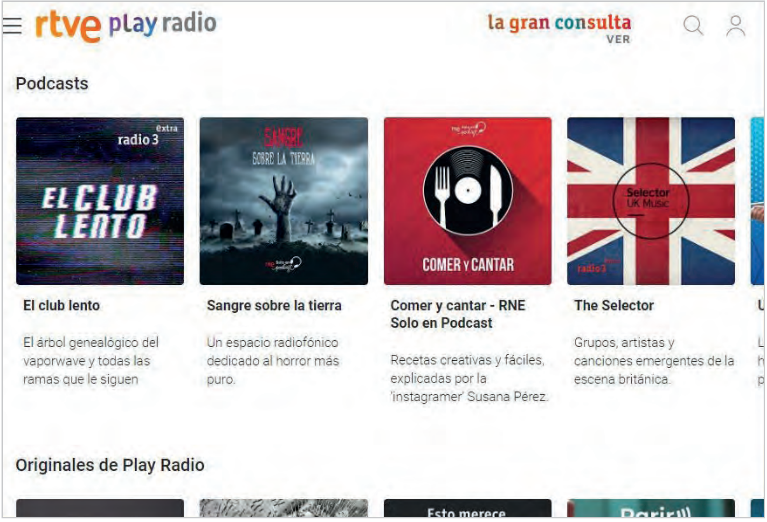
Currently, the processing of morning shows in the weekly programming cycle (Monday to Friday) has become a consolidated practice in speech-based radio in Spain in order to provide listeners with on-demand content. As was the case in the 2008-09 season, broadcasters upload their complete programmes to their repositories according to time slots, permanent sections, and main topics, though several disparate aspects exist, ranging from website accessibility to content processing, to the use of aggregators and platforms.

Regarding the ways in which users can access audio through the website, different options could be distinguished as early as the 2008-09 season, with almost no uniformity among the four radio stations, with the exception of "*Lo más escuchado*" [The most listened to] and "*Archivo*" [Archive]. At that time, tabs could be found under a highly diverse nomenclature: "*Escuchar audio*" and "*Lo que tienes que escuchar*" [Listen to audio and What you have to listen to] (*Cadena SER*); "Últimos sonidos" and "*Mis sonidos*" [Latest sounds and My sounds] (*COPE*); "*Audios*" [Audios] (*Onda Cero*); and "*Programas*" and "*A la carta*" [Programmes and A la carte] (*RNE*) (**Moreno-Moreno**; **Martínez-Costa**; **Amoedo-Casais**, 2009). In the current decade, while the four morning shows in the 2019-20 season offered between one and three options, excluding linear listening (streaming), the number of access routes has increased to between two and three in the 2021-22 season.

To be more specific, access to each morning show through the main menu was identical two years ago, but with some differences once there. For example, on *Cadena SER*'s website, the option "*Programas y Pódcast*" [Programmes and Podcasts] was offered, and from there you could go to *Hoy por hoy*, yet you could do so by using three filters: "*Lo más escuchado*" [Most listened to], "*Actualidad*" [Current affairs], and "*Por relevancia*" [According to relevance], either through the grid or by means of an alphabetical search engine. *COPE* has also incorporated the option of reaching its main programme through the "*Programas*" [Programmes] tab, yet it offers two other options as well: a "Programming" tab and a search engine. The menu of *Onda Cero* directs the user to "*Más de uno*" [More than one] through "Programmes" and "Podcasts", as did *RNE*, although the latter did so with significant differences: in "Programmes", it offered an alphabetical search engine to reach each section of *Las mañanas*, while the "*Podcast*" option offered segments and the complete hours that were most recent. Finally, an alphabetical search engine allowed filtering by categories (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020).

https://www.ondacero.es/podcast

By contrast, in the 2021-22 season mentioned above, the way to access *Cadena SER* has been through two clearly differentiated avenues: "Programmes" and "Podcast". The first of these tabs contains the time slots for the day's broadcast, while the second contains the spaces/sections that have already been processed. To be more specific, this new configuration of the website based on the *audio first* philosophy was adopted as of 31 January 2022 (*Cadena SER*, 2022), which also made it possible to locate audios by name, programme, topic, and radio station. Until that date, audios were available in the *PlaySER* space (still active at the closing date of this analysis), which was found in the first four days of the constructed week. In this case, its configuration allows the three following access routes: "*En directo*" [Live], "*A la carta*" [On demand], and "*Parrilla*" [Grid]. On the other hand, one can also search for the podcasts through "Últimos audios" [Latest audios] and "*Los más escuchados*" [The most listened to], or by means of a search engine that allows filtering by date, section, and topic.



https://www.rtve.es/play/radio/podcasts

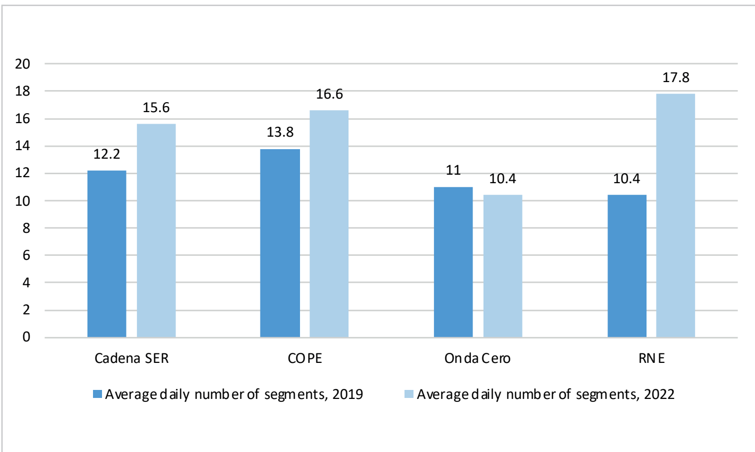
With regard to *COPE*, it has not undergone major changes, as it still allows access through the "Programmes" tab, where full hours, audios, podcasts, and certain permanent and special sections are uploaded. At this radio station, the "Podcast" section is reserved exclusively for native audios. In the case of *Onda Cero*, there are still two access routes, "*Programas*" and "*Pódcast*", [Programmes and Podcast], although in the first tab there is a menu that includes the following diverse sections: "*Portada*" [Home], "*A la carta*" [A la carte], "*Secciones*" [Sections], "*Especiales*" [Specials] and "*De 06:00 a 08:00*" [From 6:00 to 8:00 o'clock]. In the "Podcast" section, there are several specific sections (processed) of *Más de uno*, and native audios as well.

Lastly, *RNE* has three access routes. From the "*Programas*" [Programmes] tab, the user can click on *Las mañanas de RNE*, "*RNE*", and "*PlayRadio*", in alphabetical order. "*Programas*" [Programmes] is the main access route, because in addition to the fact that '*RNE*' refers to it, it displays three options: "*Emisiones*" (*tramos horarios*) [Broadcasts (time slots)], "*Clips*" (processed audios), and "*Relacionados*" [Related], which refers to other programmes with similar content.

With regard to the number of clicks needed to listen to an item of content in the repository, starting from the moment of access to the radio station's home webpage until it can actually be heard, a reduction to two clicks has been observed in the period analysed among all broadcasters. By comparison, in the 2019-20 study the fastest access pertained to *Más de uno,* with merely two clicks, compared to four for the others.

With regard to the processing of content, while in the 2010-11 season only complete programmes and counted segments were uploaded, the analysis shows that a decade later, in practically all cases, this process was carried out both for complete hours (except in the case of "*Más de uno*", which continues to offer the entire programme) as well as through numerous segments of sections and highlights.

In any case, data regarding processing for the 2010-11 season (**Sellas**, 2012) is a long way off, where the number of segments of all programming, not just morning shows, ranged from nine for *Cadena SER* and *COPE* to six for *RNE*. If we look at Graph 1, which shows the evolution of the periods studied over time, the number of daily podcast segments is not only much higher, but has increased in all the morning shows analysed, with the exception of *Más de uno*, which has fallen from an average of 11 to 10.4. *Hoy por hoy* rose from 12.2 to 15.6, and *Herrera en COPE* increased from 13.8 to 16.6. Finally, *Las mañanas* experienced the highest growth, going from an average of 10.4 to 17.8. Tables 1 and 2 show the specific number of daily podcast segments for the two seasons during the constructed week.



Graph 1. Average daily evolution of podcast segments. 2019 and 2022 seasons
Source: Adapted from **Rodríguez-Luque**; **Alonso-Fernández** and **Legorburu-Hortelano** (2020, p. 19).

Table 1. Number of daily podcast segments per morning show 2019-2020

Dates of the constructed week	SER	COPE	ONDA CERO	rne
	Hoy por hoy	***Herrera en COPE***	***Más de uno***	***Las mañanas***
Monday 04/11/2019	-[1]	14	11	13
Tuesday 12/11/2019	15	18	11	11
Wednesday 20/11/2019	10	12	11	12
Thursday 28/11/2019	15	18	11	11
Friday 06/12/2019	9	7	11	5
Total	49	69	55	52
Daily average	12.2	13.8	11	10.4

Source: Adapted from **Rodríguez-Luque**; **Alonso-Fernández** and **Legorburu-Hortelano** (2020, p. 19).

Table 2. Number of daily podcast segments per morning show 2021-2022

Dates of the constructed week	SER	COPE	ONDA CERO	rne
	Hoy por hoy	***Herrera en COPE***	***Más de uno***	***Las mañanas***
Monday 03/01/2022	10	14	12	15
Tuesday 11/01/2022	19	16	11	20
Wednesday 19/01/2022	19	17	9	15
Thursday 27/01/2022	16	19	12	19
Friday 04/02/2022	14	17	8	20
Total	78	83	52	89
Daily average	15.6	16.6	10.4	17.8

With regard to detail, from the observation of the audio content during the two seasons analysed, it can be stated that all the radio stations employ a similar strategy in their morning shows, since they process and cut important sections, such as anchors' monologues, comments by collaborators, and other spaces. These same routines apply to the weekly sections as well. Moreover, they incorporate audios of interviews or relevant news into their websites, depending on current events.

These pieces invariably include a photograph and a summary, but not always with a date and time. In the 2021-22 season, all of the broadcasters analysed have put dates on the content, except *Cadena SER*, which includes the length of the audios instead of the time of broadcasting. It should be noted that two years ago, the morning shows of *Cadena SER* and *COPE* included these data, while that of *Onda Cero* only included the date, and *RNE*'s morning programme did not include either (although they did appear in its search engine), with the latter specifying only the length, similar to the action taken by *Cadena SER*.

As for exclusive content for the web, this is only provided by *Más de uno* and *Las mañanas*. In the case of *Onda Cero*'s morning show, there are links to special programmes and videos of awards received by either the morning programme itself or the team. *RNE*'s morning show includes information on its time slots and a webcam to watch them live. All four radio stations have search engines as well.

As mentioned above, one of the key aspects of radio on-demand is the increase in its dissemination through social networks and notifications. As far as the former are concerned, the four morning shows have their own profiles apart from those of their radio stations in order to promote the programme or its sections, or to call for listener participation, or even to show additional material (links, videos, etc.). Despite the fact that in 2013 *Cadena SER* was leading the work in this area on *Facebook*, and *RNE* on *Twitter* (**Peña-Jiménez**; **Pascual-García**, 2013), by the end of 2019 all of them were using *Facebook*, *Instagram*, *Twitter*, and *Flipboard*, with the exception of *RNE*, which was still not using the latter (**Rodríguez-Luque**; **Alonso-Fernández**; **Legorburu-Hortelano**, 2020). During the 2021-22 season, *Flipboard* has no longer been used by any of the broadcasters, as their activity is now carried out on the other three SNs. Likewise, as was the case in the 2019-2020 season, all four morning shows have been enhanced by the broadcasters' use of mobile messaging channels, in which in-app alerts stand out over *web push* notifications. In fact, in the 2021-22 period, only *Cadena SER* and *Onda Cero* were using the latter.

As far as aggregators and platforms are concerned, morning shows have been present since the 2019-20 season with hourly programmes (or complete programmes, such as *Más de uno*), and the corresponding segments on *Apple Pod-*

casts, *Google Podcasts* and *iVoox*. There also seems to be agreement on discarding *SoundCloud* and *Stitcher* (in the latter, only a few outdated audios from *Hoy por hoy* have been found). The case of *Spotify* is different, where in the first season analysed, *Hoy por hoy* and *Herrera en COPE* could be found, but not *Las mañanas* and *Más de uno* (only the weekly section "*La cultureta*" was uploaded). On the other hand, in the second and most recent period, *RNE* and *Onda Cero*'s morning shows have been incorporated, yet *COPE*'s morning programme has ceased to be included, as its presence has been limited to the playlist of the music section "*Radio Carlitos Deluxe*" (*RCD*). With regard to *Spreaker*, only *Más de uno* is present, as *Las mañanas* has never been seen there, and neither *Herrera en COPE* nor *Hoy por hoy* appear there as well. *Podimo* started operations in Spain in June of 2020. Moreover, it has joined the platforms, incorporating the programming of *COPE* and *Onda Cero*. On the other hand, *TuneIn* currently hosts all four radio stations. The same is true of *YouTube*, where each station has its own channel (with the exception of the morning shows, with lists or channels), including public broadcasting, which was limited to *rtve.es* in the 2019-20 season (see Table 3).

> There is widespread awareness of the need to become familiar with the listener/user in depth

Table 3. Presence on platforms, aggregators and *YouTube* in 2019 and 2021

Agregadores	SER		COPE		Onda Cero		rne	
	Hoy por hoy		*Herrera en COPE*		*Más de uno*		*Las mañanas*	
	2019-20	2021-22	2019-20	2021-22	2019-20	2021-22	2019-20	2021-22
Apple Podcasts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Google Podcasts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
iVoox	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Podimo	-	No	-	Yes	-	Yes	-	No
SoundCloud	No	No	No	No	No	No	No	No
Spotify	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Spreaker	Yes	No	Yes	No	Yes	Yes	No	No
Stitcher	Yes	No	No	No	No	No	No	No
TuneIn	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
YouTube	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

Source: Adapted from **Rodríguez-Luque**; **Alonso-Fernández** and **Legorburu-Hortelano** (2020, p. 19).

Finally, it should be noted that some of the radio stations under study were experimenting in 2021 with broadcasts on *Twitch*, although rather than using their morning shows they broadcast other programmes, as in the case of *Tiempo de juego* (*COPE*), *Buenismo bien* (*Cadena SER*) and on *Clubhouse*, such as *A vivir que son dos días* (*Cadena SER*) and *Herrera en COPE*.

5. Discussion and conclusions

The research carried out shows that radio on-demand is nowadays an essential distribution channel for speech-based Spanish radio stations with national coverage, as pointed out by their digital product and programme managers. The study also offers a quantitative analysis of the activity they undertake in the specific case of their most popular programmes, which are the morning shows. Thus, radio broadcasters have found on-demand radio to be a useful tool for becoming more efficient in both the management and monetisation of their content, while at the same time responding to the new ways in which their regular audience listens, as well as trying to gain listeners among digital natives as well.

This practice has been used in Spain since 2005, and its importance has increased through the years, along with the evolution of the podcast, which is the audio format that underpins the discipline. Both formats underwent slow development between 2005-2015, gaining momentum from that year onward, and have decisively increased in the last three radio broadcasting seasons. One cannot envision on-demand radio, nor its upsurge, without the presence of podcasting. In fact, in day-to-day radio broadcasting the term "podcast" is more commonly used than "radio on-demand", yet there is still no consensus on the name.

In any case, such progress can be seen within the context of the strategy implemented by broadcasters, which is reflected in diverse, intertwined aspects, such as the transformation of organisational structures that carry out the tasks involved, in addition to a significant increase (and consequent improvement, season by season), of both the techniques of processing, measuring and analysing this type of audience, as well as the techniques of expanding broadcast dissemination.

Specifically, all broadcasters have implemented their own strategy that has been applied in a systematic, protocol-focused way, which is quite the opposite of what happened merely a decade ago, when there was no

> "overall, strategic approach for integrating and exploiting content management" (**Fernández-Sande**; **Rodríguez-Barba**; **Rodríguez-Pallares**, 2013, p. 397).

Thereafter, the predominant management model has been one of coordination between the digital product area and the different programmes. It could be said that a mixed, decentralised approach has been imposed, which has thereby increased the number of teams dedicated to the digital sphere, while at the same time distributing part of the tasks among the entire editorial staff. In this way, one of the shortcomings that initially hampered its progress has been corrected (**Sellas**, 2012).

> The time needed for uploading to the web has been reduced, mainly due to the automation of processes

From that point on, there has been a steady increase in processing work. The guidelines established in 2008, which consist of separating full hours (except for "*Más de uno*" on *Onda Cero*), sections, and highlighted events (**Moreno-Moreno**; **Martínez-Costa**; **Amoedo-Casais**, 2009), are still in force, and even stronger than before. From a quantitative point of view, the number of segments of a single morning show is nearly twice the total number produced by an entire radio station each day (**Sellas**, 2012). Moreover, between the 2019-20 and 2021-22 seasons, only in the case of morning shows (with the exception of *Onda Cero*, which has remained unchanged), the rate of growth has been between 20.2% and 71.1%. Furthermore, the time needed for uploading to the web has been reduced, mainly due to the automation of processes. Moreover, in terms of quality, additional processing by the technical staff has been established in the case of *Cadena SER*. There has also been a widespread effort to include text and images in the inserts, provide a date and metadata for all items, and to fine-tune the search engines as well. As such, radio operators have made a strong effort to adapt the content they broadcast to the new, diverse ways of listening to programmes, and to the different devices and means of access offered by digital technology, with the aim of improving the user experience.

Furthermore, the distribution of content through the web has been complemented by the use of audio platforms and aggregators. In this regard, there have been some noteworthy developments. On the one hand, *Prisa Radio* is a pioneer in dividing its on-demand content among two different websites: the *Cadena SER* site (Complete programmes) and another one called *SER Podcast* (Segments); on the other hand, broadcasters are increasingly selective in the placement of their content, filtering out certain aggregators in recent seasons. The progress made in measuring and analysing this type of audience, both inside and outside their own domain, is striking. There is widespread awareness of the need to become familiar with the listener/user in depth. One of the main objectives of this task, which now differs in comparison to the 2019-20 season, is to increase the potential for monetisation of this content, thereby progressively dispelling the uncertainty that existed at the beginning of the 2010s (**Sellas**, 2012).

Finally, broadcasters have attempted to expand the dissemination of their content by using social networks and notifications. Regarding the former, even though the presence of broadcasters was limited to *Facebook* and *Twitter*, and not all the news programmes had their own profile (**Peña-Jiménez**; **Pascual-García**, 2013), all of them had their own profile in the 2021-22 season, not only on the two networks mentioned, but also on Instagram, which are profiles that coexist with those of their respective radio stations. Regarding the latter, broadcasters regularly and extensively use in-app alerts.

In summary, it can be affirmed that like so many other situations this medium has faced over its century-long history, radio has once again found an opportunity rather than a threat with Internet and the podcast, the latter of which is a new tool for distributing its content, thereby providing new life beyond the live broadcast.

6. Note

1. There are no audios available for this programme due to *Cadena SER*'s having suffered a serious computer attack that altered all of its processes.

7. References

AIMC (2021). *Estudio general de medios*. Madrid: AIMC.

Amoedo-Casais, Avelino; **Moreno-Moreno, Elsa**; **Martínez-Costa, María-Pilar** (2021). "Oferta y consumo de podcast de los medios digitales". In: Salaverría, Ramón; Pilar Martínez-Costa (coords.). *Medios nativos digitales en España*. Salamanca: Comunicación social, pp. 213-232. ISBN: 978 84 17600 60 0
https://doi.org/10.52495/c14.emcs.7.p92

Bardin, Laurence (1986). *Análisis de contenido.* Madrid: Akal. ISBN: 978 84 7600 093 9

Berry, Richard (2014). "The future of radio is the internet, not on the internet". In: Oliveira, Madalena; Stachyra, Gràzyna; Starkey, Guy (eds.). *Radio: the resilient medium. Papers from the third conference of the ECREA Radio Research Section*. Sunderland: University of Sunderland, pp. 3-16. ISBN: 978 0 9929805 0 4
https://sure.sunderland.ac.uk/id/eprint/5288/1/Radio_The_Resilient_Medium_-_electronic.pdf

Berry, Richard (2016). "Podcasting: considering the evolution of the medium and its association with the word 'radio''. *Radio journal: international studies in broadcast & audio media*, v. 14, n. 1, pp. 7-22.
https://doi.org/10.1386/rjao.14.1.7_1

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *El profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Bonini, Tiziano (2015). "La 'segunda era' del podcasting: el podcasting como nuevo medio de comunicación de masas digital". *Quaderns del CAC*, v. 41, n. 18, pp. 21-30.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_ES.pdf

Cadena SER (2021). "En la *Cadena SER* estrenamos *SER podcast* con un catálogo de 65 podcasts". *Cadena SER*, 16 marzo.
https://www.sercomunicacion.com/en-la-cadena-ser-estrenamos-ser-podcast-con-un-catalogo-de-65-podcasts

Cadena SER (2022). "La *Cadena SER* lanza su nueva web audio first". *Cadena SER*, 31 enero.
https://cadenaser.com/2022/01/31/la-cadena-ser-lanza-su-nueva-web-audio-first

Chan-Olmsted, Sylvia; **Wang, Rang** (2020). "Understanding podcast users: Consumption motives and behaviors". *New media & society*, v. 24, n. 3, pp. 684-704.
https://doi.org/10.1177/1461444820963776

Chignell, Hugh (2009). *Key concepts in radio studies*. Thousand Oaks: Sage. ISBN: 978 1 4129 3516 6
https://doi.org/10.4135/9781446269060

Comscore (2021). *MMX Mutiplataforma.* Madrid: Comscore.

Fernández-Sande, Manuel; **Rodríguez-Barba, Dolores**; **Rodríguez-Pallares, Miriam** (2013). "La gestión de contenidos como actividad estratégica en empresas de radiodifusión. Estudio de casos en la radio comercial española". *El profesional de la información*, v. 22, n. 5, pp. 392-398.
https://doi.org/10.3145/epi.2013.sep.03

Galán-Arribas, Rafael; **Herrero-Gutiérrez, Francisco-Javier**; **Vergara-Fragoso, Martha**; **Martínez-Arcos, Cruz-Alberto** (2018). "Estudios sobre el podcast radiofónico: revisión sistemática bibliográfica en WoS y Scopus que denota una escasa producción científica". *Revista latina de comunicación social*, n. 73, pp. 1398-1411.
https://doi.org/10.4185/RLCS-2018-1313

Gallego-Pérez, Juan-Ignacio (2010). *Podcasting. Nuevos modelos de distribución para los contenidos sonoros.* Barcelona: UOC. ISBN: 978 84 9788 857 8

García-Marín, David (2019). "La radio en pijama. Origen, evolución y ecosistema del podcasting español". *Estudios sobre el mensaje periodístico*, v. 25, n. 1, pp. 181-196.
https://doi.org/10.5209/ESMP.63723

Gutiérrez-García, María; **Martí-Martí, Josep-María**; **Ferrer, Iliana-Esther**; **Monclús, Belén**; **Ribes-Guàrdia, Xavier** (2014). "Los programas radiofónicos españoles de prime time en *Facebook* y *Twitter*: Sinergias entre la radio convencional y las redes sociales". *Revista latina de comunicación social*, n. 69, pp. 418-434.
https://doi.org/10.4185/RLCS-2014-1018

Hilmes, Michelle; **Loviglio, Jason** (2013). "Making radio strange". In: Hilmes, Michelle; Loviglio, Jason (eds.). *Radio's new wave*. Londres: Routledge, pp. 7-13. ISBN: 978 0 415 50976 3

Hirschmeier, Stefan; **Tilly, Roman**; **Beule, Vanessa** (2019). "Digital transformation of radio broadcasting: An exploratory analysis of challenges and solutions for new digital radio services". In: *Proceedings of the 52nd Hawaii international conference on system sciences*, pp. 5017-5026.
https://core.ac.uk/download/pdf/326834486.pdf
https://doi.org/10.24251/HICSS.2019.602

IAB (2022). *Estudio anual de audio online 2021*. Madrid: IAB-GFK.

Laor, Tal (2022). "Radio on-demand. New habits of consuming radio content". *Global media and communication*, v. 18, n. 1, pp. 25-48.
https://doi.org/10.1177/17427665211073868

Legorburu-Hortelano, José-María; **Edo-Bolós, Concha**; **García-González, Aurora** (2021). "Podcasting as an opportunity to recover and renew the audio feature genre in Spanish. A case study of Cuonda and Podium Podcast". *Radio journal: international studies in broadcast & audio media*, v. 19, n. 2, pp. 311-326.
https://doi.org/10.1386/rjao_00046_1

Legorburu-Hortelano, José-María; **García-González, Aurora**; **Dorado-Colmenar, José-Vicente** (2019). "Condicionantes de la programación radiofónica digital". In: Pedrero-Esteban, Luis-Miguel; García-Lastra, José-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión académica y profesional.* Valencia: Tirant lo Blanch, pp. 59-82. ISBN: 978 84 17973 26 1

Linares-Palomar, Rafael; **Neira-Borrajo, Elena** (2017). "*Serial*, el programa radiofónico que resucitó el podcasting". *Área abierta*, v. 17, n. 1, pp. 73-82.
https://doi.org/10.5209/ARAB.53356

Markman, Kris M. (2015). "Considerations-Reflections and future research. Everything old is new again: podcasting as radio's revival". *Journal of radio & audio media*, v. 22, n. 2, pp. 240-243.
https://doi.org/10.1080/19376529.2015.1083376

Martí-Martí, Josep-Maria; **Monclús, Belén**; **Gutiérrez-García, María**; **Ribes-Guàrdia, Xavier** (2015). "La radio, modelo de negocio en transición: estrategias de oferta y de comercialización en el contexto digital". *Quaderns del CAC*, v. 41, n. 18, pp. 11-19.
https://www.cac.cat/sites/default/files/2019-01/Q41_Marti_et_al_ES.pdf

Martínez-Costa, María-Pilar; **Legorburu-Hortelano, José-María** (2020). "Audio digital e interfaces de voz: una nueva era para la sonosfera". En: Pedrero-Esteban, Luis-Miguel; Pérez-Escoda, Ana (eds.). *Cartografía de la comunicación post digital: medios y audiencias en la sociedad de la Covid-19*. Madrid: Aranzadi, pp. 303-330. ISBN: 978 84 1345 824 3

Martínez-Costa, María-Pilar; **Moreno-Moreno, Elsa**; **Amoedo-Casais, Avelino** (2018). "Mapa de la radio online en España: tipología y caracterización en el contexto de los cibermedios". *El profesional de la información*, v. 27, n, 4, pp. 849-857.
https://doi.org/10.3145/epi.2018.jul.14

Martínez-Costa, María-Pilar; **Prata, Nahir** (2017). "La radio en busca de su audiencia: hacia una escucha diversificada y multiplataforma". *Intercom*, v. 40, n. 3, pp. 109-127.
https://doi.org/10.1590/1809-5844201737

Martínez-Otón, Laura; **López-Schlichting, Cristina** (2022). "La influencia de las redes sociales en la transformación de la radio: de la creación a la difusión en las narrativas digitales". En: Pérez-Escoda, Ana; Rubio-Romero, Juana (eds.). *Redes sociales, ¿el quinto poder? Una aproximación por ámbitos al fenómeno que ha transformado la comunicación pública y privada*. Valencia: Tirant lo Blanch, pp. 155-178. ISBN: 978 84 18802 89 8

McClung, Steven; **Johnson, Kristine** (2010). "Examining the motives of podcast users". *Journal of radio & audio media*, v. 17, n. 1, pp. 82-95.
https://doi.org/10.1080/19376521003719391

McHugh, Siobhán (2022). *The power of podcasting. Telling stories through sound.* Sydney: UNSW Press. ISBN: 978 17 42237 02 2

Moreno-Moreno, Elsa; **Martínez-Costa, María-Pilar**; **Amoedo-Casais, Avelino** (2009). "Radio and the web: communication strategies of Spanish radio networks on the web (2006-2008)". *Observatorio (OBS) journal*, v. 3, n. 3, pp. 121-137.
http://obs.obercom.pt/index.php/obs/article/view/288

Napoli, Philip M. (2011). *Audience evolution. New technologies and the transformation of media audiences*. New York: Columbia University Press. ISBN: 978 0 231150347

Newman, Nic; **Gallo, Nathan** (2019). *News podcasts and the opportunities or publishers.* Oxford: Reuters Institute for the Study of Journalism.
https://www.digitalnewsreport.org/publications/2019/news-podcasts-opportunities-publishers

Novaceanu, Marta R. (2020). "From the traditional radio to podcast or to the à la carte". *World journal of research and review*, v. 11, n. 1, pp. 17-21.
https://doi.org/10.31871/WJRR.11.1.8

Nuzum, Eric (2019). *Make noise: a creator`s guide to podcasting and great audio storytelling.* New York: Workman Publishing. ISBN: 978 1 523504558

Nyre, Lars (2015). "Urban headphone listening and the situational fit of music, radio and podcasting". *Journal of radio & audio media*, v. 22, n. 2, pp. 279-298.
https://doi.org/10.1080/19376529.2015.1083155

Pedrero-Esteban, Luis-Miguel; **Barrios-Rubio, Andrés**; **Medina-Ávila, Virginia** (2019). "Adolescentes, smartphones y consumo de audio digital en la era de *Spotify*". *Comunicar*, v. 60, n. 27, pp. 103-112.
https://doi.org/10.3916/C60-2019-10

Pedrero-Esteban, Luis-Miguel; **Herrera-Damas, Susana** (2018). "La notificación *push* como estrategia informativa de la radio en el entorno digital". *El profesional de la información*, v. 26, n. 6, pp. 1100-1107.
https://doi.org/10.3145/epi.2017.nov.09

Pedrero Esteban, Luis-Miguel; **Legorburu-Hortelano, José-María** (2021). "La medición de audiencia en radio y audio: realidades y retos". En: Quintas-Froufe, Natalia; González-Neira, Ana (eds.). *Los estudios de audiencia: de la tradición a la innovación*. Barcelona: Gedisa, pp. 135-156. ISBN: 978 84 18525 87 2

Peña-Jiménez, Palma; **Pascual-García, Alberto** (2013). "Redes sociales en la radio española. *Facebook*, *Twitter* y community management". *Zer*, n. 35, pp. 123-144.
https://ojs.ehu.eus/index.php/Zer/article/view/10677

Pérez-Alaejos, María-Peña-Mónica; **López-Merayo**, **Alejandro** (2013). "Entre ondas y bits: el podcasting en las redes nacionales de radio españolas". *Comunicação midiática*, v. 8, n. 3, pp. 181-202.
https://www2.faac.unesp.br/comunicacaomidiatica/index.php/CM/article/view/219

Pessoa, Sonia C.; **Prata, Nair**; **Avelar, Kamilla** (2017). "Rádio em ambientes digitais: experiências de segmentação em aplicativos para dispositivos móveis". *Logos: comunicação e universidade*, v. 24, n. 1, pp. 160-175.
https://doi.org/10.12957/logos.2017.28604

Piñeiro-Otero, Teresa (2015). "Información, multimedialidad y personalización en las radioapps de España y Portugal". *El profesional de la información*, v. 24, n. 4, pp. 463-471.
https://doi.org/10.3145/epi.2015.jul.13

Piñeiro-Otero, Teresa; **Terol-Bolinches, Raúl**; **Vilà-Talleda, Pere** (2019). "Nuevos sistemas y soportes de distribución radiofónica". In: Pedrero-Esteban, Luis-Miguel; García-Lastra, Juan-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica.* Valencia: Tirant lo Blanch, pp. 107-130. ISBN: 978 84 17973 26 1

Prodigioso Volcán (2022). *III Estado de la voz y el audio en España*. Madrid: Prodigioso Volcán-SEIM.
https://www.prodigiosovolcan.com/sismogramas/informe-voz-2021

Quah, Nicholas (2019). "The 10 essential fiction podcasts that shaped the genre". *Vulture*, 3 October.
https://www.vulture.com/article/best-fiction-pocasts-all-time.html

Ribes-Guàrdia, Xavier; **Monclús, Belén**; **Gutiérrez-García, María**; **Martí-Martí, Josep-María** (2017). "Aplicaciones móviles radiofónicas: adaptando las especificidades de los dispositivos avanzados a la distribución de los contenidos sonoros". *Revista de la AE-IC*, v. 4, n. 7, pp. 29-39.
https://doi.org/10.24137/raeic.4.7.5

Riffe, Daniel; **Aust, Charles F.**; **Lacy, Stephen R.** (1993). "Effectiveness of random, consecutive day and constructed week sampling newspaper content analysis". *Journalism & mass communication quarterly*, n. 70, pp. 133-139.
https://doi.org/10.1177/107769909307000115

Rodríguez-Luque, Cristina; **Alonso-Fernández, José-Antonio**; **Legorburu-Hortelano, José-María** (2020). "De la fonoteca al pódcast: análisis de los magacines 'estrella' de la radio generalista española en los repositorios abiertos". *Documentación de las ciencias de la información*, n. 43, pp. 15-22.
https://doi.org/10.5209/dcin.67234

Sellas, Toni (2011). *El podcasting. La (r)evolución sonora.* Barcelona: UOC. ISBN: 978 84 97884 47 1

Sellas, Toni (2012). "A two-dimensional approach to the study of podcasting in Spanish talk radio stations". *Radio journal: international studies in broadcast & audio media*, v. 10, n. 1, pp. 7-22.
https://doi.org/10.1386/rjao.10.1.7_1

Sixto-García, José (2018). "La radio española en las redes sociales: cross-media en el escenario convergente". *Communication papers*, v. 7, n. 14, pp. 181-203.
https://raco.cat/index.php/communication/article/view/339948

Soengas-Pérez, Xosé (2013). "Retos de la radio en los escenarios de la convergencia digital". *adComunica*, n. 5, pp. 23-36.
https://doi.org/10.6035/2174-0992.2013.5.3

Spinelli, Martin; **Dann, Lance** (2019). *Podcasting: the audio media revolution.* Londres: Bloomsbury. ISBN: 978 1 501328688
https://doi.org/10.5040/9781501328671.0007

Suing, Abel; **Ordóñez, Kruzkaya**; **Herrero-Gutiérrez, Francisco-Javier** (2020). "La coexistencia de la radio y las redes sociales en el proceso de convergencia mediática en España". *Anàlisi: quaderns de comunicació i cultura*, extra.
https://doi.org/10.5565/rev/analisi.3206

Sullivan, John L. (2019). "The platforms of podcasting: past and present". *Social media + society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, María-Peña-Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Vallés-Martínez, Miguel S. (2014). *Entrevistas cualitativas*. Madrid: CIS. ISBN: 978 84 74763 42 3

Videla-Rodríguez, José-Juan; **Piñeiro-Otero, Teresa** (2013). "La radio móvil en España. Tendencias actuales en las apps para dispositivos móviles". *Palabra clave*, v. 16, n. 1, pp. 129-153.
https://doi.org/10.5294/pacla.2013.16.1.5

Videla-Rodríguez, José-Juan; **Piñeiro-Otero, Teresa** (2017). "La radio online y offline desde la perspectiva de sus oyentes-usuarios. Hacia un consumo híbrido". *Estudios sobre el mensaje periodístico*, v. 23, n. 1, pp. 1437-1455.
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Big data in radio broadcasting companies: applications and evolution

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Abstract

The radio broadcasting industry is facing a process of profound digital transformation throughout which, over the last 20 years, the strategies to preserve the traditional business model have prevailed. The consolidation of platformization and datafication in the economic management of the media requires adaptation of the radio broadcasting sector's structures, management models, and corporate culture. Through an exhaustive bibliographic review, nonparticipant observation, and in-depth interviews conducted with heads of the systems, sales and marketing, content, and digital and innovation departments of the three leading Spanish companies (*Prisa Radio*, *Grupo COPE*, and *Atresmedia Radio*) and the state public broadcaster (*RNE*), we seek to identify the functional areas of the radio broadcasting company in which big data (BD) has a greater potential for application, trying to establish the differences in its utilization in the analogue and digital business model. The results revealed that the degree of BD implementation in the Spanish radio broadcasting industry was significantly different between the private sector –which within the last 2 or 3 years has begun to introduce, very incipiently, big data management, applied primarily to the analysis of digital audiences, these users' consumer behavior, and business management– and the public sector, which so far has not adopted these technologies on a systematic basis.

Keywords

Radio; Radio broadcasting companies; Big data; Business intelligence; Media management; Data management; Audio platforms; Podcasting; Podcasts; Audio communication; *Prisa Radio*; *Atresmedia Radio*; *COPE Group*; *RNE*.

1. Introduction

The radio broadcasting industry is facing an acceleration of its digital transformation, a process of change that, during the last decades, companies have tried to decelerate in an attempt to preserve the traditional business model –analogue– based on the coverage and power of frequency modulation (FM) stations, in their segmented service portfolio –by means of a limited range of program formats–and in the commercialization of their audience in the advertising market.

European radio broadcasting companies decided to indefinitely postpone the comprehensive digitization process that digital audio broadcasting (DAB) involved without considering the innumerable advantages that this change in transmission technology could have for their audiences and advertisers. This resistance to technological change is explained by the fear that the traditional entry barriers, represented by their broadcasting licenses in FM and in the residual medium wave (MW), would be broken down and by the rejection of possible status changes that could involve new operators in a renewed market structure based on digital emissions.

> It was found that the implementation of these BD and BI systems in the radio broadcasting companies analyzed presented a lower development than that observed in other case studies applied in the communication sector

Safeguarded by this conviction, the Spanish radio broadcasting sector demonstrated, despite its immobility, a remarkable ability to generate economic benefits, albeit always on a much smaller scale than television, with a management model based on cost control and advertising revenues from the exploitation of the national market –through network programming– and the local market –through regional broadcasting and local programming slots– capable of offsetting production costs and invested capital (**Martí**; **Martínez-Costa**; **Escobedo-Pareja**, 2019).

Even so, the evolution of "cyber radio" (**Cebrián-Herreros**, 2008), "r@dio" (**Gutiérrez-García**; **Barrios-Rubio**, 2019), "post-radio" (**Ortiz-Sobrino**, 2012), or "expanded radio" (**Kischinhevsky**, 2017) has been unstoppable. Through a gradual and progressive transformation process, the radio broadcasting market has been forced to reinvent and optimize production processes to meet the requirements of now digital, asynchronous, fragmented, interactive, and multichannel demand (audience and advertisers) (**García-Lastra**; **Pedrero-Esteban**, 2019) and face the increase in competitors in the digital ecosystem. In the analogue setting, radio broadcasting companies were competing, on an exclusive basis, for a share of the business, audience, and advertisers in a highly concentrated market; in the digital age, they face direct competition from new players such as aggregators, audio content distribution platforms, digital-native broadcasters, and independent podcasters. For all these reasons, and despite the fact that there are factors that assert the strength of the radio business model, the sector is already undergoing an unquestionable transformation process, which affects its value chain and calls for new competitive strategies.

Radio broadcasting companies have chosen to deploy convergence strategies, combining the broadcasting of offline content –conventional antenna– with broadcasting through online platforms and social networks, although traditional programming remains the main focus of their activity (**Bonet**; **Sellas**, 2019; **Gutiérrez-García**; **Barrios-Rubio**, 2019; **Pedrero-Esteban**; **Contreras-Pulido**, 2019). The experiences in the development of "transradio" formats and narratives (**Martínez-Costa**, 2015), with the aim of enhancing interaction with audiences through the different formats that allow multi-channel dissemination, are numerous. Many of these innovative strategies did not originate in the traditional radio broadcasting industry but were incorporated by it after the success achieved by the new players incorporated into the audio content market was noted. In any case, regardless of where the lever of action originated, in the last decade, notable changes that tend to favor efforts in the digital environment have been seen in a sector where the youngest and least loyal population is concentrated (**Edgerly** *et al.*, 2018; **Toff**; **Nielsen**, 2018; **Thurman** *et al.*, 2018; **Just**; **Latzer**, 2017; **Casero-Ripollés**, 2012).

The sector is aware that adapting to the hypermedia environment requires large investments in continuous, adaptive, disruptive, and transformative innovation (**Campos-Freire**, 2015). Against this backdrop, the only way to face these challenges with some guarantee of success is to orient all its processes toward the end customers (audience and advertisers) and to professionalize management to the maximum.

It is at this point that the incorporation of big data (BD) management and artificial intelligence (AI) in all of the radio broadcasting business's management processes, with the aim of improving business intelligence and the ability to make decisions conducive to leveraging the opportunities the new audio market offers, becomes particularly relevant.

The high potential for datafication of audiences' media activity in the digital environment becomes an important asset, one of the most consequential, along with brand value and credibility. Datafication, understood as the capture of all types of information converted into data to facilitate its reuse (**Mayer-Schönberger**; **Cukier**, 2013), combines two processes: the monitoring and quantification of people's lives through digital information and the generation of different types of value –economic, social, political– from the data generated (**Mejías**; **Couldry**, 2019). Data have come to be considered the currency that will feed the entertainment industry in the coming years (**Wolk**, 2015). **Lippel** (2016) points out three fundamental areas for the application of the BD in communication companies: products and services, customers and suppliers, and infrastructure and processes. BD, therefore, in addition to optimizing the internal processes of radio broadcasting companies, allows us to predict and obtain information about the consumption habits of their audiences and the interests of their advertisers. The implementation of data culture in the sector will determine future production, management, and distribution strategies for audio content.

Although, for years, the footprint of big data management has extended across all levels of media activity (**Stone**, 2014), the potential for getting a snapshot of their audiences takes up most of the efforts of media companies. The attention and methods by which the media seek to get to know their audiences in the digital environment have become more sophisticated in recent years (**Napoli**; **Roepnack**, 2018). However, the great evolutionary leap in the new paradigm of business management lies in the incorporation of internal data management and analysis departments. Since the second decade of the 21st century, companies that offer BD services for media corporations, such as *Amazon Web Services*, *Azure*, *Konodrac*, and *Luca*, from *Telefónica*, have taken off. In Spain's case, mainly television but also the press already have significant allocations for this purpose (**Sangil**; **Portilla**, 2021; **Gómez-Domínguez**, 2016; **Colle**, 2013) and apply strategies based on BD that seek, at a first level, to get to know their audiences and improve their audiences' user experience (UX) (**Murschetz**; **Schlütz**, 2018; **Kelly**, 2019; **Gandhi**; **Martínez-Smith**; **Kuhlman**, 2015) in order to ensure stability in the market and the optimization of their revenue model. Radio broadcasting companies show less development in the application of data culture than other media sectors. The most remarkable experiences have been driven by parent companies with activity in the audiovisual sector.

It is worth highlighting the catalytic role played by subscription video on demand (SVOD) streaming platforms in this process. *Amazon Prime Video*, *HBO*, and *Disney+*, following in the footsteps of *Netflix* (**Neira**, 2020; **Carrillo-Bernal**, 2018; **Smith**; **Telang**, 2017; **Lindsey**, 2016), have stood out as examples of data-driven companies and models of the success of content consumption based on the logic of the catalog versus traditional programmatic grids (**Lotz**, 2017). Given their success, as well as that of other platforms such as *YouTube*, the media have strategically nurtured their own digital platforms, even creating business units specialized in paid streaming content –this is the case of *Atresplayer*. If the SVOD streaming platforms adopted a disruptive model, even embracing different business formulas (**Neira**; **Clares-Gavilán**; **Sánchez-Navarro**, 2021), in the press or magazines field, the news aggregators did the same with disparate income models and degrees of transparency, ranging from free for the user –which implies that the product is the user themselves and their data– to paid subscription (the case of *Apple News+*, for example). Along the same lines, the options in the music streaming market multiplied with platforms such as *Spotify*, *Apple Music*, *SoundCloud*, and *Amazon Music*, which was initially threatening for the record industry, which managed, nevertheless, to adapt and take advantage of a model based on the music single. Although the initial model was transparent, over time, music streaming platforms have refined using data and algorithms to suggest content to the user in the same way as their audiovisual counterparts, in the way that, for example, *Spotify* offers "discover weekly," "made for you," and "daily mix" playlists (**Eriksson**, 2020; **Siles** *et al.* 2020). As a testament to this trend, there are also certain advances in the radio broadcasting field in what has been termed the "platformization" process of the radio broadcasting industry; for **Sullivan** (2019), this is a process aimed fundamentally at greater utilization of the data capacity in the production, management, and marketing of content. This process has reached greater maturity in the podcast format –not necessarily linked to linear broadcasting– which, in addition to media websites and generic audio platforms (**Amoedo**; **Moreno**, 2021), is distributed in other platforms created ad hoc, such as *Podium Podcast*, *Podimo*, *Sybel*, and *Cuonda* in Spain, and which indicates the consolidation of this format as a solid and autonomous industry (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021; **Legorburu**; **Edo**; **García-González**, 2021).

In any case, the reality is that the technological and corporate development of radio broadcasting companies with respect to BD management is very far from the level reached by television platforms. However, both its streaming broadcasts –through the different digital channels– such as podcasting and interacting with listeners on social networks and mobile apps, are very valuable sources of data for industry –especially in relation to audiences– that need to be exploited fully. In particular, podcasting is considered the most significant digital disruption for the radio broadcasting market, since it involves the implementation of asynchronous content consumption as opposed to the marketing model focused on programming schedules typically used thus far (**Moreno-Cazalla**; **Pedrero-Esteban**, 2020) and also increases the content offering and innovation of formats (**Moreno-Espinosa**; **Román-San-Miguel**, 2020)[1].

The incipient use of artificial intelligence opens up new possibilities for content personalization and enhances audience engagement (**Piñeiro-Otero**; **Terol-Bolinches**; **Vila-Fumas**, 2019).

A radio broadcasting company's objective should be to adapt the information and remaining content to the life experience of its listeners (**Ribes** *et al*., 2016). The radio broadcasting industry needs to complete a technological conversion that allows it to be ready to compete in the new data market at the time it becomes, as already happened with television, a medium of mass communication, but without being "simultaneously massive" ["*simultáneamente masivo*"] (**Neira**, 2015).

Paradoxically, no specific research has yet been conducted that addresses the application of BD in the radio broadcasting sector, in contrast with the various studies available on BD in the advertising management, marketing, and corporate communication fields (**Miklosik**; **Evans**, 2020; **Bustamante-Alonso**; **Guillén-Alonso**, 2017; **Selva-Ruiz**; **Caro-Castaño**, 2016; **García-Bonal**; **Papí-Gálvez**, 2015) or the very recent advances linked to the value chain of datafication in the audio industry (**Gallego**, 2021).

In general terms, the application of BD to the business environment is directly linked to the concept of business intelligence (BI) and involves the convergence of a set of management and socialization practices, as well as technologies that were developed in the last turn of the cen-

> The degree of BD implementation in the Spanish radio broadcasting sector registered significant differences between the private sector, which in the last 2 or 3 years, has very incipiently begun to introduce BD management, principally applied to the analysis of digital audiences, consumption behavior of these users, and commercial management, and the public sector, which thus far has not adopted these technologies in a systematic way

> None of the companies analyzed could be categorized as phase 5, of maximum maturity, since they had not managed to ensure that all their management and operational processes were fully based on data management

tury and have become established since 2010. Although the principles of knowledge and information management systems applied to the business field pre-date the recent emergence of BD, its implementation at present is indissolubly tied to the management of large amounts of data, characterized by what **Laney** (2001) summarized in volume, variety, and velocity. New characteristics such as velocity, value, viability, and visualization have been incorporated into these 3Vs. The entire process of applying big data and business intelligence starts with the identification of a business problem (**Fernández-Manzano**, 2017). The management of this data and its correct usage directly contribute to risk reduction when making business decisions and the increase, thereby, in its effectiveness (**McAfee**; **Brynjolfson**, 2012), which inevitably involves the modification of the management culture prevailing thus far. Companies operate in a new economy driven by data, defined as the

> "set of initiatives, activities, and/or projects whose business model is based on the exploration and utilization of existing database structures (traditional and from new sources) to identify opportunities for the generation of products and services." ["*conjunto de iniciativas, actividades y/o proyectos cuyo modelo de negocio se basa en la exploración y explotación de las estructuras de bases de datos existentes (tradicionales y procedentes de nuevas fuentes) para identificar oportunidades de generación de productos y servicios*"] (**Ontiveros**; **López-Sabater**, 2017).

By way of compilation, the company *Gartner* defines BD as

> "high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation." (*Gartner*, 2020)

The technologies that make up the architecture of BD enable the integration of structured, unstructured, and semi-structured data –or input– with the final objective of processing and contextualizing them to convert them into information –output– that can facilitate decision-making and become organizational knowledge (**Rodríguez-Pallares**; **Pérez-Serrano**, 2017). In this process, others, such as data warehouse, online analytic process, or data mining technologies (**Fernández-Sande**; **Martínez-Romero**, 2006), among others, are integrated as information systems (**Arjonilla-Domínguez**; **Medina-Garrido**, 2002; **García-Bravo**, 2000).

In short, for a radio broadcasting company to effectively integrate BD and BI systems into its management processes, it is not enough for it to have the necessary applications and technological tools; it is necessary to integrate the logic that underlies this management system into its corporate culture and its business logic, which also involves having appropriate professionals for this.

2. Objectives and hypotheses

Based on the premise that BD and business intelligence systems allow substantial improvements in the management processes of information companies and constitute one of the main accelerators of competitive advantages in the new digital markets, this research aims to determine the degree to which the Spanish radio broadcasting industry implements them, taking as case studies the three main radio companies, which accumulate a large audience (*AIMC*, 2021) and sales volume:

- *Prisa Radio* (*Promotora de Informaciones S. A.*);
- *Grupo COPE* (*Ábside Media/Radio Popular S. A.*),
- *Atresmedia Radio* (*Atresmedia Corporación de Medios de Comunicación S. A.*);
- as well as the state public radio, *RNE* (*Corporación de Radio y Televisión Española S. A.*).

In particular, this study seeks to identify the functional areas of radio broadcasting companies in which BD and BI have the greatest application potential, attempting to establish the differences in their use in analogue and digital business environments. The following specific objectives (SO) are subordinate to this general objective:

SO1: Describe and analyze the design of BD systems and identify the main sources of datafication in the radio broadcasting business.

SO2: Identify the different functional areas –marketing, production/programming, systems, digital development– as well as the level of adoption for each of these, for which the information and knowledge generated by the BD and BI systems are available for their management.

SO3: Establish the differences in the models and degrees of maturity in the implementation of BD and BI systems throughout the primary Spanish radio companies.

SO4: Analyze the level of outsourcing for BD and BI systems in these radio broadcasting companies and identify the primary tools and applications used.

The following hypotheses have been made:

H1: The application of BD and BI systems in the management of radio broadcasting companies is at a medium–low level of development.

H2: Publicly owned radio broadcasting companies are lagging behind privately owned companies in adopting management systems based on big data.

H3: The culture of data management is not fully integrated into all functional areas of radio broadcasting companies.

H4: Radio broadcasting companies that have implemented BD technologies have opted to outsource these through consultancies and specialized suppliers..

3. Methodology

Adopting a qualitative approach, an "existential (nondeterministic) and constructivist" multiple case study that emphasized interpretation was carried out (**Stake**, 2007). The research techniques implemented to analyze the four corporations that made up the study sample were bibliographic review, indirect nonparticipant observation, and in-depth interviews.

In the first phase, a comprehensive bibliographic review was undertaken in relation to the factors related to the development of BD in the framework of business intelligence and its specific application in media companies. Next, we proceeded to carry out an indirect nonparticipant analysis of the four case studies to delve deeper into their corporate structures and identify the functional areas in which big data management has the greatest potential for value creation.

The selection of contacts eligible for interview was based on organizational responsibility criteria, so directors of the four departments that were considered priorities in the previous phase were identified for study in each of the cases analyzed: systems or IT, sales and marketing, content, and digital and innovation (the indicators varied depending on the case but coincided in responsibilities and competencies).

After first contact and in response to suggestions received from the companies analyzed, 13 names were included for interview. The interviews were conducted online, through the *Meet* platform –with the exception of the interview with the head of the commercial department of the *COPE Group* and one of the heads of *Prisa Systems*, Xavier Garrido, who responded to the questionnaire through email– between May 21 and June 7, 2021[2].

This time frame was deemed essential for trying to obtain, as accurately as was possible, a snapshot of a particular point in time. The duration of the interviews ranged from 15 to 60 minutes.

Semi-structured in-depth interviews were used as the main tool for the collection of information. The questionnaires included two sets of questions: one aimed at the main aspects of the phenomenon studied (BD) in relation to the radio broadcasting sector and the company, and another composed of questions about specific elements and applications in the interviewee's department/area of ascription. It was necessary to adapt this second set to the four areas identified as critical to the application of data management.

The interviews were videotaped and subsequently transcribed in order to carry out a content analysis that would allow an in-depth interpretation of the data provided in relation to the general and specific objectives of the research.

Content analysis through matrices was conducted with the assistance of *Atlas.ti* software, version 9.1.7 for Windows. *Atlas.ti* is one of the reference applications of computer-assisted qualitative data analysis (CAQDAS) for the systematic management and analysis of qualitative data.

This analysis process was carried out in several phases: logging of information from the interview transcription; codification of the data; identification of constructs/categories

Figure 1. List of positions interviewed for the study

of the information collected on each of the aspects linked to the research objectives, that is, categorization; and final interpretation of the results obtained. To ensure the reliability of the results, a triangulation was applied in the analysis and interpretation of this information. The data codification and categorization were replicated and agreed upon by the two authors of this study in order to limit possible individual subjectivity and create a shared foundation for each code and category of analysis.

Figure 2. Identification of key concepts with *Atlas.ti*

The interviews conducted with the directors generated a large volume of qualitative information that appeared in different categories of analysis, which made it possible to synthesize and organize the main opinions expressed, based on the selected quotes, in relation to the research objectives.

4. Results

The results revealed a divergent situation in the level of technology and datafication in the Spanish radio broadcasting sector. BD management processes and tools tended to be implemented in media groups; that is, at best, the scope of these management models was transversal and involved all media business units of the parent companies of the radio broadcasting brands studied.

Prisa Radio

At *Prisa Radio*, they did work with BD, although they did not have a comprehensive system in which all the information was centralized; they worked with the aim of using a data-centric system that helped with making decisions on the basis of data at a transversal level. As a result of an architecture and data governance consultancy, the parent group, *Prisa*, selected *Azure* as its main BD project management software in the cloud environment, toward which all its initiatives were geared. However, they worked with other players such as *Google*, *Amazon*, and *Oracle*. The directors interviewed affirmed that the acceleration in the implementation of BD in the company's management structure occurred at the end of 2019.

The technical and system supports were managed at the parent company level, so all *Prisa* media brands were served. In this sense, the group had specialized technicians in different functional areas (advertising, customers, infrastructures, content, etc.), but all implemented data management. However, for large-scale projects, external specialists were often called upon to collaborate. Therefore, there was no department responsible for BD, but the management of large amounts of data in each area of specialization had been standardized, and they had management systems for it. For the radio broadcasting business line, audience information sources were limited to the most common ones*, Adobe Analytics* and *Triton* for streaming and audio-on-demand analysis and AI for offline consumption metrics. With a base very similar to that of its competitors, they launched a project three years ago that integrated dashboards, the portfolio management system of all offline radio, and the audience metrics of analogue radio into a data lake in an attempt to datify and simplify decision-making in the offline environment. The directors interviewed agreed that digital distribution and consumption has a much greater capacity to generate data than offline consumption. Within the digital business, the podcast environment was the most difficult to measure, since between 60% and 75% of the consumption of *Prisa Audio* podcasts occurs through external channels –aggregators and platforms– with a significant "loss of traceability of users," which obstructed the possibility of replicating communicative impacts in that audience (Aspra, *Prisa Radio*). *Prisa Radio* sought to improve agreements with platforms regarding the commitment to the sharing of content consumption data, while developing strategies to enhance listening in their own environments, aware of the strategic and economic value of the datafication of their audiences. This strategy of digital multi-distribution resulted in a profound difficulty with the generation of accurate data on audiences and their consumption.

In the digital field, BD models were implemented to achieve greater clusterization or targetization of users to increase the sales appeal of advertising space for the advertiser and reduce interruptions for audiences. The monetization of BD occurred in complementary systems, such as data management platforms (DMPs), enabling the activation of the information collected at the advertising level. Jesús Aspra, Chief Digital Officer at *Prisa Brand Solutions*, believed that data are increasingly important in advertising management with two major areas of application:

> "Within the internal sphere to make products based on the information we are obtaining and to maximize the impact on that user" ["*Desde el ámbito interno para hacer producto en base a la información que estamos obteniendo y para optimizar los impactos a ese usuario*"] (Aspra, *Prisa Radio*).

The recent incorporation of specific professional roles, such as data analysts, into the teams of the PBS department was a clear sign of the implementation of data culture in the *Prisa Group*'s digital advertising management. Among the challenges for the future of the radio broadcasting business, Aspra pointed out the strategic value of having a greater amount of data reported by *Prisa Radio*'s users themselves through registration systems.

On the media content production and dissemination side, they were working on pilot projects on algorithmization that sought to emulate the content recommendations of the on-demand audiovisual sector by means of artificial intelligence. Pedro Ventura Sánchez, Director of Technology in Data and Monetization at the *Prisa Group*, understood that *Tecnocast*, *Prisa*'s AI application project, implied a qualitative leap in data management in the radio broadcasting business, since it was

> "a content recommender, based on an analysis of what is being consumed in order to make a content recommendation (...) They are pilot projects. We have developed an initial part, but we are aware that we have to develop all those recommendation systems much more so that, in the end, effectively, the teams that are generating content can create what the user is looking for" ["*un recomendador de contenidos, a partir de una analítica de lo que se está consumiendo para poder hacer una prescripción de los contenidos (…) Son proyectos piloto. Tenemos desarrollada una parte inicial, pero somos conscientes de que tenemos que desarrollar muchísimo más todos esos sistemas de recomendación para que, al final, efectivamente, los equipos que están generando contenido puedan crear lo que el usuario está buscando*"] (Ventura Sánchez, *Prisa Radio*).

This director put *Prisa Radio*'s level of implementation of BD technologies at 60%, although he predicted that the next phases will be more complex:

> "We have begun to make processes for the integration of data, of data transformation, we have begun to create these repositories of common information, but that 40% I am sure will take much longer than the initial phase" ["*Hemos empezado a hacer procesos de integración de datos, de trasnformación de datos, hemos empezado a generar esos repositorios de información común, pero ese 40% seguro que lleva mucho más tiempo que la fase inicial*"] (Ventura Sánchez, *Prisa Radio*).

Prisa Radio's BD application in the content creation field, despite the merits of the aforementioned pilot project, was very limited or practically nonexistent at the moment. *Prisa Radio*'s content director at the time the fieldwork was carried out, Lluís Rodríguez Pi, explained that they have very little qualitative data on the consumption of their content,

> "we do not work with big data, we work with data that are strictly quantitative basically" ["*no trabajamos con big data, nosotros trabajamos con datos que son estrictamente cuantitativos básicamente*"] (Rodríguez Pi, *Prisa Radio*).

Although all functional areas were likely to use BD applications for decision-making, at that time, the marketing and advertising departments at *Prisa*, also *Prisa Radio*, were those that showed a clearer flow, that is, they used the data managed by these systems more frequently; to a lesser extent, the production department required consumption data for the optimization of the resources presented, as in all the cases analyzed, in dashboards that allowed the visualization of data and its analysis by nontechnical professionals. The visualization tools used were *Power BI* and *Tableau*. The departments that developed financial, administrative, and human resources management had a lower level of development in BD implementation. The complexity of the organizational structure, which characterized a large radio broadcasting group such as *Prisa Radio*, with more than 60 management centers and a great heterogeneity of internal processes, implied a strong demand for the application of a comprehensive BI system. At the time of the study, the company was considering the need to change the application –*Smart GAP*– used to support its management centers.

Rocío Echevarría, current Business Director of *Prisa Audio*, believed that his company was beginning to monetize data management, although this was still an incipient process:

> "Data have to not only provide us with information, but also help us work as purely digital companies work, as *Apple* works, as *Spotify* works, as *YouTube* works, as everyone works. (…) What do we aspire to? Absolute personalization, so that the user, when he enters our services, has specific content for him, specific advertising for him, so that we know who he is" ["*El data nos tiene que no solo aportar información, sino también ayudarnos a trabajar como trabajan las empresas puras digitales, como trabaja Apple, como trabaja Spotify, como trabaja YouTube, como trabajan todos. (…) ¿A qué aspiramos? A la personalización absoluta, a que el usuario, cuando entre en nuestros servicios, tenga contenido específico para él, publicidad específica para él, que sepamos quién es*"] (Echevarría, *Prisa Audio*).

It was estimated that 9-12% of *Prisa Radio*'s total audience comes from the digital environment and approximately 6% of the group's total revenue is generated by digital content. In 2021, in *Prisa*'s radio broadcasting business model, consumption and sales from analogue/traditional channels still very clearly prevailed, although Echevarría pointed out that

> "the growth capacity of digital audio in the coming years will be extreme because traffic is increasing" ["*la capacidad de crecimiento del audio digital en los próximos años será brutal porque el tráfico se está multiplicando*"] (Echevarría, *Prisa Audio*).

Prisa Audio –which brings together the group's nonlinear audio content– ended 2021 with a total of 412 million downloads and 800 million listening hours (*Prisa Audio*, the world's first Spanish-language audio producer, 2022).

COPE Group

The *COPE Group* did not indicate a BD system that centrally integrates and makes use of the data obtained from different functional areas of the company. As in most of the cases analyzed, there were different decentralized management systems, for example, economic-financial management or advertising management systems. They also had a software as a service (SAS) system, where management and operating data were aggregated (financial data, human resources data, advertising data, semiautomated invoices, etc.) and which had an internal projection that resembled, if not completely, in part a BI model. Additionally, in digital environments they retrieved information related to the user and their consumption of streaming and podcast content, but the ability to datify audiences for monetization and the development of a personalized offering were not being exploited. The company monitored various data on the digital consumption of its content such as information on visits, connection time, unique users, or type of device used for digital listening. Differentiated analyses between the on-demand and online environment metrics were applied. The group believed that this wealth of digital consumption data related to a very small segment of the total audience of its brands, which were mainly analogue channels. Therefore, it is understood that these data could even introduce interpretative biases, despite the fact that digital metrics were more accurate and continuous than the statistical estimates provided by *EGM*. *COPE* executives estimated that around 40% of the digital audience of their general radio content and 30% of the digital consumption of their music content is produced through aggregators or platforms, that is, through external channels. The company had very little data on this part of the digital consumption. The *COPE Group* was very cautious about collaboration with large platforms. They understood that they could offer opportunities to scale their audiences and monetize content, but also that it could lead to a loss of control of their own product.

Jorge Montero, Technical Director of the *COPE Group*, considered the size and turnover of the company to be key in assessing the cost–benefit ratio that implementation of a comprehensive BD system would require.

> "They are perhaps less significant investments in terms of what the radio broadcasting needs, it is not the same in telecommunications, an *Amazon*, a *Google*, etc." ["*Son inversiones a lo mejor menos significativas en lo que al mercado de radio necesita, no es lo mismo en telecomunicaciones, un Amazon, un Google, etc*."].

In recent years, the possibility of incorporating more elements and expanding the BI system had been raised. The current level of development of the application of big data systems in *COPE* was assessed to be at a level of 20-30% (Montero, *COPE Group*).

The Technical Department at *COPE* was organized into four major areas: computer and systems, broadcasting and high frequency, audio and video production (web, radio, and television environment –with *Trece TV*), and a fourth of a transversal nature focused on communications. The tools used for data management were not developed in-house, since *COPE* did not have a team of digital/technical solution developers; either they were purchased independently from the market, or they were offered by companies that advised them on the basis of their needs. On the whole, they were usually standard tools, rarely customized to their requirements as a broadcaster. These tools included *SAP Giga* for user registration, *DocuWare* for billing management, *Salesforce* for customer relationship management (CRM), and *Chartbeat* as a dashboard that centralizes digital consumption analysis, complemented by the use of *Google Analytics*.

> The technology ecosystem of the BD tools used by Spanish radio broadcasting companies was characterized by a high level of outsourcing. Companies did not have the capacity to develop exclusive internal tools, which would also have had a high cost that would be difficult to make profitable at the current stage of development of the digital business

As in the advertising cases analyzed, *COPE* was at an incipient stage in terms of datafication. Its short- and medium-term objectives revolved around the mainstreaming of data management and, as in the most advanced cases in this sense, the main driver for the implementation these high-cost technologies was to make them profitable based, fundamentally, on the optimization of the services aimed at users and customers in the field of personalization of media or advertising content. *COPE*'s sales department had an information system composed of different bases and tools that manage data from various sources. Their strategy prioritized the application of qualitative, individualized criteria by a team, which uses audience data, coverage of broadcasts and business management of advertisers. Big data application was perceived as an important element but not relevant in decision-making in business management. Almudena Calero, Commercial Director of the *COPE Group*, believed

> "that the decisions made strictly on the basis of data would equalize criteria and the differential values that make a consumer identify with a brand would disappear" ["*que las decisiones tomadas estrictamente con el dato igualarían criterios y desaparecerían los valores diferenciales que hacen que un consumidor se identifique con una marca*"] (Calero, *COPE Group*).

The tools and data sources most used by this department were *EGM* and *Comscore*, *Salesforce*, *Audicsa*, *Arce*, *TOM Micro*, and *Galileo*.

COPE executives understood that the considerable effort made by the company to enhance its multichannel digital strategy, which was part of the digital transformation process started in 2018, had not yet achieved significant monetization for the company's economy, despite the fact that they had managed to increase website traffic and consumption data very significantly through mobile applications. The group's executives estimated that only 2.5% of the total revenues of their radio broadcasting brands came from the digital environment, although there was strong year-on-year growth. The development of greater capacity for datafication of its audiences was a priority objective for the new phase of its expansion strategy in the digital market. Montserrat Lluís, CEO of the *COPE Group*, affirmed that the company would start a new process that would include a wider application of BD:

> "We will be able to monetize and work with that data that we are starting to have, also with advertising and audience interests because knowing our audience will help us to impact them much better through our programming and through our digital content, there we are aware that we have an important area of growth" ["*vamos a ser capaces de monetizar y trabajar esos datos que empezamos a tener, también con intereses publicitarios y de audiencia porque conocer a nuestra audiencia nos va a ayudar a impactarle mucho mejor en nuestra programación y en nuestros contenidos digitales, ahí sí somos conscientes de que tenemos un ámbito de crecimiento importante*"] (Lluís, *COPE Group*).

For the time being, the *COPE Group* has not developed any artificial intelligence or application of logarithms for the design and distribution of its contents. To generate this type of interaction, they considered it necessary to achieve a greater amount of self-administered data from users through some type of online registry.

Table 1. Snapshot of the BD models at *Prisa Radio*, *Atresmedia Radio*, and the *COPE Group*.

	Systemized BD solutions	Place in the corporate structure	Centralized services	Main area of operation	Main technologies and sources used	Externalization/service providers
Prisa Radio	Yes	Technical and systems support depended on the parent company, *Prisa Media*, not on the different business departments	No	Sales and marketing departments	*Adobe Analytics*, *EGM*, *Triton*, *Power BI*, and *Tableau* (visualization); *Smart GAP* (financial management); *Salesforce* CRM (business department)	On-premise management and first and foremost on the *Cloud*: *Triton*, *Azure* (primarily), *Google*, *Amazon*, *Oracle*
Atresmedia Radio	Yes	They had their own a BD department that depended on the parent company *Atresmedia*	Yes	*Atresplayer*, *Atresmedia* television, marketing, and business management departments	*Amazon Web Services* (*AWS*), *Microsoft Power BI* (visualization); *EGM*, *Comscore*, *Dynamics 360* CRM (business department); *Chartbeat* (audience metrics)	Each new project was directed from *Atresmedia*, but some external consulting was done, like *Bluetab* or *TCM*. The BD department had five people.
COPE Group	No, but yes for certain datafication and data integration	The systems and IT departments depend on the technical department, which reports directly to *COPE*'s management	No	Economic–financial management and commercial management	*SAP Giga*, *DocuWare*, *Google Analytics*, *EGM*, *Audicsa*, *Arce*, *TOM Micro*, and *Galileo; Salesforce* CRM (business department); *Chartbeat* (audience metrics)	Digital management and measurement services were entirely externalized; there was no technical department specialized in the digital area

Atresmedia Group

The *Atresmedia Group* has had a BD department since 2019, which was at this time composed of five analysts. The aim of the department was to offer transversal services to the different divisions and products of the media group. In this first phase of implementation of BD management in business operations, it had focused mainly on the development of *Atresplayer* –*Atresmedia*'s Internet and television on-demand video streaming service –and on websites; the department had also begun to provide service to the group's radio broadcasting businesses. BD management in this company had four main axes: descriptive analytics, diagnostic analytics, predictive analytics, and prescriptive analytics. This whole system was already being implemented intensively in the customer/content management of digital television content, as well as in commercial management. The *Atresplayer* service moreover had artificial intelligence systems applied for the algorithmic recommendation of content.

The managers of *Atresmedia*'s BD and *Atresmedia Radio*'s Digital Development departments believed that the level of application of big data management in the company's radio broadcasting business is in an incipient phase, which has begun with a greater utilization and depth of the analytics of digital audiences and commercial management, but they expected that before the end of 2022 the application of prescriptive analytics, with personalized recommendations, will begin in the audio content based on user clusterization. To date, they had not yet achieved fully efficient interactions between the radio broadcasting business departments and that of BD to achieve an agile development of analysis tools that support decision-making in areas such as content and commercial management. Nuria Domínguez, Director of Systems at *Atresmedia Radio*, explained these deficiencies in the ability to apply data to their processes:

> "The changes we had made on our website, we wanted to know if people were liking them more, because the typical usability tests were carried out, but no data has been taken to identify whether users like the no model more or not. From the BD department we understood that they could give us an answer. What the BD department always tells us is that for there to be a good response there has to be a good question because otherwise anything could happen. They tell us that we are not asking the right questions at present (..) There was no model, as BD says, that they could have defined to extract this data (...) We have a business mentality, we only know what we want and not how to put it into those [technical] terms" [*"Los cambios que habíamos hecho en nuestra web queríamos saber si estaban gustando más a la gente, pues han hecho las típicas pruebas de usabilidad, pero no se han tomado datos para identificar si les gusta más el no modelo a los usuarios o no. Desde el área de BD entendíamos que nos podían dar respuesta. Lo que siempre nos dicen desde el área de BD es que para que haya una buena respuesta tiene que haber una buena pregunta porque si no puede salir cualquier cosa. Nos vienen a decir que no estamos haciendo bien las preguntas por ahora (..) No había un modelo, como dicen desde BD, que pudiesen definir para extraer estos datos (…) Nosotros tenemos mentalidad de negocio, solo sabemos lo que queremos y no cómo plantearlo en esos términos (técnicos)"*] (Domínguez, *Atresmedia Radio*).

These difficulties in integration and communication between the BD management department –which operated mainly with different data programming language– and the business departments were paradigmatic in the initial stages of incorporating data management into corporations. *Group* executives saw the advantages in incorporating professionals specialized in data analysis into business departments to achieve greater synergy with the company's BD department.

The *Atresmedia* group also perceived consumption through platforms and aggregators outside the group as a great difficulty in the datafication of their digital audiences. They estimated that this consumption could account for 30-40% of their total audio traffic. A challenge for the coming years will be to get more information as to what is heard through those channels. Streamed listening until just a couple of years ago was considered a mere bolster for the antenna; at present, listening through this channel –which they calculated to be around 10% of total consumption– is understood as a new line of business, with increasing sales capacity. With regard to on-demand listening –on-demand podcasts and radio– the group managers were aware that they need to generate more data in order to make more precise decisions in the management of such content. In general, they perceived that growth in these digital audiences increases the need for application of big data in radio broadcasting business management systems. Juan Carlos Ibáñez, Director of the Big Data Department at *Atresmedia*, explained that they were currently trying to cross-check and compare the data of the fundamentally analogue audiences, provided by *EGM*, with the digital consumption they monitored through various tools. He foresaw that in the future the generation of audience data of the radio broadcasting business will develop this hybrid model –integrating the analogue and digital data– as already applied in the television medium (Ibáñez, *Atresmedia*). María José Llerena Fernández, director of digital development at *Atresmedia Radio*, believed that

> "the *EGM* methodology does not address these new habits of fragmented consumption, therefore, the picture it offers you is perhaps not real, the methodology has not been adapted enough" ["*la metodología del EGM no atiende a estos nuevos hábitos de consumo fragmentado, por lo tanto, la foto que te ofrece no es quizás real, la metodología no se ha adaptado los suficiente*"] (Llerena, *Atresmedia Radio*).

The commercial management of *Atresmedia*'s radio broadcasting business was supported by the BD department for the generation of data that feeds the DPM (digital product manager). Once the managers and professionals of the commercial department were able to detect segments that may be of interest to the advertiser, the BD department could try to fine-tune the information about segmentation variables. The commercial area worked with *Dynamics 365*, a CRM tool for customer management. The data between the different bases with which each manager worked could be cross-checked, but at present they were still not unified. Alberto Ramos, Director of Market and Business Development and Marketing at *Atresmedia* Advertising, found it difficult to sell the targeting that enables BD to radio advertisers because they were not yet willing to pay for it, although he predicted that in the future he would tend to value the impact and effectiveness of advertising based on qualitative data more,

> "for the moment the main sales tool for radio audiences is *EGM* (...) you don't go into as much detail [as big data can give]. You associate types of programs with types of people. You can create specific packages for people interested in certain topics" ["*por el momento la principal herramienta de venta de las audiencias de radio es el EGM (…) no bajas tanto al detalle (que puede aportar el Big Data) Asocias tipologías de programas a tipos de gente. Puedes crear paquetes específicos para gente interesada en determinados temas*"] (Ramos, *Atresmedia* Publicidad).

The commercial department of *Atresmedia Radio* in Madrid had an area specialized in the digital environment– which included TV, radio, and websites –and another in analogue radio. The volume of revenue from the sale of digital audiences had not even reached 10% of the total sales of the radio broadcasting business. Currently, the commercialization of *Atresmedia Radio*'s radio broadcasting content, as explained by María José Llerena, was structured in four main sales lines: (1) special sales, created ad hoc for the client, with a significant weight of branded content; (2) local advertising sales; (3) sale of direct campaigns; and (4) programming sales. Data management needed to be adapted to the characteristics and needs of each of these sales lines (Fuller, *Atresmedia Radio*).

The *Atresmedia Group*'s BD platform had been designed with the *Amazon Web Services* (AWS) platform. The main analytical visualization tool for business users was *Microsoft Power BI*. Predictive and prescriptive analytics were developed with free software tools with the application of languages such as Python and Spark with *Scala*. In the group's BD architecture, they combined relational databases –especially applied to manage customer information– with much more effective *NoSQL* databases for solving particular problems, such as analytical columnar databases, documentary databases for the management of content and metadata. For the development of specific projects applied to business, *Atresmedia* used external companies that were coordinated by the BD department, including *Bluetab* –a consultant specializing in data management. For monitoring digital consumption, the applications used were *Chartbeat*, *Adobe Analytics*, and *Comscore*. The department's analysts were not specialized by media or support, with a transversal approach prevailing to ensure that the management of big data became an enabler of the business strategy of the different divisions.

Although the application of BD in *Atresmedia*'s radio broadcasting business was in an initial phase, it had been observed that the *Atresmedia Radio Group* had a potential competitive advantage in the application of BD owing to the synergies generated with the group's television division. Juan Carlos Ibáñez, Director of the Big Data Department, believed that it would be easy to apply prescriptive analytics systems, developed for digital audiovisual content, to audio content (Ibáñez, *Atresmedia*).

RNE

There was, however, a particularly anomalous case owing to the absence of systematized data utilization: *RNE*. The radio broadcasting unit of the publicly owned *Corporación de Radio y Televisión Española* recognized a very notable disparity between data management linked to television and that linked to radio (De Meer, *RNE*). At the time of this study, *RNE* stations had systems for monitoring digital audiences from the web and other listening devices, but they did not have a tool that integrated and generated analytics of that data. The head of *RTVE*'s systems expected that in the medium term –1 or 2 years– some advances could be made in datafication of this public corporation's radio broadcasting division. For economic reasons or owing to resistance to change, public radio had less resources for datafication, which obviously translated into a management process whose decisions were not based on the analysis of large amounts of data generated by the unit itself and by its users. The argument that justifies this passivity in the fact that both public television and public radio do not need to profile their audiences in the same way due to the suppression of advertising since the enactment of the *Law 8/2009, of August 28 on the Financing of the Spanish Radio and Television Corporation* does not hold water if, as attempts have been made to demonstrate on several occasions, *RTVE* is seeking to meet the needs of an increasingly digital, demanding, and fragmented audience.

5. Discussion and conclusions

The level of application of BD in the management of the radio broadcasting company showed less development than in other communication industries, such as television or digital press. The greater consistency of the traditional radio broadcasting business model explains this deceleration in two processes with strong interdependence: digital transformation and the implementation of BD systems in business management. Despite the fact that conservative strategies have prevailed in the sector, in recent years there has been a technological and business inflection, in which the gradual integration of data management into management processes stands out.

It was found that the implementation of these BD and BI systems in the radio broadcasting companies analyzed presented a lower development than that observed in other case studies applied in the communication sector. **Sangil** and **Portilla** (2021) verified that the Spanish publishing group *Unidad Editorial* had an intensive application of BD at different levels: monitoring of audiences in real time, trend discovery for product and advertising personalization, predictive power, monetization of data –especially in digital advertising, and transformation of advertising and work management systems, including the development of new lines of business from BD. Spanish radio broadcasting companies were in a clearly earlier stage in four of these five levels; only in the area of digital audience metrics had there been significant development like *Unidad Editorial*'s discussed above.

In the sphere of media agencies, large international agencies, in 2015, were already applying BD management and demonstrating the ability to develop their own technological tools (**García-Bonal**; **Papí-Gálvez**, 2015). However, it was in the audiovisual sector, in particular in large television companies and global distribution platforms for on-demand content, where BD and BI were at leading levels for any area of business activity. One of the most studied cases was that of *Netflix* (**Fernández-Manzano**; **Neira**; **Clares-Gavilán**, 2016; **Izquierdo-Castillo**, 2015), which has managed to turn data management into its main competitive advantage and structuring element.

Among the maturity models most applied to assess the level of development of the BD in companies was that of **Davenport**, **Harris**, and **Morison** (2010), adapted to Spanish by **Curto-Díaz** (2016). The analysis matrix –also known as the *DELTA* model– of these authors was composed of six success factors that determine the maturity phase in which the company can be placed in relation to BD application. The proposal included five possible phases of maturity:

- phase 1: which is characterized by the analytical incapacity of companies;
- phase 2: application of analytics in a localized manner;
- phase 3: aspiration by conversion into an analytical company –the company begins to coordinate functions and tasks of BD;
- phase 4: analytical company –companies that have managed to provide themselves with effective coordination in all data analytics processes;
- phase 5: competition based on analytics, in which those companies that have a strategy coordinated and aligned in analytical processes could be located (**Curto**, 2016). Table 2 presents the application of the *DELTA* model to each of the radio companies in this study.

Table 2. *DELTA* maturity model applied to case studies

Success factors	*RNE*	*COPE Group*	*Prisa Radio*	*Atresmedia Radio*
Data	**Phase 1** The data were considered inconsistent in the radio broadcasting field, and their organization and management was poor and insufficient	**Phase 2** There were different decentralized management systems, for example, economic-financial management or advertising management, not applied to the radio broadcasting business department	**Phase 3** Despite the fact that there was no BD department or a single data warehouse, data was managed transversally, with systematized criteria	**Phase 4** Although the BD department dedicated many more resources to the television area, the idea is to centralize the data in the same repository
Organization	**Phase 1** There was no department responsible for the application of BD solutions in *RNE*	**Phase 1** Although there was a certain degree of decentralized datafication, neither a department nor managers trained in the management of BD for strategic or business purposes was identified	**Phase 3** BD management was carried out from the systems and IT area, but there was integration of professionals in different areas of production and management activity that point to a global integration model	**Phase 4** Despite the differences in investment of resources in each business unit, data management, technology, and key analysts were concentrated in the BD department, whose competences extended to all business areas of the *Atresmedia Group*
Leadership	**Phase 1** There was no awareness of the influence of datafication on business strategy, which was manifested in the absence of departments and actions linked to BD	**Phase 2** Leadership in the datafication processes was very incipient; it was not systematized, and it was not transversal, it existed only at the function or process level.	**Phase 3** Although the implementation of solutions and tools linked to BD was evident, the absence of an ad hoc department for this purpose indicated that leaders and management are in an incipient phase of recognizing their impact	**Phase 4** There was support for analytical competence, as evidenced by the identification of a transversal BD department
Objectives	**Phase 1** There were no objectives linked to datafication	**Phase 2** Multiple objectives linked to the data were identified, but decentralized, not systematized, and disconnected	**Phase 4** Analytical activity focused on certain key areas, such as marketing and the commercial area, was identified	**Phase 3** Analytical activity centered around certain key business units was identified, in particular, free-to-air or subscription television. It cannot be considered an advanced level in radio
Technologies	**Phase 2** The only data handled, mainly linked to audiences, came from external sources	**Phase 2** The data that was handled, at the audience, commercial management, and marketing levels, came from external sources and tools	**Phase 3** A clear deployment of initiatives at the corporate level that affect the area of *Prisa Radio* in its entirety and in all its branches of activity were identified	**Phase 4** Even with the prioritization of the television area, the coordination of common technologies was used in certain areas of activity, such as commercial management, marketing, and audience analysis
People	**Phase 1** Analytical capabilities were limited and linked to audiences	**Phase 1** Although there were groups of analysts, they were decentralized, do not apply transfer systems or data systematization, and focus on specific functions	**Phase 4** Highly trained and organized analysts were identified, who weave their actions into a network, specialize in areas of activity and report to the same departmental area	**Phase 4** There were analysts widely trained in BD, located in a transversal department that supported all areas of the group's media business
Overall maturity phase	Phase 1	Phase 2	Phase 3, advanced	Phase 4 at corporate level, limited in radio

Source: Based on **Davenport**, **Harris**, and **Morrison** (2010) and **Curto-Díaz**'s adaptation (2016).

After the analysis carried out, the four initial hypotheses of the research can be considered to be verified: the degree of BD implementation in the Spanish radio broadcasting sector registered significant differences between the private sector, which in the last 2 or 3 years, has very incipiently begun to introduce BD management, principally applied to the analysis of digital audiences, consumption behavior of these users, and commercial management, and the public sector, which thus far has not adopted these technologies in a systematic way. Digital business areas were much more conducive to leveraging real-time data sources. The digital transformation of the sector needs the incorporation of data as a real asset in its value chain. The analogue radio broadcasting environment, which continues to generate about 90% of the sector's revenues, had less potential for datafication of audiences and consumption, which hindered the so-called business metamorphosis (**Schmarzo**, 2014) that would lead to the generation of real competitive advantages and monetization from BD systems with predictive power. The radio broadcasting companies most advanced in BD incorporation in Spain –*Prisa Radio* and *Atresmedia Radio*– had not yet achieved full integration of analogue and digital data sources –which reflect the two-dimensionality of a business– for their products and consumption, which at this time weakened the reliability and scope of their analytics. Everything points to the fact that, if this integration is achieved, the repercussion for the business models of radio broadcasting companies would be evident in the terms proposed by **Ontiveros** and **López-Sabater** (2017): increased knowledge of the listener will save production costs and optimize the offering, facilitate decision-making linked to the creation of new linear or asynchronous audio products, and of course, allow income diversification; in parallel, the internal management of large amounts of data will increase the efficiency of management processes.

In the Spanish radio broadcasting industry, comprehensive BD systems applicable in all functional areas and business decision-making processes have not been developed, although there is a growing interest in the use of datafication in business operations

The technology ecosystem of the BD tools used by Spanish radio broadcasting companies was characterized by a high level of outsourcing. Companies did not have the capacity to develop exclusive internal tools, which would also have had a high cost that would be difficult to make profitable at the current stage of development of the digital business. They opted for the contracting of applications and components offered by various service providers for BD, with a growing tendency to generate data management infrastructures in the cloud. In some cases, they opted for the possibility of customizing certain modules or elements of the applications to improve their efficiency in the management of specific processes. In the coming years, it is foreseeable that there will be an intensification of the dependence that audio production and distribution companies have on technology service providers, a trend that will not change until the radio broadcasting industry sees beneficial effects of the implementation of their own tailor-made models of BD in its accounting expressions.

In the Spanish radio broadcasting industry, comprehensive BD systems applicable in all functional areas and business decision-making processes have not been developed, although there is a growing interest in the use of datafication in business operations. None of the companies analyzed could be categorized as phase 5, of maximum maturity, since they had not managed to ensure that all their management and operational processes were fully based on data management. There were various areas in which the application of data management is still very tangential. Radio broadcasting companies have not been able to finalize, based on data analytics, predictive processes applicable in the management of content and audiences that have had a significant impact on monetization. Beyond a project in its pilot phase that had been developed at *Prisa Radio*, in 2021 artificial intelligence and algorithmization were not yet being applied in the radio broadcasting business field. At the companies *Prisa Radio* and *Atresmedia Radio*, the BD systems started from a transversal service aimed at the different business units, in which audio had had a secondary role thus far, although there were signs that an acceleration could occur in the coming years in the transformation of the radio broadcasting business. There were substantial differences in the development and maturity of the BD and BI systems of these two companies compared with the *COPE Group*, which was in an earlier phase, characterized by objectives related to the management of more decentralized and unconnected data and by the absence of departments or units that centralized the BD and analysts integrated into the different management areas.

In the design of its BD architectures, there were significant differences between the three private companies: *Prisa Radio* enhanced the transversality of data management from the systems department of the parent group. They had not created a centralized BD department or a specific area for the radio broadcasting business. A significant strength, and an element of maturity of the model, was its ability to develop and integrate professional profiles specialized in analytics in the different business units considered key. This increased interaction between analysts –skilled in the language of data but also familiar with the business aspects– and specialists in the corresponding functional area –digital development, commercial, content, etc.– facilitated the incorporation of data management into the value chain. For its part, *Atresmedia* had opted for greater centralization of its data scientists in a specific BD department that provided its services to its entire media conglomerate, although with priority attention to television support. In this company, coordination elements had been reinforced but without integrating analysts into the business departments, which led to a certain loss of interaction between the two departments. The *COPE Group* did not have a specific department to centralize BD management, the different management processes linked to datafication were distributed in different functional areas. The Technical Department was ultimately responsible for the IT and systems area, in which the technological design of BD could be located.

The experience of the parent companies of private communication groups in the television and digital press markets may generate a gap in the ability to create value from data in the audio business, as well. It can be concluded that the radio broadcasting companies integrated in large multimedia communication groups are in a better position to achieve significant competitive advantages and synergies in BD management in the coming years. *RNE* is an exception to this trend, since, despite being part of a publicly owned multimedia corporation, with a strong role for its television division –which is considered an incentive for the implementation of BD solutions due to the greater capacity to generate revenue that comes with visual as opposed to audio– it had not considered implementing a datafication system to its business model. However, it is believed that the fundamental reason that explains this immobility was linked to the deficiencies of its current management system, reflecting the inability to articulate a strong public media model in Spain. These structural conditions made *RNE* an audio services provider that does not compete with equal intensity to stand out, through differentiation, against private competition.

> The utilization of BD in the business dynamics of radio will become more relevant in the coming years, in parallel with its digital transformation process

The utilization of BD in the business dynamics of radio will become more relevant in the coming years, in parallel with its digital transformation process; once it achieves a higher degree of maturity, it will be able to establish itself as an important differentiator in the strategic positioning of a sector that, despite its traditional reluctance to change, is being pushed into a gradual process of reconfiguration of its business model.

6. Notes

1. Moreover, this model, which had an unparalleled success in the United States with *Serial* as the archetypal case, has been exploited for some time in business contexts far from the media to build loyalty among its members – internally– or as a marketing strategy to optimize its corporate image –externally (**Bonini**, 2015).

2. On September 12, 2021, *Prisa Media* went public with a new organizational structure based on seven transversal platforms across the group's media business units: Commercial, Digital and Technology, Operations, Human Resources and Talent, Legal, Audio, and Marketing and Audiences. These in-depth interviews were conducted with the heads of the departments prior to this reorganization of resources.

7. References

AIMC (2021). *Estudio general de medios 3ª ola*. Asociación para la Investigación de Medios de Comunicación.
https://reporting.aimc.es/index.html#/main/radio

Amoedo, Avelino; **Moreno, Elsa** (2021). "El consumo de podcast en España permanece estable". En: Amoedo, Avelino; Vara-Miguel, Alfonso; Negredo, Samuel; Moreno, Elsa; Kaufmann, Jürg. *Digital news report 2021.* Universidad de Navarra, Servicio de publicaciones, pp. 106-118.
https://www.digitalnewsreport.es/2021/el-consumo-de-podcast-en-espana-permanece-estable

Arjonilla-Domínguez, Sixto-Jesús; **Medina-Garrido, José-Aurelio** (2002). *La gestión de los sistemas de información en la empresa*. Madrid: Ediciones Pirámide. ISBN: 978 84 368 2999 0

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *Profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Bonini, Tiziano (2015). "The 'second age' of podcasting: reframing podcasting as a new digital mass medium". *Quaderns del CAC*, v. XVIII, n. 41, pp. 21-30.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_EN_0.pdf

Bustamante-Alonso, Nikoletta-Beatriz; **Guillén-Alonso, Sara-Thais** (2017). "Un acercamiento al *big data* y su utilización en comunicación". *Mediaciones sociales*, n. 16, pp. 115-134.
https://doi.org/10.5209/MESO.58112

Campos-Freire, Francisco (2015). "Adaptación de los medios tradicionales a la innovación de los metamedios". *El profesional de la información*, v. 24, n. 4, pp. 441-450.
https://doi.org/10.3145/epi.2015.jul.11

Carrillo-Bernal, Javier (2018). *Paradigma Netflix. El entretenimiento de algoritmo*. Barcelona: UOC. ISBN: 978 84 91803348

Casero-Ripollés, Andreu (2012). "Beyond newspapers: News consumption among young people in the digital era. [Más allá de los diarios: el consumo de noticias de los jóvenes en la era digital]". *Comunicar*, v. 39, pp. 151-158.
https://doi.org/10.3916/C39-2012-03-05

Cebrián-Herreros, Mariano (2008). *La radio en Internet: de la ciberradio a las redes sociales y a la radio móvil.* Buenos Aires: La Crujía. ISBN: 978 987 601 063 4

Colle, Raymond (2013). "Prensa y 'big data': El desafío de la acumulación y análisis de datos". *Revista mediterránea de comunicación*, v. 4, n. 1.
https://rua.ua.es/dspace/bitstream/10045/28956/1/ReMedCom_04_01_10.pdf

Curto-Díaz, Josep (2016). *Organizaciones orientadas al dato. Transformando las organizaciones hacia una cultura analítica.* Barcelona: UOC. ISBN: 978 84 91165804

Davenport, Thomas H.; **Harris, Jeanne G.**; **Morison, Robert** (2010). *Analytics at work: smarter decisions, better results.* New York: Harvard Business Review Press. ISBN: 978 1 422177693

Edgerly, Stephanie; **Vraga, Emily K.**; **Bode, Leticia**; **Thorson, Kjerstin**; **Thorson, Esther** (2018). "New media, new relationship to participation? A closer look at youth news repertoires and political participation". *Journalism and mass communication quarterly*, v. 95, n. 1, pp. 192-212,
http://doi.org/10.1177/1077699017706928

Eriksson, Maria (2020). "The editorial playlist as container technology: on *Spotify* and the logistical role of digital music packages". *Journal of cultural economy*, v. 13, n. 4, pp. 415-427.
https://doi.org/10.1080/17530350.2019.1708780

España (2009). "Ley 8/2009, de 28 de agosto de financiación de la Corporación de Radio y Televisión Española". *BOE*, n. 210, 31 agosto.
https://www.boe.es/buscar/doc.php?id=BOE-A-2009-13988

Fernández-Manzano, Eva-Patricia (coord.) (2017). *Big data eje estratégico en la industria audiovisual*. Barcelona: UOC. ISBN 978 84 9116 414 2

Fernández-Manzano, Eva-Patricia; **Neira, Elena**; **Clares-Gavilán, Judith** (2016). "Data management in audiovisual business: *Netflix* as a case study". *Profesional de la información*, v. 25, n. 4, pp. 568-577.
https://doi.org/10.3145/epi.2016.jul.06

Fernández-Sande, Manuel; **Martínez-Romero, Joaquín** (2006). "La gestión de la información y el conocimiento en las empresas: *data warehouse* y *data mining*". En: Sevillano-Puente, Manuel (ed.). *Reflexiones en torno a la libertad de empresa informativa: libro homenaje al profesor Pedro Farias García*. Madrid: Universidad Complutense de Madrid, pp. 243-259.

Gallego, J. Ignacio (2021). "The value of sound: datafication of the sound industries in the age of surveillance and platform capitalism". *First Monday*, v. 26, n. 7.
https://doi.org/10.5210/fm.v26i7.10302

Gandhi, Bhavan; **Martinez-Smith, Alfonso**; **Kuhlman, Doug** (2015). "TV insights: applications of big data to television". *IBC 365*, 24 March.
https://www.ibc.org/download?ac=1183

García-Bonal, Raquel; **Papí-Gálvez, Natalia** (2015). "La aplicación de *big data* en las agencias de medios". En: *Proceedings del Congreso iberoamericano en investigación cualitativa*. Universidad de Tiradentes y Geces.
https://doi.org/10.13140/RG.2.1.3712.2408

García-Bravo, Daniel (2000). *Sistemas de información en la empresa. Conceptos y aplicaciones*. Madrid: Ediciones Pirámide. ISBN: 8436814150

García-Lastra, José-María; **Pedrero-Esteban, Luis-Miguel** (2019). "La era de la gran transformación de la radio". En: Pedrero-Esteban, Luis-Miguel; García-Lastra, José-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant Humanidades, pp. 21-38. ISBN: 978 84 17973261

Gartner (2020). "Big data". *Gartner glossary.*
https://www.gartner.com/en/information-technology/glossary/big-data

Gómez-Domínguez, Pablo (2016). "The digital era and regional TV: a comparative study of the web platforms, mobile apps and social networks of *TV3* and *BBC One*". *Communication & society*, v. 29, n. 4, pp. 85-105.
https://doi.org/10.15581/003.29.4.85-105

Grupo Prisa (2022). "*Prisa Audio*, primer productor mundial de audio en español". *El País*, 27 enero.
https://elpais.com/comunicacion/2022-01-27/prisa-audio-primer-productor-mundial-de-audio-en-espanol.html

Gutiérrez-García, María; **Barrios-Rubio, Andrés** (2019). "Del offline a la r@adio: las experiencias de la industria radiofónica española y colombiana". *Revista de comunicación*, v. 18, n. 1, pp. 73-94.
https://doi.org/10.26441/RC18.1-2019-A4

Izquierdo-Castillo, Jessica (2015). "El nuevo negocio mediático liderado por *Netflix*: estudio del modelo y proyección en el mercado español". *El profesional de la información*, v. 24, n. 6, pp. 819-826.
https://doi.org/10.3145/epi.2015.nov.14

Just, Natascha; **Latzer, Michael** (2017). "Governance by algorithms: reality construction by algorithmic selection on the Internet". *Media, culture & society*, v. 39, n. 2, pp. 238-258.
https://doi.org/10.1177/0163443716643157

Kelly, John-Paul (2019). "Television by the numbers: The challenges of audience measurement in the age of big data". *Convergence*, v. 25, n. 1, pp. 113-132.
https://doi.org/10.1177/1354856517700854

Kischinhevsky, Marcelo (2017). *Radio y medios sociales. Mediaciones e interacciones radiofónicas digitales.* Barcelona: UOC. ISBN: 978 84 91800118

Laney, Doug (2001). *3D data management: Controlling data volume, velocity, and variety*. Technical report, META Group.
https://www.bibsonomy.org/bibtex/742811cb00b303261f79a98e9b80bf49

Legorburu, José-María; **Edo, Concha**; **García-González, Aurora** (2021). "Podcasting as an opportunity to recover and renew the audio feature genre in Spanish: A case study of *Cuonda* and *Podium Podcast*". *Radio journal: international studies in broadcast & audio media*, v. 19, n. 2, pp. 311-326.
https://doi.org/10.1386/rjao_00046_1

Lindsey, Cameron (2016). "Questioning *Netflix*´s revolutionary impact: changes in the business and consumption of television". In: McDonald, Kevin; Smith-Rowsey, Daniel (eds.). *The Netflix effect. Technology and entertainment in the 21st century*, pp. 173-184. New York: Bloomsbury. ISBN: 978 1 501309427
https://doi.org/10.5040/9781501309410.ch-012

Lippell, Helen (2016). "Big data in the media and entertainment sectors". In: Cavanilhas, José-María; Curry, Edward; Wahlster, Wolfgang (eds). *New horizons for a data-driven economy*. Switzerland: Springer, pp. 245-259. ISBN: 978 3 319460314
https://doi.org/10.1007/978-3-319-21569-3_14

Lotz, Amanda D. (2017). *Portals: a treatise on internet-distributed television*. Michigan: University of Michigan Library.
https://doi.org/10.3998/mpub.9699689

Martí, Josep-Maria; **Martínez-Costa, María-del-Pilar**; **Escobedo-Pareja, Elisa** (2019). "Epílogo: el horizonte de las ondas". En: Pedrero-Esteban, Luis-Miguel; García-Lastra, José-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant Humanidades, pp. 269-290. ISBN: 978 84 17973261

Martínez-Costa, María-del-Pilar (2015). "Radio y nuevas narrativas: de la crossradio a la transradio". In: Oliveira, Madalena; Ribeiro, Fabio (orgs.). *Radio, sound, and internet, proceedings of net station international conference*. Braga: Centro de Estudos de Comunicação e Sociedade (CECS), Universidade do Minho, pp. 168-187. ISBN: 978 989 8600370

Mayer-Schönberger, Viktor; **Cukier, Kenneth** (2013). *Big data, la revolución de los datos masivos*. Madrid: Turner. ISBN: 978 84 15832102

McAfee, Andrew; **Brynjolfsson, Erik** (2012). "Big data: the management revolution". *Harvard business review*, v. 90, n. 10, pp. 61-68.
https://hbr.org/2012/10/big-data-the-management-revolution

Mejias, Ulises A.; **Couldry, Nick** (2019). "Datafication". *Internet policy review*, v. 8, n. 4.
https://doi.org/10.14763/2019.4.1428

Miklosik, Andrej; **Evans, Nina** (2020). "Impact of big data and machine learning on digital transformation in marketing: a literature review". *IEEE Access*, v. 8, pp. 101284-101292.
https://doi.org/10.1109/ACCESS.2020.2998754

Moreno-Cazalla, Lourdes; **Pedrero-Esteban, Luis-Miguel** (2020). "La transformación digital de la radio musical: el caso de *Máxima/ Los 40 dance*". *Comunicació: revista de recerca i d'Anàlisi*, v. 37, n. 1, pp. 75-94.
https://raco.cat/index.php/Comunicacio/article/view/387161

Moreno-Espinosa, Pastora; **Román-San-Miguel, Aránzazu** (2020). "Podcasting y periodismo. Del periodismo radiofónico de inmediatez a la información radiofónica de calidad". *Estudios sobre el mensaje periodístico*, v. 26, n. 1, pp. 241-252.
https://doi.org/10.5209/esmp.67303

Murschetz, Paul-Clemens; **Schlütz, Daniela** (2018). "*Big data* y televisión. Una reflexión crítica sobre el auge del *big data* como nuevo paradigma tecno-económico, y su impacto en el concepto de target de audiencia". *Fonseca, journal of communication*, n. 17, pp. 23-38.
https://doi.org/10.14201/fjc2018172338

Napoli, Philip M.; **Roepnack, Axel** (2018). "Big data and media management". In: Albarran, Alan; Mierzejewska, Bozena; Jung, Jaemin (eds.). *Handbook of media management and economics*. Routledge, pp. 410-421. ISBN: 978 1 138729315

Neira, Elena (2015). *La otra pantalla. Redes sociales, móviles y la nueva televisión.* Barcelona: Editorial UOC. ISBN: 978 84 91161165

Neira, Elena (2020). *Streaming wars. La nueva televisión*. Barcelona: Timun Mas. ISBN: 978 84 48026585

Neira, Elena; **Clares-Gavilán, Judith**; **Sánchez-Navarro, Jordi** (2021). "New audience dimensions in streaming platforms: the second life of Money heist on *Netflix* as a case study". *Profesional de la información*, v. 30, n. 1, e300113.
https://doi.org/10.3145/epi.2021.ene.13

Ontiveros, Emilio (dir.); **López-Sabater, Verónica** (coord.) (2017). *Economía de los datos. Riqueza 4.0.* Madrid: Fundación Telefónica. Barcelona: Ariel. ISBN: 978 84 08185536

Ortiz-Sobrino, Miguel-Ángel (2012). "Radio y post-radio en España: una cohabitación necesaria y posible". *Área abierta*, v. 12, n. 2.
https://doi.org/10.5209/rev_ARAB.2012.n32.39637

Pedrero-Esteban, Luis-Miguel; **Contreras-Pulido, Paloma** (2019). "La radio en el entorno digital: los nuevos canales de las ondas hertzianas". En: Romero-Rodríguez, Luis-Miguel; Rivera-Rogel, Diana-Elizabeth (coords.). *La comunicación en el escenario digital: actualidad, retos y prospectivas*. Perú: Pearson, pp. 379-407. ISBN: 978 607 3248594

Piñeiro-Otero, Teresa; **Terol-Bolinches, Raúl**; **Vila-Fumas, Pere** (2019). "Nuevos sistemas y soportes de distribución sonora". En: Pedrero-Esteban, Luis-Miguel; García-Lastra, José-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant Humanidades, pp. 269-290. ISBN: 978 84 17973261

Ribes, Xavier; **Monclús, Belén**; **Gutiérrez-García, María**; **Martí, Josep-María** (2017). "Aplicaciones móviles radiofónicas: adaptando las especificidades de los dispositivos avanzados a la distribución de los contenidos sonoros". *Revista de la Asociación Española de Investigación de la Comunicación*, v. 4, n. 7, pp. 29-39.
https://doi.org/10.24137/raeic.4.7.5

Rodríguez-Pallares, Miriam; **Pérez-Serrano, María-José** (2017). "Decisión y transparencia en información y conocimiento. Estudio de caso de las empresas de comunicación cotizadas españolas". *Revista latina de comunicación social*, n. 72, pp. 719-736.
https://doi.org/10.4185/RLCS-2017-1188

Sangil, Luis; **Portilla, Idoia** (2021). "La gestión de datos en medios de comunicación: el caso de *Unidad Editorial*". *Estudios sobre el mensaje periodístico*, v. 27, n. 2, pp. 729-737.
https://doi.org/10.5209/esmp.75558

Schmarzo, Bill (2014). *Big data. El poder de los datos.* Madrid: Anaya. ISBN: 978 84 41535763

Selva-Ruiz, David; **Caro-Castaño, Lucía** (2016). "Uso de datos en la creatividad publicitaria: el caso de *Art, Copy and Code* de *Google*". *El profesional de la información*, v. 25, n. 4, pp. 642-651.
https://doi.org/10.3145/epi.2016.jul.14

Siles, Ignacio; **Segura-Castillo, Andrés**; **Solís, Ricardo**; **Sancho, Mónica** (2020). "Folk theories of algorithmic recommendations on *Spotify*: Enacting data assemblages in the global South". *Big data & society*.
https://doi.org/10.1177/2053951720923377

Smith, Michael D.; **Telang, Rahul** (2017). *Streaming, sharing, stealing. Big data and the future of entertainment*. Cambridge, MA, USA: MIT Press. ISBN: 978 0 262034791

Stake, Robert E. (2007). *Investigación con estudio de casos*. Madrid: Morata. ISBN: 978 84 71124227
https://www.uv.mx/rmipe/files/2017/02/Investigacion-con-estudios-de-caso.pdf

Stone, Martha L. (2014). *Big data for media*. Report. Reuters Institute for the Study of Journalism.
*https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-04/Big%20Data%20For%20Media_0.p*df

Sullivan, John L. (2019). "The platforms of podcasting: past and present". *Social media + society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Thurman, Neil; **Moeller, Judith**; **Helberger, Natali**; **Trilling, Damian** (2018). "My friends, editors, algorithms, and I: Examining audience attitudes to news selection". *Digital journalism*, v. 7, n. 4, pp. 447-469.
https://doi.org/10.1080/21670811.2018.1493936

Toff, Benjamin; **Nielsen, Rasmus-Kleis** (2018). "'I just Google it': Folk theories of distributed discovery". *Journal of communication*, v. 68, n. 3, pp. 636-657.
https://doi.org/10.1093/joc/jqy009

Wolk, Alan (2015). *How the internet is (slowly but surely) changing the television industry*. UK: Amazon. ISBN: 978 1 514139011

Podcast production and marketing strategies on the main platforms in Europe, North America, and Latin America. Situation and perspectives

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Abstract

Fifteen years after the term was coined, the podcast is now consolidated as a sound format with a specific identity within the digital media ecosystem. The practice of podcasting is none other than radio, but one encompassing diverse production on both expressive and thematic levels whose properties (mobility, narrative fragmentation, and the integration of multiple devices) and personalized consumption generate a very different listener attitude compared with traditional radio. After an initial period of independent amateurism strongly conditioned by the technologies available, the podcast has achieved significant global popular recognition, as well as an increasingly important professional dimension thanks to the emergence and spread of new distribution platforms (podcast networks) designed to serve as alternatives to the dominant feeds (such as *Apple Podcasts*, *Google Podcasts*, *iVoox*, and *Spotify*) that rely on different catalogs and business models. This investigation identifies, describes, and systematically orders the main management and marketing models for podcasts on these platforms on the basis of a comparative analysis of fourteen of them, two in each of the eight countries in Europe, North America, and Latin America where this format is most widespread: *Acast* (Sweden); *Podimo* (Denmark); *Binge Audio* and *Majelan* (France); *Podimo Spain* and *Podium Podcast* (Spain); *PodcastOne* and *Luminary* (USA); *Convoy Network* and *Puentes* (Mexico); *Posta* and *Parque Podcast* (Argentina); and *Pia Podcast* and *Podway* (Colombia). The study measures and compares the offerings of each of the studied platforms using different quantitative and qualitative variables (age, territorial reach, content categories, dominant genres, funding, and consumption). The objective is to start to draw up a global map of the main operators in the podcasting industry, and to identify the production trends and marketing strategies of a format with increasing impact and demand, destined to become the future heir of broadcast radio.

Keywords

Podcasts; Podcasting; Digital audio; Platforms; Digital production; Marketing; Digital business models; Monetization; Audio communication.

1. Introduction

Currently, there are 7.91 billion people in the world. The population layer is immersed in a media ecosystem marked by the emergence of the Internet (62.5% of people use the web) and the normalization of devices with network access (67.1% of people use a smartphone to connect) (*We are social*; *Hootsuite*, 2022). The emergence of technology-mediated communication has given rise to the concurrence of language and media, to the multiplication of the means and points of access to content, and to the consolidation of new logics related to the digital transformation in a scenario that is clearly convergent.

The changes in the subject's relationship with the media have redefined information and enjoyment habits, thus transforming the logic of management and production by the media industry (**Nielsen** *et al.*, 2020). The digital user imposes a route of action in which content must be considered for its immediate or later consumption, from any device and at any time (**Kishigami**, 2004). Content is personalized for an audience accustomed to enjoyment –with increasing freedom and autonomy– to the possibilities of empowerment, participation, and interaction offered today by the digital environment 2.0, 3.0, and 4.0 and the tools of social networks (**García-Marín**, 2020a).

The evolution of consumption routines by audiences has caused a progressive loss in the impact and relevance of traditional television and radio programs (**Bonet**; **Sellas**, 2019). These had monopolized audiovisual consumption until the emergence of the Internet eliminated the access barriers to the audiovisual market and made it possible for on-demand audio and video distribution services to become available. The popularization of these new platforms (*Netflix*, *Disney*, *HBO*, *Amazon Prime*, *Spotify*, *Apple*, etc.) has not just diluted the nature of the traditional media with whom they compete and even substitute (radio and television concepts have acquired another dimension in the digital ecosystem), but rather they have caused the need for a deep restructuring in their business models at all levels (**Benghozi**, 2011; **Clares-Gavilán**; **Merino-Álvarez**; **Neira**, 2019). In addition to the innovative cultural offering they represent by amassing catalogs with millions of options (series, movies, songs, books, and podcasts), the great contribution of these new players –and at the same time the key to their economic profitability– lies in converting the variety and multiplicity of products, their innovative and original content, and the immediateness and easiness of access into irresistible and indisputable advantages to attract and retain the loyalty to take this offer (**Calvignac**, 2017).

The dynamics of consumption via the Internet (TV broadcast/streaming: 3h 20min, social networks: 2h 27min, paper/online press: 2h, streaming music: 1h 33min, broadcast/online radio: 1h 1min, video games: 1h 12min, and podcasts: 55 min (*We are social*; *Hootsuite*, 2022) revitalize spoken audio –as an element of communication– which is incorporated into the diet of content consumed by the youngest layers of the population. The user consumption road map invites the sound industry to delimit a period of change in which the management, distribution, and marketing models for audio content will be defined to meet the new demands and requirements of an audience immersed in the screens of their devices: smartphone, 96.6%; computer or laptop, 63.1%; tablet, 34.8%; video games console, 20.3%; smart watch 27.4%; and glasses, 4.8% (*We are social*; *Hootsuite* , 2022).

In the digital ecosystem, radio lost its monopoly on sound, users begin to compete with the production and circulation of podcast products in a scenario that calls for a review and analysis of what exactly has been extrapolated from the medium of radio, ranging from its analog context (programming, production, distribution, and marketing), to the podcast framework: technological, production, and structural variables that determine how the digital transformation of the sound industry is managed. While the term "digital sonosphere" may be considered novel and inaccurate for the research and study of audio consumption (**Torras-Segura**, 2020), it should be conceived of it as an atmosphere of sound interfaces (web, apps, social networks, and audiobook and podcast platforms) that make it possible to personalize the synchronous consumption of an antenna radio product and the asynchronous or on-demand consumption of the native material (**Newman**; **Gallo**, 2019) conceived for the digital space.

The convergence of sound via radio and podcasts obliges us to study the similarities of their content (both are audio-based) and how they bring relevance to genres and formats that were pushed aside by the radio industry in the 1980s. The features, reports, and sound-fiction –to mention a few– are regaining their value in communication and in overcoming the previous stage of the distribution and downloading of fragmented radio content or programs (**Cebrián-Herreros**, 2008). The podcast as a sound format for digital consumption and distribution subsequent to subscribing to a channel (**Gallego-Pérez**, 2010; **Sellas**, 2009) has made a genuine contribution beyond complementing radio programs and changing their concept: the reconsideration of the way that traditional radio content is consumed, produced, and distributed (**Berry**, 2006). The democratization of sound on distribution platforms poses four main challenges to its creators in positioning themselves and becoming relevant in the consumption of listeners/users: coordinated multi-channel broadcasting; convergence of sound with textual, iconographic, and visual elements; new metrics that account for the scope and specific consumption of audio and video, and their visibility on social networks; and the incorporation and recognition of new professional profiles in the sound industry.

The penetration of on-demand video subscription platforms (*Netflix*, *Disney*, *HBO*, and similar platforms) exceeds 93% globally. The same position is held by audio (*Spotify*, *Apple*, *Deezer*, etc.) and through podcasts it exceeds 20% inclusion globally: Mexico, 34.5%; Sweden, 28.9%; Portugal, 24.6%; United States, 23.5%; Colombia, 21.5%; Spain, 21.3%; Denmark, 20.6%; Argentina, 16.9%; France, 12.5%, etc., (*We are social*; *Hootsuite*, 2022). Podcast presence is growing as the result of the general expansion of landline and mobile connectivity, the spread of devices, and the consolidation of on-demand digital content platforms.

According to the data provided by *VoiceUp* (2021), 55% of US citizens have listened to a podcast, a figure which was less than 25% in 2009. On balance, 75% of the US population (around 211 million people) are familiar with the term, compared with 64% in 2018. The genre is also seeing strong growth in Latin America (75% interannual in 2020), where titles in Spanish had already grown 13% in 2018, and where five countries in the *Voxnest* consulting report (2020) are in the world ranking of the 10 countries with the greatest growth in podcast consumption: Colombia, Argentina, Brazil, Chile, and Mexico. In addition, the latter's capital has become the city with the highest number of streaming listeners (**Martín**, 2019). In Spain, the *IAB Spain's Annual Online Audio Study* (2020) observes that almost seven of every ten Internet users (68.5%) listen to online audio daily, 3.7% more than in 2018. Although music is the dominant content (43%), 19% of those surveyed mentioned the podcast, doubling the 7.2% of Internet users who listened to or downloaded podcasts in 2019 according to the *General Media Framework* (*AIMC*, 2020).

To identify the role of digital podcasting platforms and their impact on the structure, management, production, and marketing of podcasts, this study intends to explore some of the main experiences in the global market apart from *Apple*, *Google*, or *Spotify*, considered as models of global podcast platforms in the studies and reports carried out to date (**Sullivan**, 2019; **Nieborg**; **Poell**, 2018; **Morris**; **Patterson**, 2015). The intention is to recognize, compare, and assess the experiences that are now established, from both the perspective of commitment to the public and that of the testing of new means to generate income. The paper entails an exploration of an unprecedented ecosystem whose creation, production, and broadcasting routines have been altered by the convergence of technologies, the confluence of channels, and hybrid narratives: content via antenna, apps, web pages, social networks, push notifications and smart loudspeakers that do not exempt it from the requirement to continue cultivating its intrinsic value of authenticity, the demands of objectivity, independence, and clarity that are inherent to communication (**Singhal**; **Kim**, 2021).

2. Theoretical framework

In order to talk about podcasts, we must review their history and acknowledge a series of milestones that have marked their evolution since they were recognized and characterized at the dawn of the 21st century. The conceptual precedent of the sound phenomenon now materialized in the podcast is radio (**Murray**, 2009; **Edmond**, 2015), and its earliest precedent in the digital ecosystem was the first five years of 2000, with the convergence of the *MTV* journalist and blogger Adam Curry with Dave Winer, a computer scientist and content syndication developer, that led to audio being linked to blogs (**Hammersley**, 2004).

The innovation in the concept of audio via the digital sonosphere led to two things that sustained its success with the public: the introduction of the enclosure tag by Dave Winer that resonated with a society comprising an audience impacted by the boom in music created by the rise of the MP3 format and portable multimedia players. Influenced by this technological event, the media biosphere caused a disruption with radio in listeners by personalizing content and creating playlists. These latter were subsequently leveraged by those who understood that this sound medium could be successfully used to get –besides music– information and entertainment to listeners/users (**Perse**; **Butler**, 2005). The first stage of the podcast (curiosity, experimentation, and expansion), which extends from its beginnings to 2012, has a second phase. This occurred when some successful podcasts on US public radio decided to emancipate themselves economically and seek return on investment via crowdfunding platforms and donations from their listeners and thus enjoy a certain independence (**Bonini**, 2015).

The *Serial* podcast by the *NPR* journalist Sarah Koenig, marks a before and after in podcast history: its high number of downloads (more than one million a week during its first season) caused several theorists to name this phase the "Second Golden Age" of podcasts, a format that brought back one of the classic genres of the radio medium, radio serial (**Terol-Bolinches**, 2016). It became a distribution technology comparable to a mass communication medium (**Bonini**, 2015). *Serial* gave podcasting a hopeful future thanks to the increase in users with network access and, especially, the exponential penetration of smart phones during those years (**Berry**, 2015). The transition from an amateur to a professional environment in the distribution of sound content based on its profitability thanks to inserted advertising (**Bonini**, 2015) does not prevent the continued presence of domestic creators in this sound environment, open to both authors who try out this format on an individual basis and producers who take a chance on podcasts as alternative channels to radio, television, or even printed media.

The third milestone that will mark the history of the podcast is at the end of the second decade of the 21st century, and it refers to the fight of the sound content aggregation platforms to capture the attention of a volume of creators and users that will attract the investment of advertisers and brands. **Gallego-Pérez** (2021) claims that the current digital landscape is a form of platform capitalism in which multiple services (music platforms, instant messaging services, live music companies, vendors, device companies, major record labels, radio players) compete to gain control over the sound market. It is interesting at this point to clarify the differences between aggregators and podcast platforms. As explained by Arense-Gómez, Terol-Bolinches and Pedrero-Esteban:

> "There are substantial differences between music streaming platforms and aggregators (websites or mobile applications that collect content generated by third parties, who may be producers or media users) in terms of labeling and categorizing the podcasts they host and offer to their users. In the process of indexing a podcast, some distributors allow the creator to classify their content by assigning tags, while in other cases it is the platform itself that determines the category of the podcast when registering the feed (**Kischinhevsky**, 2017). Aggregators such as *iVoox*, for example, allow users to categorize their sound content into the ontologies proposed on the website when uploading the audio files" (**Arense-Gómez**; **Terol-Bolinches**; **Pedrero-Esteban**, 2019, p. 5).

Audio aggregators offer greater segmentation based on themes and content, although the number and diversity of categories and subcategories makes it difficult to locate a podcast quickly and effectively. The platforms provide simpler categorizations, if any, and offer simpler and more intuitive searches of the audios, but their classifications are too general. Third-party content aggregators, through RSS links, incorporate them into the podcast library platforms so that users can listen to and organize them, and even subscribe (**Arense-Gómez**; **Terol-Bolinches**; **Pedrero-Esteban**, 2019; **Sullivan**, 2019; **Gallego-Pérez**, 2021). The so-called Era of Big Podcasting (**Quah**, 2019) comprises the global dimension of the sound universe in which the ease with which one can create, distribute, and listen to a podcast has brought this format –which has more than a million titles registered in *Apple Podcasts* (it took 16 years to reach this amount), along with an increasingly globally heterogeneous platform in creation, distribution, and marketing models (**Espinosa-de-los-Monteros**, 2020)– to a turning point that positions it in a growing market.

Initially, the podcasting platform was globally focused on the *Apple iTunes* portal which, when it launched version 4.9 June 2005, added podcasts to its music catalog. In just two years, it attained one million subscribers, which reached 5 million in 2013. It gradually caught the attention of audio-kiosks such as *iVoox*, the most recent sound repositories of *Himalaya* and *Google Podcasts*, or the unexpected commitment of *Spotify*, which now concentrates on this format. The Swedish company *Spotify*, world leader in music streaming services (in July 2021, it had 365 million users, 165 million of whom were paying users), acquired *Gimlet Media* in 2019 as proof of their firm commitment to competing for the attention of digital audio listeners. In addition, they purchased the startup *Anchor*, an application that makes it possible for even novel users to record and distribute podcasts. These moves have converted *Spotify* into the world's second-biggest platform in the sector, second only to *Apple* (**Rodríguez-Canfranc**, 2020).

Table 1. Global share of the subscriber market

Global users: 487 million			
	32%		16%
	13%	Tencent	13%
	8%		4%
deezer	2%	Yandex	2%
PANDORA	1%	**Otras**	9%

Source: *MIDiA Research Music Model* (**Mulligan**, 2021)

As in other sectors of the digital content industry, the podcast is still searching for a solid revenue model that guarantees its profitability. In this case, the sector has few entry barriers, as the recording and distribution of acceptable-quality audio does not require a large investment (**Izuzquiza**, 2019). However, for the same reason, the podcast is still associated with a repertoire of overly heterogeneous productions that extends and experiments with more and more creative and narrative variants (seasonal, episodic, multiple, etc.), and mixes works from very disparate origins and accounts (**Orrantia**,

> The podcast denotes divergent logics that give context to information, leisure and entertainment in a world that concentrates consumption through screens and normalizes the paradigm of connectivity, ubiquity, timelessness, interactivity and subscription of users to various services to meet their needs within the framework of media convergence

2019; **Ribes-Guàrdia**; **Pérez-Alaejos**; **Porta**, 2019), which gives even more relevance to the configuration). This makes the configuration of aggregators and platforms trying to make a dent in the headphones and smartphone ecosystem even more important (**Fernández**, 2018).

2.1. World podcast markets

The podcast phenomenon is a global phenomenon, and the podcasting industry has invaded the market worldwide via platforms for the production and distribution of the most diverse sound content. Despite the fact that COVID-19 has slowed investment in advertising, the forecast for the growth of podcasts will remain at 30% interannually in this period, reaching 3.3 billion dollars, thanks to revenue derived from subscription platforms. The market is extremely dynamic and many large companies are investing in the industry. The audiobook and podcast markets are growing much faster than the market for global entertainment content –between 2% and 4%– although the revenues from advertising in the audio world are notably different in the USA than in Europe: advertising investment in European podcasts will reach 232 million dollars only in 2023, in comparison with approximately 1.5 billion dollars in the USA (**Gelado**, 2020). These figures are, without a doubt, one of the symptoms that identify that, despite the industry expanding globally, the growth rates and levels of progress are not equal in all countries. In this context, four different markets can be differentiated:

US market

Currently handles podcast advertising investment of around 1.5 billion dollars. *The New York Times* is one of the main global audio producers and its brand has led it to lead the sector, establishing synergies and coalition strategies with *This American life*, for example, first *Pulitzer Prize* winner in the audio category. The consumption of weekly podcasts has also increased considerably, and some of the main world podcast editors achieve millions of transmissions and single downloads per month. In addition to a niche format, podcasts in the USA have become part of the strategy of conventional media. Podcasts are also often used as part of marketing strategies or to generate commitment between bloggers, news publications, or even different departments within a company. Some examples of the podcasts most listened to in the USA according to *Apple Podcasts* data are (*Podtail*, 2020)

- *Crime junkie* (true crimes);
- *The daily* (news);
- *Let's not meet: A true horror podcast* (true crimes);
- *Something was wrong* (culture and society);
- *The Joe Rogan experience* (comedy, culture, and society);
- *SmartLess* (comedy, education);
- *Call her daddy* (comedy).

Asian market

The Asian market has a Chinese digital audio giant called *Ximalaya F.M.* with more than 40 million daily users. The revenue model in China is based on final user payment, whether via subscription or listening to individual pieces. Another distinctive feature of Chinese podcast platforms is that they use social elements and gamification. Users of the *Ximalaya* podcasting app win coupons for listening to audios or for spending money on the service, which increase based on the number of points won. *Ximalaya* stated that it had 450 million users and more than 5 million hosts, including numerous opinion leaders and key online celebrities (**Jie**, 2018). Moreover, another of the big media, *Dedao*, functions as a social network in which the customer can create a profile. For the hundreds of millions of new users of smart phones/Internet in small cities, towns, and rural villages in China, the first wave of applications adopted were fun social applications such as *Douyu* (live broadcasting) and *Weibo* (microblogging). However, there is a growing tendency for this giant group of users to move towards applications with more intellectual sustenance. The educational audio course is one of the major types of paid content. These are, according to **Chen** (2018) some of the most popular paid content:

- 好好说话 (*Speak properly*) (198 RMB/year), a training program in the art of conversation, with a focus on workplace communication.
- 李翔商业内参 (*Li Xiang Commercial Internal Gins*) (previously 199 RMB/year, now free), a daily business news audio/text update. It had more than 60K paid subscribers.
- 凯叔讲历史 (*Uncle Kay tells the history*) (199 RMB/year), an introduction to Chinese history program for small children.

Audio entertainment programs are becoming a popular learning channel. The American business model, based above all on advertising revenue, has started to steal glances at the Chinese. And there is good reason: while the US podcasting market generated 314 million dollars in advertising in 2017, estimates value China with figures that oscillate between three and five billion (**Rodríguez-Canfranc**, 2019).

European market

In Europe the concept of podcasts is still associated with a repertoire of overly heterogeneous productions that extends and experiments with more and more creative and narrative variants (seasonal, episodic, multiple, etc.), and mixes works from very disparate origins and accounts (**Orrantia**, 2019; **Ribes-Guàrdia**; **Pérez-Alaejos**; **Porta**, 2019). Europe is a highly fractured market due to, among other things, the multiplicity of languages that make it up, but following the theory of **Sojka** (2019), it is in constant growth and will fragment even more after Brexit. The author establishes six levels of maturity in the podcast market.

- At this stage, podcasting is a small niche boosted by amateur creators, with an existing, non-monetized local podcast ecosystem.
- Countries like Poland go a step further, with significant growth in recent years, where the most popular podcasts are 100% recycled radio programs.
- On the third level, amateur creators coexist with professional producers, and although monetization has begun to be discussed, it is not yet very common. This is the case in Spain and the Netherlands, where many of the podcasts produced are already professional, but there are still recycled radio programs.
- At the fourth most advanced level of the ecosystem, the ecosystem is becoming increasingly more mature and produced with a higher budget and monetization efforts. Creators in countries such as Germany, France, and Scandinavia produce a large quantity of high-quality content.
- The United Kingdom is already in Phase 5 with a mature podcasting market with real monetization. We are faced with a medium-sized media channel with high-quality programs.
- The highest level, according to Sojka, corresponds to the dynamics of the USA, where 70% of US citizens are familiar with the podcast concept and production expenses are immense for a monetization that has become a central axis.

Spanish-language podcast market

The Spanish-language markets are in the top ten ranking of the countries with the greatest production of new podcast in the last period. The market that uses Spanish as its language is the fastest growing market and according to the arguments of **Espinosa-de-los-Monteros** (2020), after the success of *Serial* in the USA, the ambitions of Spanish-speaking creators increased. The evolution of podcasting in Spanish is no different than that of other markets. It all begins with productions by amateur producers which then group into networks. Some of progress towards becoming professionals with the aim of making the medium economically profitable. Alongside *Podium Podcast* and *Cuonda* as pioneering projects in Spain (**Izuzquiza**, 2019), worthy of mention is the 2012 founding of *Radio Ambulante*. Its objective was to tell stories from Latin America from within the USA with the collaboration of local producers. Mexico, Argentina, Colombia, and Peru are the leaders in Latin America. In the case of Mexico, the oldest producer is *Dixo*, with a trajectory of more than 15 years. Together with *Dixo*, others such as *Convoy* and *Puentes* have achieved support for their growth by managing to change their business structure to a functional company structure. With regards to Argentina, interest in podcasting has gone beyond the commercial sphere with the *Podcast Union* initiative. Founded in 2017, it is intended to be a link among Latin American podcaster communities. In addition, we must highlight the work of platforms such as *Posta* and *Parque*, both created by radio professionals.

It is important to point out that the best Latin American narrative podcast was created by a Peruvian, Daniel Alarcón. It is the precursor to the podcast in Hispanic America with *Walking Radio*. One of the oldest Peruvian podcasts is *El Langoy Podcast*, which was created in 2014, founded by Carlos Wertherman. We must highlight *Ponycorn Podcast*, affiliated to *Ponycorn Design Club*, and *IGDA Peru*, a program that discusses matters on the production and creation of video games from the perspective of professional developers. In Colombia, both the press and the public radio have given the podcast business a strong boost and some radio presenters have decided to jump into production, taking their listeners to this format. The current reference platforms in Colombia are *Podway*, *Akorde*, and *PIA Podcast*.

3. Analysis methodology

The transformation of the audiovisual industry and the novel production and marketing models developed in the online sound ecosystem revitalized the value of sound in user consumption agendas in on-screen devices. The spread of podcasts in the media ecosystem of each analyzed nation, with the regional particularities of the different settings, are the focus point of this work which makes a comparative evaluation of the diverse experiences of podcasting platforms in the world. The investigation is carried out via a descriptive methodology (**Guevara-Alban** *et al.*, 2020), analysis of the cases selected in the sample (Table 2), the intention of which is to learn about the contexts in which these platforms arose, and to establish a systematic objectification of the trends on which it will be possible to create a guideline to extend and apply the studies to selected cases.

For the selection of the study sample, representativity and regional balance criteria were considered together with the platforms: on the one hand, from a geographical perspective, on the other, a numerical perspective. Hence, places with a consolidated offer have been chosen that will allow for two options to be selected in each territory. The research seeks to extend the results beyond the Spanish language market, to carry out a comparative analysis (**Marolla**, 2019) understood as a social research field tool that allows for conclusions to be set and trends to be perceived regarding the differences and similarities, which contributes to the formation and systematization of concepts.

From the analysis of different real patterns of common denominators, but also facets, and which are at different stages within a market under construction, this research bases its methodology on the model of analysis proposed by Terol-Bolinches, Pedrero-Esteban and Pérez-Alaejos. It starts from the basis that

> "the characteristics of each analyzed platform (the dependent variable) are the result of interaction between its territorial reach, the genre categories and content, the dominant topics, the funding model, and the way users relate and consume (the independent variables)" (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021, p. 478).

Table 2. Study object sample

Continent	Platform	Countries	Population	Internet uptake regarding the population	Podcast uptake in Internet users
Europe	*Acast*	Sweden	10,218,972	98%	28.9%
	Podimo	Denmark	5,834,952	99%	20.6%
	Binge Audio	France	65,584,513	93%	12.5%
	Sybel				
	Podium Podcast	Spain	46,719,147	94%	21.3%
	Podimo				
North America	*Luminary*	United States	334,805,268	92%	23.5%
	PodcastOne				
Central America	*Convoy Network*	Mexico	131,562,775	74%	34.5%
	Puentes				
South America	*Posta*	Argentina	46,010,233	83%	16.9%
	Parque Podcast				
	Podway	Colombia	51,512,776	69%	21.5%
	PIA Podcast				

Source: Prepared using *2022 Digital Data: Global overview report* (*We are social*; *Hootsuite*, 2022)

Thus, three more detailed context levels are distinguished whose analysis is fundamental (Table 3). Methodologically speaking, this research identifies, describes, and systematizes the business model in fourteen networks located in seven countries based on the indicators corresponding to each level.

Table 3. Levels of analysis

Level	Description	Theoretical reference point
Content production process	This revolves around creative development, the treatment of topics, the frequency of productions and their duration, and the determination of the nature of the platform as an aggregator of own- or third-party content.	Capital logics (**Sullivan**, 2018). Content via podcasting (**Sellas**; **Solà**, 2019).
Content distribution methods	Options and alternatives that are offered from the user platform to enable access to podcasts and different user connection routes.	User participation (**García-Marín**, 2020b). User behaviors and routines (**Heshmat**; **Yang**; **Neustaedter,** 2018).
Business model	Ways to monetize content and ownership structures that can be accounted for.	Podcasting as a company (**Gallego-Pérez,** 2012). Capitalization of listeners using podcasts (**Schmitz**, 2015).

This study measures the offers of each network via twelve indicators: production process; topics; frequency of production; duration; distribution; social networks; interaction with listeners; user profile; ownership structure; monetization; advertising; and evolution of the business model. Its objective is to begin drawing up a global map of the main operators in the podcasting industry and to continue identifying world production, distribution, and marketing trends that generate the necessary measurement indicators to observe and compare the dynamics that currently occur on the markets, so that we can describe and analyze models from various parts of the world, even different models in the same country.

The market trends observed in the value frequencies taken in the observation process for each platform contrasted in a second stage with the discursive construction of the directors of the selected platforms. Using a semi-structured questionnaire covering the three levels of analysis (podcast production, distribution, and marketing), six interviews were conducted with the aim of obtaining first-hand insights on the trends observed in the empirical data. The individuals to be remotely interviewed were selected by means of random probabilistic sampling among agents of each platform who are considered to have influence on their respective strategies (**Toro-Jaramillo**; **Parra-Ramírez**, 2006):

- Alejandro Vargas, Director of *Podway*;
- William Ospina, Director of *PIA Podcast*;
- Luciano Banchero, Director of *Posta*;
- Olallo Rubio, Director of *Convoy México*;
- Guido Lautaro Padín, Director of *Parque Podcast*;
- Andrés Ruzo, Director of *Puentes México*.

Their narratives would enable us to understand the strategies that radio networks and sound content platforms have adopted to address the creation and dissemination of podcasts. The analysis focuses on four categories: distribution strategies, business model, work routines, and audiences. The content analysis of the podcast platforms (**Barredo-Ibáñez**, 2015), the eventual hearing of the material and in-depth interviews (**Blasco**; **Otero**, 2008), allowed for a methodological triangulation of the detailed study of the fourteen platforms via the application of a systematized analysis protocol and the subsequent comparison of their experiences.

> Methodologically, this research identifies, describes and systematizes the main models of production, distribution and marketing of the podcast in fourteen networks located in seven countries, based on the indicators corresponding to each level

4. Results

In order to achieve certain standardization in the sample selection, the fourteen platforms chosen are based on similar experiences and models and have spent time developing an accumulative offer in the emerging podcast market. The US *PodcastOne* is the oldest (2013). It is followed by *Puentes* (Mexico), *Posta* (Argentina), and *Acast* (Sweden) in 2014. *Convoy* (Mexico) was founded in 2015, while *Podium Podcast* (Spain), *Parque Podcast* (Argentina), and *Binge* (France) were established in 2016. Recently created podcasts are the Colombian *PIA Podcast* (2018) and the French *Sybel*, the Danish *Podimo* (which arrived in Spain the year after it was created), the Colombian *Podway*, and the US *Luminary Media*, all in 2019.

Following the levels established in the research methodology, the results of the analysis show different trends regarding the production processes, content distribution methods, and the business model of the analyzed platforms.

4.1. Production process

The production of content is focused on three actors within the corpus study:

> "own content material, pieces from commercial clients and initiatives with independent producers that approach us looking for a place to upload their content" (William Ospina, Director of *PIA Podcast*),

as the main challenge is having a large catalog with an offering of original content. The work modality brings together

> "radio personalities, script teams, screenwriters, and technicians, that join the administrative and financial area to offer a service model like any other start up" (Alejandro Vargas, Director of *Podway*).

Sound production has stopped being identified only with the technical procedures that affect product design to consider all the creative and design strategy processes of this content. The complementary nature of the processes covers aspects such as the frequency or duration of productions, among others.

Table 4. Content production variables

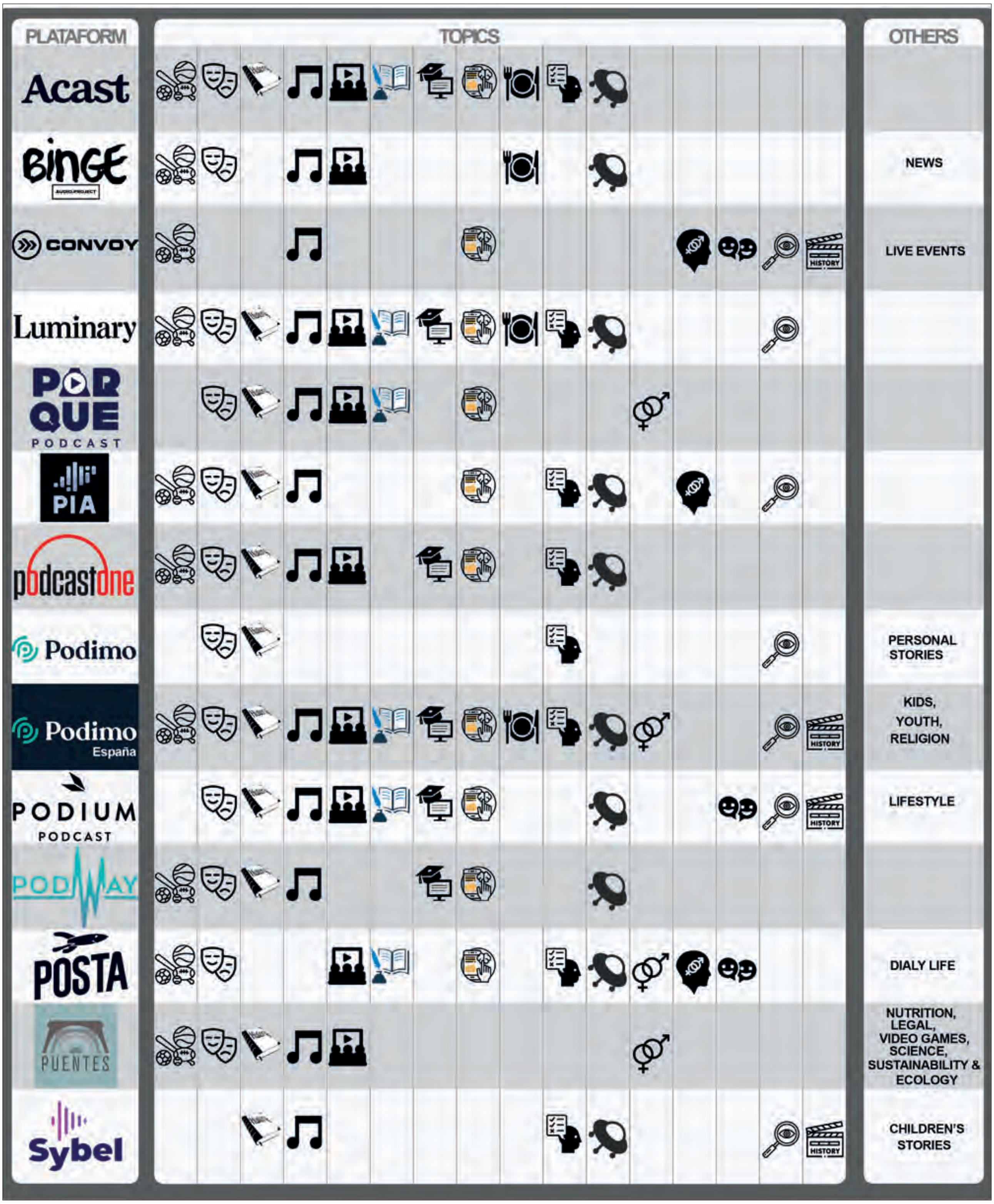
Production origin	Section and subjects	Interaction routes	Renewal of content
Own production only	Sports, Culture, History, Literature	Daily	5 to 10 minutes
Accommodates radio broadcaster content	Music, Cinema and Series, Education	Weekly	11 to 30 minutes
Accommodates content from other producers	Technology, gastronomy, self-help	Monthly	31 to 50 minutes
Accommodates amateur content from their listeners	Fiction, Mystery, Other…	Complete season / Production discontinued	More than 50 minutes

Ten out of the fourteen platforms declared they have a dynamic content production. 43% (six out of fourteen) produce and host only their own material: *Puentes*, *Convoy*, *Posta*, *Parque*, *PIA*, and *Binge Audio*. The three that do not have their own production infrastructure (*Acast*, *Sybel*, and *Luminary Media*) base their content offer on other producers. In seven of the fourteen recorded cases, two or more content production methods are observed. In addition to their own, we see content from other producers, content produced by radio broadcasters and even, in the case of *Acast*, *Podimo* Denmark and Spain, those produced by members of the community. Only three platforms show disruption in their content model: *Podway* –hosts episodes with distribution schemes– and *Podimo* Denmark and Spain, which created their own revenue share system: exclusive to the platform, 50% share of revenue; and non-exclusive, 20%.

In terms of the frequency of content renewal, the majority renew content weekly. Ten out of fourteen produce weeklies. However, it should be mentioned that half of those analyzed also produce content daily. Fortnightly production (four out of fourteen), and complete series (four out of fourteen) are less frequent, while the Mexican podcast, *Puentes*, and the Colombian, *Podway*, are produced monthly. The Argentinian podcast, *Parque*, has sometimes produced intermittently. Analyzing the average duration of the content hosted by the different platforms, it is clear that podcasts of 31 to 50 minutes dominate production. *Parque*, *Podimo* (Denmark and Spain), *Sybel*, and *Podway* most frequently produce shorter spaces of 11 to 30 minutes. *PIA Podcast* is the only podcast with an average duration of five to ten minutes, while on the American *PodcastOne* longer podcasts that exceed fifty minutes predominate.

Table 5. Categorization by platform

Sports	Culture	History	Music	Films and TV Series	Literature	Education	Technology
Food	Self-help	SCI-FI	Gender	Sexuality	Humor	Mistery	Documentary



Regarding the topics on which content is based, it is interesting to note that *Podimo* Spain, one of the youngest, is the podcast with the most diverse topics, producing content in practically all the categories established in the research, except for the sexuality and humor categories. The most popular spaces are those related to music, produced by twelve out of fourteen; eleven out of fourteen have culture and history; sports, technology, and fiction are presented in ten out of the fourteen analyzed. Films and television series podcasts are produced on nine of the platforms studied, self-help matters on eight, mystery on seven, and literature and education on six. The least frequent are gastronomy, gender, and documentaries (four out of fourteen), and sexuality and humor (three out of fourteen). In this section, it is also interesting to note that this study has taken account of the topics that are subjects of specific content on the platforms, diversifying the topics offered and under the epigraph "other". These topics range from stories for children, nutrition, law, video games, science, sustainability, ecology, daily life, youth lifestyle, religion, personal histories, coverage of events, news, and current affairs.

> Audiences formed in communities require guiding efforts to manage cores of people who identify with a common goal, increasing the lifespan of each content in the digital sonosphere

> "What we did was make contacts with cultural or research journalists or music artists, sports, gastronomy, and tourism specialists, and we proposed that they create specific content in their specific area of knowledge in podcast format. We were going to turn this content into a series that was going to have a certain continuity that would have been built on an aesthetic line, on a concept" (Guido Padín, Director of *Parque Podcast*).

4.2. Distribution process

The spread of digital devices for the consumption of online audio and the increase of audiences searching for personalized content with which to interact as a prosumer has led to the global surge in the last decade of these podcast platforms that have revolutionized the sound world.

> "Sixty percent of our audience listens to us on *Spotify*, 25% on *Apple Podcasts*, and the rest is quite evenly spread between the web and the rest of the listening applications. We are on all the content distribution platforms, but we take this metric as an example that people are trying to tell us something" (Luciano Banchero, Director of *Posta*).

The formulas that seek to interact with users are multiplied, enabling access to content, and looking for specific targets to create listener communities.

Table 6. Content distribution variables

Distribution channels	Social media profiles	Interaction routes	User profiles
Only platform, and own website	*Facebook*	Social media	Young people with high cultural level
Own platform, and social media	*Twitter*	Web or mail	Young and alternative
Own platform, and app	*Instagram*	Events, competitions, other activities	Not only young people
Own platform, and other aggregators	Personal profiles of platform managers	Other	Mixed
Own platform, other platforms, and social media	Others		

Eleven out of the fourteen cases choose multiple channels to get their content to users and to do so via their own platforms/websites, using other platforms, or audio aggregators such as *Spotify*, *Apple*, or *Spreaker*, and with the habitual and continued use of social networks for this purpose. It is worth mentioning that the majority of them (eight out of fourteen) do not have their own app to download into mobile devices arguing that –among other things– they are not very efficient for distribution:

> "the world of applications is very cruel and savage. Moreover, you release an application and on average only 3% of those published survive two months and of these 3%, only 1 percent survives six months, so unless it is a super addictive game or backed by something that will offer you things beyond the application, I think it is not worth it unless you have something extra to offer" (Andrés Ruzo, Director of *Puentes Podcast*).

The platforms analyzed that have their own app (*Convoy*, *Podimo* Denmark and Spain, *Luminary Media*, and *Acast*) coincide almost entirely with those whose business model is subscription. Of those who distribute their podcasts via other platforms or audio aggregates, none uses *Spotify* only. Likewise, all of them have social networks as a window and promotion for their content.

The most used social networks are *Facebook*, *Twitter*, and *Instagram*. In fact, the fourteen platforms have a profile or fan page on the three networks, interacting frequently and actively with listeners. *Acast* and *Sybel* also have *LinkedIn* or *Soundcloud* profiles. In this section, it is interesting to highlight that many of the content managers, professionals, or drivers use their personal social network as a promotion window for the platforms. Cases in point are *Acast*, *Puentes*, *Parque*, *Posta*, *Convoy*, *Podium Podcast*, *PIA Podcast*, *Podway* and *Binge*, whose resources include radio personalities, actors, producers, and people famous in the field of communication. They have thousands of followers on their personal accounts and are the best windows of access to listeners.

The fourteen platforms use social networks not just as a content distribution route, but also as the most frequent and direct communication channel with their user communities, although all of them except *Podium Podcast* also use email or the web as routes to interact with listeners. *Parque*, *Convoy*, *Podium Podcast*, *Podimo* Denmark and Spain, *Binge*, *Podway*, *PIA Podcast*, and *PodcastOne* go beyond the general formulas of interaction, with activities including events, competitions, and other occasional formulas of interaction more closely related to the feeling of belonging to a community and that allow –in addition to the interaction between the platform and user– contact and relationships among community members. In the case of the French podcast *Binge Audio*, it also programs sessions of early listening of content for clients.

In terms of the listener profile of each of the platforms that make up the study corpus, it can be said that half of them have a majority of young users, differentiating among them those with a high cultural profile –the Mexican podcast *Puentes*, the Argentinian podcast *Parque*, and the French podcast *Binge*– and those that are content users with a more alternative concept, such as the Mexican *Convoy*, and the French *Sybel* and *Binge*. In the cases of the Nordic *Acast*, the Argentinian *Posta*, the Spanish *Podium Podcast* and *Podimo*, and the US *Luminary Media*, their listener profiles are more varied. The Colombian podcasts *Podway* and *PIA Podcast* have an audience that is

> "very young, from 12 to 15 years. We have a large audience in schools and universities. Adults living in these times are also very curious about sound content" (William Ospina, Director of *PIA Podcast*).

This situation is diametrically opposed to the Danish *Podimo* and the US *PodcastOne*, which have majority adult audiences.

4.3. Business model

The third level of analysis established by the research methodology refers to the business model and the ownership structures that the online podcast platforms represent in the world, a phenomenon with a growing extension and impact considered by many as heir to the broadcast radio. It is interesting to know whether changes in the production and distribution of sound content are now affecting traditional business models and if these need to give way to other product-monetization strategies given the reality of the emergence of new models that alter the value chain.

> "The customers are the ones who pay, not the brands. *Convoy*'s engagement with its audience is impressive and many people have joined us just because of this. Maybe we are not so loud, but we have people who listen to us very closely every day" (Olallo Rubio, Director of *Convoy*).

Table 7 shows the analyzed variables in the business models of the chosen platforms.

Table 7. Variables regarding business model

Ownership structure	Content monetization	Advertising forms	Change of model over time
Independent project	Advertising only	Advertising mention	Yes
Linked to a media	Subscription to catalog	Sponsorship	No
Coalition of producers	One-part subscription and premium version	Branded content / Podcast content	
Other	Pay-per-listen for each podcast	Others	
	Crowdfunding / others		

A third of the cases analyzed have modified their business model in the years accounted for. This is the case for *Acast*, *Puentes*, *PIA Podcast*, *Podway*, and *PodcastOne*. Except *Podium Podcast*, the first podcast network in Spain whose ownership structure is related to *Prisa Radio*'s *Cadena SER*, and *PIA Podcast*, a business unit of Colombia's *WV Radio*, in the majority of cases, the rest arose from independent projects founded by various partners. In the case of the Argentinian *Posta*, it also functions as a producer of outside podcasts, for other means of communication or brands that need it.

There is more variety in the cases if we take an in-depth look at the way in which each podcast monetizes its content and makes its work profitable. Five of the fourteen platforms follow the traditional advertising-only funding system: *Puentes*, *Posta*, *Podium*, *Podway*, and *PIA Podcast*. Meanwhile, those such as *PodcastOne* combine monetization through advertising with *Spotify*-style premium subscriptions, or like *Acast*, which has some crowdfunding proposals together with the advertising model. The next most numerous case of economic profitability from production in the study sample is the prepaid monthly subscription for access to the entire catalog. *Convoy*, *Sybel*, *Podimo* Denmark and Spain (including with the premium version), and *Luminary Media* –the latter three some of the most recently created (in 2019)– have all chosen subscription to monetize their podcasts, while the Mexican *Convoy*, the oldest, was pioneer in getting listeners to pay in advance to consume its catalog. Cases apart with different business models are the Argentinian *Parque*, with a free access catalog, but with a crowdfunding production, and the French *Binge*, which is more complex and has a mixed funding formula.

Table 8. Monetization of content by platform

Monetization	Advertising	Catalog access by subscription	Advertising and premium	Subscription and premium	Pay-per-listen	Crowdfunding	Others
Acast	x					x	
Podimo		x		x			
Puentes	x			x			
Parque						x	
Posta	x						
Convoy		x					
Podium	x						
Podimo España		x		x			
Sybel		x					
Binge							x
PodcastOne	x	x					
Luminary		x					
PIA Podcast	x						
Podway	x	x					

Entre las plataformas que se financian con la inclusión de publicidad en sus espacios, no existe una única fórmula para insertar la información comercial.

> "Hay varios formatos, pero trabajamos con una lógica de agencia, trabajamos la creatividad de los contenidos de marca caso por caso, no vendemos un paquete genérico de auspicios ni nada de eso, o sea nos sentamos con el potencial cliente, escuchamos cuáles son sus necesidades, a qué público quieren apuntar y alrededor de eso armamos una propuesta" (Luciano Banchero, Director de *Posta*).

En el análisis del corpus de estudio se encontraron: menciones dentro de los podcasts (6 de 14), patrocinios exclusivos de series o capítulos (7 de 14) y producción de contenido de marca (5 de 14), en la mayoría de los casos la fórmula no es única y entre aquellas que usan la publicidad comercial para asentar su modelo de negocio, es común la hibridación de las tres fórmulas mencionadas. En el caso de *Puentes*, se han observado cuñas pre y post contenidos.

Among the platforms that are funded through the inclusion of advertising, there is no single formula for inserting commercial information.

> "There are various formats, but we work with the logic of agency. We work with the creativity of brand content on a case-by-case basis. We do not sell a generic sponsorship package or anything like that. In other words, we sit down with the potential client, we listen to what their needs are, the audience they want to target, and based on this we create a proposal" (Luciano Banchero, Director of *Posta*).

The study's corpus analysis found mentions within podcasts (six out of fourteen), exclusive sponsors of series or episodes (seven out of fourteen), and production of brand content (five out of fourteen). In the majority of cases, the formula is not unique and, among those that use commercial publicity to solidify their business model, the use of a hybrid version of the three aforementioned formulas is common. In the case of *Puentes*, pre- and post-content spots were observed.

5. Conclusions

Although the indicators used for this exploration of the fourteen podcast networks analyzed in this study allow for different levels of analysis, the results can be summed up in some key points related to the initially proposed challenges:

1. Achieve a coordinated multi-channel broadcasting of content and find new ways to monetize it beyond the analog radio business model. In this vein, more differences are found in the marketing of podcasts than in the typology and variety of the content analyzed. In other words, the study platform catalogs all offer a wide repertoire of titles, genres, and topics, showing that, on the one hand, digital content platforms need variety in their catalogs to meet the demands of their users and, on the other hand, podcast production across the world is based on recognizable and standardized categories and containers. Unlike in the sound industry *par excellence* (the radio), advertising is no longer the sole source of funding for podcast platforms, which (following increasingly differential on-demand video platforms) choose new subscription and monetization formulas in exchange for added content (in the case of *Acast*) or for access to direct sound content (in the case of *Convoy*).

With the aim of standing out and, above all, justifying the subscription when chosen, the catalogs of all the platforms analyzed include exclusive content, apart from production (which in the majority of cases is its own production). This is a factor that is tending to become

> Podcast aggregation platforms help to address some of the major weaknesses of the format in the context of competition for attention and time in the digital ecosystem

a strategy as a result of the competition introduced by audio platforms such as *Spotify*, whose catalog has started to include more and more titles accessible only to their users. As **Arense-Gómez**, **Terol-Bolinches** and **Pedrero-Esteban** (2019) conclude, in the digital scenario, the audio listeners' experience is not only conditioned by the contents offered or by the design and usability of the platform interface, but also by its labeling (metadata) and its thematic classification. In the case of podcasts, and given their projected expansion through music streaming services, the categorization of content is a major element that enables associating it with the consumption profile of each user and incorporating them into their menus through recommendation algorithms. In this sense, platforms help to get to know the audience better, a key factor for the success of the subscription and for monetizing the podcasts, not to mention the boost for the advertising and electronic business sector.

> The personalization of the sound diet and the way of arriving at audio democratize sound in the digital ecosystem, an environment where the podcast generates greater closeness with the user/producer and/or consumer

2. Achieve the convergence of the semiotics of sound with other textual, iconographic, and visual multimedia elements. It is clearly necessary for them assist in discovering content, increasing listening time and improving user satisfaction with audio, whose mobility, compatibility and integration of new devices and media is gaining ground in this sphere. User expectations are improved, the listening experience is satisfactory, and this habit is reinforced, favoring readiness to receiving advertising suggestions.

3. Working on new metrics that account for scope and specific consumption, and their visualization on social networks. The platforms analyzed convert them into a tool for content distribution and advertising in which they are not just a route towards recipients, but are considered an interaction strategy that returns feedback from users and listener communities. Interaction becomes constant and up-to-date. The platforms incorporate technological tools for helping to discover content (*Google Assistant Podcasts*), interact with content (*Spotify* surveys), and to favor multi-channel consumption (including voice interfaces).

The environment of the platforms is leading to an operational strategy that places the user in control of consumption and blurs the effort for linear consumption as is traditional for radio or television; the essence of the broadcast model where personal and asynchronous on-demand content reigns, and where correlation between culture and technology is enhanced. Atomization in the offer of devices and applications becomes an opportunity for funding metrics in line with crowdfunding and subscription.

4. Incorporation and recognition of new professional profiles in the sound industry. From this point of view, the analysis shows that emphasis is placed on the creative processes, incorporating into the production specialists, investigators, artists, and freelancers that produce specialized content within the catalog labels. In addition, there are scriptwriters and technicians to complement the more technical procedures. Competition between platforms contributes to boosting innovation, creativity, improvement in product quality, and the incorporation of popular or famous professionals. This movement multiplies in cases that incorporate a payment method.

Podcast aggregation platforms contribute to resolving one of the main weaknesses of the format in the context of competition for attention and time in the digital ecosystem. The monetization of podcasting is focused on a range of options: advertising, subscription, direct sale of event tickets, sales of merchandising related to successful podcasts, content marketing, sponsorship or even donations via crowdfunding. Overall, and despite this more or less varied range, the formulas that have been established to date with a certain recurrence are subscription payment and advertising revenue, whether combined or separately. Regarding the advertising revenue generated by podcasts consumption, this is still low in comparison with other, older media, such as radio.

Finally, the aforementioned increasing competition (strong investment in *Spotify* is joined by the future expansion of *Audible*, the division of audiobooks and sound series in *Amazon*) is shown to be an opportunity for the strategic differentiation of the platforms, which, just as on-demand video, can choose to produce and boost local content or content directed at internal markets, or broadly directed podcasts, leveraging the potential of Spanish and English for audio consumption in large markets.

6. References

AIMC (2020). *Marco general de los medios en España.* Asociación para la Investigación de Medios de Comunicación.
https://www.aimc.es/a1mc-c0nt3nt/uploads/2020/01/marco2020.pdf

Arense-Gómez, Alfredo; **Terol-Bolinches, Raúl**; **Pedrero-Esteban, Luís-Miguel** (2019). "La indexación del podcast en las plataformas de audio digital: criterios y estrategias de categorización". *Textual & visual media*, n. 12.
https://dialnet.unirioja.es/servlet/articulo?codigo=7771041

Barredo-Ibáñez, Daniel (2015). "El análisis de contenido. Una introducción a la cuantificación de la realidad". *Revista San Gregorio*, pp. 26-31.
https://revista.sangregorio.edu.ec/index.php/REVISTASANGREGORIO/article/view/113

Benghozi, Pierre-Jean (2011). *L'économie de la culture à l'heure d'internet: le deuxième choc. Dossier "Acteurs des nouvelles technologies et économie des contenus culturels"*. Editions Esprit, pp. 111-126.
https://hal.archives-ouvertes.fr/hal-00657999/document

Berry, Richard (2006). "Will the iPod kill the radio star? Profiling podcasting as radio". *Convergence*, v. 12, n. 2, pp. 143-162.
https://doi.org/10.1177/1354856506066522

Berry, Richard (2015). "A golden age of podcasting? Evaluating Serial in the context of podcast histories". *Journal of radio & audio media*, v. 22, n. 2, pp. 170-178.
https://doi.org/10.1080/19376529.2015.1083363

Blasco, Teresa; **Otero, Laura** (2008). "Técnicas cualitativas para la recogida de datos en investigación cualitativa: la entrevista (II)". *NURE investigación: revista científica de enfermería*, n. 34.
https://www.nureinvestigacion.es/OJS/index.php/nure/article/view/379

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *El profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Bonini, Tiziano (2015). "La "segunda era" del podcasting: el podcasting como nuevo medio de comunicación de masas digital". *Quaderns del CAC*, v. 18, n. 41, pp. 23-32.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_ES.pdf

Calvignac, Cédric (2019). "Les nouvelles frontières du travail à l'ère numérique". Patrice Flichy, Paris: Seuil, 2017. *Revue d'anthropologie des connaissances*, v. 13, n. 3, pp. 929-933.
https://www.cairn.info/revue-anthropologie-des-connaissances-2019-3-page-929.htm

Cebrián-Herreros, Mariano (2008). *La radio en internet: de la ciberradio a las redes sociales y la radio móvil*. La Crujía. ISBN: 987 601063 8

Chen, Tingyi (2018). "Ximalaya, Dedao y más: El auge de los contenidos de audio de pago en China". *Walkthechat*, 1 julio..
https://walkthechat.com/es/ximalaya-dedao-boom-chinese-paid-audio-content

Clares-Gavilán, Judith (coord.); **Merino-Álvarez, Cristina**; **Neira, Elena** (2019). *La revolución over the top. Del vídeo bajo demanda (VOD) a la televisión por internet*. UOC. ISBN: 978 84 9180 396 6

Edmond, Maura (2015). "All platforms considered: contemporary radio and transmedia engagement". *New media & society*, v. 17, n. 9, pp. 1566-1582.
https://doi.org/10.1177/1461444814530245

Espinosa-de-los-Monteros, María-Jesús (2020). "Ya hay un millón de 'podcasts' en el mundo". *El País*, 30 abril.
https://elpais.com/elpais/2020/04/30/dias_de_vino_y_podcasts/1588248912_950535.html

Fernández, José-Luís (2018). "La vida con sonido. Auriculares para pensar". *Revista anfibia*. Universidad Nacional de San Martín, Buenos Aires.
https://www.revistaanfibia.com/auriculares-para-pensar

Gallego-Pérez, J. Ignacio (2010). *Podcasting: Nuevos modelos de distribución para los contenidos sonoros*. UOC. ISBN: 978 84 9788 857 8

Gallego-Pérez, J. Ignacio (2012). "Podcasting in Spain: A new business model or a reflection of traditional radio?". *Radio journal: international studies in broadcast & audio media*, v. 10, n. 1, pp. 23-34.
https://doi.org/10.1386/rjao.10.1.23_1

Gallego-Pérez, J. Ignacio (2021). "The value of sound: datafication of the sound industries in the age of surveillance and platform capitalism"**.** *First Monday*, v. 26, n. 7.
https://doi.org/10.5210/fm.v26i7.10302

García-Marín, David (2020a). "Del zine al podcast. Repensar la cultura de la participación desde un análisis comparativos de los medios alternativos". *Doxa comunicación*, n. 30, pp. 107-125.
https://doi.org/10.31921/doxacom.n30a5

García-Marín, David (2020b). "Hacia una lingüística de la interacción mediática. Aproximación al diseño de la participación significativa medio-usuario desde el podcasting independiente". *Profesional de la información*, v. 29, n. 5.
https://doi.org/10.3145/epi.2020.sep.05

Gelado, José-Antonio (2020). "Distribución de podcasts: opciones, exclusividad y ventanas". En: *Día del podcast como negocio*. Primera edición.

Guevara-Alban, Gladis-Patricia; **Verdesoto-Arguello, Alexis-Eduardo**; **Castro-Molina, Nelly-Esther** (2020). "Metodologías de investigación educativa (descriptivas, experimentales, participativas, y de investigación-acción)". *Recimundo*, v. 4, n. 3, pp. 163-173.
https://recimundo.com/index.php/es/article/view/860

Hammersley, Ben (2004). "Audible revolution". *The Guardian*, February 12.
http://www.theguardian.com/media/2004/feb/12/broadcasting.digitalmedia

Heshmat, Yasamin; **Yang, Lillian**; **Neustaedter, Carman** (2018). "Quality 'alone' time through conversations and storytelling: podcast listening behaviors and routines". In: *Graphics interface conference*, 8-11 May. Toronto, Ontario, pp. 76-83.
http://graphicsinterface.org/wp-content/uploads/gi2018-11.pdf

IAB Spain (2019). *Estudio anual de audio online 2019.*
https://iabspain.es/estudio/estudio-de-audio-online-2019

Izuzquiza, Francisco (2019). *El gran cuaderno de podcasting. Cómo crear, difundir y monetizar tu podcast*. Kailas. ISBN: 978 84 1724 841 3

Jie, Jiang (2018). "Chinese netizens say 'yes' to pay-for-knowledge apps". *en.people.cn*, January 30.
http://en.people.cn/n3/2018/0130/c90000-9421671.html

Kischinhevsky, Marcelo (2017). *Radio y medios sociales: mediaciones e interacciones radiofónicas digitales*. UOC. ISBN: 978 84 9180 011 8

Kishigami, Jay (2004). "Triple A (any device, anytime, anywhere): services in ubiquitous networks and their impacts on the architecture and systems". In: *All star network access workshop*. Geneva, 2-4 June 2004.
https://studylib.net/doc/13242444/triple-a--any-device--anytime--anywhere--

Marolla, Jesús (2019). "La difícil tarea de la interculturalidad desde la didáctica de las ciencias sociales. Análisis comparativo de los programas de Argentina, Colombia y Chile". *El futuro del pasado*, n. 10, pp. 159-186.
https://doi.org/10.14516/fdp.2019.010.001.006

Martín, Alberto (2019). "Ciudad de México es la capital del streaming y, por ello, *Spotify* celebrará allí sus premios". *Hipertextual*, 22 noviembre.
https://hipertextual.com/2019/11/cuidad-mexico-spotify-premios

Morris, Jerimy-Wade; **Patterson, Eleanor** (2015). "Podcasting and its apps: software, sound, and the interfaces of digital audio". *Journal of radio & audio media*, v. 22, n. 2, pp. 220-230.
https://doi.org/10.1080/19376529.2015.1083374

Mulligan, Mark (2021). *Global music subscriber market shares Q1 2021*. Midia Research.
https://www.midiaresearch.com/blog/global-music-subscriber-market-shares-q1-2021

Murray, Simone (2009). "Servicing 'self-scheduling consumers': public broadcasters and audio podcasting". *Global media and communication,* v. 5, n. 2, pp. 197-219.
https://doi.org/10.1177/1742766509341610

Newman, Nic; **Gallo, Nathan** (2019). *News podcasts and the opportunities for publishers.* Oxford: Reuters Institute for the Study of Journalism.
https://reutersinstitute.politics.ox.ac.uk/news-podcasts-and-opportunities-publishers

Nieborg, David B.; **Poell, Thomas** (2018). "The platformization of cultural production: Theorizing the contingent cultural commodity". *New media & society*, v. 20, n. 11, pp. 4275-4292.
https://doi.org/10.1177/1461444818769694

Nielsen, Ramus-Kleis; **Fletcher, Richard**; **Newman, Nic**; **Brennen, J. Scott**; **Howard, Philip N.** (2020). *Navigating the 'infodemic': How people in six countries access and rate news and information about coronavirus.* Reuters Institute for the Study of Journalism, University of Oxford.
https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-04/Navigating%20the%20Coronavirus%20Infodemic%20FINAL.pdf

Orrantia, Andoni (2019). *Diez claves para contar buenas historias en podcast. O cómo producir contenidos en un entorno digital cambiante*. UOC. ISBN: 978 84 9180 591 5

Perse, Elizabeth M.; **Butler, Jessica S.** (2005). "Call-in talk radio: compensation or enrichment". *Journal of radio studies*, v. 12, n. 2, pp. 204-222.
https://doi.org/10.1207/s15506843jrs1202_3

Podtail (2020). *Los 100 podcast más populares en este momento*.
https://podtail.com/es/top-podcasts/us

Quah, Nicholas (2019). "We're entering the era of big podcasting". *NY Magazine vulture*, September 30.
https://www.vulture.com/2019/09/podcasting-history-three-eras.html

Ribes-Guàrdia, Francesc-Xavier; **Pérez-Alaejos, María-de-la-Peña-Mónica**; **Porta, Carles** (2019). "Producción para el consumo bajo demanda: el podcast nativo". En: Pedrero-Esteban, Luís-Miguel; García-Lastra, Juan-María (eds.). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Tirant, pp. 175-195. ISBN: 978 84 17973 26 1

Rodríguez-Canfranc, Pablo (2019). "Podcast, la potencia del mercado del audio". *Telos*, 10 junio.
https://telos.fundaciontelefonica.com/la-cofa/podcast-la-potencia-del-mercado-del-audio

Schmitz, Simon (2015). *Developing a business model for a podcast streaming service: case study analysis of online streaming businesses and identification of success factors*.
https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A824301&dswid=-3954

Sellas, Toni (2009). *La voz de la web 2.0. Análisis del contexto, retos y oportunidades del podcasting en el marco de la comunicación sonora*. Tesis doctoral, Universitat Internacional de Catalunya.
https://www.tdx.cat/handle/10803/9351

Sellas, Toni; **Solà, Sergi** (2019). "Podium Podcast and the freedom of podcasting: beyond the limits of radio programming and production constraints". *Radio journal: international studies in broadcast & audio media*, v. 17, n. 1, pp. 63-81.
https://doi.org/10.1386/rjao.17.1.63_1

Singhal, Arvind; **Kim, Do-Kyun-David** (2021). "The role of the communication discipline to tackle Covid-19: interrogating positive deviations and critical discourses". *Journal of creative communications*, v. 16, n. 2, pp. 135-138.
https://doi.org/10.1177/09732586211002930

Sojka, Mati (2019). "What's up in European podcasting? A status assessment". *Mateuszsojka.com*, October 19.
https://www.mateuszsojka.com/post/what-s-up-in-european-podcasting-a-status-assessment

Sullivan, John L. (2018). "Podcast movement: aspirational labour and the formalisation of podcasting as a cultural industry". In: Llinares, Dario; Fox, Neil; Berry, Richard (eds.). *Podcasting*. Cham: Palgrave Macmillan.
https://doi.org/10.1007/978-3-319-90056-8_3

Sullivan, John L. (2019). "The platforms of podcasting. Past and present". *Social media + society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Terol-Bolinches, Raúl (2016). *Radio 3.0 en el entorno municipal: valores, herramientas y recursos. El caso de la emisora municipal Llosa FM.* Tesis doctoral. Universitat Politècnica de València.
https://doi.org/10.4995/Thesis/10251/67930

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, María-de-la-Peña-Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Toro-Jaramillo, Iván-Darío; **Parra-Ramírez, Rubén-Darío** (2006). *Método y conocimiento: Metodología de la investigación*. Editorial EAFIT. ISBN: 958 8281 11 3

Torras-Segura, Daniel (2020). "'Digital sonosphere'. Diagnosis of its current analytical applications and terminological meanings". *Digital creativity*, v. 31, n. 1, pp. 29-43.
https://doi.org/10.1080/14626268.2020.1722709

VoiceUp (2021). *2021, el año del podcast*.
https://www.voiceup.es/2021-el-ano-del-podcast

Voxnest (2020). *The state of the podcast universe*.
https://vizual.pollackmedia.com/pmg/news/files/Voxnest_2020_Mid_Year_Preview_Report.pdf

We are social; *Hootsuite* (2022). *Digital 2022: Global Overview Report*.
https://datareportal.com/reports/digital-2022-global-overview-report

The daily news podcast ecosystem from the strategy and business model perspectives

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Abstract

The expansion of the daily news podcast format in the media industry has brought new narrative opportunities and shows the strength of the audio medium. For this reason, a qualitative analysis of the daily news podcast ecosystem has been performed from the strategy and business model perspectives through a comparative study of 14 cases (10 with media parent companies and 4 independent) in the Spanish-speaking segment using semi-structured interviews with the heads of the entities analyzed. The results reveal that daily news podcasts allow media outlets to improve their positioning by forming part of their audience's routines, and create new revenue streams through sponsorships and brand agreements. Two editorial concepts have been identified: the in-depth analysis of a topic with support from the editorial department, and round-ups similar to radio news bulletins that cover the outlet's informative key elements. The research also highlights audio initiatives by independent creators in specialized fields who shed light on the format's potential for news narratives.

Keywords

Podcasts; Journalism; Business models; Value proposition; Creator economy; Audio; Daily news podcasts; Audio platforms; Competitive strategy; Revenue streams; Market; Positioning; Capabilities; Competitive resources; Digital audio; Audio communication.

1. Introduction

The growing number of digital audio listeners –47% of Internet users in Spain (*Prodigioso Volcán*, 2022)– has awakened the media's interest in this format. The international –rise of digital audio journalism began in 2014 with the popularity of *Serial*, the podcast that first attracted listeners and advertising investments, followed by the corporate interest of traditional media outlets (**Linares**; **Neira**, 2017). Podcasting sparked the recovery of in-depth journalism thanks to audio productions by business initiatives such as *Podium Podcast* and *Cuonda* (**Legorburu**; **Edo**; **García-González**, 2021).

A news podcast has appealing editorial features and builds audience loyalty through its ability to connect via complicity and intimacy (**Lindgren**, 2021). This versatile product can be tailored to user preferences in terms of time and medium. These traits have led to the creation and popularity of daily news podcasts such as *The Daily* (from *The New York Times*) and *Today in Focus* (from *The Guardian*). The success of this format has been quickly replicated throughout the world, as explained by **Newman** and **Gallo** (2020), who identified in 6 countries (Australia, Denmark, France, Sweden, United Kingdom, and United States) 102 initiatives that fall into this category, of which 37 were launched that same year.

The earliest daily news podcast experiences in Spain date back to 2018, when *El País* and *ABC* launched short bulletins featuring the top news stories. They targeted smart speakers and voice assistants, and could also be heard online or on audio platforms. Between 2021 and 2022, and inspired by the aforementioned English-language examples, top media outlets such as *El Mundo*, *eldiario.es*, *El Debate* and *El País* introduced daily news podcasts with a more in-depth focus.

From a strategic point of view, media executives value news podcasts as products that can expand the brand's voice, grow the market of potential subscribers and attract new advertisers (**Newman**, 2022). In fact, podcast advertising revenue in the U.S. rose by 19% in 2020 (*IAB*, 2020), with a significant increment in dynamic ad insertion, which refers to ads included in a podcast by the platform instead of by the creator. The economic and technological logic of podcasting also represents a business opportunity for independent creators to innovate (**Sullivan**, 2018).

This situation requires new studies that address the latest podcasting dimensions, such as the business or new categories experiencing growth, like daily news podcasts (**Galán-Arribas** *et al.*, 2018). As a result, this paper performs a qualitative analysis of the daily news podcast ecosystem, from the perspective of the strategy and business models, through a comparative study of 14 cases in the Spanish-speaking segment.

2. Literature review

2.1. Attributes of podcasting as a journalism product

According to **Hendy** (2019, p. 13), "podcasting is emphatically an art as well as a business," which is why it has become a global phenomenon in terms of consumption and advertising appeal. Audio has extended its reach by making content available on smartphones (**Pedrero-Esteban**; **Barrios-Rubio**; **Medina-Ávila**, 2019). Users listen to podcasts in various situations, such as while driving or multi-tasking, to be informed and entertained (**Nee**; **Santana**, 2021; **Newman**; **Gallo**, 2019; 2020).

Chan-Olmsted and **Wang** (2020) state that podcasting is a product with special attributes that differentiate it from mobile or online radio, and make it more adaptable in terms of on-demand access (**Massarelli**; **Perrotta**, 2006). Its ubiquity has altered listening habits and required radio broadcasters to expand their sound repositories with exclusive, differentiating and competitive products (**Pérez-Alaejos**; **Pedrero-Esteban**; **Leoz-Aizpuru**, 2018).

Listeners actively seek out podcasts that have entertaining content for greater gratification. The selection, autonomy and control of consumption increase their loyalty to a podcast and even their emotional connection with its hosts (**Craig**; **Brooks**; **Bichard**, 2021). Beyond entertainment, users turn to this format to gain new knowledge and because of their desire to share these stories in their social setting (**Samuel-Azran**; **Laor**; **Tal**, 2019). This active nature of podcast listeners is also due to strong interactions between audiences and hosts (**Boling**; **Hull**, 2018). It harnesses the addition of multiple technologies and expressive manifestations that are dispersed in various spaces, both digital and analog (**García-Marín**; **Aparici**, 2018).

First-person narration and authenticity are used in news podcasts to convey empathy and emotional truth (**Jorgensen**, 2021). An analysis of how audiences interact with and react to the narrative voice in *Serial* reveals that its success and reach lie in the ability to use old and new narratives and aesthetic forms (**Hardey**; **James**, 2022). The hybridization of investigative journalism with fiction resources in podcasts, such as seriality, recreations and the design of sound atmospheres, has revitalized formats that had fallen into disuse in radio broadcasting (**Legorburu**; **Edo**; **García-González**, 2021).

The powerful narrative elements of podcasting awaken the interest of platforms and media outlets. In turn, the platformization of audio has played a role in popularizing podcasts and expanding the catalog with products that are more specialized and varied (**Sullivan**, 2019; **Terol**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021). This is evident because companies such as *Apple*, *Google*, *Amazon* and, in particular, *Spotify*, are investing in the sound ecosystem. In 2019, this Swedish company acquired *Gimlet*, the entity behind hits such as *Startup*, *Homecoming* and *The journal* (with *The Wall Street Journal)*; and the following year it purchased *The Ringer*, the podcast network created by Bill Simmons. Both transactions are valued at nearly $200 million (**Levy**, 2019; **Shapiro**, 2020; *Spotify*, 2020).

A news podcast has appealing editorial features and builds audience loyalty through its ability to connect via complicity and intimacy

In turn, platforms define the relationship between audiences and producers, who now depend on third parties to access usage data as the competitive offering increases exponentially (**Van-Dijk**; **Poell**; **De-Waal**, 2018). Independent podcasters are increasingly concerned with being discovered, reaching viable audiences and dealing with the tension between commerce and autonomy (**Adler-Berg**, 2021).

> Its ubiquity has altered listening habits and required radio broadcasters to expand their sound repositories with exclusive, differentiating and competitive products

2.2. Origin of the daily news podcast concept

In recent years, many media outlets from multiple categories have begun producing podcasts to strengthen their editorial strategy and business model, thereby reaching new audiences and establishing new monetization methods (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020; **Martínez-Costa** *et al.*, 2021). However, the daily news podcast phenomenon is not new.

In 2005, *The Daily Telegraph* launched a space that was published daily to recommend specific content in the print edition. Amateur or semi-professional daily tech podcasts began to appear around this time, particularly focusing on the *Apple* phenomenon. An excellent example is *The daily source code*, which debuted in August 2004 by Adam Curry, who along with Dave Winer created the podcast format we are familiar with today (**Jardin**, 2005).

Martínez-Costa and **Lus-Gárate** (2019) have traced the earliest "daily news podcasts" to 2006, when *The Guardian* launched *Newsdesk*, which was later renamed *Guardian daily* (p. 320). However, the turning point was when *The New York Times* released *The daily* in February 2017 (**Zumeta**, 2020). This product has become an international benchmark, to the point that it has made the term "daily" synonymous with "daily news podcast."

A daily news podcast is defined as

> "serialized audio content that is broadcast periodically and created for on-demand, multi-platform distribution by a digital journalism brand that seeks to present a 'curated' selection of current event topics using digital audio production and distribution resources" (**Martínez-Costa**; **Lus-Gárate**, 2019, p. 330).

From a professional perspective, it is viewed as a

> "daily format (Monday through Friday) that is distributed via the Internet, uses [...] narrative and informative journalism, lasts up to 25 minutes and whose style is closely linked to the host's voice" (María Jesús Espinosa de los Monteros, Director of *Prisa Audio*, in **Orrantia**, 2019, p. 162-163).

Newman and **Gallo** (2019) have identified three categories of daily news podcasts:

1) microbulletins, lasting between 1 and 5 minutes;
2) news round-ups, ranging from 6 to 15 minutes; and
3) deep dives, which usually last 20 minutes or more.

Daily news podcasts are also viewed as tools for elevating transparency and journalistic authority (**Perdomo**; **Rodrigues-Rouleau**, 2021; **Dowling**; **Miller**, 2019) through strategies such as "intraprofessional dialogs" (**Lundell**, 2010) or conversations between journalists as a way to share with audiences hidden details from the editorial department and to leverage their knowledge. Other studies reveal a shift from objectivity toward interpretive reporting in this format (**Nee**; **Santana**, 2021). Reporters and hosts often appear as both characters and experts, and narrative elements emphasize storytelling over content. This first-person reporting creates an intimacy that strengthens the connection between the journalist and the listener (**Lindgren**, 2021).

2.3. Podcasting, from the strategy to the business model

Legacy media editors are immersed in the strategic transformation of their organizations, with changes to their products and the diversification of their business models (**Belair-Gagnon**; **Steinke**, 2020; **García-Avilés**, 2021). Podcasts are an opportunity to

a) experiment, explore and take on new informative fields, and
b) expand, diversify and strengthen their business goals (**Martínez-Costa**; **Lus-Gárate**, 2019).

Digital audio is ideal for developing growth strategies and innovating new startups (**Legorburu**; **Edo**; **García-González**, 2021). In fact, the study by **Carvajal** *et al.* (2022) on innovation in journalism in Spain (2010-2020) lists podcasting as a top initiative because the format restores the niche's importance, the authorship and the voice of the journalist or narrative elements, such as serialization and a sense of intimacy (p. 10).

Despite rising consumption and industry interest, the podcast business has not been subject to a great deal of academic research (**Sejersen**; **Kammer**, 2021). Podcasting makes the most of digital economies, low production and distribution costs, listener loyalty and penetration with young users. In an environment defined by economies of scale and lower advertising spending, podcasts are a business opportunity for newspapers thanks to the increased consumption and the growing interest of advertisers (**Aufderheide** *et al.*, 2020; **Newman**; **Gallo**, 2020). Despite this, podcasting does not have the weight of traditional media outlets, websites or online video, thereby hindering its monetization (**Terol**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021).

The business model represents how a company creates, distributes and captures value in a market (**Osterwalder**; **Pigneur**, 2010). It is based on a company's features, value chain and the implicit perspective of managers regarding their business and how they compete (**Massa**; **Tucci**; **Afuah**, 2017). The business model is made up of several elements that comprise this internal logic aimed at creating, distributing and capturing value. **Morris**, **Schindehutte** and **Allen** (2005) propose six interrelated components:

- value proposition,
- market,
- capabilities,
- positioning,
- revenue model, and
- strategic mission.

In turn, the business strategy is how organizations plan their operations and decisions to sustain their competitive advantage (**Sánchez-Tabernero**, 2000). According to business research, growth and diversification are the most common ways to prevent organizations from falling behind (**Medina-Laverón**; **Sánchez-Tabernero**; **Larrainzar**, 2020).

This conceptual framework makes it possible to view daily news podcasts as products aimed at creating value (for users, advertisers or whoever has launched them), as a strategy for publishing houses to position their brand (**Martínez-Costa**; **Lus-Gárate**, 2019) and diversify their operations or revenue streams, as branded podcast services, and as licenses for audiovisual rights and sound production services.

3. Objective

This paper aims to analyze the daily news podcast phenomenon from the strategy and business model perspectives to identify the value propositions, competitive resources and goals of the actors in this ecosystem. Specifically, the study seeks to answer the following research questions about the daily news podcast phenomenon:

Q1. What editorial proposals do they offer to create value for audiences and other stakeholders?
Q2. How are they positioned in the market and what is their strategic mission?
Q3. What is the revenue model and what are the capabilities and resources that sustain them?

4. Method

This paper is based on the qualitative analysis of various case studies, a research strategy that, according to **Yin** (2009), is important for explaining a reality in depth. The article proposes comparing cases, as opposed to analyzing a single entity, to delve into the various business models and strategic approaches, to consider the array of competitive situations, and to extract patterns and deviations in the format. According to **Castro-Monge** (2010, p. 38), the evidence from analyzing multiple cases "can be viewed as more solid and convincing." It is preferable to cover several realities, and by analyzing a greater number of cases to establish or refute a theory, the research results can be more robust (**Rowley**, 2002).

a) Selecting the sample

An intentional sample of 14 significant Spanish daily news podcast initiatives was selected based on their popularity in *iVoox* and *Apple Podcasts* rankings and/or their connection to a news outlet. Podcasts that are redistributions of programs or audio from other audiovisual channels were omitted. The final selection (n=14) appears in Table 1: Ten of the cases were launched by media outlets or entities, and four by independent creators.

b) Comparative case analysis

Information for the analysis was obtained through 14 semi-structured interviews with the corresponding product managers. Secondary sources were also consulted, along with corporate presentations and specialized journals. The interview questionnaire was designed according to the methodology previously defined by the authors (**Marín-Sanchiz**; **Carvajal**, 2019; 2020). The structure follows the six components of the business model (value proposition, market, capabilities and competitive resources, positioning, revenue model and mission) and contains specific questions for examining each one. This makes it possible to understand the journalistic initiative's business model by addressing all the processes for creating, distributing and capturing value: what they offer and who their target is, along with their capabilities, resources, mission and strategy. They were also asked whether their value proposition addresses any of the six needs identified by the *BBC* based on a two-year analysis on how to improve its editorial strategy to meet the informative expectations of its global audience (**Scott**, 2018):

- updating,
- sharing trends,
- offering perspective,
- educating,
- entertaining, and/or
- inspiring.

Table 1. Selection of daily news podcasts

Year founded	Podcast title	Parent company	Topic	Person interviewed
2019	*AM Kloshletter*	*Kloshletter* and *Spotify*	Mainstream	Charo Marcos, founder
2021	*El día en dos minutos*	*Cadena SER*	Mainstream	Marina Fernández, host
2022	*Hoy en El País*	*El País*	Mainstream	Isabel Cadenas, director
2021	*El Mundo al día*	*El Mundo*	Mainstream	Javier Attard, host
2016	*La ContraCrónica*	Independent	Mainstream	Fernando Díaz, creator
2021	*La primera*	*Expansión*	Economics	Amaia Ormaetxea, host
2019	*Loop infinito*	*Apple sphere*	Technology	Javier Lacort, host
2016	*Mixx.io*	Independent	Technology	Álex Barredo, creator
2021	*Muy al día*	*Muy Interesante*	Science	Iván Patxi Gómez, host
2018	*Pepe diario*	Independent	Sports	Pepe Rodríguez, creator
2021	*Recarga activa*	*Anaït Games*	Video games	Marta Trivi, host
2021	*Un tema al día*	*eldiario.es*	Mainstream	Juanlu Sánchez, director and host
2021	*Hoy en El Debate*	*El Debate*	Mainstream	Belén Montes, host
2014	*Marketing Online*	Independent	Marketing	Joan Boluda, creator

Source: Based on the interviews carried out

Specific questions were also posed about the daily news podcast concept to expand the theoretical basis on which this format is defined.

c) Coding the material

The fieldwork was performed during the first quarter of 2022. The conversations lasted 48 minutes on average and were transcribed for their subsequent analysis, as per the coding procedures and the search for concept saturation proposed by **Hull** (2013). Specifically, a series of readings were done by the three authors to identify the main concepts in participant responses, and then group them into categories (e.g., types of value propositions) and ascertain consensus points for comparing the business models and creating new categories based on the knowledge from the literature on the daily news podcast phenomenon (**Kelle**, 2007, p. 192).

5. Results

The findings obtained from analyzing the cases and the interviews with the corresponding managers were classified according to the business model's six components: value proposition, market, capabilities and competitive resources, positioning, revenue model and strategic mission.

5.1. Value proposition

The results reveal the existence of two types of value propositions in the daily news podcast format, depending on the target audience's needs: providing perspective and keeping listeners up to date. These needs coincide with the two main types of daily news podcasts:

a) in-depth analyses of a topic with support from the editorial department, and
b) summaries similar to radio news bulletins that cover the informative keys (Table 2).

The format is characterized by strictly following the pace of everyday life, preferably Monday to Friday. The key is that it must become integrated into the audience's habits, and in this sense, it is ideal for catering to their consumption times.

a) Providing perspective

The daily news podcasts *Un tema al día* (*eldiario.es*), *Hoy en El País* (*El País*), *El Mundo al día* (*El Mundo*), *Hoy en El Debate* (*El Debate*), *La ContraCrónica* (Fernando Díaz Villanueva) and *Loop infinito* (*Applesfera*) seek to address this need through their varied nuances. This concept takes shape in the form of informative and documented journalism with a script, with voice contributions from newsroom reporters specialized in the matter. The audio, which lasts at least 10 minutes, is focused on a topic and features sound effects, dramatic music and the host. In the case of *The daily*, this value proposition also serves as the parent company's voice on the topic of the day as an extension of the brand's sound.

The results reveal the existence of two types of value propositions in the daily news podcast format, depending on the target audience's needs: providing perspective and keeping listeners up to date.

b) Keeping listeners up to date

The fundamental value proposition of *AM Kloshletter*, *Mixx.io*, *Recarga activa*, *El día en dos minutos*, *Marketing Online*, *Muy al día* and *La primera de Expansión* is to keep audiences up to date. The value takes shape in a format that summarizes the most important information quickly and easily so audiences can stay updated on current events. The duration is between 2 and 5 minutes (*El día en 2 minutos*, *AM Kloshletter*, *Muy al día*, *La primera de Expansión*) or around 15 minutes (*Mixx.io* and *Recarga activa*).

c) Providing entertainment

The director of *Muy al día* underscores the importance of providing entertainment and captivating listeners with a fun space that allows them to associate positive values with the parent company. The entertainment perspective is a common aspect in most of the sample, and it differentiates the podcast format from other journalism products. The managers at *El País*, *eldiario.es*, *El Debate* and *El Mundo* state that they aim to form part of listeners' daily routine, which requires offering an attractive audio product. Joan Boluda, from *Marketing Online*, believes that the need he addresses is to *educate audiences* to strengthen the creator network in the Spanish market.

Table 2. Variables regarding the value proposition

Daily news podcasts	Type	Predominant duration	Need addressed	Value proposition
AM Kloshletter	Micro-bulletin	3-5 min	Keeping listeners up to date	Entertaining and brief current events summary. Includes interesting news
El día en dos minutos	Micro-bulletin	2 min	Keeping listeners up to date	Late-afternoon summary of current events, featuring related sound effects
Hoy en El País	In depth	15-20 min	Providing perspective and entertainment	Introducing new audiences to reporting by *El País*
El Mundo al día	In depth	15-20 min	Providing perspective	Contextualization and analysis of current events from the editorial perspective of *El Mundo*
La ContraCrónica	In depth	30-60 min	Providing perspective	Explaining a topic for listeners who already have a basic understanding of the matter. Own voice and analytical capability
La primera de Expansión	Micro-bulletin	5-7 min	Keeping listeners up to date	Summary of the top current events from *Expansión* (*Financial Times* license included)
Loop infinito	In depth	10-15 min	Keeping listeners up to date	Contextualization and analysis of the latest news about *Apple* and its competitors
Mixx.io	Bulletin	10-15 min	Keeping listeners up to date	Curated content and contextualization about the tech industry
Muy al día	Micro-bulletin	5-8 min	Providing entertainment	*Muy Interesante* content shared with young audiences to entertain them
Pepe diario	In depth	1-2 h	Providing entertainment	Multi-sport focus for heavy users; use of humor
Recarga activa	Commentary bulletin	10-15 min	Keeping listeners up to date	Quick and straightforward update about the video game sector
Un tema al día	In depth	10-15 min	Keeping listeners up to date	Contextualization and analysis of current events from the perspective of eldiario.es
Hoy en El Debate	In depth	8-12 min	Providing perspective	Contextualization and analysis of current events from the editorial perspective of *El Debate*
Marketing Online	In depth	15-25 min	Educating	Inspiring and educational content about online marketing

Source: Based on the interviews carried out in the first quarter of 2022.

d) Bringing journalism closer to listeners

The narrative applied in certain cases (*Hoy en El País*, *Un tema al día*, *Hoy en El Debate*, *El Mundo al día*) stands out for the regular use of dialogs between professionals that shed light on the reporting process, make the podcast more personal and strengthen the media's brand (**Lundell**, 2010).

From a strategic point of view, this narrative resource underscores authority and promotes transparency. According to Isabel Cadenas (*El País*), the narrative key of daily news podcasts lies in "discovering topics at the same time as listeners."

> According to Isabel Cadenas (*El País*), the narrative key of daily news podcasts lies in "discovering topics at the same time as listeners

5.2. Market

The daily news podcasts analyzed target mainstream as well as specialized audiences (Table 3). This market segmentation means that podcasts are versatile media products with heterogeneous topics, durations and routines. In general, the managers of these spaces rely on data from third parties, such as the platforms or editors of their media outlets. Many respondents had a negative view of the information available for studying and understanding their podcast audiences. Although the sound industry is growing, a global standard does not yet exist to validate listening data or to have greater knowledge of consumption, despite "platformization" (**Terol**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021). This absence hinders the format when negotiating of potential business agreements.

a) Mainstream

On the one hand, there are products with a mainstream media parent company (print, digital or sound), such as *eldiario.es*, *El País*, *El Mundo*, *El Debate*, *Cadena SER* and *Kloshletter*. Audiences for *El Mundo al día*, *Hoy en El Debate* and *Un tema al día* rely on the parent company's other products, such as the homepage or newsletter, particularly in the case of *eldiario.es*, which is created by the podcast host. As a result, the audience matches the reader profile: in the case of *El Mundo or El País*, listeners are younger, between the ages of 35 and 40, but overall, the profile is fairly similar to the most common reader of *El Mundo*, as explained by Javier Attard and Isabel Cadenas. At *eldiario.es*, 30% of people who consume *Un tema al día* do so by navigating directly from the website, and a similar percentage of listeners follow a link from the newsletter sent by the product manager.

b) Specialized

On the other hand, there has also been an emergence of niche daily podcasts specialized in technology (*Mixx.io*, *Loop infinito)*, marketing (*Marketing Online*), video games (*Recarga activa*), the economy (*La primera de Expansión*) and science (*Muy Interesante*). Most *Loop infinito* listeners are men interested in technology, particularly *Apple*. This audience matches the male segment of *Mixx.io*, whose profile is made up of men between the ages of 35 and 45, and of *Pepe diario*, whose market consists of men between the ages of 25 and 35 with a degree. The profile for *AM Kloshletter* centers on young people, but it is split evenly between men and women. The team at *Recarga activa* reports that its listeners are between the ages of 16 and 25. The audience for *Muy al día* is 65% men and 35% women, and between the ages of 28 and 44 on average. Half live in Spain and the rest listen from Argentina, Chile, Colombia, and Mexico. *La CrontraCrónica* also has a percentage of Latin American listeners, although the average profile is an urban male between the ages of 35 and 55. The profile defined by the team at *La primera de Expansión* coincides with its traditional audience: executives, CEOs and investors.

Table 3. Variables regarding the market

Daily news podcasts	Market	User profile	Listens per episode
AM Kloshletter	Mainstream	Equal number of male and female *Spotify* listeners, and younger than the newsletter from which it originated	Not available
El día en dos minutos	Mainstream	Similar to *Cadena SER* audience	Not available
Hoy en El País	Mainstream	Similar to *El País* readers	50,000
El Mundo al día	Mainstream	Similar to *El Mundo* readers	40,000
La ContraCrónica	Mainstream	Urban men between the ages of 35 and 55 with a strong willingness to pay	50,000
La primera de Expansión	Economics	Similar to *Expansión* readers executives, CEOs and people interested in investing	1,500
Loop Infinito	Apple product consumption	*Apple* device users	12,000
Mixx.io	Technology	Spanish men between the ages of 35 and 45	17,000
Muy al día	Science	65% men, 50% in Spain, followed by Mexico and Colombia	300 (before being available on *Audible*)
Pepe diario	Sports	Young audience between the ages of 16 and 40	1,700
Recarga activa	Video games	Men between the ages of 25 and 35 with a degree	Not available
Un tema al día	Mainstream	Similar to *eldiario.es* readers and the *Un tema al día* newsletter	25,000
Hoy en El Debate	Mainstream	Similar to *El Debate* readers	300
Marketing Online	Online business and marketing	People interested in digital business and entrepreneurship	65,000

Source: Based on the interviews carried out in the first quarter of 2022.

5.3. Capabilities and competitive resources

The capabilities that come into play to produce a daily news podcast range from structural to personnel. The first includes the tangible and intangible aspects of the media outlet that houses the product (team, technological resources, brand assets, etc.). The second has to do with the attributes of the people who directly produce the podcast, with a special focus on the host (Table 4).

a) Flexibility and individual talent

The sample includes teams with three to five members, such as *AM Kloshletter* and *Un tema al día*; and other structures with only two people, such as *El Mundo al día*, *La primera de Expansión*, *El día en 2 minutos*, *Muy al día*, *Hoy en El Debate* and *Loop infinito*. There are also solo projects, in which the creator is also the host, scriptwriter, editor and producer. This is the case of *Pepe diario*, *Marketing Online* and *La ContraCrónica*.

The professional profile that makes it possible to create these spaces is an all-purpose host who proposes, researches, documents and writes the script for the program. It is usually accompanied by a technical profile that edits, produces and distributes the final audio on the platforms and technologies available. In certain cases involving a parent company, these teams report to the editorial or website manager, who supervises from afar as opposed to monitoring the day-to-day details. This applies to *El Mundo*, *Expansión*, *Muy Interesante* and *El Debate*. Scriptwriters, hosts and editors are the three most common profiles for this product.

This structure applies to the *Hoy en El País* podcast, which has a ten-person team: two hosts, six scriptwriters, one executive director and one sound designer. This is the most important daily news podcast initiative in Spain to date. It follows the *Prisa Audio* strategy and is driven by María Jesús Espinosa de los Monteros, renowned for producing top storytelling podcasts for the Madrid newspaper, including *Los papeles.*

b) Perseverance and professionalism

According to independent creators, perseverance and resolve are the most important skills for producing and managing a daily news podcast. They also believe that completing daily production tasks and consistently executing the editorial calendar are essential for sustaining listener habits.

Those who undertake podcasting as a personal adventure also highlight the importance of understanding the business so they can negotiate with advertisers, set prices and learn how to manage the product financially, such as by increasing the number of subscribers or members. Most also mention the ability to create good content based on their vast knowledge of the topic thanks to their studies, documentation and a quality script.

Communication skills are also at the top of the list: good self-expression, mental alertness and improvisation, particularly when there is no script, as in the case of *Marketing Online*, *Pepe diario* and *Recarga activa*. Other important aspects include knowledge of radio and the importance of monitoring the pace, projecting the voice and emphasizing the story, as noted by Belén Montes from *El Debate*, Javier Attard from *El Mundo* and Juanlu Sánchez from *eldiario.es*. When asked about essential competitive resources, podcasts with media parent companies all point out that they have the support of their newsrooms, which are the basis of their sound creations.

Table 4. Variables regarding competitive resources and capabilities

Daily news podcast	Specific team	Key resources and/or capabilities
AM Kloshletter	3 people	*Spotify* distribution and experience in newsletter
El día en dos minutos	1 person	*Cadena SER* and *Hora 25* newsroom
Hoy en El País	10 people	*El País* newsroom
El Mundo al día	1 person	*El Mundo* newsroom
La ContraCrónica	1 person	Resolve and individual talent
La primera de Expansión	2 people	*Expansión* newsroom
Loop infinito	2 people	*Apple sphere* newsroom
Mixx.io	1 person	Individual talent and versatility
Muy al día	2 people	*Muy Interesante* newsroom
Pepe diario	1 person	Resolve and individual talent
Recarga activa	3 people	Individual talent
Un tema al día	4 people	*eldiario.es* newsroom
Hoy en El Debate	1 person	Prior experience and *El Debate* newsroom
Marketing Online	1 person	Resolve and individual talent

Source: Based on the interviews carried out in the first quarter of 2022.

5.4. Positioning

In addition to creating the product, organizations rely on their positioning to ensure the successful creation and distribution of value to the market. This refers to how they stand out from competitors and what strategies they use to bolster their brand image and the user perception of their daily news podcasts. In this sense, the analysis reveals three types of positioning: leadership, the outlet's voice, sound quality and personal brand (Table 5).

a) Leadership

Certain initiatives, such as *Mixx.io*, *Expansión*, *Pepe diario*, *Marketing Online* and *Muy al día*, seek to position themselves as experts on the topic in question based on their leadership in that segment. This positioning is due to their reputation as trailblazers in specialized fields based on the prestige of the parent company's brand or the editorial strategy.

b) The media outlet's voice

Other podcasts seek to convey the voice of the media outlet that houses them and therefore have a clear editorial positioning because they feed off of the newspaper's focus, topics and newsroom, as in the case of *El País*, *El Mundo*, *eldiario.es and El Debate*. A similar example is *El día en 2 minutos*, which can be traced back to *Hora 25* as a section that subsequently became emancipated. These podcasts benefit from their special exposure to the parent company's audience and the brand capital, which are factors that position them in the market.

c) Quality

Other attributes with which these audio products attempt to pivot are the narrative and sound quality through well-crafted stories that surprise listeners with carefully selected sounds. If the goal is to build trust, the host's voice and naturalness, the consistent frequency and the use of repetitive resources play a key role in firmly positioning the podcast in the user's mind within a competitive setting. They note the importance of the music selected and of the sound quality.

Table 5. Variables regarding positioning

Daily news podcasts	Positioning	Priority listening channels	Differentiation	Promotion
AM Kloshletter	The only Spanish daily news podcast on *Spotify*	*Spotify* platform	Entertaining	*Spotify*, newsletter and social media
El día en dos minutos	Extension of the parent company brand	*Cadena SER* website	Brevity and *Cadena SER* audio resources	*SER podcasts*
Hoy en El País	Extension of the parent company brand	*El País* website	Depth and entertainment	Cross-promotion
El Mundo al día	Extension of the parent company brand	*El Mundo* website	Naturalness and appealing stories	Banner on the home page
La ContraCrónica	Independent content creator	*iVoox*	Product quality and personal brand	*iVoox* and social media
La primera de Expansión	Extension of the parent company brand	*Expansión* website	Informative rigor	*Expansión* website and social media
Loop infinito	Market leaders on information about *Apple*	*Apple Podcasts*	The creator's personal brand	Social media
Mixx.io	Leading tech podcast in Spanish	Platform diversification	The creator's personal brand	Newsletter and social media
Muy al día	Extension of the parent company brand	*Audible*	Entertaining	Website and *Audible*
Pepe diario	Alternative to mainstream newspapers and radio	Private subscription feed	The creator's personal brand	Website and cross-promotion
Recarga activa	Market leaders on daily news about video games	Platform diversification	Reputation in the subject niche	Mention on the parent company's home page
Un tema al día	Extension of the parent company brand	Newsletter and media outlet's website	The voice of *eldiario.es*, which connects with the community	Mentions in the website's news section, newsletter and social media
Hoy en El Debate	Extension of the parent company brand	*El Debate* website	The media outlet's editorial voice	Mentions in the website's news section, newsletter and social media
Marketing Online	Leader and expert in the field of online marketing	Platform diversification	The creator's personal brand and approachability	Cross-promotion with *boluda.com*

Source: Based on the interviews carried out in the first quarter of 2022.

d) Personal brand

To improve their positioning, some podcasts rely on the creator's ability to leverage their personal brand and distribution strategy. This is done via social media, newsletters or participation in other media outlets. *Pepe diario*, *Marketing Online*, *La ContraCrónica*, *Recarga activa* and *Loop infinito* rely on the creators to position themselves in the market, although the last two examples have a parent company.

> The professional profile that makes it possible to create these spaces is an all-purpose host who proposes, researches, documents and writes the script for the program

5.5. Revenue models

According to the participants, the daily news podcast format has a very high monetization potential, with specific and stable audiences that dedicate their time and attention, and make it attractive for advertisers (Table 6). This product can also recoup listener support through contributions on external platforms such as *Patreon*, *Substack* and *Memberful*, or through audio gateway platforms like *iVoox*. This type of podcast is also a source of intangibles that can then boost a subscription product, redirect readers to the parent company and increase the brand's prestige. However, this potential podcast monetization has not appeared throughout the sample of cases studied, either due to their infancy and limited penetration in certain instances, or due to the lack of a clear editorial strategy in others.

a) Agreements with audio platforms

Some of the projects analyzed have specific agreements with audio platforms like *Audible* and *Spotify*, which rent them or acquire their exclusive distribution rights: *Muy al día*, *AM Kloshletter*. This guarantees a stable source of revenue in exchange for being available solely on that platform and, in certain instances, renouncing certain creative independence.

b) Advertising and sponsorships

Some podcasts rely on advertisers and external sponsors, frequently in the form of mentions read by the program's host (although technology is making it increasingly possible to insert programmatic advertising, like on a website or *YouTube*). Those that operate in the tech market are more likely to take advantage of sponsorship opportunities. In fact, *Mixx.io* reached approximately €45,000 in annual revenue from sponsorships. Of the mainstream podcasts, *Un tema al día (eldiario.es)* has signed sponsorships with *Oxfam Intermón* and *Podimo*, and *El Mundo al día* with several phone or electric utility companies. Others, in turn, have been unable to find clients due to a lack of attention paid by the parent company's sales department.

c) Subscribers and patrons

Daily news podcasts also benefit from the contributions of their patrons on *Patreon*, as in the case of *Recarga activa*, and others are created solely for product subscribers, as in the case of *Pepe diario*. Pepe Rodríguez is an archetypal example of the creator economy because, in addition to monetizing a loyal audience through direct payments on his website, he diversifies revenue streams via *Twitch* and collaborations with other media outlets.

Table 6. Variables regarding the revenue model

Daily news podcasts	Revenue model
AM Kloshletter	Agreement with *Spotify*
El día en dos minutos	Not available
Hoy en El País	Advertising (under development)
El Mundo al día	Sponsorships
La ContraCrónica	Patrons (3,000 on *Patreon*), programmatic advertising on platforms, native advertising, affiliate links and promotional merchandise
La primera de Expansión	Sponsorships (under development)
Loop infinito	Sponsorships
Mixx.io	Sponsorships, *Patreon* and other services
Muy al día	Programmatic advertising, native advertising and licensing (currently with *Audible*)
Pepe diario	Closed subscription (1,700) and subscriptions on *Twitch*
Recarga activa	Patrons (*Patreon*), programmatic advertising on platforms, sponsorships
Un tema al día	Sponsorships
Hoy en El Debate	Not available
Marketing Online	Not available

Source: Based on the interviews carried out in the first quarter of 2022.

d) Flexible cost structure

Podcast production is inexpensive, scalable and requires minimal technology that is within reach of most mainstream and specialized media outlets. Independent creators confirm this, noting that they began recording their podcasts using limited resources, some even without a microphone or special headphones. However, it is important to take into consideration that many creators spend part of their work day on other activities for the media outlets that employ them, primarily writing content.

In the case of *El Mundo* and *eldiario.es*, their companies invested in hiring new podcast professionals and purchasing equipment, whereas others, such as *Expansión* and *El Debate*, leveraged the structural resources allocated to audiovisual departments. In summary, podcast production costs can be easily assumed unless creators strive for sound perfection and have professional training. *El día en 2 minutos* is a different matter because it uses *Cadena SER* resources.

5.6. Strategic mission

The mission is the basis of the journalistic and corporate initiative, and it is defined in the form of editorial and business objectives. The interviewees, in light of their journalism background (through formal education or professional experience), tend to highlight the editorial mission that paves the way for creating a daily news podcast, but they all recognize that there is also a business mission that determines the project's reach (Table 7).

a) Subsistence

The independent creators have a strategic mission that allows them to continue developing the sound product in a sustainable manner. Pepe Rodríguez (*Pepe diario*) values the convenience, freedom and self-fulfillment that this podcasting adventure has provided. His business goal is to grow, add more subscribers and remain independent. This is confirmed by another independent creator, Fernando Díaz Villanueva, whose podcast is funded through several sources, including patrons, *iVoox* subscribers, sponsorships and external collaborations. In turn, *Mixx.io* does not rule out the possibility of growing to sell to a platform like *Spotify* if an attractive offer is made. On an editorial level, Alex Barredo seeks to have the strongest impact possible on specialized niche listeners.

b) Growth

The mission of growing the business (i.e., gaining market share and increasing revenue) is the natural tendency of all podcast creators, although smaller ones would settle for a sustainable model. The editorial mission of *AM Kloshletter* is to help keep people informed within an ecosystem of superabundance. From the business perspective, the goal is to continue growing the audience on *Spotify* to reach as many people as possible and for the platform to consider the agreement. This is also the aim of Joan Boluda with *Marketing Online*, which has published over 2,500 daily episodes and has an average of 65,000 daily listens on *iVoox*.

The daily news podcasts by large media outlets have a different perspective. They feel a strong push from their organizations, but their strategy is defined by those entities. The people behind *El día en 2 minutos* confirm the pressure of representing *Hora 25* on the podcast channel, and their sole aspiration is to do a good job for listeners. The idea of launching this podcast emerged from the station, which had foreseen its potential. Amaia Ormaetxea, from *Expansión*, explains that her mission is to grow and wait for that upward trend to translate into a revenue stream. In these instances, the evolution depends on the strategy set forth by the editors, who decide whether it is advisable to speed up or slow down, expand the project team or continue producing it using the existing resources.

c) Brand expansion

The daily news podcasts by *El País*, *El Mundo*, *eldiario.es* and *El Debate* have a natural tendency for growth and a clear editorial mission, which is to fortify the voice of their mastheads and build closer relationships with listeners through the advantages of audio content. In the case of *Un tema al día*, given the newsroom's track record of making successful podcasts, there seems to be a belief that its growth could result in the creation of an audio department that produces additional serialized, specialized or sporadic products, depending on the topics for the project.

The daily news podcast by *El Mundo* also represents the clear commitment to audio on behalf of the outlet's leaders, who have supported this product along with parallel initiatives in the International and Economy sections. The podcast by *El País* is also an opportunity to explore new languages and expand the scope of information and how it is presented to new audiences, according to the director. The parent company is focused on growing its subscription model by expanding its journalism to new audiences via the podcast.

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Table 7. Variables regarding the strategic mission

Daily news podcast	Business mission	Editorial mission or strategy
AM Kloshletter	Growth	Making information available to new audiences
El día en dos minutos	Growth	Serving as the media outlet's voice and expanding the brand
Hoy en El País	Growth	Expanding the languages and the scope of information, and evolving through new formats
El Mundo al día	Growth	Serving as the media outlet's voice and expanding the brand
La ContraCrónica	Sustainability and growth	Having a vocation to learn and enjoying their passion
La primera de Expansión	Growth	Brand expansion
Loop infinito	Growth	Serving as an authorized voice on information about Apple
Mixx.io	Subsistence and growth	Becoming a podcasting benchmark
Muy al día	Growth	Information, entertainment and brand expansion
Pepe diario	Subsistence	Entertaining audiences
Recarga activa	Subsistence and growth	Sharing their passion for video games with listeners
Un tema al día	Growth	Serving as the media outlet's voice and expanding the brand
Hoy en El Debate	Growth	Serving as the media outlet's voice and expanding the brand
Marketing Online	Growth	Sharing information about entrepreneurship

Source: Based on the interviews carried out

6. Discussion and conclusions

The study analyzes the daily news podcast ecosystem from a strategic and business model point of view. This perspective contributes to the news audio field of research by viewing value as the basis on which news products are designed and addresses a need for studies on podcasts from a business perspective.

Q1. Editorial proposals

The research highlights the existence of two predominant alternatives: those that seek to give listeners perspective about current events, addressing a topic more or less in depth and offering highly filtered news with a regular presence of journalists and experts on the subject being covered that day; and those that summarize current events in a specific, agile and entertaining manner to keep listeners informed of mainstream or specialized matters.

Therefore, the paper also sheds light on new nuances about the nature of daily news podcasts in light of creating value. Specifically, two of the models highlighted by **Newman** and **Gallo** (2020) stand out in the Spanish audio ecosystem:

a) daily deep-dive shows that last more than 10 minutes and explain and give perspective about one subject, featuring a host with a narrative approach; and

b) microbulletins, which inherit radio format features and summarize the top news.

The first has a more interpretive nature, linked to the voice of the host or the creator, thereby bolstering podcasting attributes (**Lindgren**, 2021). The second varies between microbulletins, which last two minutes on average, and more detailed round-ups. The strength of independent podcasts lies in the personal vision, which sometimes has an opinionated style.

The producers interviewed understand the power of voice, the host's narrative role, and the need for authenticity to connect with audiences (**Jorgensen**, 2021). The use of dialog between journalists elevates transparency and journalistic authority (**Perdomo**; **Rodrigues-Rouleau**, 2021; **Dowling**; **Miller**, 2019; **Lundell**, 2010). This finding is confirmed in the sample analyzed and highlights its appeal for adding value through the stories as well as by building trust and relationships.

It can also be observed that podcast creators, regardless of their nature, are very much aware of the importance of creating value for stakeholders other than listeners –sponsors, parent companies, etc.– through specific strategies such as advertising messages that are more solid than traditional variants because they leverage the relationship of trust between the host and audiences, or linking the podcast to other key products for major media outlets, such as newsletters.

Q2. Positioning and strategic mission

The results reveal two approaches based on the podcast's structure and origin:

- major media outlets seek to improve their positioning through a close and personalized relationship with listeners, as well as to expand their brand to the podcast ecosystem or to new audiences;
- the independent creators strive for subsistence and influence in their niche, and all of the participants show a clear desire to grow in terms of turnover and audience size.

The daily news podcast format is still in the experimental phase for media outlets (**Rojas-Torrijos**; **Caro-González**; **González-Alba**, 2020). In any case, the creative activity, higher consumption and presence of top brands make it possible to conclude that daily news podcasts are the most significant audio projects to date at traditional media outlets. Important undertakings have been carried out in Spain with a narrative, serialized or conversational style, such as *Máster* by *eldiario.es*; or *V* and *Las cloacas del estado* under the umbrella of *Podium*; and other newspaper initiatives by *Vocento* newspapers or startups like *Cuonda*. However, daily news podcasts will play a key role in the industry by strengthening brands and leveraging the digital expansion of media outlets (**Martínez-Costa**; **Lus-Gárate**, 2019).

> The results reveal two approaches based on the podcast's structure and origin: major media outlets seek to improve their positioning through a close and personalized relationship with listeners, as well as to expand their brand to the podcast ecosystem or to new audiences

Q3. Capabilities, competitive resources and revenue model

The findings highlight the existence of a flexible structure that relies on the individual talent and communication skills of the host, whose personality plays a big role in the product's success (**Lindgren**, 2021). It can also be concluded that the sound medium's classic journalistic skills (agility, classification, mastery of audio) are the most important, and that independent creators must multi-task to complete the production, distribution and monetization phases.

Top-quality daily news podcasts pay special attention to the voice and sound design, thereby requiring capabilities that can only be attained through professionalization. However, of the media outlets that have taken on the challenge, some do so with limited or moderate resources, in the best-case scenarios, unlike leading international initiatives, such as the aforementioned *The daily*, *Today in focus* and *The Economist* (**Newman**; **Gallo**, 2020). The average team size of other European newspapers (*Dagens Nyheter*, *Les Echos*, *Le Parisien*, *Afonbladet*) is only attained by *Hoy en El País*, which has a 10-person team that works exclusively on the project. The rest allocate fewer resources, with teams ranging between two and four people, although this number can be higher if it includes occasional collaborators, outsourced producers and media outlet managers (*Expansión*, *El Mundo*, *eldiario.es*, *Applesfera*, *AM Kloshletter*) who coordinate this work with other tasks.

From a business perspective, podcasts also help national newspapers bolster their subscription models and create new revenue streams through sponsorships and advertisers. Independent producers opt for diversified revenue streams (sponsorships, programmatic advertising, corporate services, etc.) to ensure their sustenance. It is therefore evident that there is a strong connection between a podcast's main goal and its business model because this fundamental objective determines its revenue streams to a large degree.

Media outlets that have undertaken this adventure can tap into new business opportunities at the intersection between advertisers, audiences and platforms. Providing branded content services or producing sound content for third parties, including platforms, serve as proof of the format's promising growth. The ecosystem analyzed shows the existence of a solid value creation structure, although the return on investment and monetization remain pending in most instances.

Regarding the concept, the study confirms the view of **Martínez-Costa** and **Lus-Gárate** (2019): daily news podcasts are defined as audio with a variable duration and strict daily frequency, produced to explain a news topic in depth or to present a selection of current events. However, we do not believe that the existence of a journalism brand behind the podcast is a deciding factor for the format because the sample has uncovered quality reporting by independent producers, creators and entrepreneurs.

Daily news podcasts bring together the ideal determinants in terms of content, technology and business to create a convincing product that adjusts perfectly to new consumption habits. Its rising popularity can contribute to the necessary consolidation of podcasting in the digital audio market (**Terol**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021). The article explains that it is a matter of time and investment for the growth of these initiatives to yield economic results, new resources and more opportunities for journalism.

This study poses limitations that should be addressed in future research. Firstly, since the format is in its early stages, the product's degree of implementation and development in the market and in the organizations analyzed cannot be properly assessed. Secondly, future work should focus on establishing a comparative sample that includes international cases to verify the prevalence of the results and to evaluate differences in the format. And lastly, research on this format could benefit from other tools and methodologies, such as analyzing the content, users and their consumption habits.

7. References

Adler-Berg, Sørine-Freja (2021). "The tension between podcasters and platforms: independent podcasters' experiences of the paid subscription model". *Creative industries journal*, v. 15, n. 1.
https://doi.org/10.1080/17510694.2021.1890417

Aufderheide, Patricia; **Lieberman, David**; **Alkhallouf, Atika**; **Ugboma, Jiji-Majiri** (2020). "Podcasting as public media: the future of US news, public affairs, and educational podcasts". *International journal of communication*, v. 14.
https://ijoc.org/index.php/ijoc/article/view/13548

Belair-Gagnon, Valerie; **Allison, Steinke** (2020). "Capturing digital news innovation research in organizations, 1990-2018". *Journalism studies*, v. 21, n. 12, pp. 1724-1743.
https://doi.org/10.1080/1461670X.2020.1789496

Boling, Kelli S.; **Hull, Kevin** (2018). "Undisclosed information –Serial is my favorite murder: examining motivations in the true crime podcast audience". *Journal of radio & audio media*, v. 25, n. 1, pp. 92-108.
https://doi.org/10.1080/19376529.2017.1370714

Carvajal, Miguel; **Mondéjar, Dámaso**; **Valero-Pastor José-María**; **De-Lara, Alicia**; **García-Avilés, José-Alberto**; **Arias-Robles, Félix** (2022). "Las innovaciones periodísticas más destacadas en España (2010-2020): características e impacto organizacional, industrial y social". *Profesional de la información*, v. 31, n. 3, e310304.
https://doi.org/10.3145/epi.2022.may.04

Castro-Monge, Édgar (2010). "El estudio de casos como metodología de investigación y su importancia en la dirección y administración de empresas". *Revista nacional de administración*, v. 1, n. 2, pp. 31-54.
https://dialnet.unirioja.es/descarga/articulo/3693387.pdf

Chan-Olmsted, Sylvia; **Wang, Rang** (2020). "Understanding podcast users: consumption motives and behaviors". *New media & society*, v. 24, n. 3.
https://doi.org/10.1177/1461444820963776

Craig, Clay-Martin; **Brooks, Mary-Elizabeth**; **Bichard, Shannon** (2021). "Podcasting on purpose: exploring motivations for podcast use among young adults". *International journal of listening*.
https://doi.org/10.1080/10904018.2021.1913063

Dowling, David O.; **Miller, Kyle J.** (2019). "Immersive audio storytelling: podcasting and serial documentary in the digital publishing industry". *Journal of radio and audio media*, v. 26, n. 1, pp. 167-184.
https://doi.org/10.1080/19376529.2018.1509218

Galán-Arribas, Rafael; **Herrero-Gutiérrez, Francisco-Javier**; **Vergara-Fragoso, Martha**; **Martínez-Arcos, Cruz-Alberto** (2018). "Radio podcasting: studies on radio podcasting: a systematic literature review in WoS and Scopus that reveals a low scientific production". *Revista latina de comunicación social*, v. 73, pp. 1398-1411.
https://doi.org/10.4185/RLCS-2018-1313en

García-Avilés, José-Alberto (2021). "Review article: journalism innovation research, a diverse and flourishing field (2000-2020)". *El profesional de la información*, v. 30, n. 1, e300110.
https://doi.org/10.3145/epi.2021.ene.10

García-Marín, David; **Aparici, Roberto** (2018). "Nueva comunicación sonora. cartografía, gramática y narrativa transmedia del podcasting". *El profesional de la información*, v. 27, n. 5, pp. 1071-1081.
https://doi.org/10.3145/epi.2018.sep.1

Hardey, Mariann; **James, Simon J.** (2022). "Digital seriality and narrative branching: the podcast Serial, season one". *Communication and critical/cultural studies*, v. 19, n. 1, pp. 74-90.
https://doi.org/10.1080/14791420.2022.2029513

Hendy, David (2019). "Foreword". In: Spinelli, Martin; Dann, Lance (eds.). *Podcasting the audio media revolution*. Bloomsbury Academic.

Hull, Simon (2014). *Doing grounded theory* (Thesis).
https://doi.org/10.6084/m9.figshare.1050453.v1

IAB (2020). "U.S. podcast advertising revenue study". *PWC*.
https://www.iab.com/wp-content/uploads/2021/05/IAB_2020_Podcast_Advertising_Revenue_Report_2021-05.pptx.pdf

Jardin, Xeni (2005). "Audience with the podfather". *Wired magazine*.
https://www.wired.com/2005/05/audience-with-the-podfather

Jorgensen, Britta (2021). "Playing with perspective: narrative voice and trust in australian independent podcasts". *Radio journal: International studies in broadcast & audio media*, v. 19, n. 1, pp. 137-153.
https://doi.org/10.1386/rjao_00038_1

Kelle, Udo (2007). "The development of categories: different approaches in grounded theory". In: Charmaz, Kathy; Bryant, Antony (eds.). *The SAGE handbook of grounded theory* (pp. 191-214). Los Angeles: SAGE Publications Ltd.

Legorburu, José-María; **Edo, Concha**; **García-González, Aurora** (2021). "Podcasting as an opportunity to recover and renew the audio feature genre in Spanish: a case study of *Cuonda* and *Podium Podcast*". *Radio journal: international studies in broadcast & audio media*, v. 19, n. 2, pp. 311-326.
https://doi.org/10.1386/rjao_00046_1

Levy, Ari (2019). *Startup' podcast offers a rare fly-on-wall view of tech m&a after Gimlet's $200 million sale to Spotify. CNBC. https://www.cnbc.com/2019/10/22/startup-podcast-offers-inside-view-of-tech-ma-after-sale-to-spotify.html*

Linares-Palomar, Rafael; **Neira-Borrajo, Elena** (2017). "Serial, el programa radiofónico que resucitó el podcasting". *Área abierta*, v. 17, n. 1, pp. 73-82.
https://doi.org/10.5209/ARAB.53356

Lindgren, Mia (2021). "Intimacy and emotions in podcast journalism: a study of award-winning Australian and British podcasts". *Journalism practice*.
https://doi.org/10.1080/17512786.2021.1943497

Lundell, Åsa-Kroon (2010). "Dialogues between journalists on the news: the intraprofessional 'interview' as a communicative genre". *Media*, *culture & society*, v. 32, n. 3, pp. 429-450.
https://doi.org/10.1177/0163443709361171

Marín-Sanchiz, Cristian-Ramón; **Carvajal, Miguel** (2019). "Modelos de negocio en el periodismo: una propuesta metodológica para realizar estudios de caso". *index.comunicación*, v. 9, n. 1, pp. 149-171.
http://hdl.handle.net/10115/16869

Marín-Sanchiz, Cristian-Ramón; **Carvajal, Miguel** (2020). "Studying the transformation of the media business model: a new framework for case studies". *adComunica*, n. 20, pp. 283-310.
https://doi.org/10.6035/2174-0992.2020.20.12

Martínez-Costa, María-Pilar; **Lus-Gárate, Eva** (2019). "El éxito de los podcasts de noticias y su impacto en los medios de comunicación digital". *Miguel Hernández communication journal*, v. 10, pp. 317-334.
https://doi.org/10.21134/mhcj.v10i0.314

Martínez-Costa, María-Pilar; **Sánchez-Serrano, Consuelo**; **Pérez-Maillo, Aurora**; **Lus-Gárate, Eva** (2021). "La oferta de pódcast de la prensa regional en España: estudio de las marcas centenarias de Castilla y León y Navarra". *adComunica*, n. 21, pp. 211-234.
https://doi.org/10.6035//2174-0992.2021.21.11

Massa, Lorenzo; **Tucci, Christopher L.**; **Afuah, Allan** (2017). "A critical assessment of business model research". *Academy of Management annals*, v. 11, n. 1, pp. 73-104.
https://doi.org/10.5465/annals.2014.0072

Massarelli, Virginia; **Perrotta, Marta** (2006). "Podcasting: a change for listeners, a challenge for broadcasters". In: Thiermann, Sven (ed.). *Relating radio. Communities, aesthetics, access. Beiträge zur Zukunft des Radios*. Spector, pp. 267-264. ISBN: 978 3 940064806

Medina-Laverón, Mercedes; **Sánchez-Tabernero, Alfonso**; **Larrainzar, Arturo** (2020). "Growth strategies of media companies: efficiency analysis". *Palabra clave*, v. 23, n. 1.
https://doi.org/10.5294/pacla.2020.23.1.7

Morris, Michael; **Schindehutte, Minet**; **Allen, Jeffrey** (2005). "The entrepreneur's business model: toward a unified perspective". *Journal of business research*, v. 58, n. 6, pp. 726-735.
https://doi.org/10.1016/j.jbusres.2003.11.001

Nee, Rebecca C.; **Santana, Arthur D.** (2021). "Podcasting the pandemic: exploring storytelling formats and shifting journalistic norms in news podcasts related to the coronavirus". *Journalism practice*.
https://doi.org/10.1080/17512786.2021.1882874

Newman, Nic (2022). *Journalism, media, and technology trends and predictions 2022*. Oxford: Reuters Institute for the Study of Journalism.

Newman, Nic; **Gallo, Nathan** (2019). *News podcasts and the opportunities for publishers.* Oxford: Reuters Institute for the Study of Journalism.

Newman, Nic; **Gallo, Nathan** (2020). *Daily news podcasts: building new habits in the shadow of coronavirus*. Oxford: Reuters Institute for the Study of Journalism.

Orrantia, Andoni (2019). *Diez claves para contar buenas historias en podcast: o cómo producir contenidos en un entorno digital cambiante*. Barcelona: Editorial UOC. ISBN: 978 8 491 80591 5

Osterwalder, Alexander; **Pigneur, Yves** (2010). *Business model generation: a handbook for visionaries, game changers, and challengers* (v. 1). John Wiley & Sons. ISBN: 978 0 470 87641 1

Park, Chang-Sup (2017). "Citizen news podcasts and journalistic role conceptions in the United States and South Korea". *Journalism practice*, v. 11, n. 9, pp. 1158-1177.
https://doi.org/10.1080/17512786.2016.1224682

Pedrero-Esteban, Luis-Miguel; **Barrios-Rubio, Andrés**; **Medina-Ávila, Virginia** (2019). "Adolescentes, smartphones y consumo de audio digital en la era de *Spotify*". *Comunicar*, v. 60, pp. 103-112.
https://doi.org/10.3916/C60-2019-10

Perdomo, Gabriela; **Rodrigues-Rouleau, Philippe** (2021). "Transparency as metajournalistic performance: The New York Times' Caliphate podcast and new ways to claim journalistic authority". *Journalism*.
https://doi.org/10.1177/1464884921997312

Pérez-Alaejos, María-de-la-Peña; **Pedrero-Esteban, Luis-Miguel**; **Leoz-Aizpuru, Asier** (2018). "La oferta nativa de podcast en la radio comercial española: contenidos, géneros y tendencias". *Fonseca, journal of communication*, n. 17, pp. 91-106.
https://doi.org/10.14201/fjc20181791106

Prodigioso Volcán (2022). *II Estudio de voz y audio en España*. Madrid.
https://www.prodigiosovolcan.com/sismogramas/informe-voz-2020

Rojas-Torrijos, José-Luis; **Caro-González, Francisco-Javier**; **González-Alba, José-Antonio** (2020). "The emergence of native podcasts in journalism: editorial strategies and business opportunities in Latin America". *Media and communication*, v. 8, n. 2, pp. 159-170.
https://doi.org/10.17645/mac.v8i2.2699

Rowley, Jennifer (2002). "Using case studies in research". *Management research news*, v. 25, n. 1, pp. 16-27.
https://doi.org/10.1108/01409170210782990

Samuel-Azran, **Tal**; **Laor, Tal**; **Tal**, **Dana** (2019). Who listens to podcasts, and why?: the Israeli case. *Online information review*, v. 43.
https://doi.org/10.1108/OIR-04-2017-0119

Sánchez-Tabernero, Alfonso (2000). *Dirección estratégica de empresas de comunicación*. Cátedra, ISBN: 978 84 37 61839 5

Scott, Caroline (2018). "How *BBC World Service* engages younger audiences by fulfilling six reader needs". *Journalism.co.uk.*
https://www.journalism.co.uk/video/delivering-something-different-bbc-world-service-fulfills-six-user-needs-to-engage-younger-audiences/s400/a731718

Sejersen, Thomas-Spejlborg; **Kammer, Aske- Søndergaard** (2021). *The expanding podcast market: composition and revenue streams*. European Media Management Association, Jönköping, Sweden.
https://www.ucviden.dk/en/publications/the-expanding-podcast-market-composition-and-revenue-streams

Shapiro, Ariel (2020). "*Spotify* sale mints The Ringer's Bill Simmons as podcasting's first big-money superstar". *Forbes*. 4 June.
https://www.forbes.com/sites/arielshapiro/2020/06/04/spotify-sale-mints-the-ringers-bill-simmons-as-podcastings-first-big-money-superstar

Sherrill, Lindsey A. (2020). "The "Serial Effect" and the true crime podcast ecosystem". *Journalism practice*.
https://doi.org/10.1080/17512786.2020.1852884

Spotify (2020). *Spotify announces strategic acquisition of Bill Simmons' The Ringer to grow sports vertical*.
https://investors.spotify.com/financials/press-release-details/2020/Spotify-Announces-Strategic-Acquisition-of-Bill-Simmons-The-Ringer-to-Grow-Sports-Vertical/default.aspx

Sullivan, John L. (2019). "The platforms of podcasting: past and present". *Social media+ society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Taylor, Matthew P. (2021). "Book review: podcasting: the audio media revolution by Martin Spinelli and Lance Dann". *journalism & mass communication quarterly*, v. 98, n. 1, pp. 310-311.
https://doi.org/10.1177/1077699020984804

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis**; **Pérez-Alaejos, Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Van-Dijck, José; **Poell, Thomas**; **De-Waal, Martijn** (2018). *The platform society: Public values in a connective world*. Oxford university press. ISBN: 978 0 190889760
https://doi.org/10.1093/oso/9780190889760.001.0001

Yin, Robert K. (2009). *Case study research: design and methods*, 4th ed. California: SAGE.

Zumeta, Gorka (2020). *Gorka Zumeta disecciona el formato «Daily» en TEA FM*.
https://www.gorkazumeta.com/2020/02/la-disrupcion-digital-en-los.html

No habit, no listening. Radio and generation Z: snapshot of the audience data and the business strategy to connect with it

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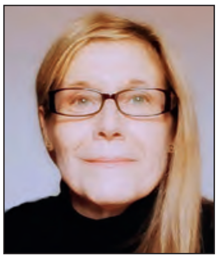

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Abstract

This article describes the most comprehensive study of the relationship between Generation Z and radio carried out in Spain to date, broadening the focus beyond data known from previous research and offering a structural view of the market from the perspective of media economics. An in-depth analysis of data previously unused in academic research, as well as interviews with the managers of various private radio companies (*Ábside Media*, *Atresmedia Radio*, *Podium Podcast-Prisa Radio*, and *Grup Flaix*), reveals the gradual loss of contact of Generation Z with this medium and highlights the characteristics of the low radio consumption by this cohort in Spain. Among other conclusions, the study identifies some of the factors which may prove relevant to attract this generation to content produced by radio companies, since there is the conviction that there is still time to reverse this situation. Examples include the development of exclusive digital content, brand maximization and community building, content designed and produced by Generation Z for Generation Z, the combination of paid and free access, and media literacy as a transversal public–private factor. This is a need that the sector must address as a whole.

Keywords

Generation Z; Radio; Audience; Listening; Media economics; Media management; Contents; Programs; Genres; Programming; Consumption; Audio communication.

1. Introduction

Radio has been steadily losing audience levels in Spain since 2012 (from 61.9% to 55.5% in 2021, according to the *Estudio General de Medios* [*General Media Study*, *EGM*]). This decline has been especially steep among Generation Z. Furthermore, radio has seen 40% of its advertising investment disappear (from €648M to €382M in 15 years) and is the medium with the lowest advertising return on its digital inventory: just 3.3% of the investment it secured in 2021 came from this market, while for printed press –a sector whose adaptation to new media consumption habits was predicted to be difficult– the digital advertising revenue share has already reached 54.9% (*Arce Media*, 2021).

According to the *Digital News Report España* (2021), the number of people who obtain their news through radio is falling, especially in the 18–34 age bracket, where it barely reaches 14%. It is precisely here where the use of social networks (*Instagram*, *Twitter*, *TikTok*, and *Twitch*) to consume news reaches its maximum, up to 64%. Moreover, this shows no signs of changing in the near future, as the same report asserts that these young people feel far removed from the way they are depicted in traditional media (**Negredo**, 2021). Generation Zers mainly inform themselves through social networks, which are plagued with fake news (**Pérez-Escoda**; **Barón-Dulce**; **Rubio-Romero**, 2021*)*, although radio remains the most trustworthy medium (as repeatedly reflected by the Eurobarometer, most recently in its winter 2021/2022 edition). The same also occurs with university students, who would be expected to demonstrate a more critical and educated approach to media consumption (**Pérez-Escoda**; **Pedrero-Esteban**, 2021).

The drop in consumption is not homogeneous, as it varies among formats. Nor is its decline worldwide, as the medium has held out better in other countries in our cultural sphere. During the last 5-10 years, the loss of audience among the members of Generation Z in France and Spain has been 18% and 16%, respectively, while in cases such as Germany, the drop has amounted to just 9%. It bears noting that in both France and Germany, the market penetration for this cohort was greater than it was in Spain (**Mars**, 2021). However, the differences do not stop there: in Australia, penetration reached 87% in the 10-17 age cohort and 75% for ages 18-24, with constant growth over the last 5 years (**Cheick-Hussein**, 2021).

Various business initiatives being brought to term in both our country and the rest of Europe have suggested the relevance of the research topic proposed. Some examples include the *La Ràdio i els joves* seminars of the *Catalan Radio Association* (*ACR*), specific studies conducted by the *European Group of Television Advertising* (*EGTA*), reports from the *European Broadcasting Union* (*EBU*) or the British *Radiocentre*'s publication on Generation Z in Europe.

The existence of data on this generation's rising contact with spoken sound content may also prove instructive for radio companies. According to *Edison Research*, listening to spoken content in the United States has increased by 40% in the last 7 years. This growth is explained fundamentally by the greater consumption of podcasts among the youngest audiences: a growth of 116% in the case of Generation Z (*Edison Research*, 2021; 2022).

Scientific literature is starting to broaden the research perspective with results that address the gap between radio and young people: comparisons between distinct markets (**Espinosa-Mirabet**; **Ferrer-Roca**, 2021), the success story of *RAC 1*, a generalist with a high proportion of young listeners (**Espinosa-Mirabet**, **Gutiérrez**; **Martí-Martí**, 2021), the role and function of the public service (**Lowe**; **Maijanen**, 2019), radio consumer psychology applied to this generation (**Lissitsa**; **Tabor**, 2021), etc.

This paper aims to contribute knowledge on a seldom-researched medium (**Piñeiro-Otero**, 2017; **Repiso**; **Torres-Salinas**; **Delgado-López-Cózar**, 2011) and to do so from a perspective atypical in Spain, discussing the relationship between radio and Generation Z through the lens of media economics. This trend has historically been seen as a polar opposite to the political economy of communications (also known as the critical approach), ignoring that the two have evolved side by side, the fruit of one another's mutual influence (not exempt from reprimands) and that of other trends (i.e. the evolutionary or institutional approach) (**Cunningham**; **Flew**; **Swift**, 2015; **Bonet**, 2017). As some of this perspective's main representatives asserted in their day, media economics does not, strictly speaking, exist; rather, there is a compilation of theories taken from economics and management and applied to the functioning of media (**Picard**, 2006; **Albarran**, 2012). Not in vain have the multiple editions of one of the most representative works combined media economics and management into the same field of study: *Handbook of Media Management and Economics* (**Albarran**; **Chan-Olmsted**; **Wirth**, 2006; **Albarran**; **Mierzejewska**; **Jung**, 2018).

Despite its unique attributes, radio as an industry (especially commercial private radio) operates on the basis of a more or less consensual system, of which audience measurement represents a fundamental pillar.

> "Thus, economics is concerned with *what* is produced, the technology and organization of *how* it is produced, and *for whom* it is produced." (**Owers**; **Carveth**; **Alexander**, 2004, p. 5)

Facing a dual market, radio operates by offering content to its listeners and selling access to these listeners to advertisers in search of their ideal target (**Albarran**, 2004). Radio companies create a product but

> "participate in two separate good and service markets… and performance in each market affects performance in the other." (**Cunningham**; **Flew**; **Swift**, 2015, p. 18)

The present article addresses what audience studies have been demonstrating for some time: the “for whom” is in decline and, with it, the access being offered to advertisers. The system is teetering and radio operators must confront it.

The small number of academic papers on radio published in recent decades, at least in Europe, have prioritised approaches drawn from gender theory or cultural studies, and fewer authors have applied the critical approach and, still fewer, media economics. This paper, from the point of view of those responsible for taking the decisions which steer their companies, will make it possible to analyse causes, decisive factors and possible actions with the goal of transferring knowledge to the business world, as the same concern is demonstrably on the rise in the university realm and the radio industry alike. Nonetheless, academia produces knowledge which does not always reach companies.

Thus, the present paper aims to go beyond the data known until now and, after describing the relationship between Generation Z and radio, will offer a structural vision of the market by applying analytical tools from the perspective of media economics: why this market’s offering fails to attract the audience in question and if this is to any extent reversible.

The paper responds to the following questions:

P1. How does Generation Z in Spain listen to radio?
  P1b. When, where and what genres does it consume?

P2. How do companies analyse the relationship between Gen Zers and radio?
  P2b. What structural factors do these companies believe can be addressed in order to attract this generation to their audio content?

The first two questions will be answered with a thorough analysis of data from the *EGM* (never before used for this academic research purpose in Spain) and questions P2 and P2b through four semistructured in-depth interviews with multiple professionals from the realm of private radio company management. The paper examines only the three major private radio operators in Spain. Their turnover volume and revenue model, based almost exclusively on advertising, raises more questions for these operators in the face of the aforementioned fracturing of the dual system.

2. Theoretical framework

2.1. Radio and Generation Z in Spain

The convenience of dividing the population into generational segments, and of attributing common values, ideas, beliefs and attitudes to these segments based on the fact that they share similar experiences and have lived through similar social contexts and political and economic events, has already been demonstrated. This segmentation process proves particularly useful when it comes to studying radio consumption behaviour (**Lissitsa**; **Laor**, 2021).

The values, preferences and habits of cultural consumption transcend borders in our field of study: in a seminar on radio and Generation Z organised by *ACR* (2021), the speakers agreed that this cohort of digital natives lives permanently connected, through their smartphones, to social networks or content in which video plays an essential role; what they consume is associated with their values; they are used to consuming this content whenever they want; they create their own audiovisual products; they are interactive and it is difficult to capture their attention. Thus, to their ears, all content proposals are equal and it is here where the radio operators’ doubts begin on how to access this generation: go where they consume?; a specific application?; co-branding through an aggregator that dilutes one’s own brand? (**Fernández-Quijada**; **Mars**; **Pedrero-Esteban**, 2021).

Add to this centrality of mobile consumption the fact that Gen Zers use messaging as a community-building tool. Part of their media consumption comes from these networks, not only for entertainment but also for news content. They fail to question the algorithm because it saves effort, and they ignore programming lineups except when these lineups adapt to their own activities (hence the consumption during car trips). The period of contact tends to be brief, and the content, with few technical complications, is accessed instantaneously (**Mars**, 2021). Not in vain does Albarran highlight researchers’ interest in studying intensive mobile phone use through the prism of economic concepts like the allocation of time and money and elaborate on it when describing future research areas for the discipline of media economics:

> “This heavenly-driven technology era will drive much of the interest of researchers in this current era of media economic research.” (**Albarran**, 2019, p. 10)

The previous quantitative and qualitative-quantitative research carried out in Spain points to radio’s loss of contact with this generation in all cases and offers elements which merit some reflection but have yet to take hold in the industry, despite this industry’s concern. The speed at which developments occur should make us prudent about formulating long-term affirmations, because consumption phenomena of this generation which seemed resistant over time have changed in very few years. The fact that portable devices have indeed replaced radio, contrary to the predictions of **Perona-Páez**, **Barbeito-Veloso** and **Fajula-Payet** (2014), serves as an example. This paper will also make it possible to go one step beyond the conclusions obtained until now on radio consumption and Gen Z (for example, the general data

> In other countries representing equivalent markets, Gen Z audience has grown to 87%

on consumption of the medium from **López-Vidales** and **Gómez-Rubio**, 2014). It will also broaden, from the quantitative field, the contribution of **López-Vidales** and **Gómez-Rubio** (2021) on the consumptions of Gen Zers compared with Millennials' and where the drop in radio's penetration among these two cohorts can be noted. With access to *AIMC*'s full reports, we will therefore be able to delve deeper into what specific products young listeners are attracted to, when they consume them and how.

Pedrero-Esteban, **Pérez-Maíllo** and **Sánchez-Serrano** (2019) describe the challenges the radio sector must confront in the face of the disaffection of "digital natives": radio companies lack audience data on children under 14 (the cut-off age for the *EGM*); without this data, companies whose main source of revenue is advertising lack access to the brands which target this population segment; therefore, the radio industry has ceased to produce specific content for children's audiences. Paradoxically, this absence of product impedes these generations' present and future contact with the medium given that cultural consumptions are habit forming (**Hoskins**; **McFadyen**; **Finn**, 2004, p. 73). The future viability of these companies is jeopardised as they watch the generational turnover of their audience progressively shrink.

No less pressing is the challenge of digital distribution and the competition posed to radio by the growth of podcasting platforms, as noted by **Terol-Bolinches**, **Pedrero-Esteban** and **Pérez-Alaejos** (2021).

Radio companies have stopped investing in programming geared toward children and preadolescents because the *EGM* does not include them in its universe. To young people aged 14 years and older, radio content is becoming less and less attractive. Internet has put more inviting alternatives within their reach even when it comes to listening to music, a referential sphere of contact with the medium for this generation until just a few years ago. Radio no longer leads the expansion of the audio offer where *Spotify*, GAFAMs, etc. have entered with force.

The diagnosis, as consistent as it may well have been, has not been accompanied by actions to reverse it:

> "Affinity-based content could constitute a formula for attraction, but it is music radio which has the interesting challenge of seducing users in an ecosystem where music is consumed in a direct, personalised and instantaneous way, in real time and through on-demand music services (*Spotify*, *Apple Music*, *Deezer*, etc.) or audiovisually (*YouTube*)." (**Moreno-Cazalla**, 2018, pp. 477-478)

All these contributions support the initial affirmation: Generation Z views radio as something foreign.

2.2. Media economics

Despite its importance for the proper interpretation of the media ecosystem, the contribution of economics to the field has been smaller than it should have. The theoretical perspective known as media economics offers a structural view of the data obtained on the relationship between Gen Z and the medium, relating supply and demand. Economic efficiency is both the aim of and the explanation for the behaviour of industry, business and consumers, a fact clearly demonstrated by this school of thought (**Cunningham**; **Flew**; **Swift**, 2015). The constants it describes for the structure of the market and the theory on the firms' behaviour serve as a basis: the concepts of maximising profits, applying incremental analysis, managing uncertainty and risk (amplified in the media) or the possible causes in the change in demand (**Hoskins**, **McFadyen** and **Finn**, 2004).

With regard to its environment, **Doyle** (2013) takes the construction of radio as a consumer product of eminently local production to the extreme: the digital disruption destabilises radio while simultaneously generating new opportunities for it in this dual market: content for listeners and access to listeners for advertisers. There exists, therefore, a correlation between product, audience and revenues (**Hoskins**; **McFadyen**; **Finn**, 2004) which imperatively drives the media to secure advertising investment, subjecting radio to the stringency of the advertising industry's models and structures of decision and the criteria guiding its investment (**Doyle**, 2013).

The nonexistence of audience data on minors under 14 years old in Spain makes it unfeasible for advertisers to invest in programming tailored to this age group. The initiatives launched from the business sphere (*Onda Mini*, for example) had to be abandoned. Meanwhile, the correlation between potential audience volume and demographics has entailed an increase in investment aimed at the broadest populational cohorts (the lucrative baby boom market) and the consequent abandoning of sparser cohorts with less purchasing power (**McClung**; **Pompper**; **Kinnally**, 2007, p. 104).

The comparison with other markets illustrates the importance of the specific offering from the public sector for the child audience and Generation Z. Beyond the controversies surrounding its competitiveness or complementarity, beyond the cost-benefit analysis in business terms, the introduction of variables associated with the values of a public service mission is what explains the allocation of governmental resources (**Hoskins**; **McFadyen**; **Finn**, 2004) which have spearheaded a remarkable variety of radio or audio formats specifically for child and youth audiences in these countries (Australia and Great Britain as a paradigm). For instance, the *European Broadcasting Union* (*EBU*), an association of public service media organisations, views connecting with young audiences as one of the means by which these organisations add value to society (*EBU*, 2021).

> Contrary to what might be assumed due to the rise of the podcast, this format still has little weight as a listening platform for Generation Z

We thus arrive at another pillar of this paper: media as an experience good.

> "Experience goods contain attributes that in the main can only be evaluated by the consumer after purchase through experience with the good." (**Hoskins**; **McFadyen**; **Finn**, 2004, p. 76)

Thus, any product hoping to connect with Gen Z will have to keep in mind which attributes this media product must contain depending on its perceptions of utility in order to be, at the very least, tried. Hence the importance of both media literacy (these generations' gateway to the medium and vice versa) as well as tailored content, produced in the public or private sphere.

When research has focused on demand rather than supply (**McClung**; **Pompper**; **Kinnally**, 2007), it has managed to illustrate the psychological process (perception of attributes and choice) through which new media are adopted. One medium does not necessarily replace the next: they may complement each other according to how their usefulness and value are perceived. Thus, any efforts made by the radio medium to attract Gen Z are not necessarily condemned to failure.

Our theoretical circle closes with another perspective, that of media management and its interdependence with media economics, already mentioned at the start of this article, which helps explain the conservative nature of the decisions that maintain the current status quo of the offering, how this uncertainty is ultimately paralysing, and how risk is measured in economic terms. There is no guarantee of success when establishing business strategies because it is impossible to keep all external variables under control. This factor of uncertainty is then multiplied in the media industry. The importance of this particular aspect is well illustrated by the call to generate more research into how media firms react to uncertainty and risk (**Picard**, 2018, p. 116).

For **Doyle** (2013), the components of the virtuous circle in the management of media products are high investments combined with long periods of time to consolidate the offer. However, in many cases, either the period of time or the amount to invest exceeds what is possible in the annual budgets. Growths in audience and advertising revenue in the media occur slowly (except in the case of radio stars when they switch stations). Thus, any incremental analysis applied to the audience obtained from an investment in such an uncertain context would explain the absence of audio content tailored to these population segments produced by private or public radio companies (**Hoskins**; **McFadyen**; **Finn**, 2004).

This combination of factors also explains these companies' renunciation of the search for adjacent opportunities (**Küng**, 2017) to multiply their offering toward other markets and products (an area into which expansion toward this target group would fall). Furthermore, in the case of private corporations, the financial analyses allow no discretionary margin. Prudence wins out over risk, despite this being a winner-takes-all industry: successful initiatives reap a disproportional part of the reward (**Hesmondhalgh**, 2019).

Bonet and **Sellas** (2019) provide an example of paralysing uncertainty and delayed decision-making on investments when they refer to radio companies' doubts about the distributor in the new audio market (in the context of the battle between broadcast and broadband). This behaviour is not limited to the leaders of private companies. It also happens in public companies, as demonstrated by **Lowe** and **Maijanen** (2019, p. 6): attracting young audiences is inherent to these companies' public service mission. However, this requires innovation, and organisations –even public organisations– generally prefer to exploit already established products with familiar procedures and ways of thinking. Successful, long-lived businesses are risk-averse.

3. Methodology

This paper will respond to the questions posed through a combination of quantitative and qualitative analysis: on the one hand, exploiting the data from the *EGM Radio* reports and, on the other, conducting in-depth semistructured interviews with experts in management of the sector.

The quantitative analysis is based on the data obtained by *AIMC* for the *EGM* reports, which amounts to 78,000 interviews in a sample of people over age 14. From this sample, 7,491 people between the ages of 14 and 24 were interviewed –a sample size proportional to this age cohort's share of the total population–, with a similarly proportional spread by community, province and household size.

The authors of this paper were given access to the non-public (only for associates) content of the aforementioned reports, never before used to examine the specific consumption of Generation Z. The most recent articles on Generation Z in Spain (**Espinosa-Mirabet**; **Ferrer-Roca**, 2021; **Barrios-Rubio**; **Gutiérrez-García**, 2021; **Espinar-Ruiz**; **González-Díaz**; **Martínez-Gras**, 2020; **Soengas-Pérez**; **López-Cepeda**; **García**, 2019; **Catalina-García**; **López-de-Ayala**; **Martín-Nieto**, 2017; **López-Vidales**; **Gómez-Rubio**, 2021) are based on limited sample sizes in terms of geography and profile (basically among university students). *AIMC*, meanwhile, guarantees the representativeness of its results with respect to the universe as a whole, as the intended users of this data need reliable information in order to make strategic decisions on advertising investments or programming.

> There is a common opinion that music, while keeping its presence, is not going to be the main appealing offer to attract young people to radio

Table 1. Previous studies

Authors	Sample size	Segmentation
Espinosa-Mirabet; **Ferrer-Roca**, 2021	200	Strudents from 2 universities
Barrios-Rubio; **Gutiérrez-García**, 2021	160	Strudents from 2 universities
Espinar-Ruiz; **González-Díaz**; **Martínez-Gras**, 2020	168	Strudents from 1 university
Soengas-Pérez; **López-Cepeda**; **Sixto-García**, 2019	100	Strudents from 5 universities
Catalina-García; **López-de-Ayala**; **Martín-Nieto**, 2017	214	Strudents from 1 university
López-Vidales; **Gómez-Rubio**, 2021	1,908	Sociodemographic variables

This paper offers, firstly, a brief diachronic view of consumption minutes and penetration to situate this generation's loss of contact with the radio medium and, secondly, a more thorough synchronic analysis with data from rolling year 2021. For the initial balance, the years 2009, 2012 and 2021 are taken as temporal references. The individuals who make up Generation Z began to reach the age of 14 (lower limit for the *EGM* sample) in 2009. The table also shows data from 2012, as this year represents the historical peak of penetration of the radio medium (61.9%), which had not been reached since 1982 and has not occurred again.

Conclusions on recent consumption are drawn using data from the third wave of 2021 and the corresponding rolling year, the closest to the date this paper was finished. In this case, the analysis rests with the weekly accumulated audience data. The data is used to determine results for the following quantitative variables: a) emission wavelength or platform, b) place of listening, c) type of radio (musical and generalist) and d) timetable of consumption. Both absolute and percentage-based data is provided whenever doing so is relevant to frame its representativeness.

For both thematic and generalist programming formats, *AIMC* offers Gen Z data in two segments (ages 14-19 and 20-24). The aggregated data for the full cohort (ages 14-24) has been requested from the source, *AIMC*. As for analysing the private generalist formats, the hourly audience data makes it possible to extrapolate which programmes, and therefore which genres, attract this generation to conventional radio. In this case, the authors of this paper have only considered hours with a Gen Z listening percentage equal to or greater than the station's total average and with a significant absolute number of listeners with respect to its total audience (excluding figures which are high percentage-wise but irrelevant in absolute terms). The hours with more absolute audience typically reflect the same average listening percentage for Gen Z (between 2.2% and 2.4%). Thus, being a high number of listeners it has not been considered significant for the purpose of this article, given that it is non-specific consumption.

For the much-more-numerous music formats, we have only included national stations whose Gen Z audience listening percentage surpassed an average of 7.1% (to take only the stations most attractive to this target group into account) and, equally, with relevant absolute figures in comparison to the total audience share. Initially, the stations taken into account include *MegaStar*, *Flaix*, *Los 40 Urban*, *Flaixbac*, *Hit FM*, *Los 40* and *Europa FM*. Two products from the Catalan group *Flaix* (*Flaix FM* and *Flaixbac*) have also been included due to their importance both in absolute terms (number of listeners superior to national stations despite not having the same coverage) and relative terms (with two products with the highest penetration rate in this generation since 2013, occupying 2 of the top 3 positions in the ranking of Catalonia).

The analysis of this data makes it possible to illustrate the radio consumption patterns of Generation Z in Spain. This part of the research was facilitated by the collaboration of Virginia Vides, assistant director of Marketing and Content at *Atresmedia*, and José Andrés Gabardo, technical director at *AIMC*, who offered their support in the process of analysing and using the *EGM* data.

Meanwhile, the qualitative section of analysis was derived from the results of in-depth interviews with leading professionals in the sector. They were given semistructured questionnaires which contemplated new questions based on the interview subjects' responses and some specific questions in relation to their positions. The questions were grouped into thematic blocks and addressed the subjects' opinions on Gen Z's disengagement with radio, possible strategies for attracting this generation (content, distribution, etc.), the importance of creating brand and community, business models and risk as a management factor. The interviews were transcribed and, later, the responses were grouped into each block. These are the 4 interview subjects, executives in charge of content and marketing at the three main private corporations in Spain:

- José María Moix, director of Programmes and Marketing at *Atresmedia Radio*;
- Lourdes Moreno-Cazalla, executive head of Production, Distribution and Audiences at *Podium Podcast-Prisa Radio*;
- Javier Llano, musical stations director at *COPE-Ábside Media*.
- Carles Cuní, president of *Grup Flaix*, as an example of a success story.

After completing the interviews –performed simultaneously with an advanced phase of quantitative analysis– the responses were grouped into the different blocks which structured the questionnaires. The most relevant contributions are gathered in a summary box which may be consulted in the results section.

Records of *AIMC*'s permission to publish *EGM* data, as well as of the interview subjects' informed consent, are available.

4. Results

4.1. Data analysis

4.1.1. Slow but constant fall in recent years

To put Generation Z's radio consumption in context, here follows a brief summary of the state of the question for the audience as a whole between 2012 and 2021. The data from *AIMC* reveals an evident drop in radio penetration and listening minutes in Spain. If we examine the historical series from 2012 (the last year when radio surpassed a penetration rate of 61.9%), the loss of listeners is 7.3%; it falls across all cohorts and amounts to a loss of 19.3% in the cohort at the centre of this paper. The average listening time has lost 22 minutes from the 114 it reached in 2012. Thematic radio fares worse than generalist radio, both in consumption (it has lost 15 minutes as opposed to 4) and penetration (it has lost 5.7 percentage points against the 1.9 of generalist radio).

The rate of consumption by wavelength type indicates that MF (modulated frequency) continues to be the most common form of contact with the medium (46.9% of the audience) but has dropped from 52.4% in 2009 and 56.9% in 2012. This loss has not been compensated by online radio listening. Linear or podcast listening reached 7.8% in 2021, having only advanced 5.7 points in 9 years. Since 2018, *AIMC* has separated its data on podcasts and streaming, but both forms of listening have grown extremely slowly and hardly contributed to radio's total listenership, although **Vides** (2021) believes podcast consumption may in reality be higher (taking as a reference, for example, the *IAB* data) because, online, pre-recorded consumption is not differentiated from live consumption, and an evolution in data integration would be needed to reconcile these results. Nonetheless, online consumption has indeed risen in comparison to MF.

Finally, the data on listening location reflects the major role home listening plays for the general population, with 54.9% of the share in 2021. Since 2009, domestic consumption has remained the most stable, and listening in the car is what has grown most (to 23.4%) in detriment to listening at the workplace (from 26.1% in 2009 to 19% in 2021).

4.1.2. Evolution of radio consumption in Generation Z

Having briefly described some of the data on radio consumption in Spain, let us now examine Generation Z's differential behaviour, from both the diachronic and synchronic point of view.

Between 2009 and 2021, the 14-24 age cohort has fallen by 140,000 inhabitants, but the loss for radio has been much worse, as this figure has been multiplied by 4.5, which represents a loss of 614,000 listeners. Music radio has also fallen by 10 percentage points within this period (when this cohort had amounted to the bulk of its listenership), while in the case of generalist radio it has held steady (while not amounting to more than 11% of its total listenership).

Table 2. Radio penetration in Spain in 2009 and 2021

		2009	2021
14 to 24 years old	Listeners (in thousands)	2,970	2,356
	Percentage of listeners over the total population in the age range	54.5%	44.6%
Total population	Listeners (in thousands)	21,836	22,364
	Percentage of listeners over the total population	55.3%	54.6%

Source: *AIMC-EGM* from February to November 2009 and 2021.

The contrast is much greater with the penetration of 2012, given that this cohort's audience share was 2% higher than the average and reached 63.9%. In 2021, the average loss for the population as a whole was 7.3%, but in this cohort the fall was 44.6% (19.3% less).

A similar difference appears in the average consumption time, which between 2009 and 2021 fell by 14.6% for the whole of the universe considered while for Generation Z the loss was almost 50%.

Table 3. Average daily radio consumption time in minutes

	2009	2021
Total population	107.7 min	92.1 min
14 to 24 years old	97.1 min	48.8 min

Source: *AIMC-EGM* from February to November 2009 and 2021

In terms of listening throughout the day, prime time in generalist formats has been brought forward and there has been a change in consumption at night, where the peak which once coincided with this generation's contact with night-time sports programmes has disappeared. Additionally, for music radio's curve of contact throughout the day, prime time has moved back a few hours from 1 pm, ending much earlier due to this generation's routines.

4.1.3. Radio consumption by Generation Z in 2021

As for the type of programmes Gen Z comes into contact with, music radio is observed to be chosen three times as often as generalist radio is. Nonetheless, the figures in question represent barely a third of this cohort's population. Furthermore, if we take the data as it originally appears in the *EGM* report (in two age ranges, 14-19 and 20-24), the numbers are lower in the first group, which would indicate a worse prognostic for the coming years as in the absence of contact, future consumption is unlikely.

Table 4. Radio listening by Generation Z by programming type in 2021

	Population (in thousands)	Radio listening	Generalist	Musical
Total population	40,948	54.6%	28.3%	29.1%
14 to 19 years old	2,923	42.9%	12.6%	31.1%
20 to 24 years old	2,364	46.5%	13.5%	33.9%
14 to 24 years old	5,287	44.5%	13.0%	32.4%

Source: *AIMC-EGM* from February to November 2009 and 2021

MF radio continues to serve as the most common form of contact with the medium for this cohort, without diverging much from what is observed for the rest of the universe. Here, as well, the online listening datum indicates this generation's estrangement from radio, as streaming has failed to grow as significantly as might have been expected from a generation of digital natives and only listening via podcast slightly surpasses the total audience average.

Table 5. Radio audience by listening platform

	Population (in thousands)	Radio listening	Radio MW	Radio MF	Radio Internet	Internet streaming	Internet podcast	Radio DTT
Total population	40,948	54.6%	1.4%	46.9%	7.8%	5.9%	2.3%	1.7%
14 to 19 years old	2,923	42.9%	0.3%	36.0%	6.6%	4.2%	2.5%	1.3%
20 to 24 years old	2,364	46.5%	0.3%	39.3%	7.9%	4.8%	3.5%	1.3%
14 to 24 years old	5,287	44.5%	0.3%	37.5%	7.2%	4.5%	2.9%	1.3%

Source: *AIMC-EGM* from February to November 2009 and 2021

Una de las diferencias en los hábitos de esta generación respecto del promedio de la audiencia la encontramos en el lugar de escucha. Para esta cohorte el coche es el primer lugar de contacto con la radio y supera en 10% el dato de la audiencia total. Y solo un tercio del consumo declarado se produce en casa.

Table 6. Audience by place of listening in 2021

		Total population (in thousands)	14 to 24 years old
	Population	40,948	5,287
Home	Total listeners	12,440	868
	%	55.6%	33.4%
Car	Total listeners	10,058	1,452
	%	45.0%	55.8%
Office	Total listeners	2,250	153
	%	10.1%	5.9%
Other places	Total listeners	899	129
	%	4.0%	5.0%

Source: *AIMC-EGM* from February to November 2009 and 2021

4.1.4. Consumption of music formats

The order of the table reflects the greater contribution of listeners from this cohort to each station, regardless of the absolute number of listeners and always above the average percentage. As for consumption throughout the day, the figures showing higher penetration coincide with the respective stations' moments of more audience and follow the daily routines of this segment of the listenership, with two peaks, one in the morning after 8 am –but which ends before generalist radio's peak, after 10 am– and a long peak between 8 and 11 pm.

Table 7. Generation Z as a percentage of total population, of total radio audience, and of total music radio listeners, by channel (2021)

	Population	Radio	Music radio	*MegaStar FM*	*Flaix*	*Flaixbac*	*Los 40 Urban*	*Hit FM*	*Los 40*	*Europa FM*
14 to 24 years old	6.5%	5.2%	7.1%	14.8%	13.9%	12.4%	12.1%	10.1%	10.2%	8.3%

Source: *AIMC-EGM* from February to November 2009 and 2021

4.1.5. Consumption of generalist radio

The contribution of Generation Z to generalist radio is very low and there are barely any differences between the three main private Spanish stations.

Table 8. Generation Z as a percentage of total population, total radio audience, and total general radio

	Population	Radio	General radio	*SER*	*COPE*	*Onda Cero*
14 to 24 years old	6.5%	5.2%	2.8%	2.4%	2.4%	2.2%

Source: *AIMC-EGM* from February to November 2009 and 2021

This generation's audience curve in generalist radio hits a single pronounced peak coinciding with the prime-time hours of the audience as a whole (around 8 am). However, the peak which once coincided with nighttime sports talk show broadcasts has dropped significantly, although it continues to represent one of Gen Z's few moments of contact with these stations, with absolute figures much lower than those of a few years ago.

Table 9. Time slots with the highest generation Z audience share.

Time slot	Program	Broadcaster	Genre	Listeners 14 to 24 years old	
				n	%
Monday to Friday					
8:00 to 9:00 h	*Hoy por hoy*	*SER*	Informative section in magazine	60,000	4.6%
23:00 to 23:30 h	*El partidazo de COPE*	*COPE*	Sports	32,000	8.9%
8:00 to 9:00 h	*Más de uno*	*Onda Cero*	Informative section in magazine	38,000	5.4%
14:00 to 15:00 h	*14 horas*	*RNE*	News	12,000	7.2%
Saturday					
7:00 to 7:30 h	*Matinal en la SER*	*SER*	News	33,300	6.6%
18:00 to 19:00 h	*Carrusel deportivo*	*SER*	Sports (retransmission)	55,000	13.9%
19:00 to 20:00 h	*Carrusel deportivo*	*SER*	Sports (retransmission)	37,000	13.2%
0:00 to 1:00 h	*El larguero*	*SER*	Sports	38,000	8.6%
16:00 to 17:00 h	*Tiempo de juego*	*COPE*	Sports (retransmission)	35,000	11.0%
23:00 to 0:00 h	*Tiempo de juego*	*COPE*	Sports (retransmission)	29,000	6.3%
21:00 to 22:00 h	*Radioestadio*	*Onda Cero*	Sports (retransmission)	32,000	34.8%
Sunday					
14:00 to 15:00 h	*Hora 14 fin de semana*	*SER*	News	42,000	14.4%
0.00 to 1.00 h	*Tiempo de juego*	*COPE*	Sports (retransmission)	48,000	8.1%

Note: The percentages expresses the weight of Gen Z listeners in the total radio audience at that hour.
Source: *AIMC-EGM* from February to November 2009 and 2021

Consumption corresponds mainly to sports-related content and, for the station *SER* alone, news content as well.

When these figures are intersected with the place of listening, it appears that on weekdays, in-car consumption of the news content analysed is 10% higher than the audience average. On the other hand, the mainly at-home consumption on weekends corresponds to sports content.

4.2. Interview analysis

According to this data, 7.1% of Generation Zers tune in to music radio, 2.8% tune in to generalist radio, and a universe of zero connection with the radiophonic system is observed.

The following table displays the opinions expressed by the interviewed radio content directors on this distance between radio and Generation Z.

Table 10. Opinions of those interviewed about the distance between radio and generation Z

	Javier Llano (*Ábside Media*)	José-María Moix (*Atresmedia Radio*)	Lourdes Moreno-Cazalla (*Podium Podcast, Prisa-Radio*)	Carles Cuní (*Grup Flaix*)
Reasons for the lack of connection between radio and younger generations	The radio conglomerates have simply put their stake in segments with more potential audience, which are also where more profits can be earned: they have stopped serving the youngest listeners, leading to a steady rise in the average age of music audiences. Radio is an inherited medium and the chain has been broken. Media education and radio ought to be included in curriculum designs, as a mainstream element of competence on par with reading, writing, teamwork, etc.	The low birth rate is inverting the pyramid. This implies the reduction of this target group year after year, and it is occurring at an accelerated rate.	Technology is causing this generation's options to increase and even determine the form of consumption.	Listening to the radio is an acquired habit. The challenge for the sector as a whole is to make young people perceive that listening to the radio is useful to them.

	Javier Llano (*Ábside Media*)	**José-María Moix (*Atresmedia Radio*)**	**Lourdes Moreno-Cazalla (*Podium Podcast, Prisa-Radio*)**	**Carles Cuní (*Grup Flaix*)**
The importance of brand and community creation	A youth brand with an impact has yet to be created. Companies know what its characteristics should be and the market is there, but no one dares to take the step. It will have to be multi-platform.	Radio companies have failed to keep pace with online platforms. Their brands have lost value, they represent what's old, what's traditional. Alternatives must be sought where online platforms cannot compete.	It is very important to generate communities, and these are created around a passion. It could be sports, music, niche information... Both *SER* and *COPE* have been testing it out in podcast form.	The brand has brought *Flaix* an indisputable notoriety and capacity to generate community, but with modifications in the product, on pace with the changes in musical tastes.
Programming strategy: who	The one who gets through the most is someone who, from their own generation, sends out the message with empathy, because they know their peers' concerns. It has an aspirational and identity component at the same time.	Peer recommendation is the best guarantee of new contacts for the product: from their generation for their generation.		The best prescriber is someone from their own generation. The risk of distancing exists if the design of the programming strategy is left exclusively in the hands of adults.
Programming strategy: what	Digitalisation is on programmers' side: now they can know what attracts this generation, because consumption can be measured in real time. The value of voice is making a comeback, for this age range and all others.	Companies have the obligation to try to programme for this generation and to do so with differentiation (with respect to a playlist or any other spoken product from the platforms). The risk of not doing so implies the disappearance of the radio medium.	Radio is the industry which must provide the audio content that could interest Generation Z. That's why it's so important to know their habits, as well, and to go to the platforms they consume.	*Flaix* aims to provide a response to the interests it detects in the public at which it is aimed. To do so, it uses all the tools available to find out what they want to hear, going where they are. In musical programming, most stations use the callout method. This means they take few risks. *Flaix* continues to pursue the new strategies they believe will work, accepting the uncertainty this entails.
News		It does not have relevant appeal. Today, the consumption of news for this generation is social and not personal, moments of shared listening where it is the adult who decides.	A segment of this generation selects news content on the radio which the digital realm does not provide, and they give it more credibility.	News broadcasts are only programmed in the morning. They are brief bulletins based on the editorial criteria of service and proximity.
Sports	Sports could be an opportunity to attract the youngest listeners, especially in contrast with television. Radio has proven unable to attract youtubers, who have grown professionally outside a medium which should have been the natural platform for their development.	The live content consumed during sports broadcasts is what explains the concentration of Gen Z listeners on weekends.	They are an excellent way to create community around a passion. But their audience retention potential is much higher online.	*Flaix* only broadcasts Barça and initially as a marketing tool. The loyalty of sponsors and qualitative data such as participation will be the measure of its continuity. It also represents a challenge: to earn the trust of the juvenile audience by offering alternative sports content from that of conventional stations.
Content for children and preadolescents	It would have to be a digital product starting at the age they begin to use mobile phones. It could be a function of the public service, although this wouldn't seem to be the moment. This content is related to the importance of media education.	There is no radio for the child audience because it is not aspirational (for either parents or children) and because the audience measuring system leaves out minors under 14 years, unlike the audience meter in television. This makes it difficult to capitalise on it commercially.	Children are growing up very fast and the more they are infantilised to attract their media consumption, the farther away they drift. The term "children's" should be replaced with "family." Adults accompany children, but the child is the protagonist.	The sector has not asked itself which content would be appropriate to attract this generation. If they fail to acquire the habit of listening to the radio as children, they are unlikely to acquire it as adolescents and much less likely as adults. It is a problem faced by all companies in the sector.

	Javier Llano (*Ábside Media*)	**José-María Moix (*Atresmedia Radio*)**	**Lourdes Moreno-Cazalla (*Podium Podcast, Prisa-Radio*)**	**Carles Cuní (*Grup Flaix*)**
Relationship with online platforms	Stations must take a step forward in the creation of their own online environments, filled with information, music, entertainment... They have to get ahead of a trend soon to dominate: pay-per-listen.	Relinquishing control is a mistake. Radio companies will have to defend their product as a sector. Alliances with platforms in the short term may serve as a means to reach all audiences, but in the medium and long term it is the true competitor, even above the other radio stations.	*Prisa* has been reaching agreements with platforms as a premium provider. The radio industry will have to foster these alliances as producers.	
Podcasting	It is an opportunity for the medium which must quickly be exploited. Radio companies must produce exclusive content for this generation, content which ends up setting trends and getting recommended, not segregated from an earlier radio broadcast. The power of voice stands out as an element of attraction to the content of radio companies, transcending the medium itself.	It is a magnificent opportunity to provide continuity to the consumption of one's own brand in a digital environment.	Radio companies can attract this generation, giving them the content which interests them. The podcast makes it possible to go into depth, creating communities in the most convenient format to consume.	Waiting for the big radio operators to point the way to profitability
Business model	Radio stations are already generating content the audience would pay for. The current ad-based funding model requires reach and large audiences and should be supplemented by payment-based models distributed in the radio companies' own environments. He warns that, if this fails to occur, the sector will not survive.	The model of free access for the user in exchange for advertising will have to be replaced by the subscription-based model, because there is not enough business. The industry must be capable of combining both routes of revenue. Payment can be achieved thanks to the sum of a multitude of minorities.	There has to be free content for this generation, but the model is only sustainable with a combination of payment methods. Quality digital production is expensive and must be brought into relief, for platforms and aggregators and for the audience. The two business models should complement each other: reach (the job of radio companies as we know them now) and niche profitability, which can be arrived at through more specific high-quality content, for example through podcasts.	Internet presence has not yet been successfully monetised: it is still just a locus of expense.
Risk	The financial crisis has not made it easy to make decisions which would entail spending resources on an innovative activity, in a sector already in itself little prone to risk. The combination of all these factors is the "perfect storm."	*Europa FM* could consider projects of segmented, verticalised contents, or lists based on distinct targets and musical groups, but the mere attempt is paired with certain costs with no clear return.		Taking risks has been the only possible way to stand out. For this reason he accepts that one of his two products on the market is permanently in the trial phase, exploring new territories.

6. Discussion

In light of the audience data expounded in point 4, this section analyses the companies' interpretation of the youngest generation's disengagement with radio, the possible tasks to complete to reverse this situation and the difficulties it could entail.

There exists an initial, purely demographic reason already mentioned by **Moix** (2021): populational decline is inverting the pyramid, which entails the shrinking of this target audience over the years and rapidly. If to this we add the fact that radio groups have placed their bets, as **Llano** (2021) sustains, on the segments with more potential audience –which moreover are also those with more profitability–, the result is that the youngest listeners have ceased to be served.

The second reason is the empowerment of adolescents and young people, underscored by all interview subjects. It is a power amplified by the intensive use of mobile devices which leads younger listeners to take control of the selection even in the car and even if they are not the ones driving.

https://institucional.absidemedia.com/

The third reason is the rise in consumption based on the opportunity and accessibility of online platforms, which especially affects the musical lineup as mobile phones allow these platforms to satisfy the principle of immediate consumption against the linear offering of the radiophonic product. Playlists beat radio formats.

In any case, it seems clear that the youngest generations' lack of habit will be difficult or impossible to reverse. This habit used to be constructed, until now, in the family's daily routines, through the adults' own prescription in the family setting.

The essentialness of brand is another point of agreement among the interview subjects, who remark on the importance of the strength of a brand, with recognisable attributes, to attract and subsequently retain audience. Once contact and consumption have occurred, the product offered must be sufficiently able to generate engagement to convert the users/listeners into members of a community. The problem is that for the members of the generation in question, there has been a loss of the brand attributes that would make radio content attractive to them.

Chan-Olmstead, **Wang** and **Hwang** (2022) express a similar view when they conclude how important it is for radio to build brand in the digital world and achieve engagement through new technologies (2022). Although their paper refers to the Millennial Generation, this affirmation is perfectly extendible to Generation Z given its characterisation as a cohort. Likewise, Arrese, Medina and Sánchez-Tabernero stress the importance, for companies, of audience engagement mechanisms and brand management as a guarantee of survival. The authors conclude by citing the following research topics to include in the future agenda of media economics:

> "The analysis of how to manage time as an economic resource in a context of exponential growth of contents and platforms for consumption. (...) The analysis of how media organizations will use qualitative and quantitative knowledge to integrate audiences into their production process through brand management strategies that create strengthened brand relationships. (...) From media management and media economics perspectives, more research is needed to understand the full ramifications of engagement for content production and commercialization." (**Arrese**; **Medina**; **Sánchez-Tabernero**, 2019, p. 72)

One reason behind the success of Australian youth radio formats is in effect community identification and belonging, which radio has helped build with its brands and spoken content (**Espinosa-Miravet**; **Ferrer-Roca**, 2021).

In spite of all networks sharing this reasoning, none of them seem capable of making a decisive move to put a halt to the alienation of this age segment. The process proves especially difficult in an environment where the proliferation of the digital offering –and, sometimes, the networks' own nonexclusive distribution– dilutes this identification. Doubts exist about the relationship which ought to be established between a radio company and platforms or aggregators, whether for broadcasting or consumption.

The debate is not limited to the Spanish context alone: it is an international issue and proposed in the same terms. Is it better for radio to create its own digital access? If aggregators favour a radio company's distribution but simultaneously dilute its brand, which is preferable, gaining distribution or reinforcing brand identity? Should free content be given to third parties? What happens to the user data which radio provides these third parties? The balance for operators is not clear (**Fernández-Quijada**, 2021), although it is for some authors like Chan-Olmstead, Wang and Hwang:

> "In essence, besides their particular relationship with radio stations, third-party content aggregators might dilute audience's connection to radio stations when the users become more loyal to the aggregators than the stations." (**Chan-Olmstead**; **Wang**; **Hwang**, 2022, p. 264)

In this context, the radio industry was accustomed to the commercial relationship with its broadcasting and signal transport provider consisting only in the fee paid out to this provider for the service. It was sometimes even the radio company itself which owned the entire value chain, including broadcasting, all the way to contact via MW or MF with its audience. This model is quite different from digital distribution, where the provider also hopes to generate added value for its own benefit through the distribution of the sound owned exclusively, until now, by the radio

> Generation Z mainly listens to music radio and sports (from generalist-based stations)

company, either through data mining or directly from the advertising revenue generated through the platform.

All interview subjects agreed that online listening is on the increase and represents the only way to reach this generation. The comparative study on radio consumption between Australian and Spanish youth demonstrates that for this generation, apps are the most commonly used vehicle for listening to the content produced by radio companies. In Spain, the most powerful recommendation is the one which arrives through social networks like Instagram or *YouTube* (**Espinosa-Miravet** and **Ferrer-Roca**, 2021).

https://www.atresmediacorporacion.com/sobre-nosotros/divisiones/uniprex_2010021658a2e46e0cf2f719cbf3b666.html

In digital sound consumption, the podcast is emerging as the possibility with the most widespread appeal and which provides the most significant distinguishing traits (ahead of streaming and apps). In spite of the current low volume –in absolute terms as previously observed–, the podcast is overwhelmingly perceived as an opportunity to persuade Generation Z to consume audio produced by radio companies. **Gabardo** (2022) sees it in relation to the consumption habits of other audiovisual products through mobile phones: what matters is not the live consumption of content, but rather the power to consume it when and where they feel like it, upon recommendation. In the same vein, Küng cites podcasts as an example of the rise in consumption of content produced by radio companies, in contrast to the drop in live consumption:

> "And while consumption has increased in some cases –on-demand catch-up TV services increase overall audience numbers, as do podcasts of radio shows– overall, first-showing mass-market audiences seldom have the dimension they had a decade ago." (**Küng**, 2017, p. 37)

It seems, then, that private radio companies have been late to realise that the maxim "analogue dollars/digital dimes", which might have made sense at the start of the 2000s, no longer reigns. This paradigm shift makes much more sense when we analyse the consumption profile of Generation Z and the paradox represented by the radio companies' abandonment of this generation in terms of tailored content. In "Why Radio Doesn't Care About Gen Z (But Why It Should)", Jacobs emphasises the error it represents for these companies not to pay attention to Generation Z like the advertising industry does:

> "The advertisers of the world are working hard not to miss the moment. Gen Z is a prime topic of conversation each and every day as marketers vie to understand this influential cohort of consumers." (**Jacobs**, 2022)

In the absence of sufficient experience accumulated on this cohort, a consensus emerges among the interview subjects on the gratuity of the sound content to offer, in combination with payment for the digital consumption of new products, not broadcast over the air and with enough attributes of quality and community. For this case, some amount of time will have to pass because the habit of paying to hear radio content –unlike the content of digital platforms– does not yet exist.

Finally, there also appears the formula of a commercial relationship from origin for the development of new custom-built online products, creating brands and products for other ages alongside exclusive commercial sponsorships, if this offering is not taken on by the public service as part of its social purpose.

Content, and its management, deserves a special mention. For **Cuní** (2021), content proposals come from professionals close in age to the audience pursued. It may seem obvious, but it does not always happen like this and this is why he identifies it as one of the reasons behind his brands' success and the permanent differentiation of their sound. **Espinosa-Mirabet** and **Ferrer-Roca** (2021) refer to it in a similar way, including a creative sound environment, far from the conventions of standard radio, as one of the factors which attract young Australians. In the battle between content (plentiful) and convenience (rare), it is important to offer meaningful proposals to attract listeners to radio content, according to **Fernández-Quijada** (2021). The author adds that what transmits authenticity works.

There is a common opinion that music, while never going away, is not the content which will serve to attract young people to the radio companies' sound offering. In terms of spoken content, there is agreement with the conclusions of studies in similar markets where this contact already exists: young people prefer topics spoken through experimental formats or lenses (*EBU*, 2021 for markets in our European setting and **Espinosa-Mirabet** and **Ferrer-Roca**, 2021 for the Australian market).

> There is agreement that the lack of listening habits of the youngest generations will be difficult to reverse

https://lapublicidad.net/prisa-radio-se-alia-con-geoq-para-conocer-mejor-su-audiencia/

The anthropological research successfully conducted by *Flaix*'s musical stations for the selection of themes would be applicable to the discovery of interests for spoken content: listening to what the audience wants to hear, seeking it out where it is. We can in fact affirm, in light of the previous conclusions, and in agreement with the interpretations of the interview subjects, that Gen Z's contact with generalist radio to consume news ought to be considered involuntary or social listening (due to the timetables and place of listening, the car). In contrast, sports and specifically weekend sports broadcasts are Gen Z's moment of maximum connection with generalist radio. This is due, according to the interview subjects, to the fact that identification with a team fulfils the conditions of emotional engagement and community building which must form part of the foundation of any long-lasting relationship between the medium and its audience.

Apart from broadcasts, the interview subjects expressly cite the programme *El partidazo de COPE* as an example of the effort made by the medium to attract younger audiences and experiment with formal renovation and digital dissemination, a programming window progressively abandoned by the youth audience that follows football. For **Vides** (2021), the data on consumption by this cohort and the audience peak which used to occur after 11:30 pm, for example in the year 2006, is explained by the independent sports programmes broadcast on generalist radio at that hour. Thus, sports attracted this age range as it consisted in content offered live and exclusively over the radio. In 2021, sports content has spread to the digital realm in linear consumption and to all forms of audiovisual content as downloads, which explains why for this generation of digital natives, in their opinion, radio has lost importance as a provider even of content which does interest them, and the networks themselves are trying to broaden their sports offering via social media (*YouTube*, *Twitch*, etc.).

Radio consumption can be habit forming and given that it represents a cultural experience good, contact with the medium is indispensable. However, without specific content this is not possible. It has been demonstrated that the offering of child and youth content and media education are among the reasons for a high level of radio consumption in Generation Z, as illustrated by **Espinosa-Mirabet** and **Ferrer-Roca** (2021) for the case of Australia. In contrast, in the opinion of the interview subjects, radio for a child or preadolescent audience in Spain does not seem to get very far if it is not either at the initiative of public media or thanks to the funding at source from commercial brands (such as *Vodafone*'s exclusive sponsorship of one *Media Capital* station in Portugal). The subjects agree, once again, that these formats will have to be digital.

> The free-based business model will have to be replaced by the subscription model for the platforms because there is not enough business in the advertising of the content aggregators alone

Grupo Prisa is launching some initiatives in this area, such as *Dial Mini* or the family content of *Los 40 Classic* (for parents with their children) but treating it as form of experimentation, not yet understood as a firm business model.

Among the cited threats lies the exploration of attractive content for these generations spearheaded by voice assistants: *Alexa* in the United Kingdom (*Echo Dot Kids)* is experimenting with content for children to make them acquire the habit of asking for and listening to audio entertainment (**Pedrero-Esteban**, 2021).

Finally, uncertainty about the result of applying resources to experimentation to attract these audience segments causes private radio companies, despite the shared diagnosis, to refrain from investing or to do so timidly. In contrast, large sound distribution companies like *Spotify* base their business precisely on enormous investments at a loss in the launch phases, a strategy radio companies cannot afford.

7. Conclusions

The purpose of this article is to describe the radio consumption among Generation Z, report the diagnosis made of this consumption by the content managers of the main commercial private radio corporations in Spain and suggest proposals to make this generation tune in, if no longer to the radio, at least to the sound products of radio companies.

The data provided illustrates the distancing of Generation Z from the radio medium, with lower consumption in the 14-19 age cohort, a fact which bodes poorly unless measures to reverse it are taken. This loss of contact occurs with both music-themed and generalist radio. In the first case, the generation's listening behaviours coincide with its daily routines, in which even the abandonment of nighttime consumption can be noted. As for generalist radio, sports broadcasts amount to the highest number of listeners from Generation Z. A portion of this listening is loaned, social, but volun-

https://www.flaix.com

tary listening points to one of the methods for attracting this audience: identification with a community.

The application of the theoretical framework along with the interviews makes it possible to identify the possible causes of this loss of contact. The objective fact of the change in the populational pyramid, which thins among the younger age cohorts, is no excuse for the nonexistence of offers created by radio companies to reach children and preteens. For these ages, furthermore, the growing consumption of multimedia content, easily and quickly via mobile phone starting at ever younger ages, has empowered them as no previous generation has been empowered before, which –added to the multiplication of digital offers– has distanced them from the consumption of the medium.

The traditional prescription of the family setting towards radio consumption has been altered completely, and this chain of habit transmission will have to find other formulas for achieving contact with the medium, or at least with sound products produced by radio companies.

The situation is worsened by the nonexistence of radio products tailored to child (or family) and preteen audiences (as does, on the contrary, occur in countries with very high radio consumption by this generation). Top it off with a context of recurring economic crises, where managers' aversion to risk prevents them from exploring adjacent opportunities based on this target. We find ourselves, therefore, before what **Llano** (2021) has called the "perfect storm" for the disengagement of this generation.

Given that there is agreement on the irreversibility of all these conditioning factors, and aligned with the desire manifested from the start to transfer knowledge to the sector, the next step was to attempt to determine where these companies should head in the future.

What factors could be relevant to attract this generation to the content produced by radio companies? The quantitative and qualitative data presented throughout this paper make it possible to pinpoint some of these factors, such as the need to introduce a line of exclusively digital production, in which paid and free content are combined, into radio's value chain. This digital production is inherently linked to maximising the brand and creating a community around it. The traditional radio company must create its own environments to give it more control over its content, its audience and, obviously, the associated data. This does not mean it can't take advantage of other platforms, provided these platforms serve to support the company's promotion. Another highly relevant factor is the need for well-designed content produced by Gen Z for Gen Z, allowing this cohort to create its own references. Finally, media literacy is essential as a crosscutting public-private factor that ought to originate in family listening, requiring the production of sound content tailored to this type of group consumption.

Media literacy has always been a goal for the academic and teaching community, but it also must adapt to the new times, in which this media literacy refers more (although not exclusively) to new media, social networks and the digital and virtual realm than to the linearity which defined the mono-media environment. The fact is recognised by authors such as Pérez-Escoda, Pedrero-Esteban, Rubio-Romero and Jiménez-Narros, who point precisely to the need to rethink media literacy from a holistic and crosscutting point of view:

> "Rethinking media literacy should be thought of as a global solution that involves governments, media stakeholders, and education leaders at schools and universities." (**Pérez-Escoda**; **Pedrero-Esteban**; **Rubio-Romero**; **Jiménez-Narros**, 2021, p. 136)

As Pluskota affirms, radio should consider the profile and needs of new generations

> "to be part of a broader Media Listening Experience (MLE) comprised of streaming, podcast, and satellite listening options." (**Pluskota**, 2015, p. 325)

The key, according to the author, resides in radio redefining itself not only as a medium but also as a technology. As already mentioned in the theoretical framework section, radio is an "experience good" and media literacy is an excellent opportunity to gain contact with the medium.

Finally, another generally expressed conviction is that there is still time to make the contact between the youngest consumers and the sound products of radio companies viable; it is a need which must be confronted by the sector as a whole, and doing so through digital channels or platforms is a required condition but is not enough, if the content is not produced with this cohort expressly in mind.

Importantly, this paper does not offer a qualitative study of user motivation. The decision to focus on the content perspective and on the detailed analysis of audience data was made in the paper's design phase. The relationship between radio and Generation Z, from the audience perspective, could be the subject of future analyses.

This paper opens the door to two other new fronts. Firstly, the data provided by *AIMC* could be exploited more deeply for an academic approach to the sector's challenges, from the *EGM* itself analysed through this lens to the analysis of the data provided by the *AIMC* report *Marcas*, which is based on 10,000 interviews and compares the population's exposure to media forms with its lifestyles and attitudes toward consumption, the media forms themselves and society.

Secondly, the theoretical framework of media economics and media management, in addition to the postulates of foresight, could be applied to the private radio broadcasting sector in Spain and used to gain more insight in the direction the conclusions of the present paper point toward.

8. References

AIMC (2009; 2012; 2021). *Estudio General de Medios* (*EGM*).
https://www.aimc.es/egm

Albarran, Alan B. (2004). "The economics of the contemporary radio industry". In: Alexander, Alison; Owers, James; Carveth, Rothney A.; Hollifield, C. Ann; Greco, Albert N. (eds.). *Media economics, theory and practice*. New Jersey: Lawrence Erlbaum Associates, pp. 207-220. ISBN: 978 0 805845808

Albarran, Alan B. (2012). "Media management and economics research: the first 75 years". In: Albarran, Alan B. (ed.). *Media management and economics research in a transmedia environment*. New York: Routledge, pp. 5-18. ISBN: 978 0 415818155

Albarran, Alan B. (2014). "Assessing the field of media management and economics research: looking back, looking forward". *Palabra clave*, v. 17, n. 4, pp. 1025-1040.
https://doi.org/10.5294/pacla.2014.17.4.2

Albarran, Alan B. (2019). "Media economics research: a history of the field". In: Albarran, Alan B. (ed.). *A research agenda for media economics*. Chentelham: Edward Elgar Publishing, pp. 1-12. ISBN: 978 1 788119054

Albarran, Alan B.; **Chan-Olmsted, Sylvia M.**; **Wirth, Michael O.** (2006). *Handbook of media management and economics*. Mahwah, New Jersey: Lawrence Erlbaun. ISBN: 978 0 805850048

Albarran, Alan B.; **Mierzejewska, Bozena**; **Jung, Jaemin** (2018). *Handbook of media management and economics*. New York: Routledge. ISBN: 978 1 138729315

Arce Media (2021). *i2P Índice inversión publicitaria, año 2021*.
http://www.arcemedia.es/wp-content/uploads/2021/informe_i2p_2021_resumen.pdf

Arrese-Reca, Ángel; **Medina-Laverón, Mercedes**; **Sánchez-Tabernero, Alfonso** (2019). "Consumer demand and audience behavior". In: Albarran, Alan B. (ed.). *A research agenda for media economics*. Chentelham: Edward Elgar Publishing, pp. 59-76. ISBN: 978 1 788119054

Barrios-Rubio, Andrés; **Gutiérrez, María** (2021). "Prácticas juveniles de consumo sonoro, entre grandes plataformas y el ecosistema radiofónico: caso Colombia-España". *Comunicación y sociedad*, v. 18.
https://doi.org/10.32870/cys.v2021.7820

Bonet, Montse (2017). "The Spanish contribution to the study of cultural industries. The first steps". In: Tosoni, Simone; Carpentier, Nico; Murru, Maria Francesca; Kilborn, Richard; Kramp, Leif; Kunelius, Risto; McNicholas, Anthony; Olsson, Tobias; Pruulmann-Vengerfeldt, Pille (eds.). *Present scenarios of media production and engagement*. Bremen: Edition Lumière, pp. 85-94. ISBN: 978 3 943245 72 1

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *Profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Catalina-García, Beatriz; **López-de-Ayala-López, María-Cruz**; **Martín-Nieto, Rebeca** (2017). "Audiencia juvenil radiofónica: uso de nuevos dispositivos y aplicaciones entre los futuros comunicadores". *Revista de la Asociación Española de Investigación de la Comunicación*, v. 4, n. 8, pp. 45-53.
https://doi.org/10.24137/raeic.4.8.6

Chan-Olmsted, Sylvia; **Wang, Rang**; **Hwang, Kyung-Ho** (2022). "Millennials' adoption of radio station apps: the roles of functionality, technology, media and brand factors". *Journalism & mass communication quarterly*, v. 99, n. 1, pp. 262-288.
https://doi.org/10.1177/1077699020952111

Cheik-Hussein, Mariam (2021). "Radio audience grew 2% in 2020". *AdNews*, 19 January.
https://www.adnews.com.au/news/radio-audience-grew-2-in-2020

Cuní, Carles (2022). Comunicación personal, 1 febrero.

Cunningham, Stuart; **Flew, Terry**; **Swift, Adam** (2015). *Media economics.* London: Bloomsbury Publishing. ISBN: 978 0 230293229

Doyle, Gillian (2013). *Understanding media economics*. London: SAGE. ISBN: 978 1 412930765

EBU (2021). *How public service media deliver value.*
https://www.ebu.ch/publications/research/login_only/infographic/the-value-of-psm

Edison Research (2021). *The spoken word audio report 2021 from NPR and Edison Research.*
https://www.edisonresearch.com/the-spoken-word-audio-report-2021-from-npr-and-edison-research

Edison Research (2022). *Super listeners 2021 from Edison Research and AD Results Media.*
https://www.edisonresearch.com/super-listeners-2021-from-edison-research-and-ad-results-media

Espinar-Ruiz, Eva; **González-Díaz, Cristina**; **Martínez-Gras, Rodolfo** (2020). "Análisis del consumo de noticias entre estudiantes de la Universidad de Alicante". *Convergencia, revista de ciencias sociales*, v. 27.
https://doi.org/10.29101/crcs.v27i0.13286

Espinosa-Mirabet, Sílvia; **Ferrer-Roca, Natàlia** (2021). "¿Por qué los jóvenes australianos triplican el consumo de radio de los jóvenes españoles?". *ZER: revista de estudios de comunicación*, v. 26, n. 50, pp. 41-61.
https://doi.org/10.1387/zer.21918

Espinosa-Mirabet, Sílvia; **Gutiérrez, Maria**; **Martí-Martí, Josep-Maria** (2021). "RAC 1: análisis de un caso de éxito de emisora de radio". *Profesional de la información*, v. 30, n. 3, e300303.
https://doi.org/10.3145/epi.2021.may.03

Fernández-Quijada, David (2021). "Connecting with young audiences, what works?" En: *Jornada ACR El futur de la ràdio i els joves: com podem atraure la generació Z.*
https://acradio.org/jornada/el-futur-de-la-radio-i-els-joves-com-podem-atraure-la-generacio-z

Gabardo, José-Andrés (2022). Personal Communication, 16 February.

Hesmondhalgh, David (2019). *The cultural industries.* London: SAGE. ISBN: 978 1 526424105

Hoskins, Colin; **McFadyen, Stuart**; **Finn, Adam** (2004). *Media economics, applying economics to new and traditional media*. Thousand Oaks: SAGE. ISBN: 978 0 761930969

Jacobs, Fred (2022). "Why radio doesn't care about gen Z, and why it should". *Jacobs Media Strategies*, 8 February.
https://jacobsmedia.com/why-radio-doesnt-care-about-gen-z-and-why-it-should

Küng, Lucy (2017). *Strategic management in the media*. London: SAGE. ISBN: 978 1 473929500

Lissitsa, Sabina; **Laor, Tabor** (2021). "Baby boomers, generation X and generation Y: identifying generational differences in effects of personality traits in on-demand radio use". *Technology in society*, v. 64, n. 1.
https://doi.org/10.1016/j.techsoc.2021.101526

Llano, Javier (2022). Personal Communication, 21 February.

López-Vidales, Nereida; **Gómez-Rubio, Leire** (2014). "Nuevos hábitos de los jóvenes españoles y tendencias de futuro en el consumo de radio y televisión". *Historia y comunicación social*, v. 19, n. esp. febrero, pp. 327-340.
https://doi.org/10.5209/rev_HICS.2014.v19.45031

López-Vidales, Nereida; **Gómez-Rubio, Leire** (2021). "Tendencias de cambio en el comportamiento juvenil ante los medios: millennials *vs* generación Z". *Estudios sobre el mensaje periodístico*, v. 27, n. 2, pp. 543-552.
https://doi.org/10.5209/esmp.70170

López-Vidales, Nereida; **Gómez-Rubio, Leire**; **Redondo-García, Marta** (2014). "La radio de las nuevas generaciones de jóvenes españoles: hacia un consumo online de música y entretenimiento". *ZER: revista de estudios de comunicación*, v. 19, n. 37, pp. 45-64.
https://doi.org/10.1387/zer.13516

Lowe, Gregory-Ferrell; **Maijanen, Päivi** (2019). "Making sense of the public service mission in media: youth audiences, competition, and strategic management". *Journal of media business studies*, v. 16, n. 1.
https://doi.org/10.1080/16522354.2018.1553279

Mars, Thierry (2021). "El consum de ràdio de la generació Z a Espanya i als principals mercats europeus". En: *Jornada ACR El futur de la ràdio i els joves: com podem atraure la generació Z.*
https://acradio.org/jornada/el-futur-de-la-radio-i-els-joves-com-podem-atraure-la-generacio-z

McClung, Steven; **Pompper, Donnalyn**; **Kinnally, William** (2007). "The functions of radio for teens: where radio fits among youth media choices". *Atlantic journal of communication*, v. 15, n. 2, pp. 103-119.
https://doi.org/10.1080/15456870701215842

Moix, José-María (2022). Personal Communication, 8 February.

Moreno-Cazalla, Lourdes (2018). *La radio online en España ante la convergencia mediática: sintonizando con un nuevo ecosistema digital y una audiencia hiperconectada*. Tesis doctoral. Madrid: Universidad Complutense.
https://eprints.ucm.es/id/eprint/49995

Moreno-Cazalla, Lourdes (2022). Personal Communication, 12 February.

Negredo, Samuel (2021). "Casi la mitad de jóvenes de 18 a 24 años desaprueba cómo reflejan los medios a la gente de su edad". *Digital news report España 2021*.
https://www.digitalnewsreport.es/2021/casi-la-mitad-de-jovenes-de-18-a-24-anos-desaprueba-como-reflejan-los-medios-a-la-gente-de-su-edad

Parlamento Europeo (2021). Eurobarómetro.
https://www.europarl.europa.eu/at-your-service/es/be-heard/eurobarometer

Pedrero-Esteban, Luis-Miguel (2021). "Claves para la comprensión del consumo digital de los jóvenes". En: *Jornada ACR El futur de la ràdio i els joves: com podem atraure la generació Z.*
https://acradio.org/jornada/el-futur-de-la-radio-i-els-joves-com-podem-atraure-la-generacio-z

Pedrero-Esteban, Luis-Miguel; **Pérez-Maíllo, Aurora**; **Sánchez-Serrano, Chelo** (2019). "Experiencias, retos y propuestas para crear una cultura sonora en los jóvenes digitales". *Anuario electrónico de estudios en comunicación social "disertaciones"*, v. 12, n. 2, pp. 20-31.
https://doi.org/10.12804/revistas.urosario.edu.co/disertaciones/a.6546

Pérez-Escoda, Ana; **Barón-Dulce, Gema**; **Rubio-Romero, Juana** (2021). "Mapeo del consumo de medios en los jóvenes: redes sociales, 'fake news' y confianza en tiempos de pandemia". *Index comunicación*, v. 11, n. 2, pp. 187-208.
https://doi.org/10.33732/ixc/11/02Mapeod

Pérez-Escoda, Ana; **Pedrero-Esteban, Luis-Miguel** (2021). "Retos del periodismo frente a las redes sociales, las fake news y la desconfianza de la generación Z". *Revista latina de comunicación social*, v. 79, pp. 67-85.
https://www.doi.org/10.4185/RLCS-2021-1519

Pérez-Escoda, Ana; **Pedrero-Esteban, Luis-Miguel**; **Rubio-Romero, Juana**; **Jiménez-Narros, Carlos** (2021). "Fake news reaching young people on social networks: distrust challenging media literacy". *Publications*, v. 9, n. 24.
https://doi.org/10.3390/publications9020024

Perona-Páez, Juan-José; **Barbeito-Veloso, María-Luz**; **Fajula-Payet, Anna** (2014). "Los jóvenes ante la sono-esfera digital: medios, dispositivos y hábitos de consumo sonoro". *Comunicación y sociedad*, v. 27, n. 1, pp. 205-224.
https://doi.org/10.15581/003.27.1.205-224

Picard, Robert G. (2006). "Historical trends and patterns in media economics". In: Albarran, Alan B.; Chan-Olmsted, Sylvia M.; Wirth, Michael O. (eds.). *Handbook of media management and economics* (pp. 23-36). Mahwah, New Jersey: Lawrence Erlbaun. ISBN: 978 0 805850031

Picard, Robert G. (2018). "The rise and expansion of research in media economics". *Communication & society*, v. 37, n. 4, pp. 113-119.
https://doi.org/10.15581/003.31.4.113-119

Piñeiro-Otero, Teresa (2017). "La radio en la investigación comunicativa en España: una línea minoritaria para un medio mayoritario". *Signo y pensamiento*, v. 35, n. 69, pp. 30-48.
https://doi.org/10.11144/Javeriana.syp35-69.rice

Pluskota, Jonathan P. (2015). "The perfect technology: radio and mobility". *Journal of radio & audio media*, v. 22, n. 2, pp. 325-336.
https://doi.org/10.1080/19376529.2015.1083378

Repiso, Rafael; **Torres-Salinas, Daniel**; **Delgado-López-Cózar, Emilio** (2011). "Análisis de la investigación sobre radio en España: una aproximación a través del análisis bibliométrico y de redes sociales de las tesis doctorales defendidas en España entre 1976-2008". *Estudios sobre el mensaje periodístico*, v. 17, n. 2, pp. 417-429.
https://doi.org/10.5209/rev_ESMP.2011.v17.n2.38123

Soengas-Pérez, Xosé; **López-Cepeda, Ana-María**; **Sixto-García, José** (2019): "Dieta mediática, hábitos de consumo de noticias y desinformación en losuniversitarios españoles". Revista latina de comunicación social, n. 74, pp. 1056-1070.
https://doi.org/10.4185/RLCS-2019-1371-54

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Vides, Virginia (2021). Personal Communication, 23 November.

Spatial audio and immersive journalism: production, narrative design, and sense of presence

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Abstract

This article presents the findings from an experimental study on the use of binaural audio in two long-form journalistic features broadcast on Portuguese radio. From a production and narrative design perspective, our objective is to examine whether/how binaural audio implies a transformation of previously established news radio production work principles and practices, as well as of storytelling ideation and techniques. From a user experience viewpoint, we examine whether the use of binaural audio translates into higher levels of self-reported immersion and place illusion (n = 77). Despite the spread of new audio journalism formats, media and communication studies have until now largely neglected the role of spatial audio in the construction of immersion and the illusion of place. We argue that this epistemic omission translates into an image-centric conception and operationalization of the immersive journalism proposal, which stands out as a knowledge gap regarding the work of journalistic storytellers and relating to participants' actual experience. The original contribution of this article is threefold: (1) conceptual, by broadening the perspective of journalism studies' scholars and media professionals on the concept of immersive journalism, which, in our view, is often incorrectly considered to be synonymous with that of virtual reality journalism; (2) practical, by generating a more nuanced understanding of how actual practitioners perceive and employ immersive journalism; (3) phenomenological, by developing an examination of the factors that influence listeners' ultimate perception of the immersive experience.

Keywords

Immersive journalism; Immersive storytelling; Audio storytelling; Narrative; Binaural sound; Spatial audio; Emotional turn; Journalism; Cinematic radio; Audio documentary; Audio communication.

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1. Introduction

De-la-Peña *et al.* (2010) introduced the concept of immersive journalism as

> "the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories".

By experiencing the illusion of being there, proponents claimed, participants would gain an

> "unprecedented access to the sights and sounds, and possibly feelings and emotions, that accompany the news" (p. 291).

This proposal was rapidly embraced by the tech industry and virtual reality (VR) technologies, such as 360-degree video or computer-generated imagery (CGI), and proliferated in newsrooms around the world (**Godulla** *et al.*, 2021; **Marconi**; **Nakagawa**, 2017; **Pérez-Seijo**, 2017; **Pérez-Seijo**; **Vicente**, 2022).

Aiming to situate the user at the center of the narrative experience, this immersive form of non-fiction content production has been identified with an emotional turn in journalism studies, with emphasis being placed on the need for a renewed interest in audience perception (**Goutier** *et al.*, 2021; **Lecheler**, 2020; **Wahl-Jorgensen**, 2020). Nevertheless, journalism studies have, until now, largely neglected the role of spatial audio in the construction of immersion and the illusion of place. We argue that this epistemic omission translates into a limited, image-centric conception and operationalization of the immersive journalism proposal, which highlights a knowledge gap regarding the work of journalistic storytellers and the participants' actual experience.

With this objective in mind, this article presents an exploratory experimental study on the use of binaural audio for journalistic purposes by using two existing long-form features produced by the Portuguese public radio broadcaster *Antena 1*. The research is based on a mixed-method design, combining quantitative and qualitative techniques. On the one hand, a between-subject experimental study was conducted to assess whether the use of binaural audio leads to a higher level of immersion and place illusion. Focus groups were used to triangulate technique was also used to triangulate the quantitative results. On the other hand, semi-structured interviews were conducted to examine the impact of binaural audio on news radio production and storytelling. The aim is to fill the gap in the literature on immersive journalism from the perspective of both user experience and production and narrative design. The study is structured on a production–reception axis of analysis, focusing on the direct accounts of journalists to assess narrative design and production practices of spatial audio journalistic features, as well as on users' experiences, self-reported by study participants. It addresses the following research questions:

> RQ1: What narrative objectives do journalists attribute to binaural audio productions?
>
> RQ2: What transformations generated by using binaural audio do journalists identify in production?
>
> RQ3: Do binaural audio listeners report significantly higher levels of immersion and place illusion when compared with monaural audio listeners?

The original contribution of this article is threefold:

- conceptual, by broadening the perspective of journalism studies' scholars and of media professionals on the concept of immersive journalism, which, in our view, is often incorrectly considered synonymous with that of virtual reality journalism;
- practical, by generating a more nuanced understanding on how the actual practitioners perceive and put to work immersive journalism;
- phenomenological, by developing an examination on the factors that influence the immersive experience by the end listeners.

2. Theoretical framework

2.1. Virtual reality and 360-degree video

VR was recently proposed as part of reality media, i.e., a class of audio-visual media forms

> "that explicitly interpose themselves between us and our visual, auditory, or tactile perception of the everyday world and in this sense seek to redefine reality itself" (**Engberg**; **Bolter**, 2020, p. 85).

Not yet stabilized as a narrative medium and symbolizing the evolution of cinematographic language over two centuries, VR attracts both practitioners and scholars due to its visual, aural, kinetic, haptic possibilities, and, more than separately, due to the "synesthetic encounters" it allows (**Ross**, 2020) with its considerable plasticity in terms of digital representation conventions and genres (**Murray**, 2020). Nevertheless, two normative paradoxes have been pointed in 360-degree journalism: the first, the consideration that a 360-degree view provides a more accurate representation of events, while at the same time allowing viewers to freely choose a field of view that can lead to a less accurate picture of the story; the second, the expectation it generates more objective reporting, while greatly depending on staging scenes and image processing in post-production (**Aitamurto**, 2019), as well on industry standards and practices (**LaRocco**, 2020).

One of the main postulates about the narrative assets of immersive journalism concerns the rhetoric around VR as a kind of "empathy machine" (**Milk**, 2015). In fact, when **De-la-Peña** *et al.* (2010) introduced the concept of immersive journalism, it was claimed that this form of content production could serve to "reinstitute the audience's emotional involvement in current events" (p. 298).

The core argument behind this proposition is that by placing the audience at the center of the experience and offering them a first-person perspective within the story world, this generates a strong affective impact on users (**Lecheler**, 2020).

This premise has led researchers to demand further precision in defining the concept of empathy and to investigate how media users do indeed experience non-fictional immersive environments. Examples of this ongoing endeavor are the works of **Kukkaporki** and **Pantti** (2021), focusing on the potential of spatial storytelling to create emotional responses in VR news stories, or of **Clifford** and **White** (2020), drawing attention to the potential of mediated representation to evoke empathy and enhance public understandings on specific events. On the other hand, **Shin** and **Biocca** (2017) have proved that "the meaning of immersion depends on the users' traits and contexts" (p. 3), so its function is highly dependent on the user's intentions and cognition. However, critical voices have also emerged rejecting the 'empathy proposition' of VR technologies, arguing that VR storytelling further distances people from the analogue reality of the world (**Hassan**, 2020), or as **Ferjoux** and **Dupont** (2020), claiming that it symbolizes a technological utopianism.

Several studies have also addressed the human experience of VR and 360-degree video non-fiction storytelling, by focusing on the effect of these immersive pieces on subjective perceptions such as the sense of being there, immersion, realism, interaction, source credibility or story-sharing intention (**Archer**; **Finger**, 2018; **Hendriks**-**Vettehen** *et al.*, 2019; **Sundar** *et al.*, 2017; **Van-Damme** *et al.*, 2019).

2.2. Spatial audio and cinematic radio

In recent years, as part of a broader transmedia engagement and cross-media practice, as well as a result of high technologies adoption, news media organizations have also explored spatial sound– notoriously, binaural audio –as an innovative strategy to provide listeners with an immersive aural experience, both in the field of drama and entertainment, as well as in the journalistic domain (**Edmond**, 2015; **Dowling**; **Miller**, 2019; **Wincott**; **Martin**; **Richards**, 2020). Binaural audio technologies allow the creation of immersive experiences by simulating the natural hearing cues created by acoustic interaction between our physical bodies and the surrounding environment. The format is particularly suited for a stereophonic headphone hearing system, allowing the listener to be locked in and minimizing the intrusion of external undesired sounds.

A non-exhaustive list of immersive features and documentaries in the form of spatial audio internationally produced in recent years includes broadcasters *Radio France* (e.g., *Cécifoot, le sens du jeu*, 2016), *ArteRadio* (e.g., *Siffler Laos*, 2016), *BBC News World Service* (e.g., *Congo: A river journey*, 2018), *BBC Radio 3 Between the Ear's* program (e.g., *Omay*, 2018; *The NHS symphony*, 2018), *NPR* and *The National Geographic Society* (e.g., the co-produced *Radio expeditions*). In this article, we examine the production and the reception of two binaural audio journalistic features produced by Antena 1, the Portuguese public radio broadcaster: *Hearing eyes* (*Com olhos de ouvir*), produced and broadcasted in 2018, and *Imaginary line* (*Linha imaginária*), produced and broadcasted in 2019. The first was the pioneering experience of Portuguese news radios in the binaural audio domain and, among other distinctions, was nominated for the 2019 edition of the Gabo Prize (*Fundación Gabriel García Márquez*) in the Innovation category.

Both features explore the potential of binaural storytelling methods and engage with the concept of cinematic radio, the adaption of

> "filmmaking and scriptwriting practices for a dimensional audio production by drawing on a set of established story, script, and technical research questions" (**Jenkins**; **Murphy**; **Thomas**, 2018, p. 7).

Both audio features explore a journalistic framework for binaural productions, as a medium with its own storytelling form and language, restating the acknowledgment of a new technology-mediated experience in the all-audio space:

> "binaural is to radio and podcasting what virtual reality (VR) and augmented reality (AR) are to screen" (p. 3).

Despite a growing relevance to producers, and regardless the fact that binaural audio, from a reception perspective, is the most accessible immersive audio technology, only requiring a pair of stereo headphones, very few research works have addressed immersive audio –and sound, in general– as a specific cultural form and practical domain within media and journalism studies (**Wincott**; **Martin**; **Richards**, 2020), particularly when comparing to the increasing number of research articles addressing VR. This historical imbalance and epistemic gap between sound and image has been previously voiced by several scholars from different disciplines (e.g., **Aveyard**; **Moran** 2013; **Gallagher**, 2015; **Revill**, 2016; **Van-Leeuwen**, 2007). More recently, scholars started stressing the need of further research evaluating actual aural experiences, a particularly understudied topic in the scope of digital journalism, as well as of an examination of the current position of audio storytelling in journalism education (**Wake**; **Bahfen**, 2016).

> Journalism studies have, until now, largely neglected the role of spatial audio in the construction of immersion and the illusion of place

2.3. Journalism as storytelling and news stories as narrative

Since the 1970s, journalistic practice has been theoretically interpreted through news stories' production and journalists understood as storytellers who resort to more or less conventional narrative structures in order to organize in a communicative way the workings of the world (**Bird**; **Dardenne**, 2009). The conceptualization of news as storytelling represented a turning point from journalism as an objective mirror of reality toward more refined sociological and anthropological constructs of journalism as a professional occupation and culture (e.g., **Bird**; **Dardenne**, 1988; **Tuchman**, 1972). Story structures, as the organizational properties of a coherent narrative (**Vicente**, 2018), became thus fundamental devices in the social construction of reality, a key theory expressed by **Berger** and **Luckmann** (1967) in which meaning is embedded through social interaction.

For this study, we adopted **Herman**'s (2009) working definition of narrative: a representation that is situated in a specific discourse context for telling, cueing interpreters to draw inferences about a structured time-course of particularized events. These events introduce some sort of disruption/disequilibrium into a story world involving human agents. Their representation conveys the experience of living through a story world-in-flux. For the definition of the two stimuli used in the study, we considered the following story aspects identified by **Bal** (1985): the narrator, focalization, characters, time, and space. As "narrator and focalization together determine the narrative situation" it is important to precise that, while the narrator gives an account of events and experiences, the focalizor is the "specific agent of perception, the holder of 'the point of view'" (p. 18). We further adopt the concept of character as "the anthropomorphic figures provided with specifying features the narrator tells us about" (p. 112). We particularly observe if the narrative is structured around a main character or if it involves multiple characters. Regarding time, we characterize "the order of events in the story" (p. 79) and, concerning space, we register the place(s) where action takes place. It is important to specify that, since we are analyzing audio features, the realization of these story aspects is simultaneously carried out in a linguistic and auditive way. For this reason, in the scope of this article, we resort to the notion of narrative design to describe the distinct storytelling strategies adopted by the news producers to structure a representation throughout the creative assembly of ideas over time and sensory experience.

2.4. Presence and immersion

Since the 1990s,

> "presence and immersion became the measures and the often elusive goals of VR" (**Engberg**; **Bolter**, 2020, p. 82).

Both terms are often used interchangeably, to which different understandings by researchers and practitioners are added, contributing to little conceptual precision across domains such as literary, game, cinema studies, among other areas of application. The concept of presence has been permeable to multiple interpretations, leading to a multidimensional set of constructs and methodological considerations (**Laarni** *et al.*, 2015). In this study, we particularly examine place illusion, as the perception that a mediated experience is not mediated, described by **Lombard** and **Ditton** (1997), resulting in the feeling of being in the location(s) of the news story. That "feeling of being there" occurs due to the user's exposure to various sensory stimuli, usually in a virtual environment (**Nilsson**; **Nordahl**; **Serafin**, 2016, p. 127). As a subjective experience, presence also depends on the user's "internal tendencies to become involved" (**Witmer**; **Singer**, 1998; **Slater**, 1999), which means that each individual may experience a completely different sense of presence despite the fact the stimuli and the content are the same (**Ijsselsteijn**; **Riva**, 2003, p. 5).

With regard to the concept of immersion, for the operationalization of this study we adopted the taxonomy systematized by **Nilsson**, **Nordahl**, and **Serafin** (2016):

(i) immersion as a property of the technological system (system immersion);

(ii) immersion as the subjective response to that system (perceptual immersion;,

(iii) immersion as a response to an unfolding narrative, the characters inhabiting the story world, or the depiction of the world itself (narrative immersion).

Since in the two journalistic works under study binaural audio is not implemented as an interactive media, i.e., the two audio pieces do not rely on the user input to generate an output, as for instance in the case of games (**Vicente**, 2020), in this article we did not operationalize immersion as a subjective response to challenges (challenge-based immersion), proposed by the authors.

3. Methods

3.1. Experimental stimuli

This study articulates a production level, overall aimed at understanding how practitioners conceive, design, and produce immersive journalism in the form of spatial audio, with a reception level, intended to examine how do listeners experience immersion in non-fiction storytelling. To serve both objectives, we have selected two different binaural audio journalistic features produced and published by *Antena 1*, the Portuguese public radio broadcaster. Both productions resorted to *Sennheiser's Ambeo Smart Headset* due to its low cost, compact and mobile binaural recording system, which can be used directly on human ears to record spatial audio (Figure 1).

The first, *Hearing eyes* (*Com olhos de ouvir*, duration: 00:30:37), was originally broadcasted in 2018 and portrays Telmo Baldé who blinded three years ago due to a brain injury, while undergoing rehabilitation. In the description of the feature author, reporter Rita Colaço explains that the piece aims to

> "tell the story from the protagonist point of listening. Telmo is the one telling and guiding the listener in a first-person story, narrating the difficulties that a blind person feels in daily life. Furthermore, I wanted to know and try to reproduce in the most realistic way possible how does a blind person listen".

The second, *Imaginary line* (*Linha imaginária*, duration: 00:31:46 minutes), by journalist Isabel Meira, was broadcasted in 2019 and takes the listener to Santa Cruz do Bispo women's prison where a rugby project aimed at the inmates' daughters was implemented. The key objective of this report was, in the words of its author,

> "to create sound-images and transport the listener to this narrative space. I was interested in exploring the idea of observing reality in layers of sound".

Image 1. *Sennheiser Ambeo Smart Headset* binaural audio system used in the journalistic productions studied

Both audio features share the purpose of placing the listener at the center of the narrative experience –a foundational idea in immersive journalism– as well as the dimensional plasticity associated to spatial audio by cinematic radio. Nevertheless, following the previously mentioned story elements, they adopted distinct narrative designs, as summarized in Table 1:

Table 1. Narrative design elements of the stimuli

Stimuli	Narrative Situation		Characters	Time	Space
	Narrator	Focalizor			
Hearing eyes	Yes. Extradiegetic (reporter)	Main character (internal focalization)	One main character	Use of analepsis and prolepsis	Multiple
Imaginary line	No	Multiple characters (internal focalization)	Multiple characters	Linear/chronological	One main space

3.2. Interviews with practitioners

Due to constraints imposed by confinement in the face of the Covid-19 pandemic, in May 2020 via e-mail we conducted online semi-structured interviews with each of the two journalists who authored the binaural audio journalistic features under study. The interviews included five questions and were designed to gather the perspectives of two experienced radio reporters, both with several national and international awards and distinctions received throughout their professional careers, about:

(a) objectives and expectations about the combination of spatial sound and journalistic narrative, in particular with regard to the creation of the sound experience for listeners;

(b) strategies and techniques adopted for production and if/how they changed the way of conceiving and telling the story, field recordings, editing, and mixing procedures.

These interviews were conducted and later transcribed into a single digital document, offering researchers a series of qualitative insights.

3.3. Experimental design and procedure

Regarding the self-reported listening experience, a total of 77 participants (65% females, 34% males) were recruited through institutional email from *Universidade Nova de Lisboa* (Portugal) to participate on a study about binaural audio applied to a journalistic context. Participants ranged in age from 19 to 55 years old (*M*=29,53; *SD*=9,66), being the 20 to 24 age group the largest of the sample. We designed and conducted a between-subject experiment with two listening conditions: participants randomly assigned to condition 1 experienced an audio feature in binaural audio (*N*=40); participants randomly assigned to condition 2 experienced an audio feature in monaural audio (*N*=37). Contrary to binaural audio, which presents a separate auditory stimulus to the left and to the right ear, monophonic audio reproduction emanates from one single position. A computer program (randomizer) was used to create the random composition of the experimental groups. Each participant experienced only one of the experimental conditions.

> News media organizations have explored spatial sound –notoriously, binaural audio– as an innovative strategy to provide listeners with an immersive aural experience

This experimental design aimed at isolating binaural audio as an independent variable (system immersion) and monaural audio as the control condition. It was deployed to isolate system immersion (the property of the technological system) from the previously mentioned different conceptualized types of immersion, namely perceptual immersion (perceptual response to the technological system), narrative immersion (response to an unfolding narrative, the characters inhabiting the story world, or the depiction of the world itself). To prevent participants from being cognitively conditioned by the anticipated knowledge of specific technological properties, the modality of the audio stimuli (binaural/monaural) was not disclosed as they were randomly assigned to different experimental groups.

Once registered, participants were informed that they would participate in a one-hour session, consisting of an individual listening session (approximately 30 minutes), immediately followed by filling in an online questionnaire (10 minutes), and participating in a focus group (20 minutes). The experiment was carried out under laboratory conditions and sessions took place at *iNOVA Media Lab*. During the individual listening session, participants were assigned a dedicated audio station with closed-back headphones. The online questionnaire was completed at the same station using a computer for that purpose. Table 2 summarizes the random distribution of participants by experimental condition, stimuli, and demographics.

Table 2. Sample distribution of participants by experimental condition, stimuli, and demographics

		Experimental condition				**Stimuli**							
		Binaural (N=40)		**Monaural (N=37)**		***Hearing eyes*** **Binaural (N=20)**		***Hearing eyes*** **Monaural (N=20)**		***Imaginary line*** **Binaural (N=20)**		***Imaginary line*** **Monaural (N=17)**	
		N	%	N	%	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Gender	Male	17	43%	9	24%	8	40%	4	20%	9	45%	5	29%
	Female	23	58%	27	73%	12	60%	15	75%	11	55%	12	71%
	Non-binary	-	0%	1	3%	-	0%	1	5%	-	0%	-	0%
Age	19	1	3%	-	0%	1	5%	-	0%	-	0%	-	0%
	20-24	14	35%	21	57%	10	50%	11	55%	4	20%	10	59%
	25-29	9	23%	4	11%	2	10%	3	15%	7	35%	1	6%
	30-34	7	18%	2	5%	3	15%	2	10%	4	20%	-	0%
	35-39	2	5%	3	8%	-	0%	-	0%	2	10%	3	18%
	40-44	5	13%	2	5%	3	15%	1	5%	2	10%	1	6%
	45-49	-	0%	3	8%	-	0%	2	10%	-	0%	1	6%
	50-54	2	5%	1	3%	1	5%	1	5%	1	5%	-	0%
	55-59	-	0%	1	3%	-	0%	-	0%	-	0%	1	6%
	>60	-	0%	-	0%	-	0%	-	0%	-	0%	-	0%
	M	29,95		29,08		29,6		28,5		30,3		29,76	
	SD	8,91		10,52		9,86		10,42		8,1		10,91	
Level of education	BA student	12	30%	4	11%	5	25%	2	10%	7	35%	2	12%
	MA student	22	55%	25	68%	12	60%	14	70%	10	50%	11	65%
	PhD student	6	15%	8	22%	3	15%	4	20%	3	15%	4	24%
Prior experience listening binaural audio	Yes	22	55%	19	51%	11	55%	8	40%	11	55%	11	65%
	No	18	45%	18	49%	9	45%	12	60%	9	45%	6	35%

3.4. Measures

1) Perceptual immersion. We measured the participants' subjective response to the properties of the technological system (**Nilsson**; **Nordahl**; **Serafin**, 2016), using a single-item 5-point Likert scale (e.g., "The sound experience made me feel immersed").

2) Narrative immersion (Cronbach's α = .741). We measured the participants' response to an unfolding narrative, the characters inhabiting the story world, and the depiction of the world itself (**Nilsson**; **Nordahl**; **Serafin**, 2016) with a three-items 5-point Likert scale adapted from psychology and literary studies (**Gorini** *et al.*, 2010; **Martínez**, 2014) (e.g., "The

way the story is narrated made me want to know what was going to happen next"; "The way the story is narrated made me feel connected to the characters"; "The way the story is narrated made me feel immersed in the world of the characters and events depicted").

> Binaural technologies are having an impact on journalism, leading to a whole reconfiguration of how information can be produced, distributed, and even listened to

3) Place illusion. We examined participants' sense of "being there" using a single-item 5-point Likert scale (e.g., "While listening, I had the feeling of being present in the place where the action of the story was taking place), based on **Wirth** *et al.* (2007) and **Laarni** *et al.* (2015).

3.5. Online questionnaire

After listening to the audio features, participants completed an online questionnaire, designed using the *Qualtrics Survey* web-based platform and containing five sections: (i) perceptual immersion, (ii) narrative immersion, (iii) place illusion, (iv) socio-demographics, (v) level of previous experience. Sections (i), (ii) and (iii) were used to answer the research questions of this article, using a five-points Likert scale ranging from "Never" to "Always". Sections (iv) and (v) were used to establish background information about the respondents.

The online questionnaire was pretested with a group of 10 master students. This sample of potential respondents assessed any needs for revision and improvement in the survey design. The main objective was to check wording, technical jargon and conceptual clarity, spell checking, and navigation structure. According to the pilot group feedback, minor adjustments were implemented to optimize the comprehension and readability of the instructions (e.g., normalization of expressions in Portuguese), as well as the questionnaire's digital user experience (e.g., introduction of a backspace button). After operationalizing these adjustments, the definite data collection instrument was created. The internal consistency of the questionnaire was assessed by Cronbach's alpha (.742). *SPSS V23* statistics software package was used for the data analysis. To determine if significant differences exist between listening conditions 1 and 2 (binaural and monaural) related with perceptual and narrative immersion (RQ3), as well as with place illusion, independent-samples *t*-tests and non-parametric Mann-Whitney tests were conducted, as specified in the results' section.

3.6. Focus groups

After completing the online questionnaire, a randomized sample of participants from condition 1 (N=10; 50%) and condition 2 (N=10; 50%) participated in four separated focus groups aimed at generating descriptive insights into the listening experience and eliciting a narrative self-report about the overall aural experience, with five participants per group. The composition of a small random sample size was decided in order to make it logistically feasible to conduct the study under laboratory conditions. The size of the groups was decided in a way that would allow all participants an equal opportunity to speak during the discussion sessions. Table 3 summarizes the random composition of the focus groups. Focus groups took place under laboratory conditions at *iNOVA Media Lab*, ensuring proper privacy and a tranquility ambient able to encourage informal sharing. The principal investigator adopted the role of moderator, facilitating the group discussion between participants, while taking a peripheral role. Conceived as a qualitative counterpart to the quantitative statistical data generated by the online questionnaire (triangulation), the moderator role strictly followed a script including the following preselected topics:

Table 3. Focus groups' random sample distribution of participants by experimental condition and demographics

		Experimental condition			
		Binaural (N=10)		Monaural (N=10)	
		N	%	N	%
Gender	Male	2	20%	5	50%
	Female	8	80%	5	50%
	Non-binary	-	-	-	-
Age	19	1	10%	-	-
	20-24	3	30%	4	40%
	25-29	2	20%	3	30%
	30-34	1	10%	-	-
	35-39	-	-	2	20%
	40-44	3	30%	-	-
	45-49	-	-	1	10%
Level of education	BA student	4	40%	2	20%
	MA student	6	60%	8	80%
	PhD student	-	-	-	-

(i) perceptual immersion;
(ii) narrative immersion;
(iii) place illusion.

Answers were recorded in a digital audio format and later transcribed to an electronic text document that served as the basis for coding the key themes using *Nvivo 12* software package.

4. Findings and analysis

4.1. Narrative objectives that journalists attribute to immersive audio productions

To address RQ1 regarding the narrative objectives that journalists attribute to binaural audio productions, the content of the two semi-structured interviews was analyzed, which allowed the identification of three exploratory thematic categories: the realism through sound; the sense of identification between listener and protagonist; and the emancipation of sound in non-fiction storytelling.

First, interviewees consider that binaural audio affords a better depiction of the real world compared to other sound modalities. And because of this one of the main objectives are pursued by journalists when using spatial audio for storytelling purposes is to convey a sense of realism. Since it allows for a more accurate capture and therefore representation of sound, as it would be heard at the recording location, producers associated 3D stereo audio with a more realistic experience:

> The experimental design revealed no evidence that binaural sound by itself leads to a more immersive experience than a monaural sound story. We found no difference in the three types of immersion under study and no significant difference in the illusion of place

> "The idea [was] to reproduce the world as all normal hearing people really hear it. The sounds do not reach the two auditory channels at the same time, nor with the same intensity. There are sounds that come from the right, others from the left, behind, ahead, some louder, others lower. And it is this sense of listening in layers that a person who has just blinded needs to develop to gain autonomy on the street" (Rita Colaço, *Hearing eyes*).

The ultimate aim is to contribute to the immersion in the story, seeking to provide listeners with a sense of plausibility and a higher feeling of being there:

> "I had the expectation of achieving the creation of sound images in a more crude and effective way and transport the listener to that narrative space" (Isabel Meira, *Imaginary line*).

Second, interviewees relate the possibility of listening to the events as if the listener were there with a deeper understanding of the story and a more emotional bonding with the others. Binaural audio allows the depiction of reality in a way audience can gain a first-person experience of what is portrayed in the story, and this is associated with a stronger affective impact on listeners:

> "My idea was that the listeners would realize the difficulties that a blind person has in listening to the world or, on the other hand, how this learning to listen to the world is done in order to be able to walk on the street safely" (Rita Colaço, *Hearing eyes*).

Journalists agree that the experiential nature of this immersive audio productions can lead to stronger emotional responses to distant realities. In this regard, the realism attributed to the experience is seen as an enhancer of the sense of identification between the listener and the protagonist(s) of the story. And, at the same time, it is considered that this process of emotional recognition reinforces the feeling of transportation to where the events occur:

> "I wanted the listener to feel transported, to be able to immerse him/herself in the different layers of sound that the story contains" (Isabel Meira, *Imaginary line*).

Third, interviewees confirm that, from a narrative point of view, spatial audio opens renewed possibilities for non-fiction storytelling and for placing the audience at the center of the news story. It allows to turn sound into a primary element, a role traditionally attributed to narration, in order to create a suggestive and engaging experience:

> "It is not always possible to produce reports without narration, for example, but I had already done it and I tried to do it in this production with binaural audio, because I feel that drawing the story in this way allows me to explore the limits of sound, as an autonomous tool: narration can sometimes give sound a more 'secondary' role, leaving it only to respond to the narrator" (Isabel Meira, *Imaginary line*).

It is the experiential dimension of binaural sound which also could afford listeners an unprecedented access to the sounds that come with the news story. In this sense, and closely related to the prior objective pursued, the immersive potential of audio storytelling is used to place the audience in the shoes of another, so they can experience firsthand distant realities and even develop awareness about socially serious issues:

> "For a blind but hearing person, the volume [of a street sign] may be too low and even dangerous if the audible warning of this signal is absent. Another example, for a blind person to cross a treadmill, one must be attentive to the sounds: listen for cars coming from the right or left side so you can make the decision to cross. And I wanted the listeners to feel these difficulties, without me telling them. I wanted them to feel themselves in the middle of the sound action" (Rita Colaço, *Hearing eyes*).

The three emerging thematic categories establish direct points of contact with the founding proposal of immersive journalism. As a realistic mediated narrative mode and evolving grammar of transporting the audience to the time and space in which the action takes place, the narrative awareness of journalists about storytelling devices and the effects desired by their use is evidenced.

4.2. Transformations generated by using spatial audio that journalists identify regarding news production

To address RQ2 regarding the transformations in news production, the content of the two semi-structured interviews was analyzed and allowed the exploratory identification of three categories: journalist's stance during field recording; scripting the spatial orientation of audio listening; and multi-layered editing.

On the one hand, interviewees agree that creating news stories with spatial audio forces to reconsider prior established principles and practices in radio production due to the inherent particularities of the technology used. And this introduced new difficulties when producing non-fiction content:

> "Field recording was the biggest difference, starting with my own position in relation to the protagonists of the story and the need to place supplementary microphones (*Lavalier*, for example). It is not at all evident" (Isabel Meira, *Imaginary line*).

Binaural sound demands a careful planning, including decisions such as where the journalists will be at the scene and where the microphones will be placed during the recording. From a narrative point of view, the format allows for the disappearance of the figure of the journalist –understood as the narrator or mediator– on certain occasions. When this occurs, the first-person narration of the characters becomes a key element, inviting the listener to hear the other's story as a witness:

> "In field recording, there was a substantial change in the collection of sounds. I am usually the one who holds the microphone and the one who decides where to point the microphone. Here, the microphone and the recording were almost always in the ears of the protagonist. In addition, on the field I am almost always at the side or in front of the interviewee and here I had to be behind, without actively participating in the recording. For example, when Telmo was having the training sessions, I always had to come a few meters back so that my steps would not be heard in the recording and kept looking from afar and taking notes like 'now the technician is on his right' or 'now a car has passed on the left'" (Rita Colaço, *Hearing eyes*).

On the other hand, to enhance the realism of the listening experience, interviewees highlight that spatial audio scenes must be carefully orchestrated and planned. Both note that it becomes crucial the scripting of spatial orientation, for both placing the listener where the events occur and strengthening the credibility and accuracy of reporting. In fact, the use of binaural sound leaves little margin for error and improvisation in the field:

> "Binaural audio is an extra ingredient that allows a more realistic listening and that demanded greater care in the collection of sounds and interviews and in the writing of the report. As I was not able to fully "deliver" the story to Telmo [focalization] and had to appear at times with my voice describing what was going on, I was careful to direct the listening to the right or to the left or other directions" (Rita Colaço, *Hearing eyes*).

Furthermore, the postproduction process of binaural audio content is more time-consuming as it requires a multi-layered editing, oriented to create a more vivid and plausible depiction of reality or news event and, in the end, to create an immersive experience:

> "In editing, the biggest difficulty had to do with the fact that binaural audio registers several layers of sound that we were unable to separately isolate, which poses some problems in the cuts. Traditionally, we record an interview, then some ambient sound from the environment where the interview happened, so that later the cuts will not be noticed so much [by the end listener]. With binaural recording, the cut would have to be done in all layers at the same time. It was possible, of course, to record the environment separately, but guaranteeing the exact same recording elements is more difficult: the same wind, the same traffic, the same position of the head, etc." (Rita Colaço, *Hearing eyes*).

4.3. Perceptual immersion, narrative immersion, place illusion

To address RQ3 regarding audio listeners' reported levels of perceptual immersion, narrative immersion, and place illusion we report the statistical results from the independent-samples t-tests and non-parametric Mann-Whitney tests – when the equality of variances could not be assumed ($p < .05$)– implemented across conditions (binaural and monaural), as well as the analyzed descriptive insights (qualitative) into the listening experience and self-report about the overall aural experience generated in the focus groups.

4.3.1. Perceptual immersion

In the scope of this article, system immersion has been defined as a property of a technological system (binaural/monaural) and perceptual immersion as the subjective response to that system. During the focus groups, both participants exposed to condition 1 (binaural) and condition 2 (monaural) verbalized feelings associated to a sense of spatialization coming from the environments where the story unfolds:

> "I really enjoyed the feeling of movement. You could feel that the characters were moving from left to right. I really got that feeling through the audio" (*Hearing eyes*, Binaural condition, Female, 22 years-old).
>
> "The voices [that we hear] during the game ... it's like we're there. We are listening to what people are feeling in that same moment. We are entering the [playing] field" (*Imaginary line*, Monaural condition, Female, 25 years-old).

Indeed, no statistically significant differences between binaural and monaural conditions were found regarding participants' perceptual immersion (t (75) =.414, p > .05), i.e., binaural audio did not lead to higher levels of perceptual immersion. In fact, the mean scores of both binaural (M = 4.12, SD = 0.852) and monaural participants (M = 4.05, SD = 0.621) are equally high. From these results, when compared to the monaural condition, it is possible to state that the immersive technological properties of the used binaural audio system did not lead to higher levels of self-reported subjective response to that system.

4.3.2. Narrative immersion

In this study, narrative immersion was defined as a composite variable including the response to (1) an unfolding narrative, (2) the characters inhabiting the story world, and (3) the depiction of the world itself. The concept of narrative was operationalized around five elements: the narrator, focalization, characters, time, and space. Two different stimuli with distinct narrative designs were used to isolate their specific effect on the listeners. Focus groups' participants exposed to condition 1 (binaural) particularly reported a positive effect on narrative immersion generated by using an intradiegetic narrator (one that is inside the narrative, in this case the characters themselves) with the associated internal focalization:

> "The story was told by the characters themselves, [which meant that] there was greater contact and greater immersion in the whole story" (*Imaginary line*, Binaural condition, Female, 22 years-old).
>
> "The fact that there is no [external] narration made it easier to feel closer to the testimonies. When the characters were talking, I had the feeling they were talking to me" (*Imaginary line*, Binaural condition, Female, 24 years-old)

Conversely, focus groups' participants exposed to condition 2 (monaural) mostly stressed the negative impact on narrative immersion coming from the use of multiple characters and from scene transitions between various spaces and times:

> "I was a little confused on the first [narrative] jump between the prison and the school. I was thinking: 'but what is the story going to be about after all?'. I felt it more at the beginning and realized that I would have to be more attentive to understand the connection between the characters and the locations" (*Imaginary line*, Monaural condition, Male, 26 years-old).
>
> "I thought it was a little confusing to start talking about the children and, suddenly, it goes to prisons. I was missing the connection between the two topics. When the end is reached, the objective is understood. It was very dispersed. There are many characters that are introduced, even inside the prison: there is the director, the trainer. There was a dispersion for four different characters that appear to us" (*Imaginary line,* Monaural condition, Female, 36 years-old).
>
> "[The construction of the narrative] is something that requires attention, because if one gets distracted, he may be a little lost and then it takes a few seconds to realize 'Ok, we are already here. We are no longer talking about the same case'" (*Imaginary line,* Monaural condition, Female, 46 years-old).

Statistical results reveal that binaural audio listeners (M = 3.90; SD = 0.819) do not account for significant higher levels of narrative immersion than those who participated in the monaural condition (M = 3.93; SD = 0.632). Looking at the three variables integrated in the narrative immersion composite variable, no statistically significant differences were also found regarding the specific response to the unfolding narrative, the characters inhabiting the story world, or the depiction of the world itself. Therefore, binaural stimuli did not lead to higher levels of self-reported narrative immersion (Table 4):

Table 4. Narrative immersion (mean scores by variable)

Variable	Binaural	Monaural
Unfolding narrative	M = 3.82; SD = 0.957	M = 3.83; SD = 0.799
Characters	M = 3.77; SD = 1.07	M = 3.91; SD = 1.01
Depiction of the story world	M = 4.12; SD = 0.822	M = 4.05; SD = 0.621

4.3.3. Place illusion

Place illusion was defined in our study as the subjective impression that the mediated experience is not mediated, resulting in the feeling of being in the location(s) of the news story. During the focus groups, participants exposed to condition 2 (monaural) expressively reported being transported to the place where the actions took place:

> "At the [metro] station, that scene of the opening of the access door. I felt transported to the train platform. It also happened during the television scene, when you hear cartoons" (*Hearing eyes*, Monaural condition, Female, 31 years-old).
>
> "The report, despite being audio, was very visual. The movements in the field… I almost felt like a spectator watching what was going on. I would say that as a participant no, but as a spectator on the spot, yes. I was not able to understand if I was feeling present in that place by technical means or if by the very nature of the story, because there is a lot of emotion in the story and I was attentive to those details" (*Hearing eyes*, Monaural condition, Male, 23 years-old).

The same feeling of being there was equally a constant in the responses by the participants exposed to condition 1 (Binaural):

> "As soon as I put on the headphones, I completely stopped listening to what was around me and I felt that I was exactly on the field where [the characters] were training" (*Hearing eyes*, Binaural condition, Female, 24 years-old).

> "In the scene at the station, where the person is going to press the button, I felt that I was at the station pressing the button myself" (*Hearing eyes*, Binaural condition, Male, 25 years-old).

Complementarily, the sense of co-presence, i.e., the illusion of being together with others in an environment, was also expressed by the participants exposed to the binaural stimuli during the focus groups:

> "The entrance to the prison, to go to the camp, gave me the impression that I was side-by-side accompanying the person who was entering. When the characters were talking, I had the feeling they were talking to me" (*Imaginary line*, Binaural condition, Female, 41 years-old).

Statistically, the *t*-test results reveal no significant differences between participants in the binaural and monaural conditions regarding the sense of place illusion while listening the story (t (75) = -.195, > .05). Binaural audio listeners (M = 3.82, SD = 0.957) did not account for significant higher levels of place illusion than those who participated in the monaural condition (M = 3.86, SD = 0.821).

5. Discussion and conclusion

This paper has sought to address the significant under-theorization of sound in the domain of journalism, media, and communication studies, aiming at the expansion of scholars' and media professionals' perspectives on the concept of immersive journalism, usually restricted to the production of non-fiction content using VR technologies. Therefore, the purpose of this study was to generate a more nuanced understanding of how current professionals perceive and put into practice immersive journalism and developing an examination of the factors that influence the immersive experience to the end listeners.

Binaural technologies are having an impact on journalism, leading to a whole reconfiguration of how information can be produced, distributed, and even listened to. The creation of non-fiction binaural sound stories demands its own grammar development, as the goal is to create an atmosphere of realism to foster immersion. For this reason, audio capture and editing are more than ever key steps, as for creating a 3D stereo sound feeling producers must work with several layers of sound to vividly represent a fact-based story just through audio. Immersive audio journalism requires a carefully planification of each scene, which leaves little ground for improvisation and mistakes. A constraint shared with those of VR non-fiction content and called into question for its ethical implications (**Kool**, 2016).

The findings also indicate that three main qualities are attributed to binaural audio productions. First, a higher sense of realism throughout the listener experience. A variable which some studies have in fact associated with a sense of presence in VR reporting (**Sundar** *et al.*, 2017) or pointed out as a contributor to the user's immersion in the story (**Domínguez**, 2013). Second, an enhanced sense of identification between the listener and the characters, turning the user in a sort of immersive witness (**Nash**, 2018), being a position also argued in research on VR journalism (**Sánchez**-**Laws**, 2020). And third, the power of sound to act as a suggestive and primary element, even in the absence of a narration itself, which opens renewed possibilities for non-fiction audio content production and engaging audiences through an immersive experience.

In terms of user experience, it is not possible to conclude that technologically immersive formats, i.e., the binaural audio journalistic productions, have a positive effect in terms of perceived immersion and sense of presence. In particular, the experimental design revealed no evidence that binaural sound by itself leads to a more immersive experience than a monaural sound story. We found no difference in the three types of immersion under study and no significant difference in the illusion of place.

From the results of the study emerges a new research question: can we consider that the very experience of concentrate to listening to a story represents an immersive capacity as soon as the listener accepts to abstract from his immediate, physical world to surrender to the world he is listening to? The idea of transporting the reader/user to the time and space in which events take place has been commonly studied from a narrative theory perspective. In this regard, narrative worlds have been conceived as a sort of mental places where a user, listener, viewer, or reader arrives as the consequence of a series of psychological processes activated by a narration (**Domínguez**, 2013). This is in fact the premise of the narrative transportation theory proposed by the cognitive psychologist **Richard**-**Gerrig** (1993), considered the folk theory of immersion (**Ryan**, 2015). The journey to the new world (narrative) starts when the experiencers become lost in the story, when it succeeds in absorbing them in such a way they are turned into travelers being transported to the place where the events take place. In fact, transportation has been defined as a convergent mental process where attention, imagination and feelings come together and converge (**Green**; **Brock**, 2000).

Further research on immersive audio journalism is required, as the findings of this study suggest. This leads us to consider two main future lines of investigation. On the one hand, methodological, advancing the hypothesis that there was an intervention of cognitive conditioning in the results obtained, i.e., that by being randomly assigned to experimental groups without being informed of their experimental condition (binaural OR monaural), the participants may have reported a "placebo effect". Thus, in a future replication of the experiment we should consider creating two additional experimental groups (Binaural Informed AND Monaural Informed), composed of participants who, maintaining the randomization of their assignment, will be informed of the aural condition to which they will be exposed. This will allow us to cross-check the results obtained and make the hypothetical exposure to self-inflicted conditioning measurable. On the other hand, the results of this study point to the need to address the effect of narrative design on immersive audio experiences. In particular, more experimental research is needed to try to isolate the effect of narrator, focalization, characters, time, and space on listener experience.

6. References

Aitamurto, Tanja (2019). "Normative paradoxes in 360° journalism: contested accuracy and objectivity". *New media & society*, v. 21, n. 1, pp. 3-19.
https://doi.org/10.1177/1461444818785153

Archer, Dan; **Finger, Katharina** (2018). *Walking in another's virtual shoes: do 360-degree video news stories generate empathy in viewers?*. Columbia Journalism School: Tow Center for Digital Journalism.
https://www.cjr.org/tow_center_reports/virtual-reality-news-empathy.php

Aveyard, Karina; **Moran, Albert** (2013) "Introduction: sound media, sound cultures". *Media international Australia*, v. 148, n. 1, pp. 79-83.
https://doi.org/10.1177/1329878X1314800109

Bal, Mieke (1985). *Narratology: introduction to the theory of narrative*. University of Toronto Press. ISBN: 1442628340

Berger, Peter-Ludwig; **Luckmann, Thomas** (1967). *The social construction of reality: a treatise in the sociology of knowledge.* New York: Anchor Books. ISBN: 978 0 385058988

Bird, S. Elizabeth; **Dardenne, Robert W.** (1988). "Myth, chronicle, and story: exploring the narrative qualities of news". In: Carey, James W. (ed.). *Media, myths, and narratives: television and the press*. Beverly Hills: SAGE Publications, pp. 67-87. ISBN: 0803930488

Bird, S. Elizabeth; **Dardenne, Robert W.** (2009). "Rethinking news and myth as storytelling". In: Wahl-Jorgensen, Karin; Hanitzsch, Thomas (eds.). *The handbook of journalism studies*. New York: Routledge. ISBN: 0805863435

Clifford, Katrina; **White, Rob** (2020). "Mediated representations of prisoner experience and public empathy". In: Harmes, Marcus; Harmes, Meredith; Harmes, Barbara (eds.). *The Palgrave handbook of incarceration in popular culture*. Cham: Palgrave Macmillan, pp. 265-287. ISBN: 978 3 030 36059 7

De-la-Peña, Nonny; **Weil, Peggy**; **Llobera, Joan**; **Giannopoulos, Elias**; **Pomés, Ausiàs**; **Spaniang, Bernhard**; **Friedman, Doron**; **Sánchez-Vives, María V.**; **Slater, Mel** (2010). "Immersive journalism: immersive virtual reality for the first-person experience of news". *Presence: teleoperators and virtual environments*, v. 19, n. 4, pp. 291-301.
https://doi.org/10.1162/PRES_a_00005

Domínguez, Eva (2013). *Periodismo inmersivo: la influencia de la realidad virtual y del videojuego en los contenidos informativos*. Barcelona: UOC. ISBN: 8490297762

Dowling, David O.; **Miller, Kyle J.** (2019) "Immersive audio storytelling: podcasting and serial documentary in the digital publishing industry". *Journal of radio & audio media*, v. 26, n. 1, pp. 167-184.
https://doi.org/10.1080/19376529.2018.1509218

Edmond, Maura (2015). "All platforms considered: contemporary radio and transmedia engagement". *New media & society*, v. 17, n. 9, pp. 1566-1582.
https://doi.org/10.1177/1461444814530245

Engberg, Maria; **Bolter, Jay-David** (2020). "The aesthetics of reality media". *Journal of visual culture*, v. 19, n. 1, pp. 81-95.
https://doi.org/10.1177/1470412920906264

Ferjoux, Céline; **Dupont, Émile-Ropert** (2020). "Journalisme immersif et empathie: l'émotion comme connaissance immédiate du reel". *Communiquer. Revue de communication sociale et publique*, n. 28, pp. 73-99.
https://doi.org/10.4000/communiquer.5477

Gallagher, Michael (2015). "Field recording and the sounding of spaces". *Environment and planning D: society and space*, v. 33, n. 3, pp. 560-576.
https://doi.org/10.1177/0263775815594310

Gerrig, Richard (1993). *Experiencing narrative worlds: on the psychological activities of reading*. New Haven: Yale University Press. ISBN: 0300054343

Godulla, Alexander; **Planer, Rosanna**; **Wolf, Cornelia**; **Lück, Annika**; **Vaaßen, Fiona** (2021). "An immersive journey through flawed technology: users' perceptions of VR in journalism". *Journalism and media*, v. 2, n. 3.
https://doi.org/10.3390/journalmedia2030027

Gorini, Alessandra; **Capideville, Claret S.**; **De-Leo, Gianluca**; **Mantovani, Fabrizia**; **Riva, Giuseppe** (2010). "The role of immersion and narrative in mediated presence: the virtual hospital experience". *Cyberpsychology, behavior, and social networking*, v. 14, n. 3, pp. 99-105.
https://doi.org/10.1089/cyber.2010.0100

Goutier, Nele; **De-Haan, Yael**; **De-Bruin, Kiki**; **Lecheler, Sophie**; **Kruikemeier, Sanne** (2021). "From 'cool observer' to 'emotional participant': the practice of immersive journalism". *Journalism studies*, v. 22, n. 12, pp. 1648-1664.
https://doi.org/10.1080/1461670X.2021.1956364

Green, Melanie C.; **Brock, Timothy C.** (2000). "The role of transportation in the persuasiveness of public narratives". *Journal of personality and social psychology*, v. 79, n. 5, pp. 701-721.
https://doi.org/10.1037/0022-3514.79.5.701

Hassan, Robert (2020). "Digitality, virtual reality and the 'empathy machine'". *Digital journalism*, v. 8, n. 2, pp. 195-212.
https://doi.org/10.1080/21670811.2018.1517604

Hendriks-Vettehen, Paul; **Wiltink, Daan**; **Huiskamp, Maite**; **Schaap, Gabi**; **Ketelaar, Paul** (2019). "Taking the full view: how viewers respond to 360-degree video news". *Computers in human behavior*, n. 91, pp. 24-32.
https://doi.org/10.1016/j.chb.2018.09.018

Herman, David (2009). *Basic elements of narrative*. West Sussex: Wiley-Blackwell. ISBN: 978 1 405141543

Ijsselsteijn, Wijnand; **Riva, Giuseppe** (2003) "Being there: the experience of presence in mediated environments". In: Riva, Giuseppe; Davide, Fabrizio; Ijsselsteijn, Wijnand (eds.). *Being there: concepts, effects and measurement of user presence in synthetic environments*. Amsterdam: IOS Press. ISBN: 1586033018

Jenkins, Kerinne; **Murphy, Stephen**; **Thomas, Penelope** (2018). *Precipice: an AFTRS applied innovation project.* Australian film television and radio school.
https://www.aftrs.edu.au/news/2018/white-paper-no-2-precipice-binaural

Kool, Hollis (2016). "The ethics of immersive journalism: a rethorical analysis of news storytelling with virtual reality technology". *Intersect*, v. 9, n. 3.
https://ojs.stanford.edu/ojs/index.php/intersect/article/view/871

Kukkakorpi, Mariia; **Pantti, Mervi** (2021). "A sense of place: VR journalism and emotional engagement". *Journalism practice*, v. 15, n. 6, pp. 785-802.
https://doi.org/10.1080/17512786.2020.1799237

Laarni, Jari; **Ravaja, Niklas**; **Saari, Timo**; **Böcking, Saskia**; **Hartmann, Tilo**; **Schramm, Holger** (2015). "Ways to measure spatial presence: review and future directions". In: Lombard, Matthew; Biocca, Frank; Freeman, Jonathan; IJsselsteijn, Wijnand; Schaevitz, Rachel J. (eds). *Immersed in media: telepresence theory, measurement & technology*. Cham: Springer International Publishing, pp. 139-185. ISBN: 978 3 319 10190 3

LaRocco, Michael (2020). "Developing the 'best practices' of virtual reality design: industry standards at the frontier of emerging media". *Journal of visual culture*, v. 19, n. 1, pp. 96-111.
https://doi.org/10.1177/1470412920906255

Lecheler, Sophie (2020). "The emotional turn in journalism needs to be about audience perceptions". *Digital journalism*, v. 8, n. 2, pp. 287-291.
https://doi.org/10.1080/21670811.2019.1708766

Marconi, Francesco; **Nakagawa, Taylor** (2017). *The age of dynamic storytelling: a guide for journalists in a world of immersive 3-D content*. Associated Press.
https://www.amic.media/media/files/file_352_1328.pdf

Martínez, M. Ángeles (2014). "Storyworld possible selves and the phenomenon of narrative immersion: testing a new theoretical construct". *Narrative*, v. 22, n. 1, pp. 110-131.
https://doi.org/10.1353/nar.2014.0004

Milk, Chris (2015). "How virtual reality can create the ultimate empathy machine". *TED2015*.
https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine?language=en

Murray, Janet H. (2020). "Virtual/reality: how to tell the difference". *Journal of visual culture*, v. 19, n. 1, pp. 11-27.
https://doi.org/10.1177/1470412920906253

Nash, Kate (2018). "Virtual reality witness: exploring the ethics of mediated presence". *Studies in documentary film*, v. 12, n. 2, pp. 119-131.
https://doi.org/10.1080/17503280.2017.1340796

Nilsson, Niels-Christian; **Nordahl, Rolf**; **Serafin, Stefania** (2016). "Immersion revisited: a review of existing definitions of immersion and their relation to different theories of presence". *Human technology*, v. 12, n. 2, pp. 108-134.
https://vbn.aau.dk/en/publications/immersion-revisited-a-review-of-existing-definitions-of-immersion

Pérez-Seijo, Sara (2017) "Immersive journalism: from audience to first-person experience of news". In: Campos, Francisco; Rúas, Xosé; Martínez, Valentín-Alejandro (eds.). *Media and metamedia management.* Cham: Springer, pp. 113-119. ISBN: 978 3 319 46068 0

Pérez-Seijo, Sara; **Vicente, Paulo-Nuno** (2022). "After the hype: how hi-tech is reshaping journalism". In: Vázquez-Herrero, Jorge; Silva-Rodríguez, Alba; Negreira-Rey, Cruz; Toural-Bran, Carlos; López-García, Xosé (eds.). *Total journalism: models, techniques and challenges*. Cham: Springer, pp. 41-52. ISBN: 3030880273

Revill, George (2016). "How is space made in sound? Spatial mediation, critical phenomenology and the political agency of sound". *Progress in human geography*, v. 40, n. 2, pp. 240-256.
https://doi.org/10.1177/0309132515572271

Ross, Miriam (2020). "Virtual reality's new synesthetic possibilities". *Television & new media*, v. 21, n. 3, pp. 297-314.
https://doi.org/10.1177/1527476418805240

Ryan, Marie-Laure (2015). *Narrative as virtual reality 2: revisiting immersion and interactivity in bibliografíe and electronic media*. Baltimore: Johns Hopkins University Press. ISBN: 1421417979

Sánchez-Laws, Ana-Luisa (2020). "Can immersive journalism enhance empathy?". *Digital journalism*, v. 8, n. 2, pp. 213-228.
https://doi.org/10.1080/21670811.2017.1389286

Shin, Donghee; **Biocca, Frank** (2018). "Exploring immersive experience in journalism". *New media & society*, v. 20, n. 8, pp. 2800-2823.
https://doi.org/10.1177/1461444817733133

Slater, Mel (1999). "Measuring presence: a response to the Witmer and Singer presence questionnaire". *Presence: teleoperators and virtual environments*, v. 8, n. 5, pp. 560-565.
https://doi.org/10.1162/105474699566477

Sundar, S. Shyam; **Kang, Jin**; **Oprean, Danielle** (2017). "Being there in the midst of the story: how immersive journalism affects our perceptions and cognitions". *Cyberpsychology, behavior, and social networking*, v. 20, n. 11, pp. 672-682.
https://doi.org/10.1089/cyber.2017.0271

Tuchman, Gaye (1972). "Objectivity as strategic ritual: an examination of newmen's notions of objectivity". *The American journal of sociology*, v. 77, n. 4, pp. 660-679.
https://doi.org/10.1086/225193

Van-Damme, Kristin; **All, Anissa**; **De-Marez, Lieven**; **Van-Leuven, Sarah** (2019). "360 video journalism: experimental study on the effect of immersion on news experience and distant suffering". *Journalism studies*, v. 20, n. 14, pp. 2053-2076.
https://doi.org/10.1080/1461670X.2018.1561208

Van-Leeuwen, Theo (2007). "Sound and vision". *Visual communication*, v. 6, n. 2, pp. 136-145.
https://doi.org/10.1177/1470357207077443

Vicente, Paulo-Nuno (2018). "Ledes and story structures". In: Vos, Tim P.; Hanusch, Foljer (eds.). *The international encyclopedia of journalism studies*. Oxford: Wiley-Blackwell. ISBN: 1118841670

Vicente, Paulo-Nuno (2020). "Interactive media". In: Merskin, Debra L. (ed.). *The SAGE international encyclopedia of mass media and society*. California: SAGE Publications. ISBN: 1483375536

Wahl-Jorgensen, Karin (2020). "An emotional turn in journalism studies?". *Digital journalism*, v. 8, n. 2, pp. 175-194.
https://doi.org/10.1080/21670811.2019.1697626

Wake, Alexandra; **Bahfen, Nasya** (2016). "Redefining radio: implications for journalism education in an era of digital audio storytelling". *Radio journal: international studies in broadcast & audio media*, v. 14, n. 2, pp. 231-242.
https://doi.org/10.1386/rjao.14.2.231_1

Wincott, Abigail; **Martin, Jean**; **Richards, Ivor** (2020). *Spatial awareness: state of the art and future needs of spatial audio journalism*. Project Report.
http://repository.falmouth.ac.uk/4059

Wirth, Werner; **Hartmann, Tilo**; **Böcking, Saskia**; **Vorderer, Peter**; **Klimmt, Christoph**; **Schramm, Holger**; **Laarni, Jari**; **Ravaja, Niklas**; **Gouveia, Feliz R.**; **Biocca, F.**; **Sacau, A.**; **Jäncke, Lutz**; **Baumgartner, Thomas**; **Jäncke, Petra** (2007). "A process model of the formation of spatial presence experiences". *Media psychology*, v. 9, n. 3, pp. 493-525.
https://doi.org/10.1080/15213260701283079

Witmer, Bob G.; **Singer, Michael J.** (1998). "Measuring presence in virtual environments: a presence questionnaire". *Presence: teleoperators and virtual environments*, v. 7, n. 3, pp. 225-240.
https://doi.org/10.1162/105474698565686

Giants with feet of clay: the sustainability of the business models in music streaming services

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Abstract

This paper examines the sustainability of the recorded music industry from the perspective of music performers. Music streaming platforms, or digital music service providers (DMSPs), have changed the recorded music industry paradigm since the middle of the 2010s. Business models for performers have evolved from royalty agreements based on sales to more complex remuneration systems based on revenues from a combination of (ad-based) free and paid subscriptions. Previous research has mainly focused on the examination of the business models of streaming services from the point of view of the innovation players (digital platforms) and/or the traditional dominant intermediaries (record labels and publishers). However, not all innovation-driven transformations are sustainable. In this paper, we argue that the sustainability of the main business models in the music industry demands the consideration of the performers' perspective. We combine a qualitative approach with primary and secondary data sources to investigate the sustainability of existing trends of business models and business practices for different categories of performers, including both monetary values and a description of how revenues are shared. We conclude that DMSPs foster an asymmetric value chain in which the creative players barely capture value while technology-based innovations increase the capability of DMSPs to generate and capture value. Finally, we outline some alternative business models looking for the long-term sustainability of the digital music marketplace.

Keywords

Digital music; Streaming platforms; Business models; Featured performers; Non-featured performers; Pro rata distribution model; User-centric distribution model; Sustainability; Value chain; Commoditization; Audio communication.

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1. Introduction

While the popularity of streaming to distribute music exploded in the early 2010s, the economics of music streaming has become a very controversial issue since the middle of the decade, especially related to the remuneration of the different agents in the music streaming value chain (**Arditi**, 2015; 2019). Now, streaming has displaced the traditional physical sales and even other categories of digital music, representing more than 50% of the whole business in the case of recorded music, and accounting for more than 75% of recorded music revenue in relevant markets such as the USA and UK (*IFPI*, 2021).

Since streaming has become a prevalent distribution model for every form of digital content –from digital video to videogames– (**Benghozi** *et al.*, 2021), its impact in the music industry is not an exclusive phenomenon. However, digital music service providers (DMSPs) or music streaming services present some singularities worth noting, especially if one considers that streaming platforms constitute the prevalent form by means of which creative industries enter the platform economy (**Kenney**; **Zysman**, 2016), radically changing the processes of creation, distribution, and consumption of culture. Precisely because of its peculiarities, the case of music streaming platforms concentrates some relevant defining aspects about the shape of creative industries in the digital era of data-driven ubiquitous connectedness (**Prey**, 2020). These aspects revolve mainly, it will be argued, around the sustainability of their business model (i.e., the configuration of actors and processes that create and transfer value) (**Lüdeke-Freund** *et al.*, 2018).

The main observable difference for the case of music streaming services is the size and homogeneity of content inventories. Unlike the case of digital video or videogame streaming services, competing music streaming services barely differ in the size and diversity of their catalogues. This involves transferring the core of user retention strategies to other technology-driven aspects (such as personalization and recommendation) in a much more intense fashion than other digital content streaming services (**Castle**; **Feijoo**, 2021).

Technology-driven innovation has played a core role in how DMSPs, also known as music streaming platforms or music streaming services, are transforming current music industry business models –not only by creating new distribution dynamics, but also by integrating Artificial Intelligence (AI) data processing of users' consumption behaviour into value creation processes: personalization; recommendation systems; editorial curation; community creation; and targeted advertising. However, not all are good news.

Music streaming services are engaged in an intense competition with one another for end users, which weakens their bargaining power in negotiations with record companies, especially the three major labels: *Sony Music*, *Universal Music*, and *Warner Music*. For instance, the substitutability of *Spotify* and *Apple Music* (and the rest of music streaming services), and thus the likelihood that a user unsatisfied with one service could simply switch to the other, make it imperative that the services continue to offer the core functionality of on-demand access to all major content and maintain the monthly fee while offering discounted plans (**Ingham**, 2021a).

At the same time, there is a growing list of performers who have publicly shown their concern (*DCMS Committee*, 2020) regarding how the digital music market works and the reduced amount and unstable conditions of their remuneration from the consumption of their music through the DMSPs. According to a recent survey of 5,800 performers in Europe, while record companies' digital revenues have skyrocketed, 90% of performers indicate that the streaming market has given them no meaningful return in income (*Payperformers.Eu*, 2021).

The difficult situation caused by the pandemic has triggered the debate in both public and policymaking spheres (**Butler**, 2021; **Castle**; **Feijoo**, 2021). As the COVID-19 crisis has practically erased live performance and revenue from public communication, many performers are now forced to consider leaving their occupations. On the other hand, the side of the music industry represented by rights-holders, and the incumbent streaming platforms have continued increasing revenues fuelled by the growth in audio streaming (**Friedlander**, 2021).

These and other evidence make it advisable to ponder the sustainability of such technology-driven innovation within the digital music industry. According to **Schaltegger** *et al.* (2016), sustainability in terms of business model innovation refers not only to climate change sensibility, but also to factors of social and economic viability. **Geissdoerfer** *et al.* (2018, p. 404) define sustainable business models as 'business models that incorporate pro-active multi-stakeholder management, the creation of monetary and non-monetary value for a broad range

of stakeholders, and hold a long-term perspective'. This definition of business models' sustainability is also conceptually attached to the current debate about technology driven sustainable innovation (**Boons**; **McMeekin**, 2019) and social innovation (**Van-Wiick** *et al.*, 2019), which again emphasizes the need to overcome the traditional conception focused solely on lucrativeness and functional efficiency. In our view, thus, the focus on business model innovation sustainability may contribute to bring a new light to the necessary critique of the platformization of the media ecosystem.

Consequently, this paper investigates the sustainability of business models and business practices in the digital music ecosystem, focusing on the perspective of performers. Their perspective is crucial for the sustainability of digital music business models because their contribution to the industry conforms a necessary precondition for any creation of value, and yet they are in the epicentre of a process that shows two clear threats to sustainability: the unequal share of revenue distribution and the commoditization of creative processes (**Antal** *et al.*, 2021; **Arditi**, 2019; **Barnett**, 2018).

Key aspects and challenges related to the value chain of rights and licensing practices are identified, explicitly including the effect of streaming and whether alternative models could result in different long-term outcomes. To do so, the methodology combines a qualitative approach with primary and secondary data sources. First, the authors investigate how the different exploitation models offered by DMSPs impact on performers' rights remuneration. From here, the research gathers insights from a semi-structured survey with a broad sample of 38 performers.

As a result, this paper provides a description of the two main existing business models of music streaming services and the impact and implications of streaming in the structure of the music industry, and its challenges, in particular on rights-holders, such as performers. Results provide a valuable insight into current business model sustainability in the digital music marketplace and outline some alternatives for a long-term viable digital transformation of the industry. The results also contribute to widen the debate –and critique- about the platformisation of creative industries (**Benghozi** *et al.*, 2021) from an economic point of view with a stress on sustainability.

2. Methodology

The combination of a qualitative approach with primary and secondary data sources is used to assess the foundations and key features that shape the main business models in music streaming services, as well as their relationship with sustainability from the perspective of the artists and performers. Although the interest of academia in the discipline of sustainable business models (SBMs) is recent, a range of authors and works has contributed to build a research field around it (**Lüdeke-Freund** *et al.*, 2018; **Massa** *et al.*, 2017).

In addition, the research addresses the core royalty accounting models of *Spotify*, *Apple Music*, *Amazon Music* and *YouTube Music* (formerly *Google Play*), among others. As of early 2022, all major DMSPs use a nuanced version of the 'market-centric' model for payments to performers, authors and rights-holders, including the two market leaders, *Spotify* and *Apple Music* (see Figure 1) and it is used in each country where they operate. The market-centric model is also known as 'big pool' or 'pro-rata' (**Antal** *et al.*, 2021).

2.1. Data collection

In order to address the perspective of performers on the current status of the music digital market, the authors have prepared and launched a survey with representatives from different categories of performers to evaluate their current situation, including monetary figures and a description of how revenues are shared, and the main challenges ahead. To this aim, a semi-structured survey format is adopted allowing open, multiple choice and closed-ended answers to enable comparability and at the same time explore which issues are relevant to the interviewee, and to uncover specific information.

The survey includes the following set of questions:

1) performer background, to make sense of the survey statistics;

2) performers' relationships with other agents (labels, DMSPs);

3) intellectual property rights in the digital market and income aspects; and

4) privacy issues. The full questionnaire can be found in the Appendix A.

By default, all responses in the survey are treated with confidentiality and are anonymously included in the paper, unless the interviewee gave explicit permission to mention his/her name as a participant and/or associate them with their answers. The survey was distributed through online invitation by email using the survey service *Typeform* between January and May 2021.

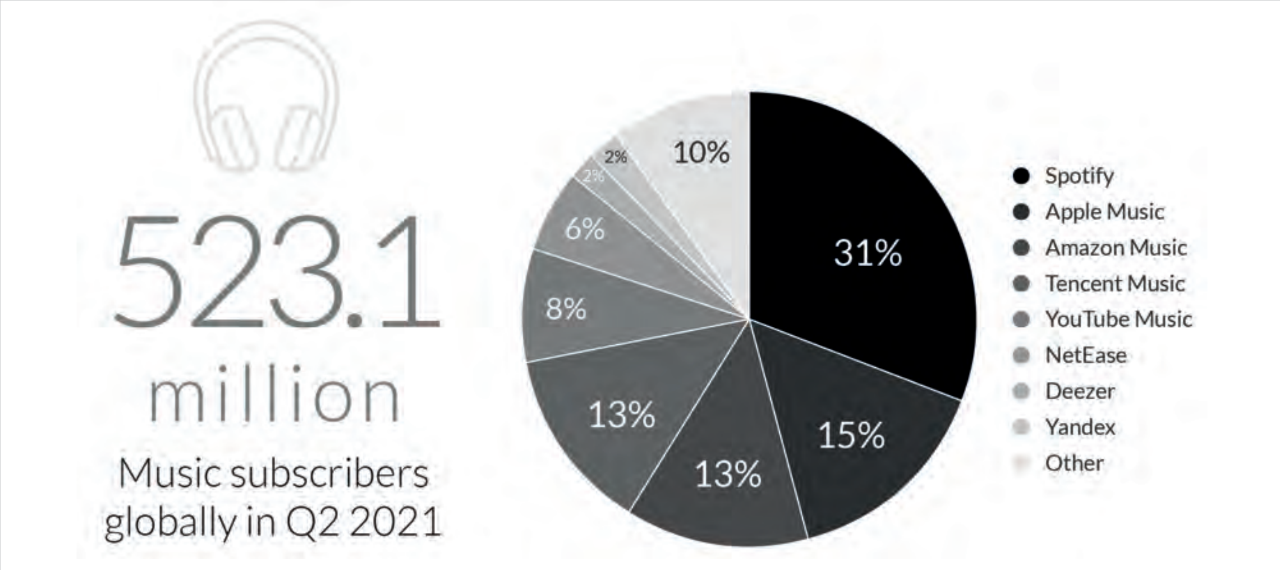

Figure 1. Music subscribers globally in Q2 2021. Data from *MIDiA Research*.

2.2. Sampling and analysis

First, a taxonomy of six categories of performers in the digital music ecosystem was proposed considering their role (featured performers, non-featured performers) and their market performance (global performers, niche performers, national performers, independent performers) and cultural/language and aspects related with the development of the digital streaming market. From the authors' professional experience in the music industry, these categories permit a proper sample to be addressed in terms of representativity of various sensibilities and contractual circumstances worldwide.

The sample under study gathers performers representing the different categories of the taxonomy, taking into account both the representativeness of the sample and a purposive criterion.

Performers for the survey were selected from the available contacts in the music industry, through direct contact and/or thanks to the collaboration with representative performers' collective management organizations, independent labels and other music organizations related with performers. The original sample was approximately equally distributed among the different categories. At the time of writing, 92 performers have been contacted and 38 (N = 38) of them have participated, as indicated in the corresponding Table 1, covering the main typologies of artists and jurisdictions. Featured performers have been defined as having been in the top-10 position at least five times in their home country official charts (*Billboard*, *UK's Official Charts*, etc.), spanning at least five years, plus at least three other countries' official charts. In the case of non-featured performers, they play for global performers or global emerging performers.

Table 1. Categorization of performers surveyed during the analysis (N=38). By default, the survey guaranteed confidentiality and anonymity

	Africa, Asia, Latin America	EU	Australia, Canada, UK, US
Global performers	Global artist#2 - Latin	Global artist#1 – electronic	Right Said Fred
Niche – pop, rock, electronic	Los Andes – rock	Allova Niche artist#4 – rock Rufus T. Firefly	Niche artist#2 – indie Scanner
Niche – classical, folk, jazz, instrumental, …	Edith WeUtonga Guillermo Bazzola	Buika Cuarteto Casals Niche artistt#1 – classical Niche artist#5 – post-classical Pipo Romero	Niche artist#3 - classical
National performers	Keko Yunge National artist#2 – pop	Chenoa David Otero National artist#1 – pop	Tom Gray
Non-featured international	JKEscorcia Mauricio Clavería Non-featured artist#1 – percussionist Non-featured artist#4 - flautist	Non-featured artistl#2 - session musician Non-featured artist#5 – organ / choir conductor	Doug Emery Non-featured artist#3 – back-ground vocalist
Independent performers	Independent artist#4 – Latin Independent artist#5 – dance	Ainara LeGardon Independent artist#3 – indie electronic Nude	Independent artist#1 Independent artist#2

Finally, the data analysis is developed by using the framework proposed by **Miles** and **Huberman** (1994). The analysis is the result of an iterative process, including the performers' answers and the continuous review of the relevant literature on the topic, from both academic and industry sources. Evidence from the performers' contributions is used in highlighted text across the paper in addition to background for the analysis and discussion. Once a survey is completed, the answers are sent to the participant to permit edits to be made if necessary.

3. The digital music streaming platforms' business model

As a typical case for re-intermediation processes in other digital markets, DMSPs have primarily and initially opted for the massive recruitment of consumers (**Aguiar**, 2017) , typically in some version of a free mode with advertising as a business model or introductory discounts, and hence, they have carried out different strategies to convert free users to paying consumers. Some labels may require certain levels of free-to-paid subscriber conversion under licence agreements. After gaining a wide active user base, user retention and loyalty become the core objective for DMSPs: capturing and maintaining the consumer's attention for as long as possible allows DMSPs both to increase the possibility of using the consumer as an asset for advertisers in the advertising-based business model, and to learn enough about them to retain customers who have switched to the subscription payment model (**Towse**, 2020). For the latter, the strategy followed by practically all Internet service providers, not just the music-related ones, is to build personalized offers based on user tastes, preferences and behaviour (**Webster**, 2020). All supported by business smart systems capable of analysing the data generated by the consumers themselves in their interaction with the platform and extracting information by creating consumer profiles, later used to customize the service offer. DMSPs' recommendation system, thus, is based on the preferences and history of music listened to and the consumption pattern of the consumer (and similar consumers) together with proposals from the platform prepared ad hoc by a specialized team and / or related to commercial agreements with third parties, like record companies that generate playlists and content to guide users to a certain genre of music, artist or playlist (**Butler**, 2021).

To meet these business requirements, any DMSP has two main elements from a technical point of view: the consumer interface, which allows the consumer to access and play music in its different modes; and the supporting infrastructure, which is made up of the computer, storage and communication equipment that are in practice responsible for administering, managing and sending the music that the consumer listens to.

The DMSP is configured as a showcase for access to music provided by the platform, based on the tastes and interests identified by the system, ad hoc proposals (which depend on the DMSP's commercial agreements with third parties, such as record companies) and / or user choices, trying to achieve the highest degree of alignment (customization) possible with the real preferences of each consumer. Together with the customization capacity, digital music platforms conduct promotions of certain musical styles, performers, or themes that allow the platform to become an access point to discover new content with which to maintain the user's interest and build loyalty. To achieve this result and offer recommendations tailored to the tastes of each consumer and better musical selections, the leading digital music platforms have considerably invested in music experts and intelligent data analysis systems (**Webster**, 2020) .

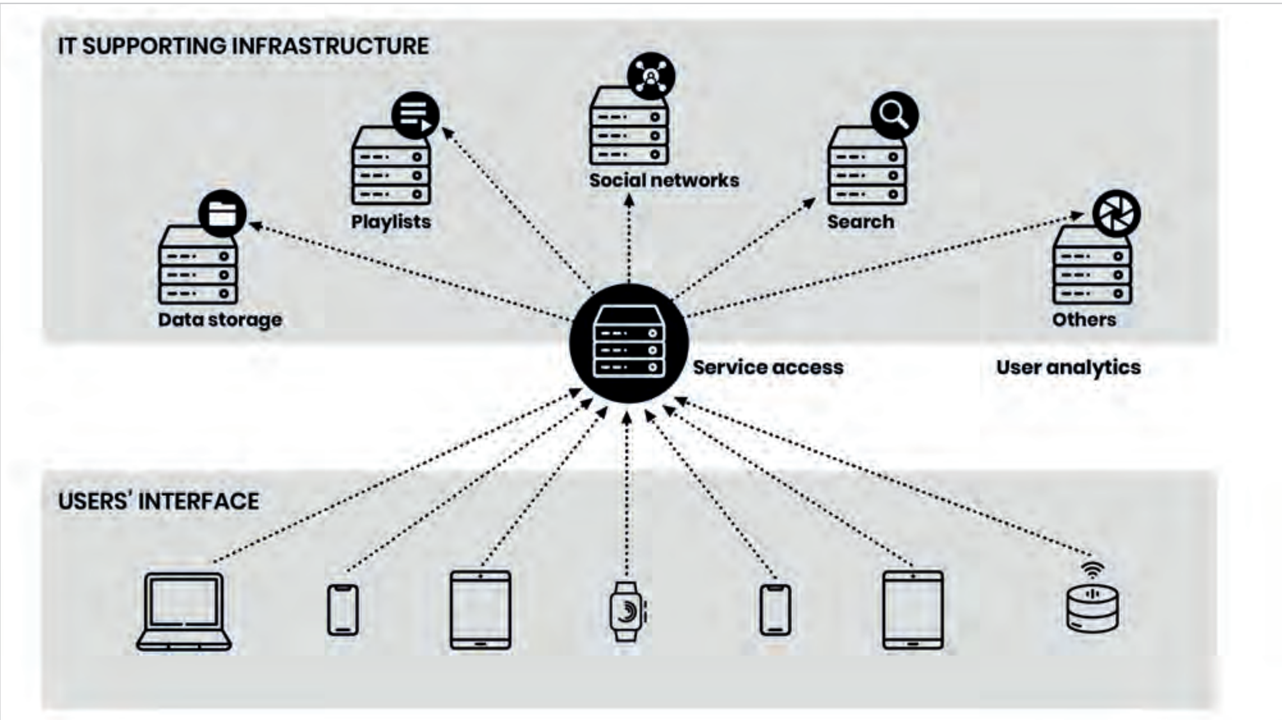

Figure 2. Supporting infrastructure of a digital music platform. Source: adapted from **Gustavsson** (2012) and *Apple Music* (n.d.)

Other relevant aspect of the DMSPs model is how consumers interact with the musical content. The different modes of exploitation of online music are distinguished by the degree of interactivity that users have on the musical content that is hosted on the corresponding platform. In other words, different uses of music consumption involve different degrees of interactivity. And this is important because interactivity and use mean engagement, and hence, a significant contribution of behavioural data to the customization process (**Negus**, 2018).

The interactivity with the musical content on the digital platform ranges from the situation corresponding to an online channel or programme that links musical themes regardless of the user's tastes and preferences, in a similar way to a conventional broadcasting radio service, up to the maximum degree of interactivity that would occur when the user intentionally chooses a specific musical theme to listen to at a certain time and place –in a similar way to the situation corresponding to the acquisition of a musical recording that the user consumes on his/her own device.

While the operation of the DMSP relies on a persistent loyalty and engagement addressed by a recommendation model (**O'Dair**; **Fry**, 2020), the impact of recommendation tools on the distribution of income in streaming business models is an area still to be fully assessed. This automatic or human-managed editorialization of services, the composition of playlists, the algorithms that decide the next title obviously play a major role in the creation of value and the possible royalties attached to it (**Aguiar**; **Waldfogel**, 2021).

According to available studies, fears have been expressed by some representatives of rights-holders as to the opaque functioning of these services (*Centre National de la Musique*, 2021). The quantitative analysis of the distribution of value between recommended and autonomous listening is complex and requires a common and shared definition that is still lacking. In addition, the creation of platforms' own playlists and own tracks might distort the fairness of remuneration to labels and independent performers. For specific rights-holders in categories such as jazz or classical, the competition from tracks created by platforms themselves using their knowledge of user profiles and their influence on playlists might seem particularly unfair (**Ingham**, 2016).

As a an example, **Mariuzzo** and **Ormosi** (2020) have shown that the overall effect of homogenizing the DMSP inventory, due to the above factors, is that major labels' recorded music has a greater share of the most popular playlists, which really drive streams, than they do in the less popular playlists. If the total share of independent labels in the total UK recorded music market is around 30%, the percentage of independent music in the top 100 playlists in *Spotify* (which drive most of the listening streams and are basically curated by *Spotify*) is just 19%. Besides, this lack of access is likely to have a direct impact on revenues for independent labels and their artists today, and an indirect impact on the sustainability of this important segment of the market in the future (**Antal** *et al.*, 2021).

Personalization, interactivity, editorial curation and recommendations, together with the remuneration and distribution framework, are shaping the value creation dynamics in the digital music market. However, beyond some individual protests and recent campaigns launched by performers' organizations, less is known about how this configuration affects their sustainability from the point of view of the performers. From a research perspective, the fact that most contracts are not publicly available because of non-disclosure agreements is a barrier. However, considering that the legal framework in the digital market is under review in different countries, there is room for further clarification on how this industry configuration will impact on future sustainability in the case of creative agents, as is the case of performers.

4. Findings and discussion

4.1. Interactivity, editorial curation and personalization: a performer's view

As explained in the previous sections, a central issue to evaluating the main business models in the digital market is the assessment of the degree and type of interaction of the consumer with the musical content that a DMSP hosts.

The issue at stake is whether interactivity is a relevant component in the differences in remuneration rights for performers across digital music services or whether the degree of interactivity is just a technical feature that, in fact, changes over time, is adapted to the preferred business model of the DMSP and is combined across services in the practical offer of a DMSP.

However, in practice, all the main DMSPs offer a set of modes of exploitation of online music that coexist on the same level as the commercial proposal to the consumer (**Castle**; **Feijoo**, 2021).

The surveyed performers were also in agreement that DMSPs offer a range of exploitation modes, beyond the mere interactivity, as is the case of the editorial curation. In this respect, various performers emphasized the relevance of playlists on discoverability and how they play a pivotal role within the streaming business model that affects the future sustainability of the creative process.

In this respect the issue of 'discovery mode' or similar features that allow performers to opt into a promotional (and less than standard) royalty rate for specific songs is highlighted by non-featured artist #2 as a most controversial issue (**Bloom**, 2021):

> "The playlist inclusion process [in streaming services] should be based on listening merits and not any payola from interested parties". (Non-featured performer#2)

The economic consequence of this not pure interactivity, the remuneration model of streaming, similar to the physical sales model in the case of performers, should be reviewed, as Tom Gray said:

> "Equitable remuneration should apply to streaming because streaming is not only replacing the dominant sales model but also replacing the dominant broadcasting model." (Tom Gray)

In fact, the business model for interactive streaming that has evolved since the *WIPO* Performances and Phonograms (WPP) Treaties combines rights properly compensated under the making available right with the enterprise playlist model that is easily analogized to broadcast radio (WIPO, 1996). While consumers may always be able to use interactive functionality in addition to music discovery enterprise playlists, many users simultaneously take advantage of 'music discovery' or 'lean back' playlists (*Spotify*, 2020).

Because streaming transaction agreements typically sweep all rights under one royalty payment, it is difficult to separately value these functionalities (e.g., one agreement might cover non-interactive Internet radio as a direct licence outside of any statutory framework as well as interactive streaming subject to customary direct licences). Accordingly, responsible copyright policy should recognize that equitable remuneration should consider both simple interactivity and complex algorithmic enterprise playlists.

4.2. Lack of information and reporting transparency and reliability

As a central part of the value creation process, it was important to understand how performers perceive this model and the information on how royalties are distributed. Some performers recognized that they receive some pieces of information and data from DMSPs and/or labels, but they were all in agreement that more transparency is required:

> "I appreciate the information I do receive, but I don't understand the breakdown of where the money is coming from. I do think there should be more transparency." (NA 2-Classical)

Lack of homogenization is an additional relevant issue when talking about transparency, in the words of Keko Yunge:

> "The format of the reports of the different platforms should be unified and they should be obliged to send a report to each artist. That way we could compare the amounts reported by the platforms. We have no way of knowing if the reported executions and amounts are correct!" (Keko Yunge)

In addition, performers noted additional difficulties not only in understanding the information, but also in terms of communication with DMSPs, especially in the case of non-featured artists, as noted by Doug Emery (DE) and non-featured artist #2:

> "No. What's missing is a clear understanding of who to talk to when there is a question." (Doug Emery)

> "Direct contact with the platform. Clarity in total volume. There is no API of any store that tells you directly the number of streams –how do we know if the aggregator or label figures are true?" (Non-featured performer#2, 2021)

The consequence is a general imbalance of the business model in the case of performers with respect to DMSPs and even the record companies and/or aggregators.

> "The information is opaque and unintelligible. I miss that there is transparency in the agreements reached by the platforms with the management entities and with the record companies or aggregators themselves. Transparency is also necessary between artists and record companies, since sometimes they do not pay the corresponding royalties correctly." (Ainara Legardon)

These performers' statements are coherent with available studies on data availability, uniformity and reliability provided by DMSPs and record labels (*Centre National de la Musique*, 2021) . Beyond general concerns about the general situation derived from streaming, the majority of surveyed performers do not understand how DMSP distribution models work and what the per-stream rates are in each case. An important part of the value distribution system is opaque to them. The general concern is summarized by Scanner in the statement below.

> "Never. It's impossible to gauge what I actually receive per play or per 100 or 1000 plays. It's not transparent at all." (Scanner)

This is a very common complaint in the case of performers that could be extended beyond the sample under analysis (*Payperformers.Eu*, 2021).

4.3. Asymmetric revenue distribution model

Perceptions of performers identify the DMSP business model as an asymmetric revenue distribution model. **Hesmondhalgh** (2020)as follows: (a refers to it as a 'market-centric' model characterized by the revenue share method of royalty calculations. Because the 'market-centric' model puts all the applicable revenue (i.e., a negotiated contractual definition of revenue that is shared with rights-holders by the service) into a hotchpot divided based on number of plays, inevitably a user will pay for music they do not listen to.

This feature is most observable in a subscription model, where the consumer's monthly subscription fee goes into the defined revenue hotchpot for performer royalties. The typical subscriber pays a fixed fee and listens to a handful of artists relative to the tens of millions of tracks available on the platform. This can be either entirely interactive and without regard to discovery algorithms or enterprise playlists or guided by recommendations.

Even though the consumer only listens to certain performers, the subscription fee is divided by all the performers on the service who were played by other consumers. If the consumer were a classical music fan, she/he might never listen to the pop hits of the day. Yet in this common case, almost all her/his subscription fee would go to performers she/he never listened to and might never listen to. Because those performers typically lack the leverage to negotiate the downside protection of bigger labels, they may end up with less than they would if they received a share of their actual fans' subscription fees.

An additional problem is the relatively static pricing and the rapidly increasing number of available recordings and streams, in what has been defined as the commoditization of music in the digital markets (**Barnett**, 2018) . Those tends to cause royalties to decline over time. In fact, actual figures show that the streaming average revenue per unit (ARPU) is declining. *Spotify*'s aggregated ARPU declined 2% from 2018 to 2019, and industry sources estimate an overall decline of 8% in the streaming ARPU from 2018 to 2019 of the global music industry (**Ingham**, 2021a).

The asymmetry lies in the fact that the economic incentives of this model benefit mainstream music and dominant rights-holders. As a result, major-label superstars derive the bulk of the revenue from DMSPs, therefore directing most of the revenue to the most popular artists regardless of whether a particular fan actually listened to those artists. Together with the commoditization of music, an effect of homogenization of the music inventory is being increasingly observed: the model harms niche artists and local repertoire, given the global dominance of Anglo–American-based DMSPs. As the interviewee Guillermo Bazzola noted, there is an impact of these practices on less commercial genres.

> "The dominant digital music platforms have a tendency to depersonalize the relationship with the user and destroy any audience that is not simply a consumer. The overcrowding of music channels guided by mere commercial criteria threatens the creation of musical culture and hides all that music that is not for mass consumption, such as jazz, ethnic music or progressive rock." (Guillermo Bazzola)

As pointed out before, the core of these consequences lies in the per-stream rates and streaming royalties calculations. In its most basic configuration, the per-stream rate in a period *t* is given by the formula below. It basically depends on the DMSP monthly revenue and total number of streams in the platform, for each accounting period (*t*).

$$\frac{Monthly\ DSP\ Revenue\ (t)}{Total\ streams\ (t)} = Per\ stream\ rate\ (t)$$

It is obvious that royalties are directly proportional to the Monthly DMSP revenue from one specific period (*t*), and inversely proportional to the Total number of streams. For a generic performer (or author/ rights-holder), if the rate of increase in Monthly DMSP Revenue from one month (t_1) to the next (t_2) is less than the rate of increase in the Total streams, the value of that performer's royalty will always trend downwards over time (t_n).

$$Royalty\ (t) = Monthly\ DSP\ revenue\ (t) \times \frac{N^{o}\ of\ streams\ (t)}{Total\ streams\ (t)}$$

Royalty in the formula above varies from month to month depending on at least three functions:

1. Monthly DMSP Revenue: This is not the gross revenue earned by the DMSP. Any revenue earned by the service that is not defined as Monthly DMSP Revenue is excluded. This could include data-related fees or sales of user data –for example, playlist branding fees, or other revenues. In practical terms, the applicable gross revenue earned by the DMSP is reduced by approximately 50% to be included in the Monthly DMSP Revenue, meaning the service retains approximately 50% of that revenue for its own account. The revenue categories commonly included are cash or non-cash compensation for advertising payments and subscription fees from users but can also include 'non-display' uses, such as e-commerce and referral fees or bounties, a share of traffic or tariff charges, or revenue derived from the sale of data about users (including behavioural data).

2. Total streams: This is the aggregate number of plays of 30 seconds or more of all the licensed recordings on the service. The Total streams is a number that constantly increases at some rate, which likely varies directly with the number of licensed recordings on the service. In fact, Total streams tend to increase over time because of new recordings added to the service under output deals with rights-holders (**Ingham**, 2021b). Once a recording has been uploaded or made available on a service, it is rarely removed.

3. Nº of streams (of a particular performer or author/rights-holder): This is the aggregate number of plays of 30 seconds or more of sound recordings owned or distributed by the recipient of the royalty payment. While this number is also unlimited, it is unlikely to increase at a rate that is greater than the increase in Total streams. Note that the larger the catalogue, the more likely it is that Nº of streams will be a larger number, particularly if the catalogue owner is heavily marketing its artists, thus stimulating demand at the streaming service.

As an additional consideration, the 'market-centric' calculation results in a theoretical per-stream rate for the accounting period concerned. While licences between sound recording owners and streaming services are never based on a fixed per-stream rate as a negotiated deal point, it is helpful to break down royalty payments by service on at least a notional average per-stream payment in order to compare and rank services. Building on these ideas, a compilation of various per-stream rates is shown in the Appendix B. Tables 3-8 include data publicly available from industry sources and/or from performers, and detailed calculations from specific artists from the own survey carried out during the research.

The tables also display how the dominant DMSPs have decreased the theoretical per-stream rates in the last few years. For instance, *Spotify* has moved down from $0.00540 per stream in 2018, to $0.00370 in 2019 and $0.00307 in 2020. This is a reduction of 43% in the two-year period. *Apple Music* has also decreased their per stream rates by 6% in the period 2019-2020 and Amazon saw the highest decline in 2019-2020 with a decrease of 46%.

As displayed in the tables, the streaming royalty is typically very low on a per-stream basis. Even so, it is important to note that this is the gross payment to the label and that it does not typically include any payment to songwriters or music publishers who are paid in addition to and separately from the sound recording royalty. In this respect, there is an increasing concern on how the relationship with record companies impacts on this situation, especially in the case of major labels.

> "The change [in digital music markets] should be that major labels pay a higher percentage to the artists, producers and songwriters." (Independent artist#4, 2021)

As stated, DMSPs pay the royalty to the owners of the master/record. After that, for those cases of signed performers, the record company shares this royalty with the performer according to their agreement. How this royalty is shared by the label with their artists is of some controversy, but it is typically no lower than a 70/30 split between label and artist and is often higher, but not greater than 50/50. Deep catalogue performers may have less favourable arrangements depending on how their contract is interpreted. Independents are typically paid 100% of the streaming royalty as they act as their own label and own their own sound recordings.

Table 2 summarizes the different possible situations, combining featured and non-featured performers with their relationship with record companies –signed or independent artists– and their possible roles beyond merely performing, such as songwriter, creative producer or record label.

Table 2. Performer scenarios of payout in current digital music services

Performer scenarios	From net present value of consumer data profiles	From consumer revenue (reduced from off the top costs)	From total per-stream rate (paid to label or digital aggregator)
Featured independent performers + songwriter	20.31%	57.28%	81.83%
Featured independent performers	17.79%	50.17%	71.67%
Featured performers + songwriter	4.87%	13.74%	19.63%
Featured performer	2.35%	6.63%	9.47%
Non-featured performer	0%	0%	0%

Source: Publicly available Internet information (*Digital Media Association*, 2020) and own survey.

In any of the cases above, non-featured performers are usually paid a one-time buyout fee for their recording services and, in general, they do not receive any remuneration from DMSPs, with some minor exceptions, as commented on by the Non-featured artist #1 and JK Escorcia.

> "The only royalties I receive from platforms such as *Spotify* come through *AIE* [Society of Artists and Performers in Spain]. I do not receive any other royalties from any other country." (Non-featured artist #1)
>
> "Neighbouring rights [in the digital music marketplace] should be worldwide and allowed for all performers." (JK Escorcia)

4.4. The user-centric model

While the asymmetric revenue distribution model is the dominant model amongst the major DMSPs, such as *Spotify* or *Apple Music*, other players apply different approaches to revenue distribution. During 2021, players such as *Tidal* or *SoundCloud* announced they were starting to apply what we may call a 'user-centric' model (**Dredge**, 2021; **Singleton**, 2021). The 'user-centric' model is the clearest alternative to 'market-centric' asymmetric revenue distribution model. It seeks to compensate featured performers on a per-user basis for interactive streaming in order to eliminate the 'market centric' allocation of revenue across all streams.

At the time of writing, none of the proposed user-centric models compensate non-featured performers at all. With respect to featured performers, 'user-centric' offers some benefits, such as ensuring users do not pay for music they do not listen to. For a service to completely change from a 'market-centric' to a 'user-centric' model, the service would have to renegotiate each of its licences, and the licensor (often a producer) would necessarily have to agree to the change. Because the 'market-centric' distribution is at the core of the licence, producers probably would not agree to the change if it made them worse off. As *Sony Music* has declared:

> "It is extremely important to understand that a shift in reporting methodology [to a user-centric model] will not increase the amount of money artists are paid in the aggregate. It will just shift money from some artists to other artists" (**Stassen**, 2021).

The logic of the two models is very different: the 'user-centric' tracks the user's consumption and matches revenue from the user to the titles he or she listens to; the 'market-centric' is paid into a hotchpot distributed among rights-holders, according to the overall audience of the titles by market. In the first the amount of a consumer monthly subscription, discounted from off the top charges, will be paid to the owner of that recording. However, in the 'market-centric' model, this one stream will be pooled against the total number of streams on the service during the accounting period, generating an income typically less than one half-cent of a euro or dollar. The difference between the two models blurs when the number of plays per user per month increases and when it is averaged across artists.

Mathematically, both systems have a logical impact on the value of every play. Generally, in an asymmetric revenue distribution model, each play tends to have the same value, while in the user-centric model, the value of a stream depends on the number of tracks the subscriber has played. In user-centric, the lower the volume of titles played, the more the value of the plays increases on a per-stream basis as to a particular subscriber. Of course, the actual royalty paid to the artist will still be subject to the existing artist's agreement with the label or directly –through a digital aggregator– if he/she is an independent artist.

From a performer's perspective, total revenue distribution through this model is obviously a direct consequence to consumers' choices, as pointed out in the survey by niche artist #5-postclassical and Tom Gray:

> "I think artists should be paid more for each stream and that fans should pay if they listen to me and not pay bigger artists if they don't listen to them." (Niche artist#5 – post-classical)
>
> "User-centric payment is the intuitively correct way to distribute income because revenue share fails to reward based upon having built a loyal audience. In fact, it rewards the opposite and is unhealthy for culture. One in five listeners are distributing 80% of revenues. This means the musical taste of four out of five members of our society is actively defunded. Revenue share also takes away the moral rights of the consumer. Presently their subscriptions can go to funding material they may dislike or even find politically and morally wrong." (Tom Gray)

Another relevant effect of the 'user-centric' model is the fight against fraud. This model may reduce the impact of one of the existing click-fraud schemes, which consists of artificially increasing the plays of targeted titles and artists, for example by 'click farms' (**Groves**, 2020) or the use of white noise or undefined sounds to monetize the 30-second inventory pool access (**Davie**, 2021). With the establishment of the user-centric model, fraud could evolve towards the targeting of low-intensity or inactive users or even the hacking of sub-accounts within bundles. The fight against fraud is one of the main governance challenges of music streaming platforms.

One of the most relevant studies on the topic has been developed by the *Centre National de la Musique* in France. It took place in 2020 using data from *Spotify* and *Deezer* and concluded that an eventual switch to a 'user-centric' model would make it possible to make the distribution of income consistent with the respective weight of the different types of music consumers (*Centre National de la Musique*, 2021) . In particular, the study found that the move to a 'user-centric' model could promote a redistribution of income for the benefit of artists, titles and aesthetics to smaller audiences. In this very sense, the 'user centric' model is closer to a symmetric revenue distribution model. According to the study, the shift to a user-centric model would have the effect of greatly reducing the royalties received by the Top 10 artists (-17.2%), stabilizing the middle of the ranking with a small increase in royalties received, and allowing the artists the least listened to (>10,000th rank) to benefit from an increase in their royalties (+ 5.2%). In terms of musical genres, classical music (+24%), hard rock (+22%), blues (+18%), pop rock (+17%), disco (+17%) and jazz (+ 10%) would benefit from significant increases in percentage, while rap (-21%), hip hop (-19%) and, to a lesser degree, Afrobeat (-9%) and New Age (-7%) would see their royalties drop. Back catalogue would see a modest increase in royalties (+3.2%). In addition, the switch to the 'user-centric' model could encourage a strengthening of the back catalogue market share (current policy being released prior to 18 months).

According to that same study, the development of the 'user-centric' model would be the responsibility of the platforms. It is anticipated that the royalty accounting for 'user-centric' would be much more complex than the current model, plus the services have years of operational costs amortized in the current system. These operational costs may be too expensive to be absorbed by smaller platforms and could be passed on throughout the value chain, potentially resulting in lower royalties, resulting in further asymmetries. The beneficiaries (distributors, producers, collective management organizations) should in that case also bear the costs of verifying the reports submitted by the platforms –that is, the operational costs linked to the weightings carried out at user level for the user-centric model calculations.

As a final remark, it must be said that none of the user-centric models currently on offer expressly compensate non-featured performers, since they just involve a different way of distributing income from the consumers' subscription, but not a different framework.

5. Conclusions

The main aim of the paper is the examination of the sustainability of the current business models in the incumbent music streaming platform services. To do this we have identified the revenue distribution logics of the dominant existing models and assess them from the perspective of the performers, understood as key players in the value creation process. Findings highlight performers' insights from a purposive and representative survey on their current situation and complemented with desk research from industry sources.

In this respect, performers' concerns can be summarized as involving three main issues:

(i) the lack of transparency from DMSPs and/or rights-holders;

(ii) the 'market centric' royalty allocation; and

(iii) the general imbalance within the current music industry, especially regarding the received remuneration in the digital sphere. These concerns and difficulties are especially marked in the case of non-featured performers.

The research conducted shows that the main DMSPs combine consumption modes considered not fully interactive, that is, they require a limited degree of interaction by the consumer, together with modes of full interactivity, in which the consumer decisively intervenes to reproduce a certain musical theme. There are overlapping modes of consumption based on recommendation engines and automatic or human-managed editorialization of services. In practical terms, performers emphasized the relevance of this type of editorial curation on their discoverability within the platforms. A new form of intermediation emerges: a few DMSPs concentrate significant market power while they have an increasing influence on the consumers' behaviour, and they are even launching new features that allow performers to opt into a promotional –minor– royalty rate for specific songs to gain visibility (**Aguiar**; **Waldfogel**, 2021).

From a business model perspective, the research conducted for this study shows that the most asymmetric revenue distribution model, the 'market centric' model of royalty payment, is used by all dominant DMSPs, with the result that, even though the consumer only listened to certain performers, his/her subscription fee is divided with all the artists on the service who were played by other consumers, benefiting mainstream music and dominant rights-holders over niche artists and local repertoire (**Aguiar**; **Waldfogel**, 2021; **Antal** *et al.*, 2021). The main alternative model, named the 'user-centric' model, has been recently adopted by *Tidal* and *SoundCloud*, two second-tier DMSPs in terms of subscribers and revenues. Although this is more capable of revenue distribution symmetry, it should be taken into consideration that there is no one-fits-all solution.

These findings allow several factors determining the non-sustainability of current DMSP business models to be identified, the most relevant of them being the exclusion of featured performers and, even more dramatically, non-featured performers from the revenue distribution dynamics.

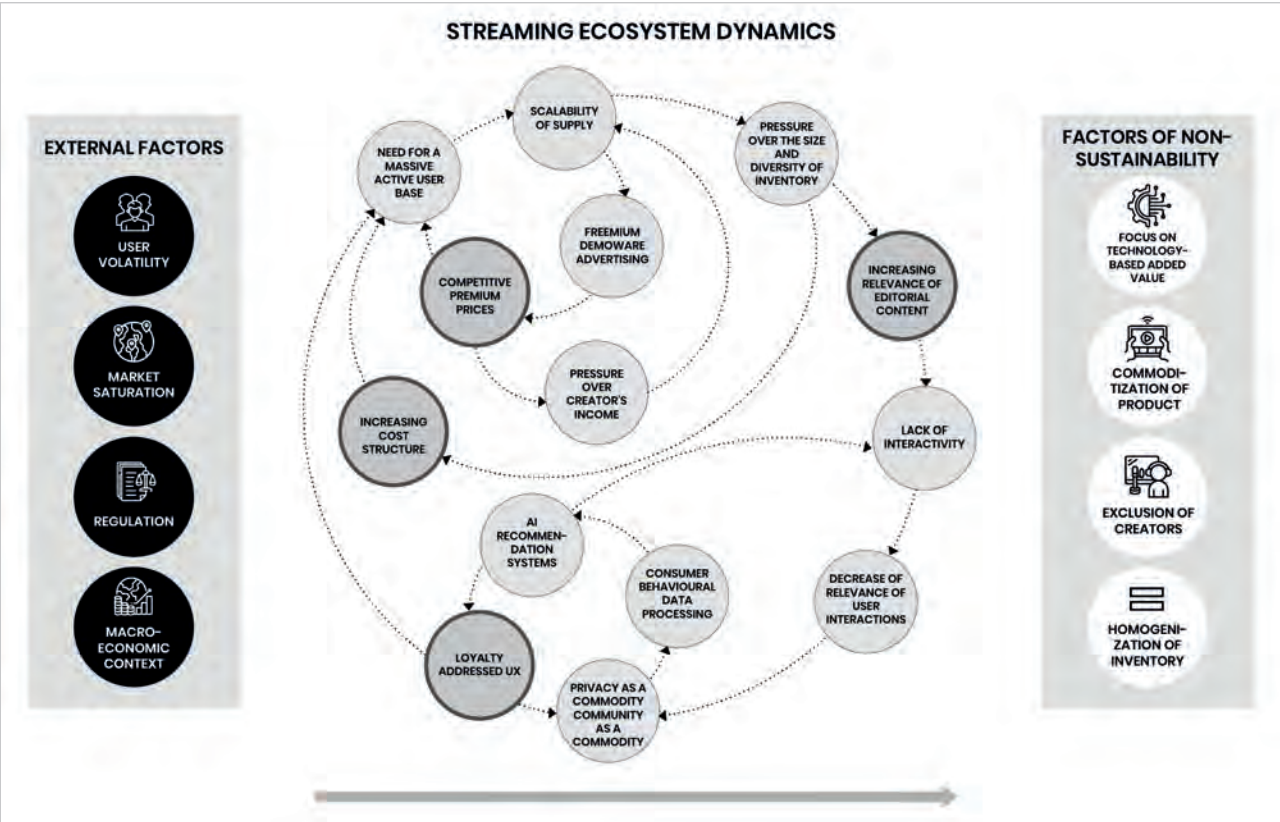

Figure 3. Streaming ecosystem dynamics and factors of non-sustainability

Connections amongst external key factors typical to digital economies (mainly volatility of users, specific regulation and market saturation), streaming ecosystem dynamics and factors of non-sustainability in DMSP current business models are summarized in Figure 3.

Identified non-sustainability factors result from characteristic circularities within the value creation process: for instance, the exclusion of creators (performers) appears to be the result of the pressure over the performer's income triggered by a loyalty-addressed system in which the scalability of supply determines the need to the unlimited enlarging of the size and diversity of inventory (**Ingham**, 2021b).

Another example is the focus on technology that plays a key role in the DMSP business model innovation. AI-based recommendation systems allow the matching of supply and consumers' preferences and profile, and in so doing the creation of value is displaced from creative diversity to customization at the distribution level. The confluence of a loyalty-addressed user experience and an unlimited growing inventory results in an additional pressure to generate value through the exploitation of users' behavioural data. A consequence of that, as has been said, is the lack of interactivity in the content experience and the increasing relevance of editorial content.

Finally, the way in which value is calculated and distributed in the DMSP ecosystem brings forth two additional non-sustainability factors: the homogenization of inventory is a direct consequence of the 'market-centric' model that puts gross revenue into a hotchpot distributed among rights-holders, according to the overall audience of the titles by market. Paradoxically, under the logics of the current digital music business model, the size and diversity of the inventory are not functions of value. In addition, with performers excluded from the value creation process, and revenue calculation dissociated from the actual interaction between performer and customer, music content becomes progressively commoditized. The relevance of different forms of fraud in the DMSP current environment is an observable symptom of that commoditization process (**Leight**, 2019).

All in all, results and conclusions in the paper are framed as a synopsis of the fast-moving economic and technological landscape in the music industry. As main contributions, the paper provides a theoretical explanation on how royalties are distributed by DMSPs. It also gathers a relevant sample of real 'per-stream' rate calculations and their evolution over time and explains how this relates to business model non-sustainability. We believe this could be used as actionable knowledge for artists and performers and other stakeholders. As this kind of information is not publicly available so the paper also contributes to the transparency of the music industry. The results also suggest some interest in applying this kind of creator-oriented research to the sphere of video streaming platforms, contributing to the assessment of business model sustainability in other digital platforms and its relation to the place culture creators have in the ecosystem.

The main limitations are due to the nature of the sample, in this case limited to recording artists and performers. The controversies around the sustainability of the current business models in music streaming also concerns other rights-holders such as authors and/or composers, so further research could include their perspective in the analysis. In addition, the paper studies the dominant business models considering the incumbent DMSPs according to their current market relevance. Future works could include other already existing alternative models / DMSPs, as in the non-exclusive examples of micropayments (e.g., *SoundCloud*), digital sales/downloading (e.g. *Bandcamp*) or even the new wave of decentralized streaming models (e.g. *Audius*). From the point of view of the performers, these models could potentially involve more control and empowerment, monetizing their artist–fan relationships more directly, making them less dependent on the intermediaries (DMSPs and/or the rightsholders) at the expense of bearing a higher degree of risk. Whether and how these experiences may conform more sustainable business models for digital music and, particularly, for creators, remains yet to be explored.

6. References

Aguiar, Luis (2017). "Let the music play? Free streaming and its effects on digital music consumption". *Information economics and policy*, v. 41.
https://doi.org/10.1016/j.infoecopol.2017.06.002

Aguiar, Luis; **Waldfogel, Joel** (2021). "Platforms, power, and promotion: Evidence from *Spotify* playlists". *Journal of industrial economics*, v. 69 n. 3, pp. 653-691.
https://doi.org/10.1111/joie.12263

Antal, Daniel; **Fletcher, Amelia**; **Ormosi, Peter L.** (2021). "Music streaming: Is it a level playing field?" *Competition policy international*.
https://www.competitionpolicyinternational.com/music-streaming-is-it-a-level-playing-field

Apple (n.d.). *Apple Music API. Integrate streaming music with Apple Music content*.
https://developer.apple.com/documentation/applemusicapi

Arditi, David (2014). *iTake-over: The recording industry in the digital era*. Lanham, MD: Rowman & Littlefield. ISBN: 978 1 442240131

Arditi, David (2019). "Music everywhere: Setting a digital music trap". *Critical sociology*, v. 45, n. 4-5, pp. 617-630.
https://doi.org/10.1177/0896920517729192

Barnett, Jonathan M. (2018). "The costs of free: Commoditization, bundling and concentration". *Journal of institutional economics*, v. 14, n. 6, pp. 1097-1120.
https://doi.org/10.1017/S1744137418000012

Benghozi, Pierre-Jean; **Salvador, Elisa**; **Simon, Jean-Paul** (2021). "Strategies in the cultural and creative industries: static but flexible vs dynamic and liquid. The emergence of a new model in the digital age". *Revue d'économie industrielle*, v. 174, pp. 117-157.
https://doi.org/10.4000/rei.10238

Benoit, Godin; **Gaglio, Gerard** (2019). "How does innovation sustain 'sustainable innovation'?". In: Boons, Frank; McMeekin, Andrew (eds.). *Handbook of sustainable innovation*. Edward Elgar Publishing, pp. 27-37. ISBN: 978 1 788112567
https://doi.org/10.4337/9781788112574

Bloom, Madison (2021). "*Spotify* facing House Judiciary Committee probe over 'Discovery Mode'". *Pitchfork*.
https://pitchfork.com/news/spotify-facing-house-judiciary-committee-probe-over-discovery-mode

Butler, Susan (2021). *Inside the global digital music market*.
https://www.wipo.int/meetings/en/doc_details.jsp?doc_id=540734

Castle, Chris; **Feijoo, Claudio** (2021). *Study on the artists in the digital music marketplace: Economic and legal considerations*.
https://www.wipo.int/edocs/mdocs/copyright/en/sccr_41/sccr_41_3.pdf

Centre National de la Musique (2021). *Le CNM évalue l'impact d'un changement éventuel de mode de rémunération par les plateformes de streaming*.
https://cnm.fr/le-cnm-evalue-limpact-dun-changement-eventuel-de-mode-de-remuneration-par-les-plateformes-de-streaming

DCMS Committee (2020). *The Ivors Academy written submission to the DCMS Select Committee Inquiry: The economics of music streaming*. UK Parliament.
https://committees.parliament.uk/writtenevidence/15416/pdf

Digital Media Association (2020). *Who gets paid and how much?*
https://dima.org/wp-content/uploads/2020/08/DiMA_Who-Gets-Paid_Infographic.pdf

Dredge, Stuart (2021). *Tidal reveals its user-centric payout plans and adds a free tier*. Musically.
https://musically.com/2021/11/17/tidal-user-centric-payout-free-tier

Escribano, Mario (2020). "Miserias del 'streaming': un músico gana 80 euros al mes por ocho millones de escuchas". *El Confidencial*, 25 agosto.
https://www.elconfidencial.com/cultura/2020-08-25/spotify-youtube-apple-amazon-streaming-musica_2723263

Friedlander, Joshua P. (2021). *Mid-year 2021 revenue statistics*. RIAA report.
https://www.riaa.com/wp-content/uploads/2021/09/Mid-Year-2021-RIAA-Music-Revenue-Report.pdf

Geissdoerfer, Martin; **Vladimirova, Doroteya**; **Evans, Steve** (2018). "Sustainable business model innovation: A review". *Journal of cleaner production*, v. 198, n. 10, pp. 401-416.
https://doi.org/10.1016/j.jclepro.2018.06.240

Groves, Landon (2020). *Hate your favorite band's latest song? On Spotify, it might be a fake*. Input.
https://www.inputmag.com/culture/spotify-is-letting-scammers-rip-artists-off-in-plain-sight

Gustavsson, Niklas (2012). *Pressing play. Pressing play*. SlideShare.
https://es.slideshare.net/protocol7/spotify-architecture-pressing-play

Hesmondhalgh, David (2020). "Is music streaming bad for musicians? Problems of evidence and argument". *New media and society*, v. 23, n. 12, pp. 3593-3615.
https://doi.org/10.1177/1461444820953541

IFPI (2021). *Global music report 2020*.
https://www.ifpi.org/wp-content/uploads/2020/03/GMR2021_STATE_OF_THE_INDUSTRY.pdf

Ingham, Tim (2016). *Spotify is making its own records… and putting them on playlists*. Music business worldwide.
https://www.musicbusinessworldwide.com/spotify-is-creating-its-own-recordings-and-putting-them-on-playlists

Ingham, Tim (2021a). *Why we believe streaming subscription ARPU fell by around 8% globally for the record industry last year.* Music business worldwide.
https://www.musicbusinessworldwide.com/why-we-believe-streaming-subscription-arpu-fell-by-around-8-globally-for-the-record-industry-last-year

Ingham, Tim (2021b). *Over 60,000 tracks are now uploaded to Spotify every day*. Music business worldwide.
https://www.musicbusinessworldwide.com/over-60000-tracks-are-now-uploaded-to-spotify-daily-thats-nearly-one-per-second

Jones, Rhian (2021). "Songwriters fight to be heard in streaming revenues debate". *The Guardian*.
https://www.theguardian.com/music/2021/feb/12/songwriters-fight-to-be-heard-in-streaming-revenues-debate

Kenney, Martin; **Zysman, Josh** (2016). "The rise of the platform economy". *Issues in science and technology*, v. 32, n. 3, pp. 61-69.
https://www.nbp.pl/badania/seminaria/25x2016_2.pdf

Leight, Elias (2019). *Fake streams could be costing artists $300 million a year*. Rolling Stone.
https://www.rollingstone.com/pro/features/fake-streams-indie-labels-spotify-tidal-846641

Lüdeke-Freund, Florian; **Carroux, Sarah**; **Joyce, Alexandre**; **Massa, Lorenzo**; **Breuer, Henning** (2018). "The sustainable business model pattern taxonomy: 45 patterns to support sustainability-oriented business model innovation". *Sustainable production and consumption*, v. 15, pp. 145-162.
https://doi.org/10.1016/j.spc.2018.06.004

Mariuzzo, Franco; **Ormosi, Peter L.** (2020). "Independent v major record labels: Do they compete on a level-playing streaming field?". *SSRN electronic journal*.
https://doi.org/10.2139/ssrn.3729966

Massa, Lorenzo; **Tucci, Christopher L.**; **Afuah, Allan** (2017). "A critical assessment of business model research". *Academy of management annals*, v. 11, n. 1, pp. 73-104.
https://doi.org/10.5465/annals.2014.0072

Miles, Matthew B.; **Huberman, A. Michael** (1994). *Qualitative data analysis: An expanded sourcebook*. (2nd ed.). Thousand Oaks, CA: Sage.

Negus, Keith (2018). "From creator to data: The post-record music industry and the digital conglomerates". *Media, culture & society*, v. 41, n. 3, pp. 367-384.
https://doi.org/10.1177/0163443718799395

O'Dair, Marcus; **Fry, Andrew** (2020). "Beyond the black box in music streaming: the impact of recommendation systems upon artists". *Popular communication*, v. 18, n. 1, pp. 65-77.
https://doi.org/10.1080/15405702.2019.1627548

Owsinski, Bobby (2021). *Recordings of noise can be more profitable than music on Spotify*. Hypebot.
https://www.hypebot.com/hypebot/2021/01/recordings-of-noise-can-be-more-profitable-than-music-on-spotify.html

Payperformers.Eu (2021). *Press release: Survey confirms performers' need for collective management & solutions. Make streamers pay performers through our CMOs*.
https://www.payperformers.eu/performer-survey-results

Prey, Robert (2020). "Locating power in platformization: music streaming playlists and curatorial power". *Social media + society*, v. 6, n. 1.
https://doi.org/10.1177/2056305120933291

Sánchez, Daniel (2018). "How much artists make per stream on Spotify, Apple Music, Amazon, YouTube, Pandora, More (updated for 2022)". *Digital music news*.
https://www.digitalmusicnews.com/2018/12/25/streaming-music-services-pay-2019

Schaltegger, Stefan; **Hansen, Erik G.**; **Lüdeke-Freund, Florian** (2016). "Business models for sustainability: Origins, present research, and future avenues". *Organization & environment*, v. 29, n. 1, pp. 3-10.
http://doi.org/10.1177/1086026615599806

Singleton, Micah (2021). "SoundCloud to let fans pay artists directly". *Billboard*.
https://www.billboard.com/pro/soundcloud-payout-system-fans-artists-direct-payments

Spotify (2020). *Amplifying artist input in your personalized recommendations*, Nov. 2.
https://newsroom.spotify.com/2020-11-02/amplifying-artist-input-in-your-personalized-recommendations

Stassen, Murray (2021). "What the major record companies really think about the economics of music streaming". *Music business worldwide*.
https://www.musicbusinessworldwide.com/what-the-major-record-companies-really-think-about-the-economics-of-music-streaming

The Trichordist (2020). *2019-2020 Streaming price bible*.
https://thetrichordist.com/2020/03/05/2019-2020-streaming-price-bible-youtube-is-still-the-1-problem-to-solve

Towse, Ruth (2020). "Dealing with digital: The economic organisation of streamed music". *Media, culture & society*, v. 7-8, n. 42, pp. 1461-1478.
https://doi.org/10.1177/0163443720919376

UK Parliament, Digital, Culture, Media, and Sport Committee (2021a). "Second report - Economics of music streaming".
https://committees.parliament.uk/work/646/economics-of-music-streaming/publications

UK Parliament, Digital, Culture, Media and Sport Committee (2021b). "Economics of music streaming. Supplementary written evidence from Sony Music". *Oral Evidence: Economics of Music Streaming (Q599) UK Parliament*.
https://committees.parliament.uk/writtenevidence/23082/html

Van-Wijk, Jakomijn; **Zietsma, Charlene**; **Dorado, Silvia**; **De-Bakker, Frank G. A.**; **Martí, Ignasi** (2019). "Social innovation: Integrating micro, meso, and macro level insights from institutional theory". *Business & society*, v. 58, n. 5, pp. 887-918.
https://doi.org/10.1177/0007650318789104

Webster, Jack (2020). "Taste in the platform age: Music streaming services and new forms of class distinction". *Information, communication & society*, v. 23 n. 13, pp. 1909-1924.
https://doi.org/10.1080/1369118X.2019.1622763

WIPO (1996). *WIPO Performances and Phonograms Treaty*.
https://wipolex.wipo.int/es/treaties/textdetails/12743

7. Appendix

A. Questionnaire for performers

1. Could you share with us your artistic name?

We need to know who is answering in order for us to make sense of the survey statistics. There will be no mention of your (artistic) name in our final report unless you give us permission at the end of the survey. We guarantee the confidentiality of your answers.

2. Could you provide us with an email address?

We will send you your answers after you complete the survey, so you can check and/or modify them.
You will also receive a copy of the report when finished.

3. How would you describe your activity in music? Out of all the recordings you have been part of, which is/are the most recognized?

Examples of music profiles (non-exclusive): solo artist, featured artist, session musician, producer, songwriter, arranger, composer, teacher…

4. What music genre(s)/style(s) would best fit your music career?

We are aware it is difficult to accurately describe your music. We can give you examples of some of the main genres/styles, as categorized by *Allmusic*: African, Asian, Caribbean, hip-hop, classical, electronic, jazz, blues, pop, rock, other.

5. In which continents and countries have you mainly worked in the last ten years?

Examples: Africa, Asia, Europe, South America, USA, Oceania // United Kingdom, Nigeria, Australia, Argentina, China…

6. How has streaming affected your income over the last five years?

A. Increase in income
B. Decrease in income
C. Income has remained constant

7. How has the pandemic affected your music-related income over the last twelve months?

A. Increase in income
B. Decrease in income
C. Income has remained constant

8. What type of relationships have you with record labels?

a. Currently signed with a record label
b. Currently an independent artist
c. Session musician, usually I do not sign a contract with a record label
d. Other

9. Who do you receive your payments –in the digital market– from? (record labels, digital aggregators, collective management organizations, digital platforms, other)

10. Do you know from which digital music platforms do you receive payments from? (*Spotify*, *Apple Music*, *Amazon Music*, *QQ Music*, *YouTube*…). Please rank them in order of relevance if possible.

If so, please specify which are the most relevant platforms.

11. Do you know how many times are your songs played annually and the last year's income you have received at those digital platforms?

For example:

Total number of plays at *Spotify* during 2020: 1 million

Total income received from *Spotify* during 2020: XX €/$ (or local currency)

12. Do you think you receive enough information (transparent, clear and understandable) about the amount of money you get paid from digital music platforms? What do you think is missing?

13. Do you know how long does it take for you to receive payment once your music is played in a digital music platform?

14. Do you think streaming platforms pay main artists fairly?

A. Yes
B. No

15. Do you think streaming platforms pay musicians and performers fairly?

A. Yes
B. No

16. What do you think should change in the digital music market so that artists and performers receive fair compensation for their music's consumption?

17. Do you give us permission to include your artistic name in the report and associate it with your answers?

Unless with your permission, your answers will be treated with confidentiality and presented anonymously.

18. Do you give us permission to mention your artistic name in the report as one of the artists/performers that has taken the survey?

Unless with your permission, there will be no mention of your name on the list of artists/performers that have taken the survey, included in the report.

Thank you for your contribution.

You will receive an email with your answers and our contact information, in case you have any enquires.

B. Per-stream rates

Table 3. Total average artist per stream rates (2017-2020). Source: Publicly available Internet information (**Sánchez**, 2018; *The Trichordist*, 2020) and own survey.

Total average per stream rates	**2017**	**2018**	**2019**	**2020**
Xbox			$0.02730	
Napster / Rhapsody			$0.01682	$0.01900
Tidal			$0.01284	$0.01250
Apple Music	$0.00640		$0.00783	$0.00735
Google Play Music			$0.00611	$0.00676
Deezer		$0.00560	$0.00624	$0.00640
Amazon			$0.00740	$0.00402
Spotify		$0.00540	$0.00370	$0.00307
Pandora Premium		$0.00110	$0.00134	$0.00133
YouTube	$0.00060		$0.00074	$0.00069

Table 4. Average no. of streams to make 1$ (2017-2020). Source: Publicly available Internet information (**Sánchez**, 2018; *The Trichordist*, 2020) and own survey.

No of streams to make 1$	2017	2018	2019	2020
Xbox			36.63	
Napster / Rhapsody			59.45	52.63
Tidal			77.88	80.00
Apple Music	156.25		127.71	136.05
Google Play Music			163.67	147.93
Deezer		178.57	160.26	156.25
Amazon			135.14	248.76
Spotify		185.19	270.27	325.73
Pandora Premium		909.09	746.27	751.88
YouTube	1666.67		1351.35	1449.28

Table 5. The maths of artists' royalties' calculation. Source: Publicly available Internet information (**Sánchez**, 2018; **Escribano**, 2020) and own survey.

Cases	Rufus T. Firefly - Magnolia	Zoe Keating	Independent artist	Independent artist	Independent artist	Artist	Artist
Platform	*Spotify*	*Spotify*	*Amazon Unlimited*	*Amazon Cloud*	*Pandora*	*Spotify*	*Napster*
Collection year	2017	2019	2019	2019	2019	2019	2019
Time span (years / months)	3	1	1	1	1	1	1
Country of origin	Spain	US	US	US	US	US	US
Number of plays	8,000,000	206,011	112,353	103,792	15,783		
Total payout	€20,000.00	$753.00	$1,351.77	$414.31	$41.15		
Total per stream rate	€0.00250	$0.00366	$0.01203	$0.00399	$0.00261		
Distribution/aggregator company share	30%						
Total artist per stream rate	€0.00175	$0.00366	$0.01203	$0.00399	$0.00261	$0.00235	$0.00850
Total artist yearly payout	€4,667	$753.00	$1,351.77	$414.31	$41.15		

Table 6. (cont.). The maths of artists' royalties' calculation. Source: Publicly available Internet information (**Escribano**, 2020; How would you fix music streaming? (2021); **Jones**, 2021; *UK Parliament* (2021a; 2021b) and own survey

Cases	Olivia Rodrigo – Drivers License	*Allova*	*Sony*	*Sony*	*Sony*	Artist
Platform	*YouTube*	*Spotify*	*Spotify Premium*	*YouTube*	*QQ Music*	*Spotify*
Collection year	2021	2020	2020	2020	2020	2020
Time span (years / months)	1	1	1	1	1	1
Country of origin	US	Spain	UK	UK	China	Latin America
Number of plays	581,000,000	4,000	1,000	5,479	13,333	2,750,000
Total payout						
Total per stream rate						
Distribution/aggregator company / share						30%
Artist royalties deal with record label			25%	25%	25%	
Total artist per stream rate	€0.00058	€0.00375	€0.00117	€0.00021	€0.00009	€0.00305
Total artist yearly payout	€341,501	€15	€1.17	€1.17	€1.17	€8,399.5

Table 7. (cont.). The maths of artists' royalties' calculation. Source: Publicly available Internet information (**Dredge**, 2021) and own survey

Cases	Independent artist	Keko Yunge	Beggars Group	WMG / UMG	JKEscorcia	Independent artist	Independent artist
Platform	*Spotify*	*Spotify*	Several platforms	Several platforms	*Spotify*	*Spotify*	*Apple, Spotify, Amazon, Deezer, Sound Mouse*
Collection year	2020	2020	2020	2020	2020	2020	2020
Time span (years / months)	1	1	1	1	1	1	1
Country of origin	Colombia	Chile	UK	UK	US / Colombia	Asia	UK
Number of plays	1,000,000	800,000	1,000,000	1,000,000	100,000	500,000	50,000,000
Total payout							
Total per stream rate							
Distribution/aggregator company / share	30%						
Artist royalties deal with record label	Independent	Independent	25%	20%	Independent	Independent	Independent
Total artist per stream rate	€0.00384	€0.00433	€0.00232	€0.00116	€0.00340	€0.00340	€0.00092
Total artist yearly payout	€3,384	€3,467	€2,322	€1,161	€339.5	€1,701	€46,017

Table 8. (cont.). The maths of artists' royalties' calculation. Source: Publicly available Internet information and own survey

Cases	Independent artist
Platform	*Spotify*
Collection year	2020
Time span (years / months)	1
Country of origin	Europe
Number of plays	1,200,000
Total payout	
Total per stream rate	
Distribution/aggregator company / share	30%
Artist royalties deal with record label	Independent
Total artist per stream rate	€0.00336
Total artist yearly payout	€4,030

Digital audio and programmatic ad buying: status and prospects in the post-pandemic context

Pablo Garrido-Pintado; David Cordón-Benito; Lidia Maestro-Espínola

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Abstract

This article examines the implementation of programmatic buying in the digital audio sector. The sustained growth present in the different markets helps the consolidation of this medium that brings enormous benefits to commercial communication. The main aim of this research is to understand the current situation of the programmatic audio advertising buying sector. In order to address the object of study, an exploratory approach has been carried out by applying a qualitative and quantitative methodology developed with professionals from the sector and supported by the collaboration of entities such as *IAB* and *Programmatic Spain*. The results show that there is a greater commitment by brands to invest in digital audio due to its flexibility and the ability to send segmented messages with greater effectiveness and consumer engagement. As a non-invasive medium, the inclusion of digital audio in media plans has a direct impact on listener's attention. Data shows that there has been a significant increase in the consumption of streaming music, online radio, and podcasts. Nevertheless, investment is still focused on traditional radio and the results of the study show a reluctance to plan integrated campaigns. Moreover, the difficulty in measuring return on investment is a major deterrent to the investment attracted. Professionals interviewed say that the market provides transparency and quality guarantees, as opposed to other problems such as fraud in data measurement that have slowed down investment in the past.

Keywords

Digital audio; Programmatic advertising; Digital advertising; Advertisements; Ads; Advertisers; Marketing; Advertising saturation; Internet; Radio; Engagement; Programmatic ecosystem; Inmersive experience; Podcasts; Podcasting; Hyper-segmentation.

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1. Introduction and theoretical approach

In recent years, digital audio consumption has experienced remarkable growth. The *Infinite Dial* study (*Edison Research*, 2021) shows that the number of online radio listeners in the United States has reached 193 million, 68% of the population, as compared with 60% in 2020. The report also indicated that weekly podcast listening increased while smart speaker purchases grew to 94 million, 33% of the country's population. Meanwhile, in the UK, 31% of adults report listening to live radio via smartphones or tablets (*Rajar Data Release*, 2021).

In Spain, 2021 was the year for digital audio consolidation. According to data from *IAB* (2021a), 66% of respondents reported listening to digital audio at a steadily increasing rate since 2018. The most listened-to content was radio stations (45%) and music and concerts (43.5%), followed by *Spotify* and podcasts. According to data from *Infoadex* (2022), investment in radio was 415.4 million euros in 2021. Investment in digital audio, on the other hand, rose from 35 million euros in 2019 to 61.8 million euros in 2021 (*IAB*, 2022).

Digital audio and conventional radio share the characteristics of exclusivity, engagement, and brand exposure time. Despite its popularity, years ago, advertisers were reluctant to allocate large portions of their budgets to digital audio ads. According to *Forrester* (2021), this was due to the "lack of measurability, innovative ad formats and programmatic options."

However, programmatic buying has experienced remarkable growth in recent years, and gradually, solutions to such issues have been implemented in digital audio. For Carrillo-Durán and González-Silgado,

> "programmatic is a solution to advertising saturation highlighting the importance of content and data processing that make it possible to achieve better audience segmentation" ["*la programática es una solución frente a la saturación publicitaria destacando la importancia de los contenidos y el tratamiento de los datos que hacen posible lograr una mejor segmentación de la audiencia*"] (**Carrillo-Durán**; **Rodríguez-Silgado**, 2017).

Programmatic audio advertising is

> "automated selling and insertion of ads in audio content such as podcasts, audio articles, digital radio, and streaming music services" (**Jaworski**, 2021).

As Genoveva Marín and Silvia Benito of *Google* point out,

> "Programmatic audio campaigns show a consolidation of media and are more effective in reaching users in an innovative way" ["*Las campañas programáticas de audio muestran una consolidación de los medios y son más efectivas a la hora de llegar a los usuarios de una manera innovadora*"] (**Marín-Villalonga**; **Benito**, 2021).

In digital audio, this involves the application of the "use of data and networked computing to automate and optimize aspects of media buying and selling" (**McGuigan**, 2019) in the audio digital medium. After all, this type of content consumption takes place on the network, where many different products are necessary to meet the needs of a variety of targets (**Bonet**; **Sellas**, 2019).

Now, although programmatic buying of digital audio is growing, it still remains a comparatively small percentage of total advertising budgets. The trend indicates that audio inventory will increase, which will make it necessary to measure quality and performance.

For **Smith** (2022), the challenge in the medium term will be to identify suitable positioning for brands and establish a simple method of analysis.

According to the *We Are Social* study (2022a), internet users worldwide spend an average of 1 hour 33 minutes per day on music streaming services, just over an hour listening to radio, and 55 minutes per day listening to podcasts (1.9% more than in the previous year). In the case of Spain, 61% of Internet users over 16 years of age consume digital audio content. Among them, 77% recall having heard advertisements, and 43% of them consider this useful and think that it had a positive influence on their purchasing decisions (*We Are Social*, 2022b).

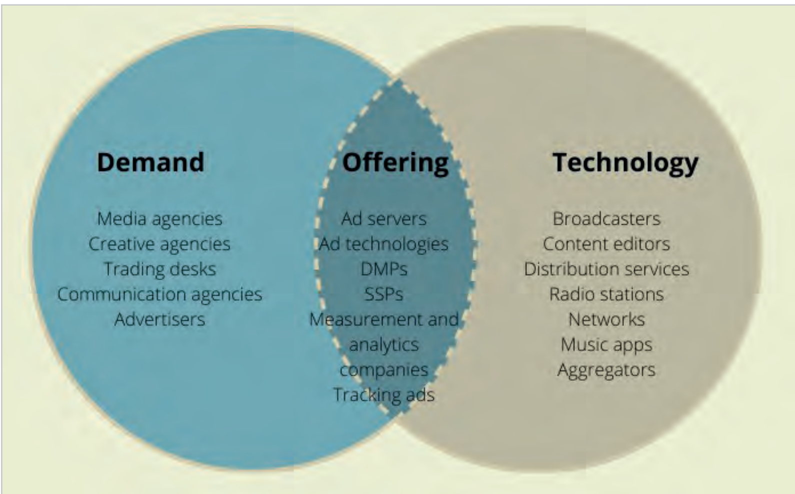

Figure 1. Programmatic advertising ecosystem in digital audio.
Source: Based on **Carrillo-Durán** and **Rodríguez-Silgado** (2018) and *IAB* (2021a).

The *Sonic Science* study conducted by *Spotify* and *Neuro-Insight* (2021) describes the act of listening as an immersive experience. To corroborate this claim, they asked their users about the impact of music and podcasts on their lives. For 79%, music helped them concentrate, 96% felt it improved their mood, 88% thought it made the mundane interesting, and 84% felt it helped them remember past experiences. These effects are already reflected in the scientific literature in studies such as those on the effects of music consumption on concentration and attention (**Park**; **Kwak**; **Han**, 2020; **Shih**; **Huang**; **Chiang**, 2012; **Kumar** *et al*., 2016) and the increased level of intimacy compared with other media (**Bull**, 2010).

The programmatic ecosystem is based on two elements: purchase (demand) and supply (sale). We examine their components in the case of programmatic audio (**Carrillo-Durán**; **Rodríguez-Silgado**, 2018; *IAB*, 2021a) (Figure 1).

On the demand side, we have advertisers; communication, creative, and media agencies; traders; demand-side platforms (DSPs); ad exchanges; networks; supply-side platforms (SSPs); and data providers:

- Advertisers: They demand and buy impressions on different digital audio platforms. They define the target audience and the amount to be invested according to the campaign strategy (**Shen** *et al*., 2015). They contract creative and media management services, although the system makes it easier for them to operate directly (**Tiet**; **Karjaluoto**, 2021).
- Media agencies: They traditionally act as intermediaries between advertisers and platforms. They manage the budget defined by the client (**Paulson**; **Luo**; **James**, 2018).
- Trading desks: These teams implement buying strategies in the system. They can be integrated into an agency's team or work independently. They process purchase requests along with information about users, types of websites, etc. They choose the level of offering that best suits the client's strategy (**Fernández-Tapia**; **Guéant**; **Lasry**, 2016).
- Demand-side platforms (DSPs): Technology that makes it easier for advertisers to buy advertising inventory through direct buying or real-time bidding (RTB) (**Xu** *et al.*, 2015).
- Ad exchanges: Technology that makes it possible for both the buyer and the seller to define the rules of sale and purchase (**Angel**; **Walfish**, 2013).

On the sales side, we have the media, advertising networks, and SSPs:

- Platforms: Content editors. They can sell inventory through deals, at a fixed price and with guaranteed inventory, and also through private marketplaces (PMPs). In the case of programmatic audio, there are broadcasters, podcast publishers, distribution services (e.g., *Spotify*), music apps, and aggregators.
- Networks: Their operation is similar to that of platforms, but they group together several publishers.
- SSPs: Technology that helps advertisers implement a series of rules such as the minimum bid price, the technical attributes, or the blocking of certain categories.

Alongside these players are data providers, who integrate both internal and external information, as well as systems for the verification and quality assurance of the brand (brand safety). These quality assurance systems are necessary since the data that are most widely available may be of lower quality and be ethically sensitive (**Martínez-Martínez**; **Aguado**; **Boeykens**, 2017).

According to the Digital Audio Study 2021, the most consumed formats in Spain are: music on demand (77.8%), streaming radio (70.8%), pre-recorded radio (46.1%), podcasts (43.8%), content created for voice assistants (31%), audiobooks (21.7%), and aggregators (16.1%). According to the iVoox Observatory (**Martínez**, 2021), Spaniards listen to podcasts an average of 19 hours per month. The advertising possibilities are manifold, as shown in Table 1.

Table 1. Digital audio formats

	Formats	Advantages	Options
Audio spot: Format of an average of 20–30 seconds long that includes descriptive text about the product combined with music, voices, sound effects, or moments of silence (**Muela-Molina**, 2008)	Audio spot	Targeting/frequency	3D/8D ad spot and dynamic creative optimization (DCO)
	Audio spot + banner	Generates traffic and leads, expands on information, and reinforces the message	Includes page stealers (300 x 250 px), megabanners (728 x 90 px), and mobile banners (320 x 50 px)
	Interactive audio spot	Typically calls to action	*Shake Me*™ or voice ad formats
Sponsorships: Short ad inserts that help fund radio programs (**Perona-Páez**, 2007)	Audio spot	Produced on an exclusive basis	Pieces at the beginning or end of content
	Mentions	Recommendation of products or services, creating a greater connection with the audience	
Branded content	Branded podcast: Generating brand content in an audio format (**Sellas**; **Martínez-Otón**; **Ortega-Seguí**, 2021)	Affinity/value/community creation	Branded podcast (associated with a media outlet or group or podcaster) or brand-associated podcast (section within the content)

Source: Adapted from *Estudio Audio Digital* (2022); **Perona-Páez** (2007); **Muela-Molina** (2008); **Sellas**, **Martínez-Otón**, and **Ortega-Seguí** (2021).

As shown in the figure, there has been an evolution from the classic format (radio slot) to solutions that take advantage of surround sound technologies or dynamic optimization of pieces (**Baardman** *et al*., 2021). Projections indicate that voice-driven content strategies will increase (**Jones**, 2018), and by the end of 2022, it is expected that one in three smart devices will be a speaker (*IAB*, 2021b).

Listening to audio content has always been the most personal and intimate way to relate to a medium (**Bull**, 2010). Moreover, it is an omnipresent medium that is available when there is no Internet connection or no screen (screenless) (*Targetspot*, 2021). It can also not be forgotten that the next technological disruption will bring new visual and voice-based interfaces that will integrate advertising areas (**Zomeño**; **Blay-Arráez**, 2021).

2. Objectives and research questions

This article examines the possibilities for implementing programmatic buying systems in digital audio.

The objective is to understand the current situation of the digital audio sector and how the implementation of programmatic ad buying systems is unfolding.

Generally speaking, two main questions arise: (1) What is the current state of the digital audio sector? (2) How is the implementation of programmatic buying systems unfolding in this context?

In addition, a series of secondary objectives were set out as follows:

- To understand the characteristics of digital audio as an advertising platform to keep an eye on within the media mix.
- To analyze the level of interest that brands have in digital audio as part of their strategies.

3. Methodology

We chose to use a quantitative–qualitative methodology. The study is based on an exhaustive literature review, analysis of studies and reports, and news published about digital audio and programmatic buying.

3.1. Quantitative research

A quantitative study was carried out, with the design of an online survey targeting a non-probabilistic sample composed of professionals from media agencies (46.2%), advertising networks (13.7%), trading desks (7.7%), and technology consulting firms (9.4%) residing in Spain. Professionals were contacted between January and March 2022 through three channels: email, questionnaires sent through the social network *LinkedIn*, and advertisements on the website and in the e-newsletter for *IAB* and *Programmatic Spain*. More than 70% of respondents held senior positions (manager, director, or CEO) in their companies.

A total of 156 questionnaires were sent out, of which 117 were answered (n = 117). No questionnaire was rejected. The survey posed 10 closed questions. Two of them were dichotomous, while the rest covered a range of issues related to digital audio campaign management, methods of budget management, and reasons for using or not using programmatic buying. Questions 2 and 5 were filter questions, since, depending on their answers, the user either continued in the established order or jumped to another section. Finally, basic identifying information, such as the position held by the respondent and the type of company to which they belonged, were requested.

3.2. Qualitative research

In addition, a qualitative study was carried out in which different digital audio experts were consulted. Thus, we proceeded to design a semi-structured questionnaire with five questions to conduct eight in-depth online interviews with professionals from consulting firms, media agencies, marketing agencies, platforms, and digital audio technology providers. The interviewees were contacted through email and the social network *LinkedIn*. The interviewees had a profile of manager/executive. The interviews took place during the months of January and February 2022. The aim was to find out the reasons for the boom in digital audio and brands' motives for including audio in their media plans. The variables analyzed were the reasons for the boom in digital audio, the benefits for the brands, digital audio management, and the effects of the pandemic on the industry.

Table 2. List of digital audio experts interviewed

Name	Senior position	Company
Irene Rivas	Journalist, podcaster, and collaborator	*Canal Sur TV*
Córdoba Ruiz	Managing Director	*IKI Media*
Nacho Carnés	Digital Marketing & Programmatic Marketing Expert	*B4Bind*
Daniel Villalba	Country Manager Spain & Portugal	*Targetspot* (*Audio Adtech*)
Vicente Sendra	CEO & founder	*MediaShoppers*
José-Enrique González	Programmatic expert	*OMD*
Federico Fermini	Digital Product Manager	*Audio.ad*
Paula García Cameselle	Director of Programming	*Alkemi*

The following questions were asked:

a) What are the reasons for the boom in digital audio in recent years?

b) What are brands looking for when they integrate digital audio into their media plans?

c) What are the most successful platforms/services? And why?

d) How has the pandemic affected digital audio?

e) What are the future trends in digital audio? What are the prospects for programmatic buying?

4. Results

The results obtained from the questions posed are presented below.

4.1. Quantitative results

The results obtained from the questions posed to the digital audio experts are shown below.

Table 3. List of digital audio experts interviewed

Questions	Responses			
Question 1. Use of digital audio in the media mix (*n* = 117)	I have not used digital audio		Yes, I have used digital audio	
	34%		66%	
Question 2. What are the main reasons why digital audio is included in brand communication (*n* = 77)?	Strongly agree that digital audio makes it possible to reach the target audience		Disagree with the statement, "It makes it possible to measure response and return on investment"	
	90.9%		94.8%	
Question 3. When you invest in digital audio advertising, how is the advertising budget managed? (*n* = 77)	By the digital department	Depends on the team managing the campaign	By the radio department	Not yet decided
	48%	46%	5%	1%
Question 4. What is the most common way to plan (*n* = 77)?	Planning independently		Planning in conjunction with conventional radio	
	64.9%		22.1%	
Question 5. Have you purchased space in digital audio using programmatic buying systems? (*n* = 77)	I have not used programmatic buying for digital audio		Yes, I have used programmatic buying for digital audio	
	18.2%		81.8%	
Question 6. What are the reasons for using programmatic buying in digital audio (*n* = 77)?	- Flexibility of the medium - Fast implementation of campaigns - Achievement of plan objectives - Reaching a specific audience - Achievement of conscious exposure - Guarantee of placement in a safe environment			
Question 7. Which formats do you consider most suitable for the programmatic buying of digital audio? (*n* = 63)	- Aggregators, live online radio, pre-recorded radio, and podcasts are the most appropriate media on which to spend the budget in programmatic buying - Audiobooks or voice assistant content would not be considered suitable for the new purchasing and sales system			
Question 8. What do you think are the roadblocks in the evolution of programmatic buying of digital audio (*n* = 63)?	There is not a lack of transparency in negotiation	There are not high negotiation costs	No confidence in inventory	Yes, there is a variety of formats
	46%	53.9%	53.9%	52.3%

It was noted that 65.8% of the respondents reported that they had integrated digital audio into their campaigns. When asked for the reasons they used digital audio in brand communication, respondents said that digital audio allows them to reach the target audiences of the brands they work for. It is a medium that adapts to the consumer's life events; however, they believed that there are still difficulties in measuring the response and calculating return on investment.

On the other hand, there was no consensus on how to manage advertising budgets. There was disagreement about whether management should depend on the digital department or on the criteria of the team managing the campaign.

The vast majority of respondents considered planning independently to be the most common way to select digital audio platforms. Less than a quarter of the respondents considered the option of planning in conjunction with conventional radio.

When asked about their method of buying digital audio space, respondents said they plan extensively with programmatic buying systems (81.8%). The remaining percentage reported not having used programmatic buying owing to the limited variety of advertising inventory.

> In Spain, 2021 was the year for digital audio consolidation

Those respondents who bought audio through programmatic buying platforms considered it a flexible and fast system for implementing campaigns. Programmatic buying helps agencies and media achieve the objectives established in their plan, reaching a specific audience through conscious exposure. To a lesser extent, the experts believed that programmatic, at this point in time, guarantees brand-safe environments.

Respondents indicated that the formats most suitable for investment in programmatic buying are aggregators, live online radio, pre-recorded radio, and podcasts. They did not consider audiobooks or voice assistant content suitable for the new purchasing and sales system.

For most respondents, the main roadblocks in the evolution of programmatic buying of digital audio are the lack of transparency, lack of confidence in the inventory, and lack of variety of formats. Also, they did not believe that there is a lack of transparency in negotiation. They said that there are other reasons holding back growth. Paula García Cameselle of *Alkemi* (Personal communication, February 2022) said,

> "we are used to a very detailed level of targeting and absolute measurement in traditional programmatic environments (display and video). However, in newer environments such as audio, outdoor advertising, or connected TV, measurement is limited by technical issues and by the very nature of the format" ["*estamos acostumbrados a un nivel de segmentación muy detallada y a una medición absoluta en los entornos programáticos tradicionales (display y vídeo). Sin embargo, en entornos más novedosos como el audio, la publicidad exterior o la televisión conectada, la medición está limitada por cuestiones técnicas y por la propia naturaleza del formato*"].

4.2. Quantitative results

The following are the responses given by the digital audio experts interviewed.

Question (a). What are the reasons for the boom in digital audio in recent years?

Several of the experts consulted believed that the reasons for the boom in digital audio stem from a change in habits and a migration of content from, for example, the press (C. Ruiz, personal communication, 2022). For José Enrique González, programmatic expert at *OMD*,

> "the popularity of applications such as *Spotify*, *iVoox* or *TuneIn Radio* and the greater proliferation of online content have led to an increase in digital audio inventory" ["*la popularidad de aplicaciones como Spotify, iVoox o Tune in radio y la mayor proliferación de contenidos online han provocado un aumento del inventario del audio digital*"].

In addition, it influences

> "the emotional connection that is established with the listener [...] transporting us to places and creating sensations generating closeness and trust" ["*la conexión emocional que se establece con la persona que escucha […] transportándonos a lugares y creando sensaciones generando un efecto de cercanía y confianza*"] (F. Fermini, personal communication, 2022).

Question (b). What are brands looking for when they integrate digital audio into their media plans?

Brands use digital audio in their media plans to

> "connect with the consumer in a personalized way" ["*contactar con el consumidor de manera personalizada*"] (C. Ruiz, personal communication, 2022).

For Daniel Villalba of *TargetSpot*,

> "brands work to attract new users and engage with their products and services" ["*las marcas realizan una labor de captación de nuevos usuarios y de engagement con sus productos y servicios*"].

In one way or another, communication actions seek to reach users who have stopped consuming conventional radio. Brands are interested in digital audio because it enables them to

> "bring variety to campaigns and establish additional contact points" ["*aportar variedad a las campañas y establecer puntos de contactos adicionales*"] (J. E. González, personal communication, 2022).

For Federico Fermini of *Audio.ad*, the uniqueness of the medium makes it become the only impact on the user at that moment, as it is a type of consumption that may coincide with activities such as cooking, reading, playing sports, or driving.

Question (c). What are the most successful platforms/services? Why?

Interviewees highlighted *Spotify* for music and *iVoox* for podcast and online radio. It is worth remembering that 72% of digital audio users do not pay for a subscription service, and of the 29% that do, *Spotify* has 62% of subscriptions versus *Amazon Music*'s 24% (*IAB*, 2021a). In terms of production, Irene Rivas (2022) highlighted the *Podium Podcast* team, which boasts a large team of collaborators and has been a pioneer in launching high-level productions. Regarding formats, Daniel Villalba (2022) thought that the pre-roll format (spots at the beginning of content) was the format used in music apps whereas the mid-roll for-

> Programmatic audio advertising is "automated selling and insertion of ads in audio content such as podcasts, audio articles, digital radio, and streaming music services" (Jaworski, 2021)

mat (pieces played during the broadcast of content) was what generates the highest number of advertising impressions. José Enrique González of *OMD* (2022) also cited conventional radio stations that are progressively adapting to the digital medium and are increasingly turning over more inventory, which will result in higher advertising quotas in the future.

Question (d). How has the pandemic affected digital audio?

The experts concurred that the COVID-19 pandemic has caused a boost in the consumption of audio content. The data corroborated this, as the Audi-on study by *Carat* (2021) shows that the lockdown accelerated podcast consumption by 15% and music streaming by 35% and, in parallel, the consequent interest of brands in being present through different advertising formulas and formats.

Question (e). What are the future trends in digital audio? What are the prospects for programmatic buying?

Finally, a question was posed about future trends in digital audio. Several agreed about the significant growth of content (audiobooks, podcasts) that will take market share away from music. Córdoba Ruiz of *IKI Media* (Personal communication, January 2022) believed that there will be an increase in voice searches that will enable many brands to adopt voice-activated marketing strategies to enhance search engine optimization, as well as visibility and sales.

Daniel Villalba believed that digital audio advertising "does not force you to stop doing things to pay attention" ["*no obliga a dejar de hacer cosas para prestar atención*"], which will influence the video game environment, even changing the player experience.

For Federico Fermini (Personal communication, 2022), the outlook is promising; if we look at the growth of other markets such as that in the United States, there is room for growth. For this expert, it is curious that, according to the latest data on advertising investment, users are already in the digital space; however, advertising investment is still focused on traditional radio.

According to José Enrique González, the growth of programmatic buying will depend on the volume of inventory. Currently, the cost per thousand (CPT) of digital audio is high compared with video formats. Therefore, it will be necessary to attract more users in order to reach a greater critical mass. This will make the shopping environment more secure and open unique environments, with publishers providing guaranteed purchase methods, added Daniel Villalba (Personal communication, February 2022). On the other hand, Nacho Carnés (2022) put his money on the growth of voice shopping and advertising synchronized and integrated with other media, such as digital outdoor advertising (*DOOH*).

Table 4. Triangulation of qualitative–quantitative results

<table>
<tr><th></th><th>Questions</th><th colspan="4">Responses</th></tr>
<tr><td>Qualitative</td><td>Reasons for the boom in digital audio in recent years</td><td colspan="4">- Change in habits and migration of content from other media
- Emotional connection with the listener</td></tr>
<tr><td rowspan="2">Quantitative</td><td rowspan="2">Main reasons why digital audio is included in brand communication</td><td colspan="2">Strongly agree that digital audio makes it possible to reach the target audience</td><td colspan="2">Strongly agree that it adapts to the consumer's life events</td></tr>
<tr><td colspan="2">90.9%</td><td colspan="2">94.8%</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>Qualitative</td><td>Future trends in digital audio and programmatic buying</td><td colspan="4">- Dependence on inventory
- Higher cost per thousand (CPT) than video formats
- Increasing critical mass
- Increased safety of the environment
- Guaranteed purchase methods
- Growth in voice shopping and advertising synchronized and integrated with other media (e.g., DOOH)</td></tr>
<tr><td rowspan="5">Quantitative</td><td rowspan="2">Use of programmatic buying systems</td><td colspan="2">I have not used programmatic buying for digital audio</td><td colspan="2">Yes, I have used programmatic buying for digital audio</td></tr>
<tr><td colspan="2">18.2%</td><td colspan="2">81.8%</td></tr>
<tr><td>Reasons to use programmatic buying in digital audio</td><td colspan="4">- Flexibility of the medium
- Fast implementation of campaigns
- Achievement of plan objectives
- Reaching a specific audience
- Achievement of conscious exposure
- Guarantee of placement in a safe environment</td></tr>
<tr><td rowspan="2">Roadblocks in the evolution of programmatic buying in digital audio</td><td>There is not a lack of transparency in the negotiation</td><td>There are not high negotiation costs</td><td>No confidence in inventory</td><td>Yes, there is a variety of formats</td></tr>
<tr><td>46%</td><td>53.9%</td><td>53.9%</td><td>52.3%</td></tr>
</table>

The results obtained from the triangulation of the quantitative and qualitative data are described below. Taking into account the secondary objectives, the most salient points obtained are presented.

When asked about the reasons why digital audio is included in the communication actions of brands, the experts interviewed agreed that there has been a change of habits, in addition to a progressive migration of content from other media, such as the press. They pointed out that its main feature is its capacity for emotional connection with the listener compared with other media. These responses are in line with those received from the questionnaire sent to professionals, in which 90.9% of individuals who responded to question 2 stated that they fully agreed that the medium adapts to the consumer's life events (94.8%) and that digital audio provides opportunities to connect with a target audience (90.9%).

> Respondents highlight aggregators, live online radio, pre-recorded radio, and podcasts are the most appropriate media on which to spend the budget in programmatic buying

Additionally, there is a relationship between the answers obtained from question (e) in the interview (trends and perspectives of programmatic buying) and questions 5, 6, and 7 of the questionnaire sent out to the sector. There was an industry consensus on the management of digital audio in programmatic buying systems. This consensus was based on the transparency offered in negotiation, low negotiation costs, confidence in the inventory, and the variety of existing formats.

5. Discussion

The statements of the surveyed professionals highlight programmatic audio's capacity for designing targeted messages, which results in higher engagement and greater effectiveness in the impact achieved by the brand through exposure to the audience. These are in line with the users' positive evaluation of the advertising heard regularly when consuming digital audio content, which they considered valuable in their purchasing decision processes (*We are Social*, 2022a). In addition, the results obtained from respondents and interviewees were consistent with the theory defended by some studies published in recent years, which showed the growing commitment of brands to digital audio. According to these studies, it is perceived as a novel strategy that is beginning to take form (*IAB*, 2021c; *Infoadex*, 2022).

However, the majority of advertising investment in the audio sector is still heavily focused on traditional radio, demonstrating caution on the part of brands when managing budgets as well as a reluctance to design integrated and complementary strategies in the digital medium. The small number of platforms that currently market these programmatic audio options, as well as a reticence toward it owing to its newness and the results being still in the early days, explain why a third of respondents still did not use digital audio in their campaigns.

Despite the boom in digital audio during the last five years, one of the main shortcomings pointed out by some authors (*Forrester*, 2021) is the narrow range of options within the advertising inventory. However, it is important to note that the vast majority of the professionals surveyed and interviewed in this regard did not think that the formats lack innovativeness or are similar to those already used in traditional media. There is one main element that prevents a greater commitment to this format: the lack of an exhaustive measurement of the impact achieved with this type of advertising to justify the investment allocated in the media plan.

On the contrary, in the face of a depletion of the advertising resources used by traditional media, digital audio emerges as a format that offers new forms of advertising in times when attention is highly focused on what is being heard. It also enables the creation of stronger emotional ties between the brand and the listener. It is a solution to advertising saturation in traditional media that provides greater effectiveness in achieving objectives, as well as a more positive perception of commercial messages by the audience and a greater connection with the brand.

According to interviewees, streaming music and podcasts are the formats that best lend themselves to the use of different programmatic buying strategies for digital audio. This is in line with some studies (*Marketing News*, 2021) that present *Spotify* as one of the platforms that best adapts to the opportunities offered by the purchase of programmatic audio, as it is the top choice for listening to streaming content. It should be noted that, within this platform, in addition to music, the user has access to podcasts or radio that could be listened to on other applications or websites, so the offering is more centralized.

It is worth highlighting the main limitations of this research, primarily, the high non-response rate. Out of a total of 156 surveys sent out, only 117 responses were obtained from different participants. The secondary limitation was the low participation rate of interviewees, since 12 professionals were invited to participate but only a total of 8 took part in the qualitative study.

This information may enrich this section and the conclusions offered in this paper and, therefore, broaden its scope. However, it should be specified at this point that international experts in this sector were contacted and that, despite showing interest and enthusiasm for research based on an analysis of programmatic buying of digital audio, in the end, there was no response to the questionnaire used in the interviews held.

> Respondents said that digital audio allows them to reach the target audiences of the brands they work for

6. Conclusions

The research presented was created with the aim of understanding the current situation of the digital audio sector and how the implementation of programmatic ad buying systems is unfolding. After the detailed analysis of previous studies and research and the use of the methodology employed to obtain the opinion of professionals and experts in the programmatic audio sector, the following conclusions can be highlighted:

> There is one main element that prevents a greater commitment to this format: the lack of an exhaustive measurement of the impact achieved with this type of advertising

- Digital audio as an advertising tool shows a growing trend for the coming years. Marketing and advertising professionals recognize programmatic audio as a tool that has a direct influence on the listener's attention to messages, since it is not considered invasive. This is due to the ability to select very specific targets that measure impacts and establish a better bond with the brand than that achieved with traditional media.
- Digital audio has been revealed to be a flexible format with a wide variety of options that set it apart from the traditional tools used in radio. The use of formats in which audio or video is used, in addition to native advertising or branded content, is a sign of the renewal in the advertising inventory. This novelty is leading more and more professionals to introduce it into the media mix when planning their campaigns.
- Despite the consolidation it demonstrates, programmatic audio has a number of weaknesses that may pose problems in its implementation. The main difficulty, as pointed out by the experts consulted, is measuring the return on investment in this new format, which still makes some marketers wary.
- Streaming music listeners, online radio stations, and podcasts are options increasingly used by different audiences. This is evidenced by the continued growth in the number of people using them, as well as advertisers' rising interest in increasing investment in programmatic audio in these new platforms.
- It should be noted that planning for programmatic buying in digital audio, as confirmed by the participants in the research, is carried out independently from the investment in professional radio, so the campaigns cannot be considered integrated but rather complementary.

7. References

Angel, Sebastian; **Walfish, Michael** (2013). "Verifiable auctions for online ad exchanges". In: *ACM SIGCOMM computer communication review*, v. 43, n. 4, pp. 195-206.
https://doi.org/10.1145/2534169.2486038

Baardman, Lennart; **Fata, Elaheh**; **Pani, Abishek**; **Perakis, Georgia** (2021). "Dynamic creative optimization in online display advertising". *SSRN 3863663*. 4 June.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3863663

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *El profesional de la información*, v. 28, n. 1, e280109.
https://doi.org//10.3145/epi.2019.ene.09

Bull, Michael (2010). "*iPod*: A personalized sound world for its consumers. [*iPod*: Un mundo sonoro personalizado para sus consumidores] ". *Comunicar*, v. 17, n. 34, pp. 55-63.
https://doi.org/10.3916/C34-2010-02-05

Carat (2021). "*AudiON*: el poder creciente de la voz". *Carat*, 15 junio.
https://www.carat.com/es/es/como-pensamos/audiON

Carrillo-Durán, María-Victoria; **Rodríguez-Silgado, Ana** (2018). "El ecosistema programático. La nueva publicidad digital que conecta datos con personas". *El profesional de la información*, v. 27, n. 1, pp. 195-201.
https://doi.org/10.3145/epi.2018.ene.18

Edison Research (2021). *The infinite dial 2021.*
https://www.edisonresearch.com/the-infinite-dial-2021-2

Fernández-Tapia, Joaquín; **Guéant, Olivier**; **Lasry, Jean-Michel** (2016). "Optimal real-time bidding strategies". *Applied mathematics research express*, v. 2017, n. 1, pp. 142-281.
https://doi.org/10.1093/amrx/abw007

Forrester (2021). "Digital audio proves resilient during the pandemic". *Forbes.com*, 12 May.
https://www.forbes.com/sites/forrester/2021/05/12/digital-audio-proves-resilient-during-the-pandemic/?sh=7f59fa681555

IAB (2021a). *Estudio de audio digital 2021*. IAB Spain.
https://iabspain.es/estudio/estudio-anual-de-audio-digital-2020

IAB (2021b). *Estudio de inversión publicitaria en medios digitales 2021.* IAB Spain.
https://iabspain.es/estudio/estudio-de-inversion-publicitaria-en-medios-digitales-2021

IAB (2021c). *Top tendencias digitales 2021*. IAB Spain.
https://www2.iabspain.es/estudio/top-tendencias-digitales-2021

IAB (2022). *Estudio de audio digital 2022*. IAB Spain.
https://iabspain.es/download/67021

Infoadex (2022). *Resumen Estudio Infoadex de la inversión publicitaria en España 2022*. Infoadex.
https://www.infoadex.es/home/wp-content/uploads/2022/02/Estudio-InfoAdex-2022-Resumen.pdf

Jaworski, Ron (2021). "What you need to know about programmatic audio advertising". *Trinity Audio*, 27 April.
https://www.trinityaudio.ai/what-you-need-to-know-about-programmatic-audio-advertising

Jones, Valerie K. (2018). "Voice-activated change: Marketing in the age of artificial intelligence and virtual assistants". *Journal of brand strategy*, v. 7, n. 3, pp. 233-245.
https://digitalcommons.unl.edu/journalismfacpub/111

Kumar, Naveen; **Wajidi, Mohamad-Arif**; **Chian, Yong-Tai**; **Vishroothi, S.**; **Ravindra, S. Swamy**; **Aithal, P. Ashwini** (2016). "The effect of listening to music on concentration and academic performance of the student: Cross-sectional study on medical undergraduate students". *Research journal of pharmaceutical biological and chemical sciences*, v. 7, n. 6, pp. 1190-1195.
https://manipal.pure.elsevier.com/en/publications/the-effect-of-listening-to-music-on-concentration-and-academic-pe

Marketing news (2021). "Spotify lidera la escucha de música vía 'streaming' y otros datos del EGM", 14 April.
https://www.marketingnews.es/investigacion/noticia/1165334031605/spotify-lidera-escucha-de-musica-via-streaming-y-otros-datos-del-egm.1.html

Marín-Villalonga, Genoveva; **Benito, Silvia** (2021). "Las campañas de audio digital, una pieza de valor en las estrategias de medios". *Think with Google*, February.
https://www.thinkwithgoogle.com/intl/es-es/estrategias-de-marketing/automatizacion/las-campa%C3%B1as-de-audio-digital-una-pieza-de-valor-en-las-estrategias-de-medios

Martínez, Pedro (2021). "Observatorio *iVoox*: Nuevo informe sobre el estado del podcast en español". *Ivoox.com*, 10 septiembre.
https://shorturl.at/KQ248

Martínez-Martínez, Inmaculada J.; **Aguado, Juan-Miguel**; **Boeykens, Yannick** (2017). "Ethical implications of digital advertising automation: The case of programmatic advertising in Spain". *El profesional de la información*, v. 26, n. 2, pp. 201-210.
https://doi.org/10.3145/epi.2017.mar.06

McGuigan, Lee (2019). "Automating the audience commodity: The unacknowledged ancestry of programmatic advertising". *New media & society*, v. 21, n. 11-12, pp. 2366-2385.
https://doi.org/10.1177/1461444819846449

Muela-Molina, Clara (2008). "La representación de la realidad en la cuña publicitaria". *Communication & society*, v. 21, n. 2, pp. 115-139.
https://revistas.unav.edu/index.php/communication-and-society/article/view/36285

Park, Sihun; **Kwak, Chanbeom**; **Han, Woojae** (2020). "Effect of background music for attentive concentration in working". *Audiology and speech research*, v. 16, n. 3, pp. 188-195.
https://doi.org/10.21848/asr.200044

Paulson, Courtney; **Luo, Lan**; **James, Gareth M.** (2018). "Efficient large-scale Internet media selection optimization for online display advertising". *Journal of marketing research*, v. 55, n. 4, pp. 489-506.
https://doi.org/10.1509/jmr.15.0307

Perona-Páez, Juan-José (2007). "Formatos y estilos publicitarios en el prime-time radiofónico español: infrautilización y sequía de ideas". *Zer: revista de estudios de comunicación*, v. 12, n. 23, pp. 219-242.
https://ojs.ehu.eus/index.php/Zer/article/view/3658
https://doi.org/10.1387/zer.3658

Rajar Data Release (2021). *All radio listening. Quarter 4.*
https://www.rajar.co.uk/docs/news/RAJAR_DataRelease_InfographicQ42021.pdf

Sellas, Toni; **Martínez-Otón, Laura**; **Ortega-Seguí, Juanma** (2021) "El branded podcast como estrategia corporativa y de marca: sentido de pertenencia, pedagogía social y posicionamiento". En: Olivares-Santamarina, José P.; Gago-Gelado, Rocío (eds.) (2021). *El branded content en la comunicación posdigital: estructuras, aplicaciones y casos de éxito*. Valencia: Tirant lo Blanch, pp. 147-168. ISBN: 978 84 18534041

Shen, Jianqiang; **Orten, Burkay**; **Geyik, Sahin-Cem**; **Liu, Daniel**; **Shariat, Shahriar**; **Bian, Fang**; **Dasdan, Ali** (2015). "From 0.5 million to 2.5 million: Efficiently scaling up real-time bidding". In: *2015 IEEE International conference on data mining*, pp. 973-978.
https://doi.org/10.1109/ICDM.2015.72

Shih, Yi-Nuo; **Huang, Rong-Hwa**; **Chiang, Hsin-Yu** (2012). "Background music: Effects on attention performance". *Work*, v. 42, n. 4, pp. 573-578.
https://doi.org/10.3233/WOR-2012-1410

Smith, Jack (2022). "Metaverse, audio and gaming advertising - what to expect in 2022". *Ad Age*, 13 January.
https://bit.ly/35nV971

Spotify; *Neuro-Insight* (2021) *Sonic Science: descubre cómo reacciona tu cerebro al sonido*. Spotify Advertising, 2 febrero.
https://ads.spotify.com/es-MX/insights-y-noticias/sonic-science

Targetspot (2021). "10 ventajas de la publicidad en el audio digital hoy en día". *Targetspot blog*, 17 septiembre.
https://www.targetspot.com/es/posts/10-ventajas-de-la-publicidad-en-el-audio-digital-hoy-en-dia

Tiet, Thanh; **Karjaluoto, Heikki** (2021). "The planning and implementation process of programmatic advertising campaigns in emerging markets". In: Niininen, Outi (ed.). *Contemporary issues in digital marketing*. London: Routledge, pp. 32-45. ISBN: 978 1 003093909
https://doi.org/10.4324/9781003093909

We are social (2022a). *Digital 2022: Global overview report*.
https://www.slideshare.net/DataReportal/digital-2022-global-overview-report-january-2022-v05

We are social (2022b). *Digital 2022: Spain*.
https://www.slideshare.net/DataReportal/digital-2022-spain-february-2022-v02

Xu, Jian; **Lee, Kuang-Chih**; **Li, Wentong**; **Qi, Hang**; **Lu, Quan** (2015). "Smart pacing for effective online ad campaign optimization". In: *Proceedings of the 21th ACM SIGKDD international conference on knowledge discovery and data mining*, pp. 2217-2268.
https://doi.org/10.1145/2783258.2788615

Zomeño, Daniel; **Blay-Arráez, Rocío** (2021). "Big data e inteligencia editorial en el *branded content* y en los nuevos modelos de negocio de los medios". *Profesional de la información*, v. 30, n. 1, e300120.
https://doi.org/10.3145/epi.2021.ene.20

8. Annex

Questionnaire used in the survey

Title: Digital audio and programmatic buying

Q1. In your company or with clients that you manage, in 2021, have you used Digital Audio in the media mix when planning campaigns?

Yes, I have used digital audio | I have not used digital audio (Skip to question 9)

Q2. What are the main reasons why Digital Audio is included in brand communication? Rate the following statements according to your degree of agreement or disagreement, using: (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree.

Each item is rated from 1 to 4.

- It enables measurement of response and return on investment
- It allows me to reach my brand's target audience
- It adapts to the consumer's life events
- It is a medium to keep an eye on in the media mix

Q3. When you invest in Digital Audio advertising, how is the advertising budget managed?

By the digital department | Up to the discretion of the team managing the campaign | By the radio department | Not decided

Q4. What is the most common way to plan?

Joint planning (digital audio + conventional radio) | Planning independently | Other

Q5. Have you purchased space in digital audio using programmatic buying systems?

Yes (Go to question 6) | No (Go to question 6b)

Q6. If you answered YES to question 5, what are the reasons to use programmatic buying in digital audio? Rate the following statements according to your degree of agreement or disagreement, using: (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree.

Each item is rated from 1 to 4.

- It is a flexible and fast system for implementing campaigns
- It enables me to achieve the objectives set out in the plan
- It allows me to reach volume targets
- It allows me to reach the specific audience for the campaign
- Conscious exposure to advertising is achieved
- The brand appears in a safe environment

Q6b. Why doesn't your company/client invest in programmatic audio? (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree

- It does not have much reach
- High negotiation costs
- It is not suitable for campaigns with a lot of coverage
- Limited variety of advertising inventory

Q7. Which formats do you consider most suitable for the programmatic buying of digital audio? Rate the following statements according to your degree of agreement or disagreement, using: (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree.

- Podcast
- Music on demand
- Live online radio/streaming
- Aggregators
- Pre-recorded online radio
- Audiobooks
- Voice assistant content
- Gaming & in-app purchases
- Others

Q8. What do you think are the roadblocks in the evolution of programmatic buying of digital audio? Rate the following statements according to your degree of agreement or disagreement, using: (1) Strongly Disagree, (2) Disagree, (3) Agree, (4) Strongly Agree.

- Lack of transparency in the negotiation
- High negotiation costs
- Lack of confidence in the inventory
- Variety and flexibility of formats
- Quality of the data
- Others

Identifying information

Q9. Finally, could you please indicate what position you currently hold in your company?

Director/CEO | Manager/Head | Technician | Intern/Junior | Other

Q10. Your company is a...

Media agency | Advertising network | Trading desk | Consultancy | Platform | Advertiser | Other

Thank you very much for your participation. If you wish, we can send the results of this research to your e-mail address.

Qualitative approach to the formalization of a professional podcasting culture. Evolution and trends

Ana Martín-Morán; Rebeca Martín-Nieto

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Abstract

The podcast has expanded as a consumer product within the online audio ecosystem. The term has become popular, and its fame is increasing in the public sphere, whereas its definition and distinct identity, especially with respect to radio, are still being constructed. While different players, including large platforms and multimedia companies, are positioning themselves in this environment, a podcasting culture distinct from the original amateurism is also taking root. The aim of this paper is to explore the extent to which and in what way the routines and practices of creation, production, and distribution have been formalized to determine whether these processes are fostering a specific professional podcasting culture in Spain. Using semistructured in-depth interviews conducted with professionals linked to the podcasting sector, we aim to determine some of the practices that these players are starting to see as well-established within and unique to the industry, as well as those practices that have yet to become established. On the one hand, thanks to the increase in business volume and investment from production and distribution companies, the space for professionalization has been consolidated. The production standards and perceived quality of this audio content have been affirmed. On the other hand, definitions and categories related to this medium's identity; the requirements with respect to understanding an audience, especially in its qualitative dimension; and the professional profiles and dynamics that must be established remain to be explored.

Keywords

Podcasting; Podcasts; Online audio; Professional culture; Cultural industry; Radio; Professionalization, Audience; Media ecosystem; Platformization; Professional dynamics; Audio culture; Digital; Audio communication.

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1. Introduction

1.1. An identity under construction

In the list of the "80 Podcasting tips to start a successful podcast" (**Brooke**, 2021) offered by industry experts and professionals, the hosting service *Buzzsprout* ranked the following piece of advice as first on the list:

> "Subscribe to all podcast industry and podcast recommendation newsletters out there. Your podcast is part of the very large –and growing– landscape of podcasts and you need to know what else is out there!" (**Brooke**, 2021).

We deduce from this that, first, there is no doubt that an industry exists and, second, that, by providing information about its products and innovations, it creates shared knowledge that can be useful in integrating new members. Eighth place on that list was occupied by the clear dichotomy in motivation that beginners must face right from the start:

> "If podcasting is a passion, focus on that. If it's a business, invest in it like one. People who don't choose a lane are the ones who find themselves most frustrated by the industry." (**Brooke**, 2021).

This implies that industry logic is not without its share of disappointment for these hypothetical new creators, even if the reason for this disappointment is measured in commercial terms. The verb that inevitably appears in entries from a large number of the sector's online publications, blogs, workshops, etc., is "*monetizar*" ["monetize"], or "to convert an asset into money" ["*convertir un activo en dinero*"] according to the definition that the *Real Academia Española de la Lengua* is considering incorporating in future editions of its dictionary; unlike the verb "*rentabilizar*" ["to make profitable"], it limits this benefit or profit to the purely monetary (*FundéuRAE*, 2013).

This is just one example of the hundreds of tips and lists of recommendations that we found recently about the dynamics, tools, and protocols that should be considered when designing, producing, and distributing a podcast. In 2022, now that podcasting has come of age, it seems undeniable that it has evolved from an amateur pursuit into one that supports different business models. In his fundamental approach to the evolution of this practice, which he described as a "second age" of podcasting, Tiziano Bonini observes:

> "What is happening to podcasting, 11 years after its invention, is its transformation from a do-it-yourself, amateur niche medium to a commercial mass medium: from narrowcasting to broadcasting." (**Bonini**, 2015, p. 27).

This article sets out to explore the extent to which such production and dissemination routines and practices as well as business models have been formalized, and how this is happening, resulting in a specific professional podcasting culture.

However, beyond this particular format, it is becoming certain that the audio ecosystem will be a privileged communication space, and the concepts of online audio, the audiosphere, the audification era (**Ormaechea**; **Fernández-Delkader**, 2019), and audiostreaming (**Celaya**, 2022) are used to encompass the upsurge in a series of practices and products that include smart speaker use, the growth of voice messages, audiobooks, on-demand radio, streaming music consumption, and podcasts in the new millennium (**Martínez-Costa**; **Legorburu**, 2021).

That "out there" mentioned in the aforementioned tip (if indeed there is a space "outside" of digital communication, which by its very nature is embedded in a continuum of production and consumption) is difficult to delimit, since podcasting follows diverse practices of production, distribution, and consumption, and identifying the boundaries between inside and outside requires observing an ever-changing landscape from a certain place and at a given time. Therefore, this article tries to delimit the podcasting culture within the audio ecosystem mentioned by Richard Berry:

> "podcasting is an ecosystem that is shared between varying, but not necessarily competing, auditory forms that span entertainment, education and amateur audio work" (**Berry**, 2018, p.26).

It will be delimited at this precise moment in time, with the understanding that this will create a snapshot of what sector professionals in Spain think of their own practices.

Furthermore, although limiting the analysis to Spain will affect the transnationality inherent to this form of digital audio, which is capable of creating communities of listeners/producers scattered all over the planet but also of drawing attention to local phenomena that are difficult to convey outside their natural audiences, this approach permits advances in research about the landscape that then can be augmented or modify. In this sense, the present research recognizes the important influence of two previous works with which it can be closely associated: on the one hand, the work of **García-Marín** (2019) regarding the evolution of podcasting in Spain, focusing on its participatory, open, and amateur character, and on the other hand, the analysis of **Sellas** and **Solà** (2019) on the configuration of the *Podium Podcast* platform in Spain. Both studies used in-depth interviews to unpack the technological, economic, social, and cultural conditions underpinning the construction of a podcasting culture, and both included a term in their title that they address: "radio".

Despite the delayed emergence of a specialized academic field, the "podcast studies" field **Berry** (2018) advocated for and, conversely, the proliferation of specialized publications about different players and agents outside and inside the industry, the prevalence of radio and broadcasting as forms of media linked to podcasting is still undeniable (**Gallego-Pérez**, 2012; **Berry**, 2016; **Markman**, 2015). This is even more so when media convergence and the digital transformation of the media have made it clear that the radio industry must rethink its modes of distribution, insight into its audiences, product design, and business strategies (**Bonet**; **Sellas** 2019; **Pedrero-Esteban**; **García-Lastra**, 2019). Therefore, the starting point for the study of podcasting has been to establish its similarity to radio, especially in the English-speaking sphere, which is marked by the fact that the major players in the professional development of podcasting have been public broadcasters such as the BBC and NPR. However, according to Glen Weldon –host of NPR's *Pop Culture Happy Hour* and author of a recent manual on how to start a podcast– broadcasting and podcasting rhyme, but that is where the similarities end, since the characteristics specific to podcasting are its on-demand and on-the-go nature (**Weldon**, 2021, p. 9). In addition, he points out two conditions that must be taken into account: the fact that the consumer becomes the curator of the media offering that, in this case, they are going to listen to, derived from those mentioned above, and (the central idea for a creator) that what they can control in this changing landscape is the quality of their work. Thus, the potential to build a loyal audience lies in the practices that make their storytelling effective and their audio production high quality (**Weldon**, 2021, p. 16).

Defining podcasting thus involves one to narrow down which genetic traits this "new" format takes from its predecessor and determine those specific attributes that set it apart from its predecessor. In this sense, it is becoming increasingly clear that podcasting is not a mere extension of radio but rather a "new species of media" ["*nueva especie mediática*"] (**García-Marín**, 2019, p. 194) that coexists with it, exhibiting continuities and discontinuities in their production routines, ways of appealing to their audiences and their funding sources, and ways of distributing their content and shared knowledge, all of which confirms that podcasts are media products with specific features. This is due to their technological characteristics, but

> "The evolution of independent podcasting and expansion of podcasts beyond the radio industry, not only in the amateur scene but also in areas such as education, marketing, arts and public relations, and the consolidation of a podcasting culture (**Llinares**; **Fox**; **Berry**, 2018) show the progressive construction of a self-identity for podcasting" (**Sellas**; **Solá**, 2018, p. 67).

1.2. Platformization and formalization of the podcast industry

While a narrower definition is based on the technical infrastructure provided by really simple syndication (RSS), podcasting as a medium is similarly defined by industrial, textual, and cultural criteria that grant it its distinctiveness (**Berry**, 2018, p.27).

However, that unique identity is not set in stone: in 2015 Bonini described a "second age" of podcasting and, in 2019, Nicholas Quah announced that we were entering the era of "Big Podcasting" (**Quah**, 2019), an assertion that was supported by the observation that large platforms and multimedia conglomerates had entered the on-demand audio ecosystem and that their presence was going to transform professional practices, business models, and the consumption logics of their audiences. The recently dubbed "Podcast Wars," which have rocked the media landscape owing to powerful platforms (*Apple Podcast*, *Spotify*, *Google Podcast,* or *Amazon*'s *Audible*) vying for the control of distribution and the monopolization of podcast audiences, are proof of this and demonstrate that, as summarized by **María-Jesús Espinosa-de-los-Monteros** (2021), we are witnessing "the platformization of audio and the audification of platforms" ["*la plataformización del audio y la audificación de las plataformas*"]. A detailed description of this transformation process can be found in the work of Terol-Bolinches, Pedrero-Esteban, and Pérez-Alaejos, in which they point out how, in the case of the podcast,

> "the focused interest of the large technological companies has ended up subjecting this audio format to the same distribution and marketing dynamics as those of music, cinema, fiction series, and video games" ["*el decidido interés de las grandes compañías tecnológicas ha acabado por someter este formato de audio a las mismas dinámicas de distribución y comercialización que las de la música, el cine, las series de ficción o los videojuegos*"] (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021, p. 483).

The authors note that the benefits of this transformation will not be the same for the different players operating in this market (producers, distributors, and advertisers) and that

> "the challenge remains to find monetization models that make the editorial gambles on distinctive and innovative titles and treatments viable" ["*el reto sigue siendo encontrar modelos de monetización que hagan viables las apuestas editoriales por títulos y tratamientos diferenciales e innovadores*"] (**Terol-Bolinches**; **Pedrero-Esteban**; **Pérez-Alaejos**, 2021, p. 483).

The interest of these large multimedia companies, roused by audience milestones –and high-quality audio narratives– such as *Serial* (2014), is driven not only by the creative possibilities that podcasts offer but also by their potential to attract and build massive audiences. Thus, the propensity to predict which business model will sustain the productions from not only the major platforms but also the catalogs of independent production companies and the ventures of podcasters who continue to work outside professional structures runs up against a variety of unknowns that are potentially more negative for independent creators (**Sullivan**, 2019, p. 10). In this new context, as Cwynar states, "the gap between the producing minority and the listening majority grows ever wider," and the possession of social and cultural capital becomes even more important, given the inherent difficulties of accessing these new platforms and gaining visibility once access has been obtained (**Cwynar**, 2019, p. 14). In the same vein, studies such as that of Wade-Morris warn that *Apple* and *Spotify* are progressively becoming the default distribution method and how the need to be discoverable on these platforms poses technical and cultural challenges that, in the end, affect podcasters and the content they create (**Wade-Morris**, 2021).

In parallel, as podcasting has become profitable, it has begun to formalize, developing its own set of practices, discourses, and institutions. Processes have become professionalized and institutionalized, with more specific production practices, which has allowed podcasters to differentiate their work (usually from radio) with greater confidence (**Sullivan**, 2018). We are therefore faced with a transforming media ecosystem in which the professionalization of practices, the establishment of uses and protocols of production, the creation of distinct professional roles, and specific training are essential for the survival of projects. In addition, dissemination strategies in this ecosystem entail the popularization and public legitimization of this audio content so that not only do podcasts win over larger and more devoted audiences but these audiences also associate the symbolic value of cultural products with them, a value that can be measured by criteria beyond simple metrics.

In Spain, recent initiatives and business alliances attest to the volatility and growth of the sector. *PRISA Audio* consolidated all its nonlinear audio services for its different titles (*Prisa*, 2022) and, in March 2022, closed a deal with *Spotify* to launch new original podcasts on that platform (*Cinco días*, 2022). Meanwhile, Atresmedia, under the direction of Toni Garrido, recently launched *Sonora*, a new on-demand podcast platform offering exclusive content (**Zumeta**, 2022).

In addition, diverse broadcasting and dissemination proposals attest to the legitimization of podcasting in the cultural landscape. At the end of last year, the *Observatorio de la Cultura* [Cultural Observatory] announced that, in general terms, the podcast ranked ninth on its list of "The best of digital culture" ["*Lo mejor de la cultura digital*"]. A few weeks earlier, the winners of the first edition of the Global *Ondas* Awards in Podcasting, the awards given by *PRISA Audio* and *Cadena SER* in collaboration with *Spotify*, were made public, with a record number of nominations for awards of this nature. Following the lead of the publication of the blog "Days of wine and podcasts" [*Días de vino y podcast*] in *El País*, *Prisa Audio* launched *Sonograma*, a new newsletter about podcasting, audio, voice, radio, and audio culture. At nearly the same time, *Forbes* magazine published a list of the 50 most important personalities in the Spanish podcasting world (*Forbes*, 2022). However, despite the number of professionals referenced, the uproar on social media about who had been left out could not be avoided. The same publication also announced the creation of *Estación Podcast*, the First Ibero-American Festival of Audio Creation, to be held at the *Círculo de Bellas Artes* (Fine Arts Circle) in Madrid (**Aparicio**, 2021). Among other events, March also saw the second edition of the *Podwoman* online meetup, dedicated to women in the podcast industry, organized by EkosMedia and sponsored by *Podimo*, *Ivoox*, and *Amazon Music* in collaboration with *Spreaker*. These are some examples of the new dimension that demonstrate that podcasting has entered mainstream consciousness in such a way that it takes on a new cultural meaning (**Llinares**; **Fox**; **Berry**, 2018).

2. Method

The aim of this article is to understand how a professional podcasting culture is taking shape in Spain. To this end, data collection was carried out through semistructured, individual, in-depth interviews with an average duration of one hour. This type of interview allows researchers to understand the subjects' perspectives more naturally, since it offers subjects greater freedom to externalize their feelings, meanings, and experiences (**Trindade**, 2016), and it allows topics to be addressed via trigger points so that interviewees can express themselves freely.

In this case, we designed an ad hoc interview, divided into two basic sections containing different dimensions: the first of these was dedicated to the podcasting ecosystem (definition, criteria, industry framework, platforms, and audience), and the second to professional culture (self-perception, processes, tools, working environment, professional roles, knowledge-sharing spaces, etc.). Before this, there was a section about participant identification and informed consent regarding study participation and the use of their statements in the subsequent publication.

The division of the sections and the dimensions of the interviews were structured as shown in Table 1.

Table 1. Sections and dimensions of the interviews

Informed consent	Professional role and affiliation Consent for recording and quotation
Audio ecosystem	Definition (medium, format, product) Evaluation criteria and opinion Platformization and future outlook Audience (relationship with content, measurement, profiles, etc.)
Professional culture	Self-perception Industry framework (business models and production structures) Professionalization/amateurism Dynamics and professional roles Professional networks Enquiries and leading professionals

In the subsequent analysis of the informants' statements, other recurring features that emerged during the conversations (listener communities, creativity, freedom, etc.) were also incorporated into these parameters. This paper presents the most relevant information collected during the more than 10 hours of audio analyzed. Note that some of these dimensions are explained succinctly herein, while others receive greater depth and detail. The participants' freedom of expression, which semistructured interviews encourage, uncovered topics that they considered important when exploring how a professional podcasting culture is being created; in the end, these were grouped into four sections: definition and identity, knowledge of and bond with the audience, industry framework and professionalization of the sector, and professional dynamics and profiles.

In terms of selecting informants, we contacted subjects who were leaders in the field owing to their direct relationship to the Spanish podcasting sector and their proven track record in this field. These informants are privileged, special, and important to the research objectives, as they hold prominent positions within the group being researched (**Vallés**, 1999).

Ten semistructured interviews[1] were conducted online through the platform *Teams*[2]. This allowed us to record and transcribe their statements, in accordance with the participants' informed consent. Six women and four men participated in the interviews.

Informants with existing ties to the media and, more specifically, to audio, either through specific training or through a professional career related to radio or in the podcast sphere itself, fit the profile. Currently, these informants work in Spain for audio platforms or independent audio production companies and have very diverse professional profiles: management, creative, production, design, distribution, scriptwriting, or training, among others.

Table 2. Profiles of the interviewees

Interviewee	Profile	Current professional position
Ana Alonso de Blas	Philologist, journalist, and actress; professional career in radio	Director of *SER Podcast* and audio fictions
Ana Ribera García-Rubio	Degree in geography and history; professional career in audiovisual media	Editor-in-chief at *Prisa Audio*
Chuse Fernández	Industrial engineer; professional career in radio	Coordinator of *Escuela de Radio TEA FM*; podcast producer and sound designer at *Resonar Producciones* and *Viva Voice*, UK
Eugenio Viñas	Journalist and digital positioning consultant	Journalist, producer, and creator of video and audio for media and platforms; Director of the masters degree in podcasting and digital audio at *Barreira A+D*
Francisco Izuzquiza	Radio journalist	Podcast producer and founding partner of *YesWeCast*
Iván Patxi Gómez Gallego	Communicator; professional career in radio	Head of audio content at *Zinet Media Group*
Jimena Marcos	Journalist, scriptwriter, and audio creator	Contributor to *Podium Podcast* and *Adonde Media*
Lourdes Moreno Cazalla	Professional career in radio and digital transformation; doctorate in audiovisual communication	Executive producer of *Podium Podcast*, in charge of audience distribution for *Prisa Group*'s production and distribution company
Mar Abad	Journalist and digital communication	Editorial director and co-founder of the podcast label *El Extraordinario*
Mona León Siminiani	Journalist; master's degree in radio; professional career in content creation	Podcast creator; director, screenwriter, filmmaker, podcast producer; founder of the label *Formidable Son* (formerly *La Sonora Podcasting*)

Once the interviews had been conducted, the discussion analysis phase was carried out by using a qualitative-interpretative approach, on the basis of their transcriptions, to observe how the informants made sense of their personal experience (**Sellas**; **Solà**, 2019). This is a reflective process, leading from the data to their deep understanding and comprehension (**González-Gil**; **Cano**, 2010) to discover recurring themes related to the object of study, as well as emerging ideas, conflicting concepts, and discursive absences.

3. Analysis

As mentioned above, in 2015, Bonini published "The 'second age' of podcasting". In it, he ties the evolution of podcasting to technological developments, in particular, the proliferation of smartphones; creativity; the development of podcast networks; and the work of podcasters, along with other conditions that, together with issues such as the emergence of podcast applications or the use of new narratives, would be sufficient elements to describe this as a second era of podcasting. From 2004, when the term "podcast" was first used (**Hammersley**, 2004), to the present day, the transformations in this field have been numerous. One might ask, then, whether such a level of development has been reached that it has given rise to a podcast industry, with multiagent involvement, a variety of topics, and forms of organization and production, as **McHugh** (2016) indicates.

3.1. Identity and definition of the podcast

As seen above, the definition of the podcast has revolved around its technological characteristics and its subscription model of distribution since its inception. To this definition, which focuses on the hosting of audio and its dissemination, various nuances must be added, as was evident from the interviews conducted during the study. In fact, none of our informants defined podcasting in this way, or at least not only in this way, and they all agree that, at this moment, there is no definitive definition of or consensus on what podcasts are, not even among those involved in their production and distribution spaces. The concept has been diluted, and the notions that concretize it have been broadened. An example of this is Francisco Izuzquiza, who offered this definition in 2019:

"There is no definitive definition of or consensus on what podcasts are, not even among those involved in their production and distribution spaces"

> "a series of audio files (or videos) uploaded to the Internet and distributed through an RSS feed" ["*serie de audios (o vídeos) subidos a Internet y distribuidos mediante un* feed *RSS*"] (**Izuzquiza**, 2019, p. 24);

during his interview, he suggested that it is the audience itself that establishes what a podcast is, and he even sees this as a trend in the industry:

> "If the audience decides that canned radio is a podcast because they consume it that way, excellent; if the audience decides that video, now on *Apple*'s podcast app, is a podcast or if they decide that an interview, a narrative or whatever else is, wonderful. I am increasingly moving away from the purely technical definition, because by eliminating RSS, I don't even have that element to define it" ["*Si la audiencia decide que la radio enlatada es un podcast porque lo consume de esa manera, fenomenal; si la audiencia decide que el video, ahora en la aplicación de podcast de Apple, es un podcast o si decide que una entrevista, un narrativo o cualquier otro lo es, maravilloso. Cada vez me voy más de la definición puramente técnica, porque al eliminar el RSS, ya ni siquiera tengo ese elemento para poder definirlo*"].

For Ana Ribera, however,

> "A podcast has to be natively created content, meaning it doesn't come from online radio. It has to be content designed as a podcast from the first minute" ["*Un podcast tiene que ser un contenido creado nativo, es decir, que no venga de la radio online. Tiene que ser un contenido pensado como podcast desde el primer minuto*"].

The new conceptualization of the podcast is determined by the evolution of the online audio ecosystem, and not only by those primitive audio files hosted in a digital space and accessible through subscription; it also encompasses other broader processes around creation, diversification of distribution, access, or forms of consumption. First, according to our informants, the difference lies in the possibilities of offering timeless audio content, in contrast with radio's immediacy and inherent periodicity. This view confirms the perception of **Ganyet** (2021), for whom radio can be identified with immediacy, proximity, and information, whereas podcasts are more universal and timeless and convey knowledge according to the author's own vision. In this vein, Ana Ribera noted:

> "For me, not being subject to current affairs also defines a piece of content as a podcast. It has been created to be listened to at any time. And another thing that to me very much defines something as a podcast is identification with the narrator, with the person or with the hosts, since this forms a bond that is created with the narrators" ["*Para mí que no esté sujeto la actualidad también define un contenido como podcast. Se ha creado pensando en que se escuche en cualquier momento. Y otra cosa que para mí lo define mucho como podcast es la identificación con el narrador, con la persona o con los* host*, que se crea el vínculo que se crea con los narradores*"].

Second, the specificity of the podcast is tied to the emergence of new forms of storytelling. The fact that the narrative quality is as important as the quality of the sound design is another of the issues highlighted by the informants:

> "it has the resilience of a product forged over low heat, having attention to detail" ["*tiene voluntad de producto hecho a fuego lento, de cuidar los detalles*"] (Jimena Marcos).

They talked about freedom, creativity, and room for experimentation (Ana Alonso, Mar Abad, Chuse Fernández, and Mona León Siminiani), which make it possible to create podcasts without the constraints of live broadcasting or the immediacy of news. The podcaster emerges as an explorer and discoverer of a new territory with the

> "liberated sensation of not taking on certain baggage or routines" ["*sensación liberada de no estar asumiendo según qué hipotecas ni según qué rutinas*"] (Eugenio Viñas).

They considered freedom to be a treasure that must be protected, and some of the informants (Chuse Fernández, Mar Abad, and Mona León Siminiani) were concerned about maintaining this freedom after the arrival of large companies in the podcasting sector:

> "there is concern that data on the audience, profit, and profitability will begin to take priority" ["*preocupa que empiecen a primar los datos de audiencia, de beneficio y de rentabilidad*"] (Chuse Fernández).

Third, they highlighted the possibilities for podcasts to offer content (which radio, owing to its own production and distribution processes, cannot do) to minority, non-mass, niche audiences (Jimena Marcos, Lourdes Moreno, Ana Alonso, and Eugenio Viñas), through on-demand consumption:

> "The podcast is not about rankings; it's about niches, micro niches, or nano niches. It is about niches, it is about loyal audiences, and it is about communities" ["*El podcast no va de rankings, va de nichos, de micro nichos o de nano nichos. Va de nichos, va de audiencias fieles y va de comunidades*"] (Eugenio Viñas).

3.2. The audience

Within the industry logic, knowledge of the audience is a deciding factor driving changes in some professional dynamics, as the informants explained. In recent years, the measurement and understanding of quantitative data related to podcast audiences has developed. Not only can you now determine how many people listen to or download a piece of content, but you can also examine at what point they stop listening, how many times they come back and listen to a piece of content, and how many downloads never get listened to at all. This better understanding of the audience makes it easier to create audio projects that are better suited to their demands, in terms of not only quantifiable variables such as duration but also the development of content from its script:

> "We already create the stories, and we think of them keeping in mind that they have to work, even if people hit pause. We will have to rack our brains for the script and for a wonderful structure" ["*Las historias ya las creamos y las pensamos teniendo en cuenta que tienen que funcionar, aunque la gente le dé al pause. Tendremos que rompernos la cabeza con el guion y con una estructura maravillosa*"] (Eugenio Viñas).

Even with the development in metrics and technology applied to the study of audiences, another of the issues that arose during the interviews is that their development still has a long way to go, especially to achieve a reliable standardization of data –something especially relevant for advertising investment, which has exceeded 60 million in digital audio in the last year, according to the *IAB* (2022). Even if such quantitative information is relatively accessible, despite the fact that each platform provides its own data (number of downloads, number of completed plays, number of times listeners returned to listen, listens more than 1 minute long, etc.), qualitative research has yet to be taken advantage of, as **Espinosa-de-los-Monteros** (2022), director of *Prisa Audio*, explained in the podcast *The Coffee*, all about the creation of the world's largest Spanish-speaking audio producer:

> "It is essential to have a technology that allows us to determine value propositions, making audio content enormously reliable for brands. There is a lot of room for improvement there: more precise metrics and more qualitative profiling. Being able to break down the audio data further is one of the things that can be improved in the coming years, and if it hadn't been done before, that has to do with the fact that the industry had not blossomed as it has now" ["*Es indispensable disponer de una tecnología que nos permita detectar propuesta de valor, que para las marcas sea enormemente fiable el contenido en audio. Queda mucho por mejorar ahí, mayor precisión en las métricas, alcances más cualitativos. Poder desmenuzar más el dato en audio es una de las cosas en las que se puede mejorar en los próximos años y si no se ha hecho antes tiene que ver con que la industria no había eclosionado como lo ha hecho ahora*"].

In amateur podcasting, the audience is found and attracted after the creation of the podcast, whereas in this incipient industry, as confirmed by the informants, the appearance of certain proposals created in reverse can be observed: first searching for and detecting niches yet to be filled and then producing specific content for them. Some informants have their doubts about this process owing to the fact that, during this process, the originality and authenticity of generating content are lost and it must succumb to audience demands (Francisco Izuzquiza). However, from the platforms, as Ana Alonso explained:

> "Both ecosystems coexist [...] although the starting point is that, to fill a need, we always look for someone very specialized who has that passion because, obviously, if not, it doesn't work" ["*Ambos ecosistemas conviven [...] aunque el punto de partida sea ese, llenar una necesidad, siempre buscamos a alguien muy especializado con esa pasión porque, obviamente, si no, no funciona*"] (Ana Alonso).

Audiences are also playing a prominent role in the evolution of the podcast industry by creating communities loyal to specific content or podcasts. The informants emphasize the need to have feedback from the audience, who can express what they think of the product that was made.

> "Beyond awards, I think that fundamentally it's listening to your listeners and the feedback you can get about what you do, whether good or bad, that gives value to the product you create" ["*Fuera de los premios creo que fundamentalmente es la escucha de tus oyentes y el* feedback *que puedas tener respecto a lo que haces, sea bueno o malo, lo que da valor al producto que creas*"] (Chuse Fernández).

Subscribing to a given podcast and the prospect of receiving new content directly from it build audience loyalty, make them a part of a community that shares a passion (Francisco Izuzquiza), and strengthen their sense of belonging: "There is no successful podcast that does not have a community, none" ["*No existe ningún podcast de éxito que no tenga una comunidad, ninguno*"] (Eugenio Viñas), because most of them have been building a community for a long time with the help of social networks; "Understand your mind" [*Entiende tu mente*] with Molo Cebrián or "The good morning club" [*El club de los buenos días*] with Oliver Oliva are examples of this (Iván Patxi Gómez).

> The appearance of *Podium Podcast* in 2016 in the audio landscape and the emergence of the large platforms for podcast distribution and production would be the two jumping off points for discussion surrounding the industry in Spain

3.3. Professional culture within the podcast industry

The professional dynamics that are developing within podcasting could shape a specific professional culture that, although it is complex and intangible (**García-Avilés**, 2021), we understand as the set of meanings, behaviors, codes, and conventions shared by the players in a specific field that determine its functioning and their individual and collective achievements in a specific spatial and temporal framework (**Pérez-Gómez**, 1995). The professional culture surrounding podcasting seems to be taking shape as a result of the professionalization of the sector, which is driven

> "by transmediality, the mushrooming use of this format by radio broadcasters (and other media) in their digital progression, and the interest of large platforms" ["*por la transmedialidad, la proliferación del uso de este formato por parte de las radios (y otros medios) en su progresión digital, y el interés de las grandes plataformas*"] (**García-Marín**, 2019).

According to the analysis of the interviews, the appearance of *Podium Podcast* in 2016 in the audio landscape and the emergence of the large platforms for podcast distribution and production (*Spotify*, *Audible*, *Apple*, etc.) would be the two jumping off points for discussion surrounding the industry in Spain. This was also the opinion of **Espinosa-de-los-Monteros** (2022), in the podcast *The Coffee*:

> "Absolutely it is a business, and I would say it is already shaping up to be an industry. The podcast is already a powerful medium. The entry of all the major technology companies and the main media outlets confirms the creation of an industry, of a business. [...] It is 18 years old, it is already coming of age, but it is true that this latest era, for which the pandemic was a pivotal moment, has accelerated everything. I think it's a business, that it's an industry and it's a format that is here to stay" ["*Absolutamente es un negocio y yo diría que se está conformando ya una industria. El podcast es ya un soporte de gran alcance. La entrada de todas las grandes tecnológicas y de los principales medios de comunicación constatan esta generación de una industria, de un negocio. [...] Tiene 18 años de vida, está ya en la mayoría de edad, pero es verdad que esta última era, que tiene como punto de inflexión la pandemia, lo ha acelerado todo. Yo creo que es un negocio, que es una industria y es un formato que ha venido para quedarse*"].

Investment is causing "a dynamization of this industry at an economic level" ["*una dinamización de esta industria a nivel económico*"] (Viñas) and is opening the possibility of promoting large-scale professional projects with high production quality, which "is what makes a substantial difference" ["*es lo que marca una diferencia sustancial*"] (Ana Ribera) between professional and nonprofessional projects. An example of this is audio fiction, a genre that has all but disappeared from radio schedules and has been bolstered in recent years by large production companies, especially *Podium Podcast*. These projects are gaining prominence, not only because of the number of productions but also because of their audience data. Lourdes Moreno summarized the elements that make up and underpin this podcast industry:

> "there is public demand, there is an increase in supply, there is exclusive content, there are a multitude of platforms, and there is investment" ["*hay demanda del público, hay aumento de oferta, hay contenidos exclusivos, hay multitud de plataformas y hay inversión*"].

According to Chuse Fernández, there has been "a leap from amateur podcasting to a space in which professional projects have a place" ["*un salto del podcasting amateur a un espacio en el que tienen cabida proyectos profesionales*"] owing to the arrival of investment (Jimena Marcos) and, for amateur podcasters, this means finding ways to improve operation. Until now, time and effort would be invested in the creation of an audio project without knowing whether there would be an economic return. With the arrival of investment, it is possible to offer/sell a project idea or a business plan (Iván Patxi Gómez and Francisco Izuzquiza) to various platforms, which may be interested in buying it if they find that they can make a return from its operation in the short or long term (Lourdes Moreno). The informants also observed that brands are gradually moving into podcasting and that there has been an increase in advertising projects and investment in advertising, which, they believe, will increase in coming years (Iván Patxi Gómez).

Although the general feeling among informants regarding the platforms is positive, three contrasting ideas have arisen that highlight the risks. First, the risk of a rift between platforms –which finance, produce, host, and distribute professional projects– and independent creators, who still produce on low budgets and with fewer material and human resources and who must keep working to find their audience. Second, the risk of concentration through the union and merger of the few current players, which may result in a less diverse and democratic ecosystem: "What I'm seeing in audio, and it's a difference from the advent of the Internet, is a terrifying tendency toward concentration" ["*Lo que estoy viendo en el audio, y es una diferencia con respecto a la llegada de Internet, es una tendencia terrorífica a la concentración*"] (Mar Abad). Third, they also perceive that there is a risk that the platforms will conceive of the podcast exclusively as a business, more focused on marketing than on creation (Mona León Siminiani). As several informants pointed out, out of this risk can emerge strategies to find a quick economic return through content with lower production costs, where profit and profitability data take precedence over podcasts' capacity for creation and experimentation. Informants point to the proliferation of talk shows as an example of these practices.

Investment is causing "a dynamization of this industry at an economic level" (Viñas) and is opening the possibility of promoting large-scale professional projects with high production quality.

> "Often, what the tyranny of numbers is actually doing is creating very conservative audio landscapes because they're going to make what people listen to, but it's just that sometimes people listen to that because that's what you give them. If you offer them something experimental, you would discover many more things that otherwise you are not giving them the opportunity to try" ["*Muchas veces la dictadura de los números en realidad lo que está haciendo es crear escenarios de audio muy conservadores porque van a hacer lo que la gente escucha, pero es que a veces la gente escucha eso porque es lo que le das. Si le ofreces algo experimental, descubrirías muchas más cosas que de otra forma no le estás dando la oportunidad de probar*"] (Mar Abad).

3.4. Professional profiles

In the section of the interviews covering self-perception, all the informants defined themselves as podcasting professionals. Although it is true that job status varied –there are differences between salaried professionals, freelancers, entrepreneurs, etc.– and that, whereas some work exclusively for a single company, others work for different labels and production companies on various projects and in a variety of roles, all of them acknowledged that they work exclusively in this sector.

The consolidation of new production structures has also led to the emergence of specific professional profiles. Until a few years ago, podcasters were "a one-man/woman band" ["*hombres/mujeres orquesta*"] (Ana Alonso, Lourdes Moreno) and performed all the tasks necessary to run a podcast. However:

> "A person who produces content, writes scripts, edits, publishes, distributes, promotes... it is not sustainable if we want to create a true one hundred percent professional industry. On the radio, on television, in the press, in the movies, in any other media, you don't have just one person doing this whole process" ["*Una persona que produce contenido, guion, edita, publica, distribuye, promociona... no es sostenible si queremos crear una industria profesional verdadera al cien por cien. En la radio, en la televisión, en la prensa, en el cine, en cualquier otro medio de comunicación, no tienes una sola persona haciendo todo este proceso*"] (Francisco Izuzquiza).

With the entry of platforms into the sector and the economic injection they have brought with them, this multitasking has shifted to diversification and specialization (Ana Ribera), as can be seen from the analysis of the interviews. Specific profiles are emerging for different tasks: podcast editors, scriptwriters, producers, directors, developers, sound designers, etc. This is just the opposite of what is happening in radio, where there used to be more specific roles and now, more and more, professionals are taking on a greater number of increasingly diverse tasks.

Those informants who work as part of larger platforms or production companies sensed that a consensus is beginning to form around certain dynamics and professional profiles, and they mentioned "collective work" ["*obra colectiva*"]:

> "It's like a relay race; everyone enters and leaves the project at the exact moment as in a big orchestra. There is the score, and each one knows what their instrument is and that they have play the best they can when their day comes. The people who work with us understand that we are very professional, and each of us knows what our role is" ["*Es como una carrera de relevos, cada uno entra y sale del proyecto en el momento exacto como en una gran orquesta. Está la partitura y cada uno sabe cuál es su instrumento y que tiene que dar la mejor nota el día que le toca. La gente que trabaja con nosotros sí que entienden que somos muy profesionales y sabemos cada uno cuál es su rol*"] (Lourdes Moreno).

However, the informants also recognize that there is no consensus within the industry on the names for each of the professional roles (something that is already changing in the podcasting industry in the United States).

> "In one industry, you have professions that are more defined and more separated, with a wider range, but we are still far behind the teams in the United States. For example, the names that designate the people who work in the teams in one country or another are different" ["*En una industria tienes las profesiones más definidas y más separadas, y un abanico más grande, pero todavía estamos lejos de los equipos de Estados Unidos. Por ejemplo, los nombres que designan a las personas que trabajan en los equipos en uno y otro país son diferentes*"] (Ana Alonso).

This creates issues confusion for agents in the podcast industry when it comes to providing their services or signing employment contracts. The informants also pointed out that there are no established standards for salaries for each of the roles and the work performed, such that small production companies sometimes have a difficult time setting budgets (Mona León Siminiani).

> "The profiles have yet to be defined. [...] If we want to make professional products, if we want to make podcasts and make a living off of the content we make, then the people who make those podcasts have to be well taken care of" ["*Los perfiles están aún por definirse. [...] Si queremos hacer productos profesionales, si queremos hacer podcasts y vivir del contenido que hacemos, entonces las personas que hacen esos podcasts tienen que estar tan bien cuidadas*"] (Jimena Marcos).

Our informants' impression was that progress is being made informally toward this consensus and that, outside of the larger-scale platforms and production companies with stable professionals, there are still not many people who are professionally dedicated to a single task; rather, they are building their income from various services.

4. Conclusions

Sellas and **Solà** (2019) state that a unique identity is being built for podcasting, whose raw material, audio, ties it to radio but which is defined by that which distinguishes it from radio –the way in which it is created and produced: the slow production, the pre-recorded product, the timelessness of the content, and the commitment to quality and depth are indeed characteristics of professional podcasting. Just as its entire identity remains unsettled, the term "podcast" has yet to be defined: for some, the technology or the mode of distribution is the cornerstone of its identity; for others, the audience, through using the term and through its modes of consumption, will come to define it in the medium or long term.

Within the professional environment, the scale of production structures and the differences in resources, the size of work teams, and financial security, which condition professional practices within the sector, should be mentioned. In general, the level of confidence and optimism regarding the outlook of the podcasting industry is high, a feeling not only unique to the interviewed agents but also present within the industrial network, due to the proliferation of projects, the growth of investment, and the increase and diversification of professional profiles. However, this optimism is more clear-cut among those who are supported by a large company than among those who must produce independently or with small production companies; they are more circumspect about the possibilities for growth within the business and about their stability and job security. They are also the ones who most question the role of the major platforms in imposing certain production models, genres, and content, as well as in distribution and audience loyalty strategies.

One of the gaps, in the informants' opinion, was the lack of networks and contact spaces through which podcasting professionals can stay connected with each other and establish shared knowledge. Until relatively recently, this bond was more or less ensured by interpersonal relationships, but with the diversification and growth of professional teams, this will become increasingly difficult. Although tools, such as newsletters, that try to keep industry members up to date with new developments are beginning to appear, it would be a good idea to look for spaces for professionals to meet. Some of the interviewees even referred to the creation of a "Podcast Academy" as a space for meeting others, growing, and making decisions.

As observed throughout this study, we are in the early stages of the creation of a professional podcasting culture in Spain, according to the opinions of its own players. Therefore, there are issues yet to be defined: shaping professional routines and establishing consolidated and shared professional roles within the industry, as well as their salary, depending on the various production models that may be established.

Future research should focus on the role of the podcast audience. Based on these interviews, there is a need for greater refinement in the metrics, which in addition to offering reliable quantitative data with transparency could provide qualitative information that facilitates the creation of niche products. Likewise, another source of uncertainty is whether the prominence of audience quantification jeopardizes the freedom of creation that has so far led the podcast toward profitability or economic return. Other issues open to further study are the management of intellectual property between creators and platforms and the business models that are emerging or taking hold in the industry (subscriptions, the use of advertising and its possibilities, branded content, etc.).

Finally, we can conclude that, although there is optimism regarding the sector's possibilities for growth in the coming years, doubts arise as to its sustainability over time. Some of the interviewees illustrated this with various metaphors. Some talked about a "bubble," fearing that the growth in investment, the increase in the number of companies, the diversification of production companies, the size of human resources, etc. may prove unsustainable in the long term. Another image they used was that of the "funnel": we are currently in the wide part, with an emerging diversity and multiplicity of players, whereas in a few years, we will reach the narrow part, and we will have to see who can move forward. They also talked about a "big wave" that is on the rise and, in the same way, we will have to see where the water settles and which ships remain afloat in the face of a decrease in the great momentum that audio is currently enjoying.

5. Notes

1. With these ten interviews, the saturation point –when there is no genuinely new and relevant contributions to the object of study– of the discussion regarding the object of study was reached (**Taylor**; **Bogdan**, 1987).

2. Conducting interviews in an online video conference format using *Teams* allowed for better adaptability to interviewees' schedules and made it easier to meet without the need for travel, regardless of where the subjects lived, being scattered across Spain. This was the most effective way to arrange the meetings between researchers and interviewees (**Saarijärvi**; **Bratt**, 2021).

6. References

Aparicio, Roro (2021), "Nace *Estación Podcast*, el primer festival iberoamericano de creación sonora". *Forbes*, 6 octubre.
https://forbes.es/lifestyle/119699/nace-estacion-podcast-el-primer-festival-iberoamericano-de-creacion-sonora

Berry, Richard (2016). "Podcasting: Considering the evolution of the medium and its association with the word 'radio'". *The radio journal international studies in broadcast and audio media*, v. 14, n. 1, pp. 7-22.
https://doi.org/10.1386/RJAO.14.1.7_1

Berry, Richard (2018). "Just because you play a guitar and are from Nashville doesn't mean you are a country singer': The emergence of medium identities in podcasting". In: Llinares, Dario; Fox, Neil; Berry, Richard (eds.). *Podcasting: New aural cultures and digital media*. Cham: Palgrave Macmillan, pp. 15-33. ISBN: 978 3 319 90056 8
https://doi.org/10.1007/978-3-319-90056-8_2

Bonet, Montse; **Sellas, Toni** (2019). "Del flujo al stock: el programador radiofónico ante la gestión del catálogo digital". *El profesional de la información*, v. 28, n. 1, e280109.
https://doi.org/10.3145/epi.2019.ene.09

Bonini, Tiziano (2015). "La 'segunda era' del podcasting: el podcasting como nuevo medio de comunicación de masas digital". *Quaderns del CAC*, v. 18, n. 41, pp. 21-30.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_ES.pdf

Brooke, Alban (2021). "80 Podcasting tips to start a successful podcast". *Buzzsprout*, 12 November.
https://www.buzzsprout.com/blog/podcasting-tips

Celaya, Javier (2022). "La receta del éxito del 'audio streaming' en España". *Cinco días*, 4 febrero.
https://cincodias.elpais.com/cincodias/2022/02/03/opinion/1643898488_065618.html

Cinco días (2022). "*Spotify* cierra un acuerdo con *Prisa Audio* y lanza nuevos podcasts originales". *Cinco días*, 4 marzo.
https://cincodias.elpais.com/cincodias/2022/03/04/companias/1646396261_726516.html

Cwynar, Christopher (2019). "Self-service media: Public radio personalities, reality podcasting, and entrepreneurial culture". *Popular communication*, v. 17, n. 4, pp. 317-332.
https://doi.org/10.1080/15405702.2019.1634811

Espinosa-de-los-Monteros, María-Jesús (2021). "*Clubhouse*, la nueva red social del audio". *El País*, 20 enero.
https://elpais.com/elpais/2021/01/18/dias_de_vino_y_podcasts/1611002519_536093.html

Espinosa-de-los-Monteros, María-Jesús (2022). "Así se construye el productor de audio más grande del mundo en habla hispana". *The coffee podcast*. *Spotify*, 21 febrero.
https://open.spotify.com/episode/3Mi9bZL72f5xfs2LvzSpEC

Forbes (2022), "*Forbes* 50 best in podcasting: los nombres que están levantando una nueva industria". *Forbes*, 8 marzo.
https://forbes.es/mejores-podcast/

FundéuRAE (2013). "Monetizar, verbo que amplía su significado". *FundéuRAE*, 15 febrero.
https://www.fundeu.es/recomendacion/monetizarun-verbo-que-amplia-su-significado-1542

Gallego-Pérez, Juan-Ignacio (2012). "Podcasting in Spain: A new business model or a reflection of traditional radio?". *The radio journal*, v. 10, n. 1, pp. 23-34.
https://doi.org/10.1386/rjao.10.1.23_1

Ganyet, Josep-Maria (2021). "El podcast es la respuesta". *La Vanguardia*, 14 febrero.
https://www.lavanguardia.com/economia/20210314/6374800/podcast-respuesta.html

García-Avilés, José-Alberto (2021). "Review article: Journalism innovation research, a diverse and flourishing field (2000-2020)". *Profesional de la información*, v. 30, n. 1, e300110.
https://doi.org/10.3145/epi.2021.ene.10

García-Marín, David (2019). "La radio en pijama. Origen, evolución y ecosistema del podcasting español". *Estudios sobre el mensaje periodístico*, v. 25, n. 1, pp. 181-196.
https://doi.org/10.5209/ESMP.63723

González-Gil, Teresa; **Cano, Alejandra** (2010). "Introducción al análisis de datos en investigación cualitativa: concepto y características". *Nure investigación*, n. 44.
https://www.nureinvestigacion.es/OJS/index.php/nure/article/view/476

Hammersley, Ben (2004). "Audible revolution". *The Guardian*, 12 February.
http://www.theguardian.com/media/2004/feb/12/broadcasting.digitalmedia

IAB (2022). *Estudio de inversión publicitaria en medios digitales. Resultados 2021*. IAB Spain; PWC.
https://iabspain.es/estudio/estudio-de-inversion-publicitaria-en-medios-digitales-2021

Izuzquiza, Francisco (2019). *El gran cuaderno de podcasting*. Madrid: Kailas. ISBN: 978 84 17 24841 3

Llinares, Dario; **Fox, Neil**; **Berry, Richard** (2018). "Introduction: Podcasting and podcasts - parameters of a new aural culture". In: Llinares, Dario; Fox, Neil; Berry, Richard (eds.). *Podcasting: New aural cultures and digital media*. Cham: Palgrave Macmillan. ISBN: 978 3 319 90056 8
https://doi.org/10.1007/978-3-319-90056-8_1

Markman, Kris (2015). "Considerations - Reflections and future research. Everything old is new again: Podcasting as radio's revival". *Journal of radio and audio media*, v. 22, n. 2, pp. 240-243.
https://doi.org/10.1080/19376529.2015.1083376

Martínez-Costa, Pilar; **Legorburu, José-María** (2021). "Audio digital e interfaces de voz: una nueva era para la sonosfera". En: Pedrero-Esteban, Luis-Miguel; Pérez-Escoda, Ana. *Cartografía de la comunicación postdigital: medios y audiencias en la sociedad de la Covid-19*. Pamplona: Thomson Reuters Aranzadi, pp. 303-329. ISBN: 978 84 1345 825 0

McHugh, **Siobhán** (2016). "How podcasting is changing the audio storytelling genre". *The radio journal - International studies in broadcast & audio media*, v. 14, n. 1, pp. 65-82.
https://doi.org/10.1386/rjao.14.1.65_1

Ormaechea, Ana; **Fernández-Delkader, Pablo** (2019). "Un viaje a través del audio". *Telos: Cuadernos de comunicación e innovación*, n. 111, pp. 16-20.
https://telos.fundaciontelefonica.com/telos-111-asuntos-de-comunicacion-ana-ormaechea-pablo-fernandez-delkader-asi-escuchamos-un-viaje-a-traves-del-audio-consumo-podcast

Pedrero-Esteban, Luis-Miguel; **García-Lastra, José-María** (eds.) (2019). *La transformación digital de la radio. Diez claves para su comprensión profesional y académica*. Valencia: Tirant Humanidades. ISBN: 978 84 17973 26 1

Pérez-Gómez, Ángel-Ignacio (1995). "La escuela, encrucijada de culturas". *Revista investigación en la escuela*, n. 26, pp. 7-24.
http://hdl.handle.net/11441/59647

Prisa (2022), "*Prisa Audio*, primer productor mundial de audio en español". *Prisa*, 27 enero.
https://www.prisa.com/es/noticias/notas-de-prensa/prisa-audio-primer-productor-mundial-de-audio-en-espanol

Quah, Nicholas (2019). "We're entering the era of big podcasting". *NY magazine culture*, 30 September.
https://www.vulture.com/2019/09/podcasting-history-three-eras.html

Saarijärvi, Markus; **Bratt, Ewa-Lena** (2021). "When face-to-face interviews are not possible: tips and tricks for video, telephone, online chat, and email interviews in qualitative research". *European journal of cardiovascular nursing*, v. 20, n. 4, pp. 392-396.
https://doi.org/10.1093/eurjcn/zvab038

Sellas, Toni; **Solà, Sergi** (2019). "*Podium* podcast and the freedom of podcasting: Beyond the limits of radio programming and production constraints". *Radio journal: International studies in broadcast & audio media*, v. 17, n. 1, pp. 63-81.
https://doi.org/10.1386/rjao.17.1.63_1

Sullivan, John L. (2018). "Podcast movement: Aspirational labour and the formalisation of podcasting as a cultural industry". In: Llinares, Dario; Fox, Neil; Berry, Richard (eds.). *Podcasting: New aural cultures and digital media*. Cham: Palgrave Macmillan, pp. 35-56. ISBN: 978 3 319 90056 8
https://doi.org/10.1007/978-3-319-90056-8_3

Sullivan, John L. (2019). "The platforms of podcasting: Past and present". *Social media + society*, v. 5, n. 4.
https://doi.org/10.1177/2056305119880002

Taylor, Steve J.; **Bogdan, Robert** (1987). *Introducción a los métodos cualitativos de investigación*. Barcelona: Paidós. ISBN: 978 84 7509 816 6
http://mastor.cl/blog/wp-content/uploads/2011/12/Introduccion-a-metodos-cualitativos-de-investigaci%C3%B3n-Taylor-y-Bogdan.-344-pags-pdf.pdf

Terol-Bolinches, Raúl; **Pedrero-Esteban, Luis-Miguel**; **Pérez-Alaejos, Mónica** (2021). "De la radio al audio a la carta: la gestión de las plataformas de podcasting en el mercado hispanohablante". *Historia y comunicación social*, v. 26, n. 2, pp. 475-485.
https://doi.org/10.5209/hics.77110

Trindade, Victoria-Andrea (2016). "Entrevistando en investigación cualitativa y los imprevistos en el trabajo de campo: de la entrevista semiestructurada a la entrevista no estructurada". En: Schettini, Patricia; Cortazzo, Inés (coords.). *Técnicas y estrategias de investigación cualitativa*. Editorial de la Universidad de la Plata, pp. 18-34.
http://sedici.unlp.edu.ar/bitstream/handle/10915/53686/Documento_completo__.-%20Cortazzo%20CATEDRA%20.pdf-PDFA.pdf

Vallés, Miguel S. (1999). *Técnicas cualitativas de investigación social. Reflexión metodológica y práctica profesional*. Madrid: Síntesis. ISBN: 84 77384495

Wade-Morris, Jeremy (2021). "Infrastructures of discovery: examining podcast ratings and rankings". *Cultural studies*, v. 35, n. 4-5, pp. 728-749.
https://doi.org/10.1080/09502386.2021.1895246

Weldon, Glen (2021). *NPR's podcast start up guide: Create, launch, and grow a podcast on any budget*. California: Ten Speed Press. ISBN: 978 0 593139080

Zumeta, Gorka (2022). "'Sonora' ya está activa". *Gorka Zumeta*, 18 julio.
https://www.gorkazumeta.com/2022/07/sonora-ya-esta-activa.html

The branded podcast as a new brand content strategy. Analysis, trends and classification proposal

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Abstract

Podcasting is all the rage. The distribution of audio content has recently gained great momentum on a personal, media and business level. In this context, brands have begun to see the opportunity to use this communication tool to connect with the audience and generate emotional bonds through attractive content. However, there are still few studies that take a rigorous look at branded podcast. This research explores the phenomenon of podcasting as branded content in Spain and Latin America, making a radiography of the current situation of the branded podcast, from a mixed approach, delimiting its features, observing some trends and making a proposal for classification (according to the type of brand involvement, according to formal criteria and basic descriptors of the podcast, according to content, functional and narrative criteria, and according to the nature of the sponsoring company and its relation to the production of the podcast). The search for and analysis of branded podcasts is the main work of this research, with a sample of 100 podcasts, differentiating the branded podcast from other typologies such as podcast sponsorship, corporate podcasts and institutional podcasts. Among the results we highlight the variety of styles and themes in their own sound content, all of them linked to a greater or lesser extent to the business sector of the companies. In addition, these podcasts are broadcast on their websites and audio platforms and are more educational and informative than entertaining. It is therefore an approach to branded podcasting with a proposal for classification that aims to be a first conceptualisation of this phenomenon.

Keywords

Podcasting; Podcasts; Sound content; Audio; Audio branding; Strategy; Branded content; Branded podcast; Corporate communication; Brands; Digital audio communication.

1. Introduction

At this time of profound changes in the world of communication, especially following the Covid-19 coronavirus pandemic crisis, digital audio is booming and constantly evolving, playing a leading role in this unusual communication landscape as a companion during household chores, travel, and other activities (*IAB Spain*, 2020). The successive lockdowns and the increased number of hours that millions of citizens spend daily on modern mobile devices, within the dynamics of today's digital and hyperconnected society, have precipitated a new context for voice. This has already become known as the audification era (**Pedrero-Esteban**, 2021).

> This paper explores the phenomenon of podcasting as branded content, with the aim of capturing the current state of affairs while also detecting some trends

For thousands of years, human beings have used sound to communicate and transmit knowledge to their fellow human beings. Over the centuries, the printed word and the image coexisted with the voice and reduced its prominence, although digitalization, mobile phones, and connectivity are restoring its previous relevance (**Legorburu-Hortelano**, 2021). One only has to look at the growing trend for audio use and consumption on social networks through voice channels, for example, on *Telegram* and *WhatsApp*, as well as the proliferation of specific audio chat social networks such as *Clubhouse* or *Stereo*. In addition, the use of smart speakers, audiobooks, and, especially, podcasts is also well recognized (**Ormaechea**; **Fernández-Delkader**, 2019).

Beyond the personal use of audio as a system of communication between citizens, brands have identified an opportunity to use it in their strategies for a variety purposes. In fact, formats related to voice and digital audio, such as the aforementioned audiobooks, smart speakers, and podcasts, as well as voice assistants, are becoming increasingly important in the brand universe –all this, moreover, in the context of the growing relevance of audio branding for consumers (**Bronner**; **Hirt**, 2009; **Piñeiro-Otero**, 2015; **Minsky**; **Fahey**, 2017; **Puerta**, 2020), that is,

> "the business process of generating the sound expression of a brand" ["*el procedimiento empresarial de generación de la expresión sonora de una marca*"] (**Vidal-Mestre**, 2017, p. 105).

Using sound to increase brand equity has a number of benefits. It offers greater power of attention, improves brand recall, facilitates the transmission of the brand's objectives and values, drives and captures its personality, enhances the experience, and fosters greater emotional loyalty (**Puig-Falcó**, n.d.).

One of the most current of the aforementioned audio formats is the podcast, which first, we can define as the publication or digital audio files, composed of episodes that can be listened to virtually or downloaded, thus differentiating podcasting from on-demand radio and streaming, its most direct technological ancestors (**Gallego-Pérez**, 2010a).

> "Podcasting is more than just an audio or video file on the Web that can be viewed or listened to. This type of technology has been around for many years. [...] what makes podcasting different and more powerful is that it allows the content creator to syndicate their message, and allows the listener to subscribe to that content and consume it at their own leisure" (**Cangialosi**, 2008, p. 9).

It is a new medium or channel for audio communication that has grown continuously in recent times in practically every part of the world, in terms of not only consumption but also demand and creation. Along with its asynchronicity, it is important to highlight its mobility, providing content on digital devices for consumption entirely at will (**De-Lara-González**; **Del-Campo-Cañizares**, 2018).

In Spain, for example, although the trend for podcast consumption was already on the rise, it became even more pronounced from March to April 2020 as a result of the lockdown. This can be seen in reports such as that of *Spotify* (*Reason Why*, n.d.), which revealed that 38% of the Spaniards surveyed had started listening to podcasts as a new form of entertainment since April. In fact, in the first quarter of 2020, its consumption grew by 25% compared with 2019 (*Voxnest*, 2020). On the other hand, the *Pod2021 survey* (2021) –organized by *Podcaster@s*, with the support of *Acast*, *Adonde Media*, *Sonoro*, and *SquadCast*– confirmed that almost 73% of Spanish-language podcast users increased their listening time during the Covid-19 pandemic. Furthermore, according to the *Digital News Report Spain 2021*, podcast consumption has stabilized, with Spain being one of the countries in which they were most popular during the month prior to the survey date at the beginning of 2021. Specifically, they reached 38%, that is, almost four out of every ten Spanish Internet users (**Amoedo**; **Moreno**, 2021). There has also been a notable increase in podcasting platforms, including *SoundCloud*, *Spotify*, *Apple Podcasts*, *Spreaker*, *Audible*, *iVoox*, *Optimo*, and *Megaphone*, for example.

Among audiences, podcasts do not yet seem to be of much interest to younger population groups, such as adolescents (**Pedrero-Esteban**; **Barrios-Rubio**; **Medina-Ávila**, 2019). However, this picture changes in other older age groups. According to *Spotify*'s previous report (2020), 45% of young Spaniards between the ages of 18 and 35 became podcast listeners during the lockdown. This is of particular interest as this is an interesting –and difficult– profile to reach:

> "A new generation, perhaps more removed from radio, but which already sees in this new format an easy, multichannel, and digitally native way of listening to stories, for the most part, much more niche (less mainstream) and designed for listening spontaneously and in installments" ["*Una nueva generación quizá más alejada de la radio pero que ya ve en este nuevo formato una forma fácil, multicanal y nativamente digital de escuchar historias, en su mayoría mucho más nicho (menos mainstream) y pensadas para una escucha más flash y por fascículos*"] (**Cortés**, n.d.).

Brands have not overlooked these findings and are increasingly paying more attention to what is happening with podcasts. Indeed, they themselves are participating and have begun to use and create them to develop branded content –rather than advertising– representing an innovation in their communication and advertising strategy, by adopting them as novel audio channels (**Orrantia**, 2022). This is what is known as a branded podcast, within the scope of branded content, which we can briefly describe as

> "a general concept that refers to content generated from and around a brand" ["*un concepto general que se refiere a los contenidos generados a partir y alrededor de una marca*"] (**De-Aguilera-Moyano**; **Baños-González**; **Ramírez-Perdiguero**, 2015, p. 523).

Indeed, as with series, short films, movies, short stories, etc., podcasts are also pieces of branded content, a current corporate communication strategy that

> "aims to contribute to the consolidation of a defined and distinctive brand identity, strengthening its ideology and style, conveying what a brand is, not what it sells" ["*busca contribuir a la consolidación de una identidad definida y distintiva de la marca, afianzando su ideología y estilo, transmitiendo lo que es una marca, no lo que vende*"] (**Rogel-del-Hoyo**; **Marcos-Molano**, 2020, p. 68).

The brand's universe is thereby communicated to consumers through various languages.

> Podcasts represent a new means of communication that brands can use to reach consumers

Podcasts therefore represent a new means of communication that brands can use to reach consumers. Moreover, they know that their production is relatively simple and economical and that this format is highly valued by users. Indeed, according to Ignacio Bernabéu, CEO of *La fábrica de podcast* (*MarketingDirecto.com*, 2020),

> "there is a greater commitment, emotional intensity and long-term memory with branded podcasts" ["*existe un mayor compromiso, intensidad emocional y memoria a largo plazo con los podcasts de marca*"].

Recent years have witnessed a transition from the sponsorship of podcasts to the creation of original podcasts, a phenomenon that is becoming increasingly common among brands. However, we believe that this medium is still in its infancy and, at the same time, a very attractive format to use, because although a large number of Spanish and global companies already include podcasts in their strategies, we believe that they still have great potential, in either audio or video form (vodcasting). In fact, the consulting firm *Deloitte* (2020) indicates that the podcasting business could grow beyond $3.3 billion by 2025. Isn't it then a good space for brands and their advertising actions?

Although podcasts were introduced some years ago, academic studies on podcasting related to the advertising world and corporate communication are very scarce, at least in Spain. Among such work, one can highlight the doctoral thesis of **Aguayo-López** (2015), the work of **Sellas** (2018) on the "Airline moments" [*Aerolínea momentos*] podcast, a co-production by *Podium Podcast* and *Iberia*; that of *Blink*, the corporate podcast of *BBVA* (**Barbeito-Veloso**; **Perona-Páez**, 2019); or those of *IBEX 35* companies (**Parra-Valcarce**; **Onieva-Mallero**, 2020). However, there is barely any research on branded podcasting, with the exception of **Boracchi** (2020), **Sellas**, **Martínez-Otón** and **Ortega-Seguí** (2021), and **Orrantia** (2022).

1.1. Branded podcast: a necessary definition

The term "podcasting" is a portmanteau of "*iPod*" (*Apple*'s mp3 player) and "broadcasting," although other theories point to various meanings, such as the combination of "personal" or "public on demand (pod)" and "broadcasting" (**Gallego-Pérez**, 2010a). Whatever the case, this term first appeared in an article published in *The Guardian* by Ben Hammersley, a writer specializing in technology, on February 12, 2004 (**Hammersley**, 2004).

Although the dictionary of the *Royal Spanish Academy* does not yet recognize the term "podcast" –instead indicating that it can be adapted to the Spanish language by adding an accent: *pódcast*– other sources such as the *Oxford English Dictionary* do include it, as both a noun and a verb. The definition of the noun is as follows:

> "A digital audio file of speech, music, broadcast material, etc., made available on the internet for downloading to a computer or portable media player; a series of such files, new instalments of which can be received by subscribers automatically."

Despite being a current concept, the topic of the branded podcast has barely been analyzed by Academia. However, it has been addressed from a professional point of view –especially by agencies and production companies specializing in audio. For example, *Sherezade Branded Audio*, a content agency focused on the production and distribution of podcasts and voice content for brands, defines it this way:

> "It's your brand thinking and acting like a media company, putting on a real show that real people, voluntarily, will spend their valuable time listening to" ["*Es tu marca pensando y actuando como una compañía de medios, haciendo un espectáculo real que personas reales, voluntariamente, pasarán su valioso tiempo escuchando*"] (*Sherazade Branded Audio*, 2020a).

One should clarify that the intention of a branded podcast is not as a mere advertisement by brands to sell or create an image but rather for the brand to to be heard. More than just that, it is the creation of stories and content for these brands. According to the director of *Podium Studios*, María Jesús Espinosa de los Monteros (**Corcobado**, 2019),

> "the idea of this format is not to produce podcasts for brands to advertise directly, but rather for these brands to create extraordinary series for their current and potential customers" ["*la idea de este formato no es producir podcasts para que los promocionen directamente las marcas, sino que estas marcas creen series extraordinarias para sus actuales y potenciales clientes*"].

> Sound has become an increasingly important element for people and for brands in the current era of audification

In this sense, we are talking about the generation of content of interest using techniques such as content marketing, branded content, and especially, storytelling (**Fernández-Lores**; **De-Garcillán-López-Rúa**, 2017). In fact, part of the success of a podcast comes from its ability to tell and narrate good stories (**Orrantia**, 2019), which can convey the values and other elements of a brand's identity.

The branded podcast is aimed at a wide, but also targeted, audience since the receivers of this format must be truly interested in listening to them, regardless of whether they are thematically related to the products or services provided by the company. In any case, it must be taken into account that

> "the brand must be identified with the content of the podcast and with the audience at which it is direct, and the format must be aligned with the values and the mission and vision of the company" ["*la marca debe estar identificada con el contenido del podcast y con el público al que va dirigido y el formato debe estar alineado con los valores y la misión y visión de la compañía*"] (*Universo Media*, n.d.).

For Kevin Geets, CEO of *Madzuli Agency*, the underlying objectives of brands that broadcast podcasts include generating brand awareness, engagement, and brand positioning. In addition, other reasons may be to share information, increase site traffic, increase revenue sources, or create an online community. Thus, according to the cited author, brands are relying on podcasts to create an emotional bond with the target audience, generate a conversation about recent news and topics of interest, help position the brand as an expert in the sector of such topics, and reach the interested target audience in an easier way, thanks to podcast directories (**Geets**, 2019). In short, the branded podcast

> "will provide knowledge, information, or entertainment to society and clients, and potential clients will spend time listening to it and indirectly identifying with the brand, with the benefits that this entails" ["*aportará conocimiento, información o entretenimiento a la sociedad y los clientes y clientes potenciales pasarán tiempo escuchándolo e identificándose indirectamente con la marca, con los beneficios que esto supone*"] (*Universo Media*, n.d.).

1.2. Recent history of the branded podcast: advantages and opportunities

Together with his team, Steve Pratt, co-founder of *Pacific Content* –a Canadian podcasting services company– popularized the term "branded podcast" starting from 2015 (**Espinosa-de-los-Monteros**, 2020). Their first product was the podcast series launched for *Slack*, *Slack variety pack*, a creative and fun concept they called a branded podcast. At that time, it seems this was something unique: a brand that made a podcast. However, from that point on, other companies such as *Gimlet Creative*, *Panoply*, *Pineapple Street,* and *Midroll* started to produce branded podcasts, as well, and the term went global. It was in 2017 that *Pacific Content* abandoned this concept because they believed that the term "brand" would deter part of the audience, who might think that their content was second-rate and more similar to a marketing piece than a customer-focused program. **Pratt** (2018) himself announced the death of the concept of the branded podcast and, in its place, began to talk about original podcasts with brands, thus trying to reaffirm their character of collaboration and teamwork with customers.

Since then, their success has been remarkable. One of the most listened to, and also considered to be the first major branded podcast, is *The message*, an audio series launched in 2015 and produced by the agency *BBDO* and *Panoply* for *General Electric*.

Alongside this, a number of podcasting companies and production companies have sprung up around the world. In regard to Spain, one should mention *Podium Podcast*, launched in June 2016 by *Prisa Radio*. In addition, *Podium Studios*, an audio production company focused on branded content and audio branding, emerged in 2019 (*Prisa*, 2019).

As we argue, since the creation of podcasting and its application in the field of advertising, audio content for brands has grown continuously, although it is true that lately brands seem to be focusing more attention on creating their own podcasts, also in line with the new habits and tastes of their potential customers. This relates to audio series composed of several episodes with stories to entertain, that can be listened to in a relaxed way, without hurrying, while doing another activity. This is thus the opposite of fast content. What takes precedence here is having interesting content, which does not necessarily have to be linked to current events, for the audience. In conclusion, these are stories with a hook to be listened to voluntarily by listeners, making this format or medium unintrusive.

According to Espinosa de los Monteros, there are several reasons that incline brands toward opting for branded podcasts over other advertising formats:

> "It complements your content strategy, it creates loyalty in a very different way from other media, it goes directly to the ears of your clients, it is a convenient format because it does not have a schedule and can be combined with other activities, it is still an incipient medium and therefore has much greater visibility, and besides it is a format with potential, so opting for a branded podcast differentiates us from the competition." ["*Complementa su estrategia de contenidos, crea fidelización de forma muy diferente a la de otros medios, va directamente a los oídos de sus clientes, es un formato cómodo porque no tiene horario y se puede compaginar con otras activida-*

des, es un medio aún incipiente y por ello tiene mucha mayor visibilidad y además es un formato por explotar, por lo que apostar por el branded podcast nos diferencia de la competencia."] (**Corcobado**, 2019)

Thus, podcasts –and specifically audio podcasts– offer a number of advantages for brands. For example, one can highlight the ease and cost-effectiveness of their production and editing, more so than for other audiovisual formats, while not requiring significant effort, since the equipment and technological means for recording are affordable; they also help to build long-term audience loyalty and, finally, they increase brand recall (**Llonch**, 2019). In addition, by creating or participating in podcasts, brands have guaranteed control over their content, as well as their distribution on different platforms. Another important point is their ability to reach new, specific audiences, because as mentioned above, these are audiences that are truly interested in this audio content, whether fiction, entertainment, outreach, etc. To this point, in accordance with the founder of the podcast production company *Yes we cast*, Francisco Izuzquiza, we share the idea that

> "advertisers and communication platforms are finding that podcasts have a very loyal audience, so their investments enjoy good returns with the right strategies" ["*anunciantes y plataformas de comunicación están encontrando que los podcasts tienen una audiencia muy fiel, por lo que sus inversiones tienen buenos retornos con las estrategias correctas*"] (**Gaspar**, 2020).

At *Sherezade Branded Audio*, they point out two important characteristics that lead brands to opt for podcasts. The first is the degree to which the connection between brand and audience is deepened, since by listening to the different episodes of the podcast, they end up spending a considerable amount of time with a brand, with a better impact on the topics and issues being perceived than can be attained via social networks or video content. Meanwhile, according to the very nature of podcasting, listeners and target audiences of brands can voluntarily decide whether they want to listen to these podcasts and engage with brands through them, something that does not happen in advertising campaigns based on interruption and intrusion. Thus, they conclude that

> "a brand should think like a media company that builds its own audience over time rather than stealing time from it for a moment" ["*una marca debería pensar como una empresa de medios de comunicación que construye su propia audiencia a lo largo del tiempo en lugar de robarle tiempo por un momento*"] (*Sherazade Branded Audio*, 2021).

2. Objectives and methodology

This paper explores the phenomenon of podcasting as branded content, with the aim of capturing the current state of affairs while also detecting some trends. Considering the above considerations, it can be stated that there is no single type of branded podcast; rather, we find a wide diversity of branded podcasts with their own characteristics and features. The objective of this research is thus to propose a classification structure for branded podcasts that allows us:

a) to cover the largest possible number of branded podcasts;

b) to regroup these audio productions into homogeneous categories according to objective discriminating criteria; and

c) to establish the attributes and delimitations that characterize each of these categories.

This work is based on the premise that branded content, in general, and branded podcast, in particular, are booming and that more and more brands are opting for this type of strategy to connect with audiences and create engagement and lasting emotional bonds.

This topic is relatively new and insufficiently studied, so this research is exploratory, adopting a mixed approach. In a first phase, we approached the phenomenon of branded podcast by using a qualitative methodology. On one side, we conducted a narrative review of the sparse scientific literature that currently exists on the subject to understand the state of affairs of the object of study and set out the theoretical and conceptual framework of our research. This review, with an open and flexible structure, included both full-text papers and articles, identified using the *Google Scholar*, *Dialnet*, and *ISOC* (*InDICEs.CSIC*) databases, as well as digital publications and specialized web portals using *Google*'s general search and news search options. This search was carried out in both Spanish and English, using the search terms "branded podcast," "audio branding," "*branding sonoro*," "podcast" [*pódcast*], and "digital audio" [*audio digital*]. Although a date limit was not applied, the results obtained are not from before 2008, with the majority being from after 2018, again indicating the novelty of this phenomenon.

On the other side, we carried out a search and analysis of branded audio content in the podcasting sphere through an exploratory phenomenological study, to identify the descriptors required to propose a valid classification. We used nonparticipant observation to develop conceptualizations, recognize properties and dimensions, and inductively categorize the data. The constant comparative method (**Glaser**; **Strauss**, 1967) served as a guide for this qualitative research, especially with regard to sampling and theoretical saturation, since these aspects are fundamental when carrying out the data collection and analysis process simultaneously. The sampling aimed to capture the variety and dimension of the phenomenon, with the

> Companies have started to create their own programs with audio content of all kinds in an attempt to connect with their audiences, increase their brand recognition, and generate engagement

goal of describing it in the most comprehensive fashion. The size of the sample in this case is defined not by probabilistic calculations but rather by theoretical saturation criteria, that is, when collection of additional data does not add significant information to what is already available.

We carried out this research using a quantitative approach to the phenomenon, choosing to carry out a numerical quantification of the elements studied, classified in each of the identified categories, to determine their scope as well as the most popular trends and types.

The most important task to carry out in this work was the search for and identification of branded podcasts. At this stage, it was important to determine whether we were actually dealing with a branded podcast offering, which is indeed our object of study, or a podcast sponsorship, corporate podcast, or other type of podcast such as those from public institutions. This fieldwork, carried out from August to December 2021, focused on branded podcasting in the Spanish and Latin American landscape. Overall, we obtained a set of 100 podcasts (n = 100) from 63 different brands, with more than 2,000 episodes in total, that fit our object of study and thus represent the research sample. As mentioned above, in selecting these, a nonprobabilistic convenience sample was chosen, since there is no sampling framework, that is, no complete, updated, and reliable list of all the branded podcasts on the market. Thus, we do not know the number of elements that make up this universe, making it unfeasible to determine a representative sample. Indeed, this work aims to provide insight in this regard by proposing a list of 100 elements chosen after a thorough search and verification based on the sampling assumptions and theoretical saturation approach explained above. Attentive listening was used as a content analysis technique (**Rodríguez-Reséndiz**, 2022) of these audio files as an essential method to analyze their main characteristics and determine their nature and role as a communication strategy of the promoting brand.

We begin the study of this content by considering the formal aspects and basic descriptors of the multimedia file. We examined the podcast by observing the function, subject matter, and format chosen, also taking into account other variables of audiovisual narratives (**Moreno**, 2003), multiplatform production (**Bolin**, 2010), and transmedia narratives (**Jenkins**, 2003; 2006; 2006; 2008; 2009). Finally, we analyzed the nature of the promoting brand and its link to the subject matter of the podcast.

This approach led to a classification proposal that aims to provide a first conceptualization of this phenomenon, also quantifying it based on the (absolute) frequencies found (n_i) for each category. To build the framework of our taxonomy and determine the criteria that would be useful in establishing the categories, we found the following research and studies to be useful: **Arense-Gómez**, **Terol-Bolinches**, and **Pedrero-Esteban** (2019) on the indexing taxonomy of podcasts; that of **Gallego-Pérez** (2010a) on the forms of distribution of audio content on the Internet, based on his doctoral thesis (2010b); that of **Piñeiro-Otero** (2021), which proposes a classification of feminist podcasts; that of **Martí-i-Martí** and **Ribes-i-Guàrdia** (2018) on the typology of radio podcasts in Spain; that of **Cabeza-de-Vaca-Ruiz** (2019), which proposes a thematic classification of podcasts; that of **Beltrán-Ferreira** (2017), which analyzes the case of *Podium Podcast*; and that of **López-Villafranca** (2019), which addresses audio fiction in public radio and the *Podium Podcast* platform, among others.

3. Results: a taxonomy of the branded podcast

3.1. According to the type of participation of the brand in the production and distribution of the podcast

We must emphasize an idea mentioned above and that is crucial to tighten the definition of the branded podcast: It is easy to confuse this type of content with other similar ones such as sponsorship of podcasts, corporate podcasts, or those from public institutions. We therefore began our study by analyzing the nature of brand participation and involvement in podcast production and distribution, selecting only branded podcasts for this work.

Podcast sponsorship involves a relationship between the content producer and the sponsoring brand, who enter into a partnership agreement. According to **Sellas**, **Martínez-Otón**, and **Ortega-Seguí** (2021), through sponsorship, products are advertised and advertising is inserted into existing content (within programs), with the brand seeking a sponsor. This sponsorship may be per episode, in packages of episodes, or annual or for longer periods. In addition, each of these can include a minimum duration and number of mentions of the brand, which normally occur at three time points*:* pre-roll, i.e., during the introduction of the podcast; mid-roll, i.e., in the middle of the podcast and usually with a longer duration; or post-roll, briefly at the end of an episode. In this sense, metrics are of great importance when it comes to setting rates and measuring the effectiveness of these marketing actions. Metrics in the podcasting universe are usually based on the average number of listens for each episode, the number of downloads, or the number of subscribers; even so, it is difficult to measure the real return on investment (ROI), even more so considering that podcasts are eternal and many people may listen to them long after the sponsorship relationship ends. However, beyond the recovery of the investment, these types of actions taken by brands are usually very positive in terms of branding, achieving greater visibility and recognition.

We designed a classification proposal that is able to cover the broad nature of these programs, defining specific and useful parameters that will serve as a basis for future research in this field

As an example of sponsorship, we can mention the case of *Spotify*, which launched an original Spanish-language podcast series entitled "Come and tell a story" [*Ven con un cuento*] in December 2018, sponsored by *Vodafone*. The sponsorship of this series was integrated into the audio format of the podcast itself, with the presenter mentioning *Vodafone Pass* at both the beginning and the end of each of the seven stories. Another recent example is the *Runnea* podcast, specifically on April 24, 2021, when the sports brand *Puma* exclusively sponsored that episode. The supermarket chain *Mercadona* was also the sponsor of a set of 10 episodes under the title "What do sportsmen and women eat?" [*¿Qué come un deportista?*], which kicked off on May 27, 2021, on *Eurosport.es* and ended on July 22, one day before the opening ceremony of the Tokyo Olympics.

> According to the type of participation of the brand, we distinguish the branded podcast from the sponsored podcast, the corporate podcast, and the institutional podcast

The difference between podcast sponsorship and branded podcast is that the latter, as mentioned above, is branded content created by the brand, that is, a program produced by the company and aimed at listeners, thus turning customers into an audience. Meanwhile, a branded podcast brings value to the brand through new content created together with the brand or with production companies. In this case, without the presence of the brand, the podcast would be meaningless, whereas if there were no sponsorship, the program or episodes would still work. To provide a few examples, one can cite the branded podcasts "Chronicles of the future" [*Crónicas del futuro*] (*Coca-Cola*), "Be wherever you are" [*Estar donde estés*] (*Banco Sabadell*), *FutbAll* (*Iberdrola*), or "Airline moments" [*Aerolínea momentos*] (*Iberia*). There are many examples of branded content today, as it is a growing trend, each having different characteristics and features that we will define below.

The corporate or company podcast is distinguished by the fact that it focuses not on customers or the general public but rather on the company's own employees and members. Many companies use it as an internal communication channel, as a way to build company culture, as a method for learning strategies and skills development, as a sign of engagement with new employees, and to differentiate themselves (*Sherazade Branded Audio*, 2020b). Thus, in this format,

> "they talk about the business, its employees, the products and services it offers, its objectives and mission or they tell stories about the company" ["*se habla del negocio, de sus trabajadores, de los productos y servicios que ofrece, de sus objetivos y su misión o se cuentan historias de la compañía*"] (*Universo Media*, n.d.).

We identified a clear example of this type of podcasting in the action carried out by *Ernst & Young* (*EY*) coinciding with the start of the lockdown in Spain owing to the pandemic in 2020, when most of its employees began to telework. They then launched *#EYPodcast: the radio of the #EYFamily*, with the aim of providing a nexus for workers to keep up to date with company news. Another example is "*Uber* radio" [*Frecuencia Uber*], the podcast for driver-partners from the ride-sharing company *Uber* in Argentina. Although the majority of corporate podcasts are usually external and open to the general public, regardless of whether or not they are employees of the company, note that this typology also includes internal podcasts that are only accessible to employees, through either internal platforms and intranets or other distribution channels or messaging services such as *Telegram*.

Meanwhile, an institutional podcast is like a branded podcast but comes from a public organization or administration. In fact, their subject matter may be related more or less to matters that fall within the purview of the institution. We cite here "The art of knowhow" [*El arte del saber hacer*], a podcast from the Spanish *Ministry of Agriculture, Fisheries, and Food*, which promotes the consumption of foods from the Spain; "A health podcast" [*Un podcast de salud*] from the *Reina Sofía University Hospital* (Córdoba), which offers information of interest to the general population, patients, and professionals; and "Terrace Europe" [*Terraza Europa*] from the *European Parliament Office in Spain*, which helps listeners learn more about Europe.

3.2. According to formal criteria and basic descriptors of the podcast

Regarding aspects related to the form and presentation of podcasts shown in Table 1, we first focus attention on the periodicity of the broadcasting of the episodes. Most of the podcasts (60) are high frequency, appearing weekly or fortnightly, whereas fewer appear at low frequency such as every month or longer (16) and even fewer with irregular frequency (24), i.e., at random or with undefined periodicity.

In this sense, we identified podcasts that are broadcast weekly with strict regularity, such as *Vets&Clinics* (*Advance*), which makes podcasts with highly qualified content available to the veterinary community; "Nothing like that" [*Nada que ver*] (*Netflix*) from Mexico, available to all Latin America, which offers reviews of new series and movies on the platform; "Historical curiosities" [*Curiosidades de la historia*] (*National Geographic*), where some of the most interesting moments in history are recounted; "Inspirational Monday" [*Lunes inspiradores*] (*Cyberclick*), a program that seeks to help establish a business culture based on happiness; and *FutbAll* (*Iberdrola*), the first program dedicated to women's soccer in Spain. "Learning together" [*Aprendemos juntos*] from *BBVA* and "*Telefonica Foundation* connections" [*Encuentros Fundación Telefónica*] from *Espacio Fundación Telefónica* have an even faster publication rate, around twice per week, the highest frequency among the branded podcasts analyzed. "Daily economy" [*Economía cotidiana*] from *CaixaBank*, "The near future" [*Un futuro cercano*] from *Correos*, and "Think then act" [*Pienso, luego actúo*] from *Yoigo* offer their listeners new content every two weeks, with fortnightly frequency also being quite frequent.

However, it is much more difficult to find branded podcasts with a frequency every month or longer; these include "Simple and effective" [*Sencillo y efectivo*] and "Voices" [*Voces*] (*BBVA*). The frequency of publication is usually weekly or biweekly, albeit with breaks on some dates, owing to either holidays or the end of a program's season. It is somewhat more common to find podcasts with an irregular frequency, where a well-defined periodicity was not observed, publishing for example three episodes in one month, one in another, and none in the following month. As examples of this type, we mention "Better to be connected" [*Mejor conectados*] from *Telefónica*, which published five episodes per month and fewer in the following ones, or "Let's open the opera" [*Abrimos la ópera*] from *Endesa*, which broadcasts between one and five episodes per month.

Another criterion we can consider when describing branded podcasts is the average duration of each episode. Of the five categories defined (short, medium, long, very long, and of irregular duration), podcasts of medium duration (57), with episodes ranging from 10 to 30 minutes, were most prevalent. Long duration, between 30 and 60 minutes, was found in 12 cases, whereas short (less than 10 minutes) or very long (more than 60 minutes) podcasts were less common, with 7 and 6 cases, respectively. Finally, 18 podcasts fell into the category of irregular duration, having episodes of very different lengths.

Examples of short podcasts were found in episodes of "Hit 'play'" [*Dale al play*] by *Fisher-Price* and "A sustainable future" [*Futuro Sostenible*] and "Creating the future" [*Creando futuro*], both by *BBVA*, all of which are between six and eight minutes long. The "Podcast about climate change" [*Podcast sobre cambio climático*] from *Iberdrola*, "We move forward when we're connected" [*Conectados progresamos*] from *Telefónica*, "Accents" [*Acentos*] from *BBVA*, and *Moving forward* from *SEAT* are podcasts that last between 10 and 30 minutes, and we classify them as of medium length. Long audio content, from 30 minutes to an hour, includes "Sports market" [*La bolsa de deporte*] by *Mapfre*, "Who decides?" [¿Quién decide?] by *Seagram's Gin*, and "White noise" [*Ruido blanco*] by *Greenpeace*. Very long podcasts such as *Noosfera* from *La Razón* or "Direct marketing" [*Marketing directo*] from *MarketingDirecto.com* exceed one hour in length. Finally, *L'Orèal Mexico*'s podcast, "Cultural world" [Ámbito cultural] from *El Corte Inglés*, and "Perspectives" [*Perspectivas*] from *BBVA* are examples of podcasts of irregular duration.

Regarding the distribution platforms used by brands to publish their podcasts, it is most common for them to use a combination of those that exist in the market to give the content greater visibility and adapt to audience preferences; this occurs for the vast majority of the analyzed podcasts (92), as it is common for the podcast to be located on the brand's own website; in audio aggregators such as *Apple Podcasts*, *iVoox*, *Listen Notes*, *Google Podcasts*, and *Audible*; as well as music platforms such as *Spotify* or *SoundCloud*. This is the case, for example, with "Financial education" [*Edufin*] (*BBVA*), "Efficiently" [*Eficientemente*] (*Endesa*), and *Beauty talks* (*Sephora*). Without being strictly a podcast channel, some brands also host their audio content on *YouTube*, as is the case with "Positive energy" [*Energía en positivo*] (*Naturgy*).

On the other hand, few brands choose to use a single broadcast medium for their podcasts. Of the remaining 8 podcasts, 3 are located exclusively on the company's website –"What do sportsmen and women eat? [¿Qué come un deportista?] by *Mercadona*, the "Podcast about climate change" [*Podcast sobre cambio climático*] by *Iberdrola*, and *LearnEnglish podcasts* by the *British Council*– whereas 5 are found only on audio aggregators –"Against food wastage" [*Contra el desperdicio de alimentos*] by *Covirán*, "Cities in 48 hours" [*Ciudades en 48 horas*] by *Guía Repsol*, *Digital explained* by *ISDI*, *Field of stars* by *Real Madrid Football Club*, and "Innovation today" [*Innovación al día*] by *Red de Institutos Tecnológicos de la Comunidad Valenciana* (*Redit*). In our study, we did not find podcasts located exclusively on music platforms or elsewhere.

Table 1. Categorization according to formal criteria and basic descriptors

		Absolute frequency (n_i)
Periodicity	1. High frequency (weekly or biweekly) 2. Low frequency (monthly, bimonthly, or quarterly) 3. Irregular frequency (no defined periodicity)	60 16 24
Average duration	1. Short (less than 10 minutes) 2. Medium (between 10 and 30 minutes) 3. Long (between 30 and 60 minutes) 4. Very long (more than 60 minutes) 5. Irregular	7 57 12 6 18
Distribution platform	1. Audio aggregators (*Apple Podcasts*, *Spreaker*, *Audible*, *Listen Notes*, *iVoox*, *Google Podcasts*, etc.) 2. Music platforms (*Spotify*, *Deezer*, *SoundCloud,* etc.) 3. Own website or platform 4. Combination of various distribution platforms 5. Other	5 0 3 92 0

3.3. According to content, functional, and narrative criteria

We can classify the content offered by brands in their podcasts according to their function and purpose (**De-Fontcuberta**, 1993; **Calvi**, 2006), which are typically divided into one of three: informing, educating, and entertaining. Of the three categories considered, informative podcasts, whose mission is to educate and train, are the most abundant in the sample analyzed (57 cases), while those that seek to entertain, through fictional or nonfictional means, total 40. Podcasts whose objective is to inform are less prominent, with only 3 instances.

The informative branded podcast has a style similar to journalism, reporting news and current events, as in "White noise" [*Ruido blanco*] by *Greenpeace* and *FutbALL* by *Iberdrola*, or addressing an issue in great detail and with journalistic rigor, as in "On death row" [*En el corredor de la muerte*] by *Movistar+*, which is a journalistic investigation of Pablo Ibar, the Spanish-American who was sentenced to life imprisonment. The education and training of audiences, as indicated above, is a function that is very present in many of the branded podcasts, such as "Learning together" [*Aprendemos juntos*] from *BBVA*, about education for a better life; "Financial education" [*Edufin*] or "Accents" [*Acentos*], both also from *BBVA*, about financial education; "Chats" [*Charlas*] from *Fisher-Price*, an informative podcast in which experts in parent coaching and influencers share their experiences as parents; "Share as a family" [*Compartir en familia*] from *Santillana*, about the education of children and the family; and "Digital evolution" [*Evolución digital*] from *Vodafone*, which helps companies face the challenge of digital transformation. Offerings of branded podcasts for entertainment, which can fall into the genre of fiction or nonfiction, are becoming increasingly frequent. As an example of the former, we mention "Penelope's quests" [*Las pesquisas de Penélope*] by *Hermès*, which tells the adventures of the detective Penelope, or "100 years on the metro" [*100 años en Metro*], an audio fiction podcast that covers the 100 years of history of the Madrid metro. Some nonfiction entertainment branded podcasts are, for example, "Not so bad" [*Ni tan mal*] by *BBVA*, *Discoforum* by *Estrella Damm*, or "In Carlos Soria's mind" [*En la cabeza de Carlos Soria*] by *Correos*.

The theme of a podcast is the common thread and link between the different episodes that make up the program. It is not easy to establish a list of common topics in branded podcasts, as there may be an infinite number; however, we propose about twenty topics (**Rodríguez-Reséndiz**, 2022; **Cabeza-de-Vaca-Ruiz**, 2019; **García-Marín**; **Aparici**, 2018), which are included in Table 2 to serve as a guide to label existing branded podcasts. For example, in current affairs, news, and events (2 podcasts), we have "White noise" [*Ruido blanco*] from *Greenpeace* and "On death row" [*En el corredor de la muerte*] from *Movistar+.* In science, technology, and internet (8 podcasts), there are "Innovation daily" [*Innovación al día*] from *Redit*, *OpenMind* and "Data stories" [*Data historias*] from *BBVA*, and *Noosfera* from *La Razón.* In sports, video games, and e-sports (6 podcasts), we have, among others, *FutbAll* from *Iberdrola*, "Morse sound" [*Sonido Morse*] from *Mahou*, "The last on the list" [*Los últimos de la lista*] from *AS Audio*, and "Field of stars" [*Campo de estrellas*] from *Real Madrid Football Club*. "Hit 'play'" [*Dale al play*] and "Chats" [*Charlas*] by *Fisher-Price* and "Share as a family" [*Compartir en familia*] by *Santillana* fall into the category of education and pedagogy (5 podcasts). Content related to audio fiction and audiobooks (10 podcasts), such as "*Hermès*' world" [*Podcasts de le monde d'Hermès*] (*Hermès*), "The power of the web" [*El poder de la red*] (*Vodafone*), "Tales of digital humanism" [*Historias sobre humanismo digital*] (*Bankia*), "Welcome to a dangerous life" [*Bienvenido a la vida peligrosa*] (*BP*), and "Airline moments" [*Aerolínea momentos*] (*Iberia*), are more prevalent.

"Radical curiosity" [*Curiosidad radical*] from *Fundación Espacio Telefónica* and "Historical curiosities" [*Curiosidades de la historia*] from *National Geographic* are history, art, and humanities podcasts. We classify "Not so bad" [*Ni tal mal*] (*BBVA*) and "The *Chanel* podcast" [*El podcast de Chanel*] (*Chanel*) as humor and entertainment. Within the languages category, for learning a new language, we only found the *LearnEnglish* podcast from the *British Council*. There are also 2 children's podcasts: "Baby on board" [*Bebé a bordo*] from *Fisher-Price* and "Christmas stories" [*Cuentos de Navidad*] from *El Corte Inglés.* Some examples of literature, culture, and journalism (7 podcasts) are *Fundación BBVA Perú* by *BBVA*, *Hotel Jorge Juan* by *Seagram's Gin*, and "*Telefonica Foundation* connections" [*Encuentros Fundación Telefónica*] by *Espacio Fundación Telefónica*. The well-populated category of marketing and business (10 podcasts) includes "Sharing knowledge" [*Compartiendo conocimiento*] by *BBVA*, "Digital evolution" [*Evolución digital*] by *Vodafone Business*, and "Focuses" [*Enfocados*] by *BCMA Spain*. Meanwhile, content about the environment and sustainability (5 podcasts) includes "Oxygen" [*Oxigen*] and "Positive energy" [*Energía en positivo*] by *Naturgy* and one on climate change by *Iberdrola*. The music category (4 podcasts) includes *Discoforum* (*Estrella Damm*), "Singing the top 40" [*Cantando las 40*] (Los 40 Principales), "Enjoyable" [*Placentera*] (*Fisher-Price*), and "Let's open the opera" [*Abrimos la ópera*] (*Endesa*).

The topics of politics, finance, and economics are present in 10 podcasts, such as "Be wherever you are" [*Estar donde estés*] (*Banco Sabadell*), "Daily economy" [*Economía cotidiana*] by *CaixaBank*, and some of those from *BBVA*, such as *Blink*, "Accents" [*Acentos*], and "Perspectives" [*Perspectivas*]. The podcasts about psychology, personal growth, and self-help (6 podcasts) are "Agile snippets" [*Píldoras Agile*] by *BBVA* and "When resting is a dream" [*Cuando el descanso es un sueño*] by *IKEA*. More frequently found is content dealing with society, health, home, and consumption (12 podcasts), as in "I'll start tomorrow" [*Mañana empiezo*] by *Krissia*, *The lab* by *Sanitas*, or "Loving technology" [*Por un uso Love de la tecnología*] by *Orange*. "Cities in 48 hours" [*Ciudades en 48 horas*] by *Guía Repsol*, "*National Geographic* travellers" [*Viajeros National Geographic*] by *National Geographic Spain*, and "The near future" [*Un futuro cercano*] by *Correos* are three of the four podcasts about travel, leisure, and popular culture. In the last category, we include three podcasts on different topics, such as *Advance*'s podcast about veterinary medicine, "I want to change the tiles" [*Quiero renovar el tejado*] by *BMI*, and *The impulse* by *Cupra*. Finally, there is a thematic line that, although it

> Branded podcast remain at an initial stage of development, at least in Spain and Latin America, despite the advantages and the attractive nature of the format

has been included, we do not illustrate with examples, as we did not identify any branded podcasts that dealt specifically with spirituality and religion. However, it is likely that, in the national and international content, such branded podcasts with this content will exist.

> Brands offer their audiences original audio content with a wide variety of styles and topics that may be linked, to a greater or lesser extent, to the company's sector

Establishing a typology of podcast formats is a complex task for which we found little literature and even less consensus. In an attempt to provide a sufficiently broad and flexible list that fits the current state of podcasting, we established a total of seven formats from among those proposed by **Leonard** (2017). The formats most prevalent in our analysis were magazines (28 podcasts) and those with interviews (24), followed in order by panel or discussion (16), narrative fiction or radio art (14), narrative or creative nonfiction (10), solo commentary, monologue, or discussion (6), and content reused from other situations (2 podcasts).

The magazine-type hybrid format is the most widely used owing to its versatility, and it is the one used in *The impulse* from *Cupra*, "Focuses" [*Enfocados*] from *BCMA Spain*, and "Building your business's future" [*Construyendo el futuro de tu negocio*] from *AXA*. The other leading genre is the interview, which can be seen in podcasts such as *Deep talks*, "Creating the future" [*Creando futuro*], and *Design Wednesday* by *BBVA*; "The *Chanel* podcast" [*El podcast de Chanel*] by *Chanel*, and "Profiles" [*Perfiles*] by *Catalana Occidente*. The panel, discussion, or talk show is another of the most popular formats and can be found in "Cultural world" [Ámbito cultural] (*El Corte Inglés*), "Who decides" [¿Quién decide?] (*Seagram's Gin*), or "Hit 'play'" [*Dale al play*] (*Fisher-Price*). Narrative nonfiction includes documentaries or reports such as "Historical curiosities" [*Curiosidades de la historia*] from *National Geographic* and "On death row" [*En el corredor de la muerte*] from *Movistar+*. A format on the rise is narrative fiction, also known as radio art, which we have already referred to in previous sections and illustrated with numerous examples. The solo commentary, monologue, or discussion format is that used in *Vets&Clinics* from *Advance* and "Sustainable future" [*Futuro sostenible*] from *BBVA*. The final format we propose is called reused content and consists of, for example, live talks or live events that are subsequently uploaded as podcasts, such as "Martian radio" [*Onda marciana*] from *Espacio Fundación Telefónica* and "Direct marketing" [*Marketing directo*] from *MarketingDirecto.com*.

For branded podcasts, there are different options when it comes to establishing a host and/or presenter of the audio content, a role more commonly performed by personnel outside the brand (61 podcasts) –in the following order: journalists and communication professionals (41 podcasts), experts and disseminators (10), personalities and celebrities (1), and others (9)– than a company's own personnel (34) or a combination thereof (5). For example, "In first person" [*En primera persona*], the *Google News* podcast, is a show that analyzes Latin American journalism through the voices of journalists who are widely recognized for their excellence and leadership. A science expert is the host of *Orange*'s "Hello planet" [*Hola planeta*] program, a podcast about sustainability and technology. "When resting is a dream" [*Cuando el descanso es un sueño*] from *IKEA* is hosted by actress Llum Barrera, and among other examples, we highlight "Diary of a teacher" [*Diario de una docente*] from *Santillana*.

There are also brands that choose to put their employees and company personnel in charge of their podcast and have them act as its main voice, as is the case with "Sports market" [*La bolsa de deporte*], in which Luis García, a manager at *Mapfre*, interviews sports stars to talk about investment, or *The lab*, hosted by Jesús Jerónimo, Director of Digital Transformation at *Sanitas*. Finally, as examples of the use of a combination of some of the previous options, we mention "Inspirational Mondays" [*Lunes inspiradores*] from *Cyberclick*, led by radio broadcaster Eduard Pascual and the company's CEO, David Tomás, and "Hit 'play'" [*Dale al play*] from *Fisher-Price*, which features a journalist, Ana Uslé, together with a professional specialized in education and communication, Inma Marín, who host this podcast about the best toys for children at their different stages of development.

Another aspect on which we focus has to do with social outreach and the multiplatform and transmedia possibilities that the podcast offers. Most of the analyzed podcasts (82) are limited to having a presence on one or several audio platforms and, at most, some call to action on their corporate website. However, we discovered 18 podcast programs that opted to use the power of social networks, not only to amplify their influence but also to create community. *Yoigo* aims to offer an omnichannel experience with its "Think then act" [*Pienso, luego actúo*] platform, which is deployed through its website, on which a blog, among other things, is found; through the social networks on which it has a presence (*YouTube*, *Instagram*, *Twitter*, and *Facebook*); and through its podcast. It is even possible to go further and provide a transmedia experience, especially in fiction podcasts. The best example of this is "The power of the web" [*El poder de la red*], a Spanish series by *Vodafone* that can be viewed in three different formats: video, podcast, and comic. Daniel Sánchez Arévalo is the screenwriter and director of this production, while actors such as Quim Gutiérrez take part.

> Podcast production can be carried out by the company itself and its communication department, or they can hire external producers who work together with the brand

Table 2. Characterization according to content, functional, and narrative criteria

		Absolute frequency (n_i)
Function of content	1. Reporting (similar to journalism) 2. Educating and training (informative) 3. Entertaining (fiction or nonfiction)	3 57 40
Themes of content	1. Current affairs, news, and events 2. Science, technology, and internet 3. Film and television 4. Sports, video games, and e-sports 5. Education and pedagogy 6. Spirituality and religion 7. Audio fiction and audiobooks 8. History, art, and the humanities 9. Humor and entertainment 10. Languages 11. Children's entertainment 12. Literature, culture, and journalism 13. Marketing and business 14. Environment and sustainability 15. Music 16. Politics, finance, and economics 17. Psychology, personal growth, and self-help 18. Society, health, home, and consumption 19. Travel, leisure, and popular culture 20. Other	2 8 1 6 5 0 10 2 2 1 2 7 10 5 4 10 6 12 4 3
Podcast format	1. Interview 2. Solo commentary, monologue, or discussion 3. Panel or discussion (talk show) 4. Narrative nonfiction or creative nonfiction (essay, documentary, reporting, narrative chronicle, etc.) 5. Narrative fiction or radio art 6. Hybrid magazine type 7. Reused content	24 6 16 10 14 28 2
Podcast hosts	1. Company's own personnel 2. External personnel 2.1. Journalists and communication professionals and announcers 2.2. Personalities and celebrities 2.3. Experts and disseminators 2.5. Other 3. Combination of options	34 61 41 1 10 9 5
Multi-platform and/or transmedia	1. Yes 2. No	18 82

3.4. According to the nature of the sponsoring company and its relationship with podcast production

In this analysis and the proposed classification of the branded podcast, one final aspect that we can consider has to do with the nature of the company promoting the audio content and its relationship with the production and content of the podcast, as summarized in Table 3. Thus, the first thing that must be identified is the professional sector to which the brand belongs, for which we use the classification proposed by *Statista* (n.d.): agriculture and livestock, consumer goods, stores and establishments, etc. Although the branded podcast is a growing format used by all types of companies, we observed a certain predominance of banking, insurance, and real estate companies, such as *BBVA*, *DKV*, and *Banco Sabadell* (26 podcasts), over consumer goods companies such as *Coca-Cola*, *Covirán*, or *Hermès* (17); media and marketing companies such as *AS*, *ELLE Mexico*, and *Planeta Libros* (15); technology and telecommunications companies such as *Vodafone*, *Yoigo*, or *Movistar* and *Telefónica* (13); companies related to energy and the environment such as *Iberdrola*, *Naturgy*, and *Endesa* (8); stores and establishments (5); logistics and transport companies (4); the health and pharmaceutical industry (3); utilities (3); society (3); construction (1); sports and leisure (1); and tourism and hospitality (1). Note from the table that none of the brands behind the podcasts belong to the agriculture and livestock, e-commerce, international, Internet, metallurgy and electronics, chemical and raw materials, or life sectors.

Regarding the size and dimension of the company, it is logical and indeed correct to think that large companies and multinationals will produce the most branded podcasts, being the case for 91 of the analyzed podcasts. However, the existence of branded audio programs from companies that are truly modest in terms of size and advertising budget is striking. Such is the case for 7 projects of small and medium-sized companies such as "Path to success" [*Camino del éxito*] from *Garoo Expositores* and "World travelers" [*Viatgeros por el mundo*] from the travel agency *Viatge*, as well as 2 initiatives from micro-enterprises or independent professionals: *Ocularis* by Dr. Rubén Pascual, a podcast on visual health, and "Emergencies and more" [*Más que urgencias y emergencias*] by nurse and teacher Elena Plaza.

Podcast production can be carried out by the company itself and its communication department (41 podcasts), or they can hire external producers who work together with the brand, as occurred in more than half of the analyzed sample (53 podcasts), in addition to other possible situations (6 podcasts). *BBVA*'s podcasts, for example, are made in-house as Fernando Morales, head of podcasts and member of *BBVA's* Communications team, told *El País*:

> "In the communication department there are many very good journalists, with many ideas and with a great knowledge of our company and of the content that can attract the attention of the listeners" ["*En el departamento de comunicación hay muchos y muy buenos periodistas, con muchas ideas y con un gran conocimiento de nuestra empresa y de los contenidos que pueden atraer la atención de los oyentes*"] (**Espinosa-de-los-Monteros**, 2020).

Other brands, however, use production companies for this purpose, even more so in recent years, when specialized initiatives in this sector, such as *Podium Podcast*, have emerged. This is the producer of programs for *Fisher-Price*, *Sephora*, *AXA*, *Santillana*, and *Correos*, among others. Another independent production company, *La Fábrica de Podcast*, is responsible for the content of *Advance*, *Mapfre*, and *Marketing Directo*. There are also other scenarios such as that of "Freelancers" [*Autónomos*] from *Bankia*, presented by a freelancer, or the previously mentioned podcasts from Rubén Pascual and Elena Plaza.

Finally, within this block of analysis, we focused on checking the relationship that existed between the brand and its commercial activity and the thematic nature of its podcast's content. In general terms, the level of correspondence is practically the same in the three categories considered. There is a strong link when we find clear ties between the brand and the podcast (28 cases), as in the case of "I want to change the tiles" [*Quiero renovar el tejado*] from *BMI*, a company specialized in the sale of products and solutions for flat and pitched roofs, and *Vets&Clinics* from *Advance*. An average link is when the sector of the promoter brand and the content offered have somewhat of a relationship, but there is a broad perspective in which there is also room for other topics and issues of interest to audiences, something we saw in 36 podcasts, including some from *BBVA* such as "Financial education" [*Edufin*], *Blink*, and "From the bank" [*Desde la banca*], as well as "References" [*Referentes*] from *El País*, which covers Spanish journalism. Finally, low or no link (36 podcasts) is frequently found in fictional branded podcasts, in which the story narrated does not direct relate to the company's commercial activity, as in "Welcome to a dangerous life" [*Bienvenido a la vida peligrosa*] from *BP* and "Chronicles of the future" [*Crónicas del futuro*] from *Coca-Cola*. Such a weak link is also evident in nonfiction podcasts such as "Path to success" [*Camino del éxito*], which offers advice on how to develop and improve the lives and businesses of its listeners, whereas the brand responsible, *Garoo Expositores*, is a supplier of displays, especially cardboard displays. Other examples of low or no link are *BBVA*'s podcast "Agile snippets" [*Píldoras Agile*], which talks about techniques, skills, and tools for disciplined Agile, or *Start* from *Correos*, which depicts the beginnings of some startups.

Table 3. Categorization according to the nature of the sponsoring company and its relationship with podcast production

		Absolute frequency (n_i)
Professional sector of the company	Agriculture and livestock	0
	Consumer goods	17
	E-commerce	0
	Stores and establishments	5
	Construction	1
	Sports and leisure	1
	Energy and environment	8
	Finance, insurance, and real estate	26
	International	0
	Internet	0
	Logistics and transportation	4
	Media and marketing	15
	Metallurgy and electronics	0
	Chemicals and raw materials	0
	Health and pharmaceutical industry	3
	Utilities	3
	Society	3
	Technology and telecommunications	13
	Tourism and hospitality	1
	Life	0
Company size	1. Large companies and multinationals	91
	2. Small and medium-sized companies	7
	3. Microenterprises or independent professionals	2
Podcast production	1. Brand's communication department	41
	2. External agencies and/or production companies hired by the brand	53
	3. Other	6
Relationship of the brand and/or its commercial activity with the subject matter of the podcast	1. Low or no link	36
	2. Average link	36
	3. Strong link	28

4. Discussion and conclusions

In this time of visual saturation, sound has become an increasingly important element for people in the current era of audification (**Pedrero-Esteban**, 2021). This boom in digital audio has been augmented by social networks and modern technological devices such as smart speakers, voice assistants, and audio books. This is also true for podcasts, whose consumption continues to grow. This circumstance has not been overlooked by brands, as it is on par with the attention being paid to audio branding (**Bronner**; **Hirt**, 2009; **Minsky**; **Fahey**, 2017), from the jingle to new branded content actions (**Piñeiro-Otero**, 2015), as is our object of study.

With respect to the podcast, companies have started to create their own programs with audio content of all kinds in an attempt to connect with their audiences, increase their brand recognition, and generate engagement, something that was already observed, for example, in the work of **Sellas** (2018). This is how the branded podcast has emerged, whose meaning, features, and history we have examined in this research, in which we, of course, felt it was important to differentiate between podcast sponsorships, corporate podcasts, and branded podcasts themselves. The first of these is the traditional formula of sponsorship of content that typically already exists, in this case a podcast where the agreement involves naming the brand at the beginning, in the middle, or at the end of the program. Unlike other forms of online advertising, in this case we do not find such well-defined and exact metrics. In turn, the corporate podcast is an internal communication strategy that, although it may be open to the general public, is aimed at a company's employees.

The production of branded podcasts is not very labor-intensive, and they are economical to make, while helping to build audience loyalty and improve brand recall (**Llonch**, 2019). However, at least in Spain and Latin America, they remain at an initial stage of development, despite the above advantages and the interesting and attractive nature of the format, which according to the consulting firm *Deloitte* (2020) can make them a profitable business for brands in the years to come. Although current, this topic has hardly been studied by academia, with very few contributions (**Boracchi**, 2020; **Sellas**; **Martínez-Otón**; **Ortega-Seguí**, 2021; **Orrantia**, 2022), although receiving more attention from agencies and production companies that work in audio branding.

For this reason, we point out not only the opportunity but also the need to study branded podcasts, focusing in this first approach on the Spanish and Latin American landscape. As expected, given the newness of this subject and the limited previous research, we faced some significant limitations. First, there are no complete and updated lists of branded podcasts to consult, which means that we do not truly know the scope of the object of study. This fact made probability sampling unfeasible and required the adoption of a qualitative logic based on a sample whose size was defined by theoretical saturation criteria. In addition, the process of identifying descriptors and classifying the podcasts into categories was also complex, since these audio files presented variations that may occur gradually over time, for example, podcasts that were originally short but have been extended in duration to become long or very long, or that vary frequently from one episode to another, demonstrating an irregular nature.

After analyzing 100 podcast programs from more than 60 brands, we designed a classification proposal that is able to cover the broad nature of these programs, defining specific and useful parameters that will serve as a basis for future research in this field. However, we must recognize that there are aspects that may vary and/or be expanded, such as, for example, the topics the podcasts cover, as well as their format and everything related to the company behind them. This is a broad classification including aspects addressed in other works on podcasts (**Gallego-Pérez**, 2010a; 2010b; **Beltrán-Ferreira**, 2017; **Martí-i-Martí**; **Ribes-i-Guàrdia**, 2018; **Arense-Gómez**; **Terol-Bolinches**; **Pedrero-Esteban**, 2019; **Cabeza-de-Vaca-Ruiz**, 2019; **López-Villafranca**, 2019; **Piñeiro-Otero**, 2021), as well as many other new ones specifically related to our object of study. Unlike these previous studies, our proposal, summarized in Figure 1, focuses exclusively on the branded podcast, attempting to fill an existing gap in this field, with specific and useful criteria and categories for its classification.

From this analysis, we have also obtained results regarding the current state of branded podcasting as well as trends. Brands are offering their audiences original audio content with a wide variety of styles and topics that may be linked, to a greater or lesser extent, to the company's sector and/or business activity. Thus, the educating and informing functions appear most frequently, although we also observed a significant increase in entertainment branded podcasts, often audio fiction, a genre on the rise in the branded podcasting universe. Apart from the fiction narrative, the most common formats are the magazine and the interview together with the talk show, which represent the format of most of the branded audio content.

These podcasts are aimed at broad audiences, but clearly targeted according to the topics they cover. In addition, they are not always related to the products or services of the companies that promote them –results that we have not found in other research on podcasting and corporate communication, where only podcasts with a strong or medium link between commercial activity and the subject matter of the audio files were analyzed (**Sellas**, 2018; **Barbeito-Veloso**; **Perona-Páez**, 2019). This therefore represents another relevant aspect of this work to highlight. Despite this, we observe a clear strategy on the part of the brands, since in any case the podcast will, of course, be aligned with the company's values. Moreover, to build a good branded podcast, brands must first define the value proposition, observe the market and the target audience, design a correct format, determine the objectives, and define its duration and distribution (**Orrantia**, 2022), which is not strictly achieved in the same way in all the analyzed podcasts.

Additionally, another finding to highlight from this analysis is that brands broadcast and distribute their podcasts through their own websites, where it is common to find a call to action or link, as well as through the wide range of audio

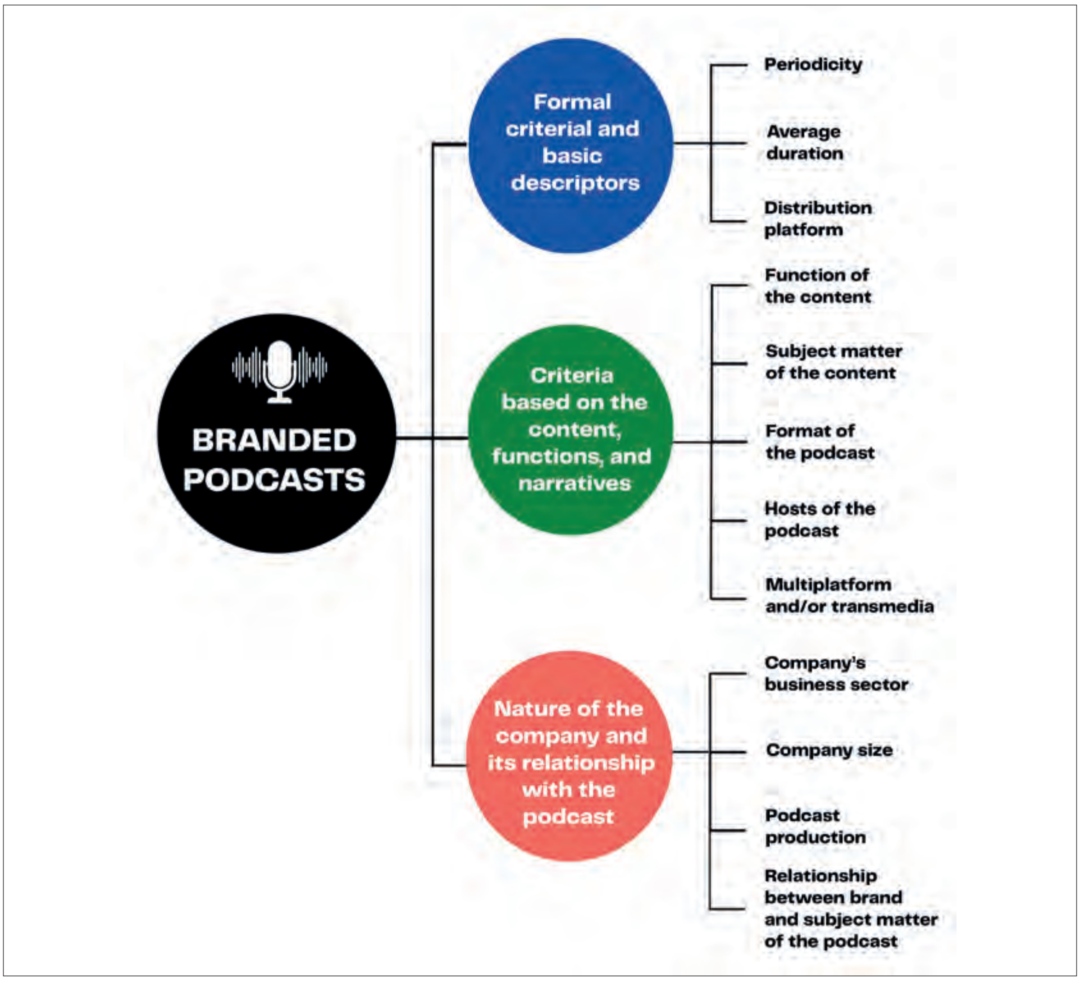

Figure 1. Infographic of the branded podcast classification proposal

and music platforms on the market, such as *Spotify*, *iVoox*, *Apple Podcasts*, etc. In this way, audiences can choose their favorite platform on which to enjoy such branded audio content. On some occasions, this multiplatform offering is transcended by incorporating the use of social networks, creating a truly omnichannel experience, as in the case of "Think then act" [*Pienso, luego actúo*] (*Yoigo*) or even a transmedia experience, as in the series "The power of the web" [*El poder de la red*] (*Vodafone*).

Brands have clearly understood that this communication format can be –and in fact is– an excellent tool for reaching their audiences and manage their branding. Companies of all professional fields and sizes are jumping on this bandwagon. Sectors such as banking and telecommunications are major sources of branded podcast production, but they are far from the only ones, as there are examples in a wide variety of fields, ranging from the food industry, commerce, marketing, to energy. While we find more of them in large companies and multinationals, there are also excellent podcast projects that come from modest and small companies.

This research confirms the investment in the creation of stories, as previously discussed by **Orrantia** (2019), which normally convey the values of the brands' identity. In fact, it is necessary to create this connection between content and brand, always bearing in mind the target audience, as this is the only way to create and reinforce effective bonds. In this regard, improving aspects related to the periodicity and distribution of the podcasts, in addition to their duration, is also recommended to achieve harmony and engage listeners. As noted by **Geets** (2019), with the use of podcasts, companies seek to create emotional bonds with their recipients, while reaching these target audiences more easily, thus helping to position the brand and stimulate conversation, among other things. These benefits surely bode well for the future of branded podcasts.

5. References

Aguayo-López, Virginia (2015). *El podcast como herramienta de comunicación empresarial*. Tesis doctoral, Universidad de Málaga.
https://riuma.uma.es/xmlui/handle/10630/10062

Amoedo, Avelino; **Moreno, Elsa** (2021). *El consumo de podcast en España permanece estable*. Digital news report España 2021.
https://www.digitalnewsreport.es/2021/el-consumo-de-podcast-en-espana-permanece-estable

Arense-Gómez, Alfredo; **Terol-Bolinches, Raúl**; **Pedrero-Esteban, Luis-Miguel** (2019). "La indexación del podcast en las plataformas de audio digital: criterios y estrategias de categorización". *Textual & visual media*, n. 12.
https://textualvisualmedia.com/index.php/txtvmedia/article/view/240/181

Barbeito-Veloso, María-Luz; **Perona-Páez, Juan-José** (2019). "Comunicación organizacional en clave sonora: el caso de *Blink*, los podcasts de *BBVA*". *Profesional de la información*, v. 28, n. 5, e280511.
https://doi.org/10.3145/epi.2019.sep.11

Beltrán-Ferreira, Sara (2017). *Análisis del contenido radiofónico en plataformas digitales: el caso de Podium Podcast*. Trabajo fin de grado, Universidad de Zaragoza.
https://zaguan.unizar.es/record/62613?ln=es

Bolin, Göran (2010). "Digitization, multiplatform texts, and audience reception". *Popular communication*, v. 8, n. 1, pp. 72-83.
https://doi.org/10.1080/15405700903502353

Boracchi, Chiara (2020). *Branded podcast: dal raconto alla promozione come "dare voce" ad aziende e istituzioni culturali*. Palermo: Dario Flaccovio Editore s.r.l. ISBN: 978 88 57912134

Bronner, Kai; **Hirt, Rainer** (2009). *Audio branding: Brands, sound and communication*. Baden-Baden: Nomos Edition Fischer. ISBN: 978 3 8329 4352 3

Cabeza-de-Vaca-Ruiz, Candelaria (2019). *El podcast en la actualidad. Clasificación temática de los podcasts*. Trabajo fin de grado, Universidad de Sevilla.
https://hdl.handle.net/11441/90454

Calvi, Maria-Vittoria (2006). *Lengua y comunicación en el español del turismo*. Madrid: Arco-Libros. ISBN: 84 76356498

Cangialosi, Greg (2008). "The podcasting revolution". In: Geoghegan, Michael-Woodland (ed.). *Podcast academy: The business podcasting book. Launching, marketing, and measuring your podcast*, pp. 5-19. Amsterdam: Focal Press. ISBN: 978 1 590595541

Corcobado, Miguel (2019). "Nace Podium Studios: "recupera las manos, recupera la mirada"". *Toyoutome*, 26 junio.
https://toyoutome.es/blog/nace-podium-studios-recupera-las-manos-recupera-la-mirada/44649

Cortés, Enrique J. (s.f.). *Podcast: el nuevo objeto de deseo de las marcas (y Spotify lo sabe)*. Godó Strategies.
https://www.godostrategies.com/godo_trends/podcast-el-nuevo-objeto-de-deseo-de-las-marcas-y-spotify-lo-sabe

De-Aguilera-Moyano, Joaquín; **Baños-González, Miguel**; **Ramírez-Perdiguero, Francisco-Javier** (2015). "*Branded entertainment*: los contenidos de entretenimiento como herramienta de comunicación de marketing. Un estudio de su situación actual en España". *Revista latina de comunicación social*, n. 70, pp. 519-538.
https://doi.org/10.4185/RLCS-2015-1057

De-Fontcuberta, Mar (1993). *La noticia. Pistas para percibir el mundo*. Barcelona: Paidós Ibérica. ISBN: 978 84 7509 950 7

De-Lara-González, Alicia; **Del-Campo-Cañizares, Elpidio** (2018). "El podcast como medio de divulgación científica y su capacidad para conectar con la audiencia". *Revista mediterránea de comunicación*, v. 9, n. 1, pp. 347-359.
https://doi.org/10.14198/MEDCOM2018.9.1.15

Deloitte (s.f.). *Predicciones TMT 2020*.
https://www2.deloitte.com/es/es/pages/technology-media-and-telecommunications/articles/predicciones-tmt-2020.html

Espinosa-de-los-Monteros, María-Jesús (2020). "'Podcast' de marca frente a 'podcast' corporativo". *El país*, 14 mayo.
https://elpais.com/elpais/2020/05/14/dias_de_vino_y_podcasts/1589462415_734271.html

Fernández-Lores, Susana; **De-Garcillán-López-Rúa, Mencía** (2017). "Comunicación y marketing de contenidos". En: Pintado-Blanco, Teresa; Sánchez-Herrera, Joaquín (coords.). *Nuevas tendencias en comunicación estratégica* (4ª ed.), pp. 217-254. Madrid: ESIC. ISBN: 978 84 17129 35 4

Gallego-Pérez, Juan-Ignacio (2010a). *Podcasting. Nuevos modelos de distribución para los contenidos sonoros*. Barcelona: UOC Press. ISBN: 978 84 9788 857 8

Gallego-Pérez, Juan-Ignacio (2010b). *Podcasting: distribución de contenidos sonoros y nuevas formas de negocio en la empresa radiofónica española.* Tesis doctoral, Universidad Complutense de Madrid.
https://eprints.ucm.es/id/eprint/11205

García-Marín, David; **Aparici, Roberto** (2018). "Nueva comunicación sonora. Cartografía, gramática y narrativa transmedia del podcasting". *Profesional de la información*, v. 27, n. 5, pp. 1071-1081.
https://doi.org/10.3145/epi.2018.sep.11

Gaspar, Isabel (2020). "Podcast, un mercado con un crecimiento imparable". *elEconomista.es*, 5 agosto.
https://marcas.eleconomista.es/estar-donde-estes-negocio/noticias/10700369/07/20/Podcast-un-mercado-con-un-crecimiento-imparable.html

Geets, Kevin (2019). "El éxito del 'podcast' y cómo tu marca puede aprovecharlo". *MarketingNews*, 8 mayo.
https://www.marketingnews.es/tecnologia/opinion/1132179054405/exito-del-podcast-y-marca-puede-aprovecharlo.1.html

Glaser, Barney-Galland; **Strauss, Anselm-Leonard** (1967). *The discovery of grounded theory. Strategies for qualitative research*. New York: Aldine de Gruyter. ISBN: 0 202 30260 1

Hammersley, Ben (2004). "Audible revolution". *The Guardian*, 12 February, p. 15.

IAB Spain (2020). *Estudio anual de audio online 2020*.
https://iabspain.es/estudio/estudio-audio-online-2020

Jenkins, Henry (2003). "Transmedia storytelling. Moving characters from books to films to video games can make them stronger and more compelling". *MIT technology review*, 15 January.
https://www.technologyreview.com/2003/01/15/234540/transmedia-storytelling

Jenkins, Henry (2006). *Convergence culture: where old and new media collide*. New York: New York University Press. ISBN: 978 0 8147 4281 5

Jenkins, Henry (2008). *Convergence culture. La cultura de la convergencia de los medios de comunicación.* Barcelona: Paidós. ISBN: 978 84 49321535

Jenkins, Henry (2009). "The revenge of the origami unicorn: seven principles of transmedia storytelling (well, two actually. Five more on Friday)". *Henry Jenkins*, 12 December.
http://henryjenkins.org/2009/12/the_revenge_of_the_origami_uni.html

Legorburu-Hortelano, José-María (2021). "Nos sigue gustando escuchar: el auge del audio en la era digital". *The conversation*, 17 marzo.
https://theconversation.com/nos-sigue-gustando-escuchar-el-auge-del-audio-en-la-era-digital-156246

Leonard, Mark (2017). "The seven most common podcast formats: with examples". *Mark Leonard*, 20 June.
https://mark-leonard.medium.com/the-seven-most-common-podcast-formats-87bbc3ecf40d

Llonch, Enric (2019). "¿Qué es el branded podcast? Y 10 claves para crear buen contenido". *Cyberclick*, 2 octubre.
https://www.cyberclick.es/numerical-blog/que-es-el-branded-podcast-y-10-claves-para-crear-buen-contenido

López-Villafranca, Paloma (2019). "Estudio de casos de la ficción sonora en la radio pública, RNE, y en la plataforma de podcast del Grupo Prisa en España". *Anuario electrónico de estudios en comunicación social 'Disertaciones'*, v. 12, n. 2, pp. 65-78.
https://doi.org/10.12804/revistas.urosario.edu.co/disertaciones/a.6547

Martí-i-Martí, Josep-Maria; **Ribes-i-Guàrdia, Xavier** (2018). "El podcast radiofónico en España: tipología y diversidad de contenidos sonoros". En: VV.AA. *Libro de comunicaciones del VI Congreso internacional de la AE-IC 'Comunicación y conocimiento'*, pp. 1885-1897. Madrid: AEIC. ISBN: 978 84 09 03393 5

Minsky, Laurence; **Fahey, Colleen** (2017). *Audio branding. Using sound to build your brand*. New York: Kogan Page. ISBN: 978 0 7494 7857 5

Moreno, Isidro (2003). *Narrativa audiovisual publicitaria*. Barcelona: Paidós. ISBN: 84 493 1441 0

Ormaechea, Ana; **Fernández-Delkader, Pablo** (2019). "Un viaje a través del audio". *Telos. Revista de pensamiento, sociedad y tecnología*, n. 111, pp. 16-20.
https://telos.fundaciontelefonica.com/wp-content/uploads/2019/07/telos-111-asuntos-de-comunicacion-ana-ormaechea-pablo-fernandez-delkader-un-viaje-a-traves-del-audio.pdf

Orrantia, Andoni (2019). *Diez claves para contar buenas historias en podcast. O cómo producir contenidos en un entorno digital cambiante*. Barcelona: Editorial UOC. ISBN: 978 84 9180 591 5

Orrantia, Andoni (2022). *¿Cómo habla tu marca en podcast? El audio en la estrategia de marketing digital de tu empresa*. Pozuelo de Alarcón (Madrid): ESIC. ISBN: 978 84 18944 44 4

Parra-Valcarce, David; **Onieva-Mallero, Charo** (2020). "El podcast como herramienta estratégica de comunicación corporativa. Análisis de su utilización por las empresas del índice bursátil IBEX 35 de España en sus portales web y a través de la plataforma iVoox". *Razón y palabra*, v. 24, n. 107, pp. 161-193.
https://www.revistarazonypalabra.org/index.php/ryp/article/view/1598

Pedrero-Esteban, Luis-Miguel (2021). "Los podcast también son para el verano (y estas son algunas recomendaciones)". *The conversation*, 19 julio.
https://theconversation.com/los-podcast-tambien-son-para-el-verano-y-estas-son-algunas-recomendaciones-163154

Pedrero-Esteban, Luis-Miguel; **Barrios-Rubio, Andrés**; **Medina-Ávila, Virginia** (2019). "Adolescentes, smartphones y consumo de audio digital en la era de Spotify". *Comunicar*, v. 27, n. 60, pp. 103-112.
https://doi.org/10.3916/C60-2019-10

Pérez, Lara (2020). "“Hay más compromiso, intensidad emocional y memoria a futuro con los podcast de marca”, I. B. (La Fábrica de Podcast)". *MarketingDirecto.com*, 5 junio.
https://cutt.ly/eNdArOc

Piñeiro-Otero, Teresa (2015). "Del jingle a las radios corporativas. Una aproximación al concepto de audiobranding". *Prisma social*, n. 14, pp. 663-688.
http://www.isdfundacion.org/publicaciones/revista/numeros/14/secciones/abierta/nbiblio_01_jingle_radios.html

Piñeiro-Otero, Teresa (2021). "‘Escúchanos, hermana’. Los podcast como prácticas y canales del activismo feminista". *Revista inclusiones*, v. 8, pp. 231-254.
https://revistainclusiones.org/index.php/inclu/article/view/2600

Podcaster@s (2021). *Encuesta Pod2021*.
https://www.encuestapod.com

Pratt, Steve (2018). "Branded podcasts are dead". *Pacific Content*, 5 February.
https://blog.pacific-content.com/branded-podcasts-are-dead-75148518afbd

Prisa (2019). "Prisa Radio lanza Podium Studios, una productora de audio enfocada al branded podcast y al audiobranding". *Prisa.com*, 25 junio.
https://cutt.ly/yNdAi53

Puerta, Héctor (2020). "La importancia del branding sonoro". *Be shared*, 11 noviembre.
https://beshared.es/audio-branding-sonoro

Puig-Falcó, Carlos (s.f.). *Audio branding. Marcas que dan la nota*. Branward.
https://branward.com/branderstand/audio-branding

Reason why (s.f.). *Hábitos de consumo de podcasts de los españoles*. Informe 2020 Spotify.
https://www.reasonwhy.es/media/library/spotify_informe_podcasts_espana_2020.pdf

Rodríguez-Reséndiz, Perla-Olivia (2022). "Aproximaciones al estudio del podcast como documento sonoro de origen digital". *Investigación bibliotecológica*, v. 36, n. 90, pp. 151-164.
https://doi.org/10.22201/iibi.24488321xe.2022.90.58512

Rogel-del-Hoyo, Carla; **Marcos-Molano, Mar** (2020). "El *branded content* como estrategia (no) publicitaria". *Pensar la publicidad. Revista internacional de investigaciones publicitarias*, v. 14, n. 1, pp. 65-75.
https://doi.org/10.5209/pepu.68369

Sellas, Toni (2018). "El uso del podcasting como herramienta de la identidad corporativa en la campaña del 90 aniversario de Iberia. El caso del podcast *Aerolínea Momentos*". *Communication papers: Media literacy and gender studies*, v. 7, n. 15, pp. 155-170.
http://doi.org/10.33115/udg_bib/cp.v7i15.22189

Sellas, Toni; **Martínez-Otón, Laura**; **Ortega-Seguí, Juan-Manuel** (2021). "El *branded podcast* como estrategia corporativa y de marca: sentido de pertenencia, pedagogía social y posicionamiento". En: Olivares-Santamarina, José-Prudencio; Gago-Gelado, Rocío (coords.). *El branded content en la comunicación posdigital: estructuras, aplicaciones y casos de éxito*, pp. 147-168. Valencia: Tirant lo Blanch. ISBN: 978 84 18534 05 8

Sherezade Branded Audio (2020a). "La importancia del branded podcast en la era de la audificación". *Sherezade*, 21 agosto.
https://sherazadepodcast.medium.com/la-importancia-del-branded-podcast-en-la-era-de-la-audificaci%C3%B3n-e21a9a3244e0

Sherezade Branded Audio (2020b). "First class: llegó el momento del podcast corporativo". *Sherezade*, 8 julio.
https://sherazadepodcast.medium.com/first-class-lleg%C3%B3-el-momento-del-podcast-corporativo-ab3ac8099096

Sherezade Branded Audio (2021). "Si sos una marca, tus clientes están escuchando podcasts ahora mismo". *Sherezade*, 1 abril.
https://sherazadepodcast.medium.com/si-sos-una-marca-tus-clientes-est%C3%A1n-escuchando-podcasts-ahora-mismo-c2fe2391cca7

Statista (s.f.). *Lista de sectores. Todas las categorías y subcategorías asociadas.*
https://es.statista.com/sectores

Universo Media (s.f.). *El podcast: un formato para conectar personas*.
https://universomedia.com/corporativo

Vidal-Mestre, Montserrat (2017). *Branding sonoro: el sonotipo como impulso emocional y mnemotécnico en las marcas.* Tesis doctoral, Universitat Abat Oliba CEU.
http://hdl.handle.net/10637/11604

Voxnest (2020). "The state of the podcast universe. 2020 mid-year preview". *Voxnest*, 30 June.
https://blog.voxnest.com/2020-mid-year-podcast-industry-report

6. Annex

Table 4. Brands and podcasts analyzed for the proposed branded podcast classification

Brand	Podcast title	Brand	Podcast title
Advance	Vets&Clinics	*Fisher-Price*	Placentera
AS	Los últimos de la lista	*Fisher-Price*	Bebé a bordo
AXA	Construyendo el futuro de tu negocio	*Fundación Telefónica*	Encuentros *Fundación Telefónica*
Banco Sabadell	Estar donde estés	*Fundación Telefónica*	Curiosidad radical
Bankia	Podcast para autónomos	*Fundación Telefónica*	Onda marciana
Bankia	Historias sobre humanismo digital	*Garoo*	Camino del éxito
BBVA	Aprendemos juntos	*Google News Initiative*	En primera persona
BBVA	Píldoras Agile	*Greenpeace*	Ruido blanco
BBVA	Edufin	*Guía Repsol*	Ciudades en 48 horas
BBVA	Blink	*Hermès*	Los podcast de *Le Monde d'Hermès*
BBVA	Desde la banca	*Hermès*	Las pesquisas de Penélope
BBVA	Voces	*Iberdrola*	Podcast sobre cambio climático
BBVA	Sencillo y efectivo	*Iberdrola*	FutbAll
BBVA	OpenMind	*Iberia*	Aerolínea momentos
BBVA	Acentos	*Ikea*	Cuando el descanso es un sueño
BBVA	Deep talks	*ISDI*	Digital explained
BBVA	Compartiendo conocimiento	*Krissia*	Mañana empiezo
BBVA	Data historias	*L'Oréal México*	Somos *L'Oréal México*
BBVA	Ni tan mal	*La Razón*	Noosfera
BBVA	Perspectivas	*Los 40 principales*	Cantando las 40
BBVA	Design Wednesday	*Los 40 principales*	Ídolos
BBVA	Futuro sostenible	*Mahou*	Sonido Morse
BBVA	*Fundación BBVA Perú*	*Mapfre*	La bolsa de deporte
BBVA	Creando futuro	*MarketingDirecto.com*	Marketing directo
BCMA Spain	Enfocados	*Mercadona*	¿Qué come un deportista?
BMI Cubiertas	Quiero renovar el tejado	*Metro de Madrid*	100 años en *Metro*
BP	Bienvenido a la vida peligrosa	*Movistar+*	En el corredor de la muerte
British Council	LearnEnglish podcasts	*National Geographic*	Curiosidades de la historia
CaixaBank	Economía cotidiana	*National Geographic España*	Viajeros *National Geographic*
Catalana Occidente	Perfiles	*Naturgy*	Oxigen
Chanel	El podcast de *Chanel*	*Naturgy*	Energía en positivo
Coca-Cola	Crónicas del futuro	*Netflix*	Nada que ver
Correos	Start	*Orange*	Por un uso *love* de la tecnología
Correos	Un futuro cercano	*Orange*	Hola planeta
Correos	En la cabeza de Carlos Soria	*Planeta de libros*	¿Leemos?
Covirán	Contra el desperdicio de alimentos	*Real Madrid C. F.*	Campo de estrellas
Cupra	The impulse	*Redit*	Innovación al día
Cyberclick	Lunes inspiradores	*Sanitas*	The Lab by *Sanitas*
DKV	Voces activistas	*Santillana*	Compartir en familia
Dr. Rubén Pascual	Ocularis	*Santillana*	Diario de una docente
El Corte Inglés	Ámbito cultural	*Seagram's Gin (grupo Pernod Ricard)*	¿Quién decide?
El Corte Inglés	Cuentos de Navidad	*Seagram's Gin (grupo Pernod Ricard)*	Hotel Jorge Juan
El País	Referentes	*SEAT*	Moving forward
Elena Plaza	Más que urgencias y emergencias	*Sephora*	Beauty talks
Elle México	Hablemos de moda: *Elle* podcast	*Telefónica*	Conectados progresamos
Endesa	Eficientemente	*Telefónica*	Mejor conectados
Endesa	Abrimos la ópera	*Viatge*	*Viatgeros* por el mundo
Estrella Damm	Discoforum	*Vodafone*	El poder de la red
Fisher-Price	Dale al play	*Vodafone Business*	Evolución digital
Fisher-Price	Charlas	*Yoigo*	Pienso, luego actúo

Podcast fandom in Europe: Audio audiences' participation in a digital context

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Abstract

Podcasts are an increasingly popular form of sound media that generate active listeners and fandom around them. These programmes present an opportunity for scholars to analyse not only new forms of consumption around convergent and on-demand media, but also the particular phenomenon of fandom related to audio productions in the current digital context. Scholars have mainly focused on studying how fandoms use podcasts to create content rather than on podcast fandoms. This paper analyses podcast fandoms in Europe, what distinguishes them from other active audiences, and how they engage with this digital media through online tools. To explore this, a method of triangulation is used, relying on content and netnography analysis, and both top-down and bottom-up strategies are considered across the biggest European markets. Results show that around a third of the podcasts in the sample have an active fandom that engages with these programmes through social media, primarily on *Instagram*, through the creation of content. This content usually highlights the brand identity of the podcasts through the creation of fan art and fan accounts, and that there are more consistencies across European fandoms than exist across European audiences. This suggests that social media sites, and particularly *Instagram*, are used by fandoms across Europe in an equivalent way to extend their textual productivity and that this is still what distinguishes audiences from fans. These findings have important implications for scholars and producers alike, both to build upon the knowledge of reception and fan studies and to understand how to encourage fandom engagement on social media sites.

Keywords

Fandom; Podcasts; New media; Digital media; Digital radio; Fans; Audiences; Reception; Audio communication; Europe; Social media; *Instagram*; *Twitter*.

1. Introduction

Since the early forms of broadcast, the study of audiences and how they engage with different forms of media has been of academic interest. As new media forms and technology have evolved, new patterns of consumption and possibilities of media engagement have appeared.

Audio productions are one of the media productions that have greatly benefited from this digital evolution: from radio programmes to online radio and, ultimately, to podcasts. This has allowed for the proliferation not only of the number of audio programmes but also of genres, the extension of audiences and forms of engagement.

Undeniably, the current digital context influences an already sophisticated (and overwhelmed) consumer. Audiences are active and engaged and seek to build communities, sharing interests across borders without space or timing restrictions.

To this complexity, it is pertinent to add the ramifications of reception studies and the multiple possibilities of considering media publics, such as regarding them as audiences, citizens, customers or even prosumers.

When focusing solely on their role as media audiences, and more precisely on those consuming audio formats, there is a particular phenomenon evolving across platforms besides on-demand and holistic consumption: that of fandom. For an audience member to be classified as part of a fandom, there is an extra motivation or implication that needs to be demonstrated, and that gains relevance in a context in which this member could choose between multiple options and forms of consumption.

This paper aims to understand how this phenomenon articulates in the particular environment of audio productions and, more particularly, when it comes to podcasts and social media, both being increasingly popular among audiences.

2. Literature review

This literature review aims to provide an understanding of how podcast fandom is constructed, combining radio and podcast studies, fan studies and social media studies. Firstly, the consolidation of podcasts and their success as a medium in Europe is covered to provide the necessary context. Then, the development of fan studies in the digital era and their relation to social media activity and active audiences are considered, with a focus on how these elements of transmedia convergence relate to podcasting.

Lastly, it assesses podcasts as an engagement medium, which leads to the consideration of podcasts as fan objects and the existence of podcast fandom. The goal is to also point out the detected gaps in the literature that justify the relevance of this research.

2.1. Podcasts and European audiences

The last ten years have seen the growth and consolidation of podcasting. The number of podcasts has increased hand in hand with the number of listeners, and the medium has professionalised, with several podcasts even becoming a cultural phenomenon (**Berry**, 2016; **Spinelli**; **Dann**, 2019). This is the "second age of podcasting" (**Bonini**, 2015), where podcasts have become a mass consumption medium with a sustainable market that stands as an alternative to radio and not merely an extension.

When it comes to podcasting, private multinational streaming platforms such as *Spotify* are dominating the European market (**Bossetta**, 2020). Even if in its inception podcasting was born in a decentralised system, it is being increasingly shaped by platformization by commercial players entering the business (**Sullivan**, 2019). The integration of podcasting into music streaming platforms has contributed to the maturity and consolidation of the medium. Worldwide, 18% of streaming users listened to podcasts in 2018 (**Mulligan**, 2019). In Q2 of 2021, *Spotify* remained the world's leading podcast streaming provider with a market share of 31% of total subscribers (*MIDiA Research*, 2021). The platform has shown a strong commitment to podcasting by spending over 600 million U.S. dollars between 2019 and 2020 on podcast company acquisitions such as *Anchor FM*, *Gimlet Media* and *Parcast* (**Stassen**, 2020).

It is also important to understand the evolution of radio audiences to online radio and, ultimately, to podcasts. The main shift from linear broadcast to digital consumption has to do with on-demand media, with podcast listeners becoming "self-scheduling consumers" (**Murray**, 2009).

The profile of podcast listeners has been linked to that of the early adopters of new technologies (**Rogers**, 2003). Demographic research into podcast listeners showed that they are mostly male, young, highly educated and with a higher income than the general population (**Chadha**; **Avila**; **Gil de Zúñiga**, 2012; **Samuel-Azran**; **Laor**; **Tal**, 2019). However, these results are geographically limited and might not apply to other areas and consumer segments. Consumption of podcasts has become dynamic, with multiple profiles of users seeking different goals in different settings and access scenarios (**Chan-Olmsted**; **Wang**, 2022).

Concerning podcast-listening intensity, two European markets stand out: Spain, with 32% of occasional podcast listeners (10 hours or less of consumption per week) and 3% of frequent ones (11 hours or more of consumption per week), and the United Kingdom, with 29% of occasional podcast listeners and 4% of frequent ones. Table 1 shows the details for the biggest European markets.

Table 1. Podcasts listening intensity (*Statista*, 2021)

	France	United Kingdom	Germany	Spain	Italy
Frequent listeners	2%	4%	3%	3%	2%
Occasional listeners	19%	29%	24%	32%	21%
Non-user / no answer	79%	67%	73%	65%	77%

Regarding the distribution of podcast audiences in the biggest European markets, there seems to be a majority of listeners that are still not users, although it is a consumption trend that has been consistently and significantly increasing throughout these past years (**Brentnall**, 2021) In the United Kingdom, the estimated number of podcast listeners in 2017 was 8.9 million. Now in 2022, the estimate claims 21.2 million listeners, with a projected 28.1 million by 2026 (*Statista*, 2022).

> Audiences are active and engaged and seek to build communities, sharing interests across borders without space or timing restrictions

2.2. Digital fandom and audience productivity

Early research proposed fans as productive consumers, who "poached" source texts from pop culture and reworked them to fit their own needs and desires (**Jenkins**, 1992). **Fiske** (1992) considered three types of audience productivity: Semiotic productivity, enunciative productivity, and textual productivity. The last one is physical and appears when fans manifest their compromise by reworking popular texts, materialising in fan-created and fan-distributed content. Examples include writing fan fiction, creating fan art or cosplaying.

These concepts were proposed at a time when most fandoms developed face-to-face and when the opportunities for creating and circulating content were limited. Textual productivity served as a way to identify fans since it implied a prominent level of investment. It was possible to establish a continuum between regular viewers and highly organised petty producers (**Abercrombie**; **Longhurst**, 1998). Nowadays, the possibilities allowed by digital media have turned a wider proportion of the population into "produsers" (**Bruns**, 2008). Under this new environment, and considering that fans had always used any technologies available at the time to pursue their interests (**Booth**, 2017; **Pearson**, 2010), digital fandom has become more visible and has reached the mainstream (**Grandío**, 2016). Now that the barriers to textual production are lower, in digital spaces, it becomes unclear if social media content constitutes enunciative or textual productivity, and, accordingly, what separates a fan from a casual commenter. Regardless, most of the work on fandom still focuses on the textual productivity of fans extending its study to digital and social media outlets (**Hills**, 2013).

Media convergence has fostered and co-opted fan cultures, with some media companies choosing a top-down (from producers to audiences) collaborationist approach to offering materials and designing spaces for audience engagement and their contribution to transmedia narratives (**Jenkins**, 2008). **Askwith** (2007, p. 3) conceptualised television viewer engagement as "the range of opportunities and activities that become possible when drawing upon an expanded, multiplatform conception".

This multiplatform conception is also present in podcasts and social media. The engagement of active audience members is a clear goal of platforms to turn participation into user-generated content, which is crucial to the circulation and promotion of a "spreadable" text in various outlets (**Jenkins**; **Ford**; **Green**, 2013). **Barger**, **Peltier** and **Schultz** (2016) focus on consumer engagement in the levels of reacting to content, commenting on content, sharing content with others and posting user-generated content. This last category aligns with the realm of bottom-up (from audiences to producers) fan textual productivity under the convergence model.

Fan studies have reached a phase of counter-hegemonic negotiation in which older paradigms about fandom and audience productivity have been revised, introducing new theoretical and epistemological approaches to account for the ethnic and racial perspectives, fan activism and these new relationships between fans and producers (**Prego-Nieto**, 2020). Under the new "Convergence Culture Industry" (**Scott**, 2019), fan productivity has been commoditized by media companies who seek profit from audience interactions. This production has been regarded as work (**Stanfill**; **Condis**, 2014), and in the context of digital spaces, it falls under the realm of unpaid "free labour" (**De-Kosnik**, 2012; 2013; **Terranova**, 2013). The fact that companies gain profit from unpaid content generated by fans has raised concerns about the possible exploitation of fandom (**Establés-Heras**, 2020; **Stanfill**, 2019), and the possibility of fostering certain interactions or others depending on the gender or race of the fans, who are assumed to be white (**Pande**, 2018; **Scott**, 2008; 2019).

It is under these digital convergence contexts where podcasting has grown and developed, turning to social media as a means to build connections with audiences (**Bonini**, 2014).

Besides social media promotion, ancillary productions that accompany the podcast, such as books, merchandise, and live events, can function as para-texts, which become entry points to the podcasts for new audiences (**Gray**, 2010) and are central when it comes to transmedia strategies (**Scolari**, 2013). The interactions gathered in social media have commercial value since follower and like counts are measurable markers of success and can be a guarantee when looking for sponsorships (**Adler-Berg**, 2021).

Podcasts have also integrated user-generated content into their structure. In many podcasts, audiences and fans participate when their comments, questions and interventions are included in the content of the episodes themselves. This interaction has existed in radio before, but the engagement between podcasters and fans is enhanced. The interaction is present in the podcasts, in the spaces of fan interaction and the fan-made texts present in them.

> Podcasts have become a mass consumption medium with a sustainable market that stands as an alternative to radio and not merely an extension

> Under these digital convergence contexts where podcasting has grown and developed, turning to social media as a means to build connections with audiences (Bonini, 2014)

Producers can create their own spaces to foster fan communities, but now most of them rely on social media platforms to reach wider audiences (**Wrather**, 2016). Social media discussion groups also allow followers of specific programs to share their opinions, and to expand and speculate about plot development, tying loose ends, or searching for clues. This is how collective fan cultures around a podcast are developed (**López**; **Monteiro-Homssi**, 2021). Since most podcast listening applications don't incorporate the possibility of adding comments at the moment of listening, a multiplatform approach is necessary (**García-Marín**, 2020).

2.3. Podcast engagement and fandom

In this process of seeking collaboration from listeners, podcasts turn into an engagement medium. **García-Marín** (2020) detects the factors that influence the engagement of podcast audiences, which has multiple dimensions. It is related to three elements: the characteristics of the medium itself, the consumption habits of the users and the media literacy of the creators. Podcasting creates more of a horizontal relationship between transmitters and receivers than what is present in traditional media. This can lead listeners to view the podcaster as one of them, a member of their community (**Sellas**, 2011). Although a completely horizontal interaction between hosts and their public is not present (**García-Marín**; **Aparici**, 2020), followers still engage with podcasters as if they were friends who want them to be successful. This is caused by a perceived authenticity and intimacy from podcasters who share personal stories on the program and on social media and who stay in touch with their audience (**Adler-Berg**, 2021; **Meserko**, 2014).

This closer relationship of podcast audiences with their hosts has been studied under the lens of Para-social relations (PSR) and Para-social interactions (PSI) (**Giles**, 2002; **Hartmann**; **Goldhoorn**, 2011), where fans feel like they know the presenters personally and could even be their friends. The seriality of podcasts encourages repeated listens, and since listeners adopt an active role to select content on-demand, they are already more engaged (**Schlütz**; **Hedder**, 2021). Although these relations are essentially one-sided, the direct interaction of podcasts hosts with their fans on social media makes them more intense and increases identification (**Pavelko**; **Myrick**, 2020)

The engagement of podcast listeners and their motivations have also been studied within the Uses and Gratifications (U&G) frame. U&G centres on the assumption that audiences are active, they can satisfy their wants and needs by selecting media based on their goals and objectives (**Rubin**, 2002; **Williams**; **Rice**; **Rogers**, 1988). This bodes well with podcasting since podcast audiences are already active in selecting the episodes they want to listen to. When analysing the main motivations of true crime podcast listeners, they listed entertainment, convenience, and boredom. Many listeners declared to participate in podcast-specific communities, and some of them even binge-listen to podcasts they enjoy (**Boling**; **Hull**, 2018).

Podcast studies have addressed the active audiences of podcasting, and the factors that play a role in creating audience engagement. Most of the contributions that consider their productive practices come from the field of fan studies. **Hills** (2009) exposed the need to bridge the gaps between fan studies and radio studies, noting a lack of research from both fields into radio fandom.

Since then, the act of hosting and sharing a podcast online has been compared to productive fandom (**Salvati**, 2015), which consists of multiple activities based on popular media (**Lamerichs**, 2018). Podcasting about a field of interest can be a form of the aforementioned textual production (**Fiske**, 1992). As media convergence shifted how audiences access and consume media, with users selecting audio content through multiple platforms, understanding their "fan-like" behaviours seems crucial to binding them to specific programs, anchors or brands (**Hills**, 2009).

When considering the means of production present in independent podcasting, the activity has also been compared to fan labour (**De-Kosnik**, 2012; 2013; **Turk**, 2013). This has been the case with episodic television podcasts, which are dedicated to examining an individual television series episode-by-episode and are hosted by self-declared fans of such series (**Savit**, 2020). Since the chosen series tend to have an already well-established fan community, these podcasts act as a hub where fans can connect and new communities can be created (**Cameron**, 2017). The format of podcasting offers a space that's resistant to external intrusion from people outside their group because listening to the contents of a podcast requires more commitment than reading text-based content from a social media feed, so this deters potential harassers (**Florini**, 2019).

> Although a completely horizontal interaction between hosts and their public is not present (García-Marín; Aparici, 2020), followers still engage with podcasters as if they were friends who want them to be successful

Hitherto these contributions focus mostly on media fans that create podcasts and not so much on fans of podcasts. Although **Savit** (2020) considers how the hosts gain notoriety within the general fandom as these projects grow, generating an active fandom around themselves as well as the programme, how these fandoms are articulated is yet to be widely explored. In this line of research, the *Welcome to Night Vale* fandom seems to be the exception as it has sparked the interest of scholars (**Spinelli**; **Dann**, 2019; **Weinstock**, 2018; **Włodarczyk**; **Tyminska**, 2015). The show built a fan base early on, and included crowdfunding, merchandising and live events as sources of income as their audience grew. Since *Welcome to Night Vale* is a fiction podcast with elements of horror and science-fiction, its contents align with cult texts (**Gwenllian-Jones**; **Pearson**, 2004) that have been studied in media fandom, although fan studies have tended to privilege television and film over audio media (**Hills**, 2009). Audio elements instead, like the anchor's voice, seem to be what made the podcast attractive to the audience (**Włodarczyk**; **Tyminska**, 2015), which points out the increasing interest in this type of programme from a fandom studies perspective.

The objectives of this paper include the goals of (1) explaining the elements that set podcast audiences and podcast fandom apart, considering both top-down and bottom-up strategies (Jenkins, 2008); (2) understanding how European fandoms engage with these programmes; and (3) assessing differences and similarities in the analysed European markets

The productive fandom of *Welcome to Night Vale* fits into what has been usually studied in terms of transformative fan works (**Jenkins**; **Ford**; **Green**, 2013), but it is also important to consider not only the most evident instances of fandom. In the field of social media contributions, we can value more casual forms of participation and hybrid forms of semiotic-enunciative-textual contributions and user-generated content (**Barger**; **Peltier**; **Schultz**, 2016; **Hills**, 2013).

Also, many studies focus on one single podcast or a single social media platform. Since each online space where fans interact has its design, the practices built on one might be different from the ones that can be found in another. While specific platforms might disappear, fans tend to migrate to different spaces (**Fiesler**; **Dym**, 2020) Studying the content found on multiple platforms then allows for a wider understanding of fan phenomena (**Alberto**, 2020).

Lastly, although cultural differences in podcast fans have been addressed (**Włodarczyk**; **Tyminska**, 2015), a wider view across multiple countries is still needed. This research aims to cover the aforementioned gaps, analysing the most popular European podcasts, assessing which ones have an active fandom and what distinguishes fans from casual audiences, and examining how fandoms engage with these programmes online.

3. Methodology

Considering this context of media evolution from sound to sound-media and digital fandom, it is important to understand how audiences interact with new audio or sound formats, and how fandom articulates across platforms in Europe.

The objective of this paper is to analyse the behaviour of podcast fandoms in Europe. Considering the digital dimension of the media production itself, as well as the solid use that fandoms make of online tools, this paper analyses the online behaviour of the fandoms of these programmes.

More specific objectives of this paper include the goals of

(1) explaining the elements that set podcast audiences and podcast fandom apart, considering both top-down and bottom-up strategies (**Jenkins**, 2008);

(2) understanding how European fandoms engage with these programmes; and

(3) assessing differences and similarities in the analysed European markets.

To achieve these objectives, this paper answered the following research questions, which reflect on the gaps found after reviewing the existing literature. This is, rather than focusing on podcasts as fan labour or as examples of fan productions and productivity, we focused on analysing the fandom of the podcast programmes themselves. We also considered a variety of multiple programmes and diverse cultures. The inquiries that this paper answered are:

RQ1: What and where are the main podcast fandoms in the main European markets?

RQ2: How do European fandoms behave on social media platforms concerning podcast programmes that they follow?

RQ3: How do European markets compare in terms of fandom activity?

To answer these research questions, this paper followed a triangulation of methods, relying on qualitative methodology, which is the most frequent and adequate method to analyse, understand and explain fandom activity and fandom behaviour.

More particularly, a combination of content analysis and netnography was used, following an exploratory mixed-method approach, which is useful for analysing both the media environment and the social interactions (**Seelig** *et al.*, 2019).

3.1. Content analysis of podcast programmes

Content analysis enables researchers to study media texts in a way that is empirically grounded and exploratory in the process (**Krippendorff**, 1980). Although its origins are mainly quantitative, and maintaining this dimension in a mixed-method approach allows for more solid research, combining quantitative categories with qualitative content analysis allows for systematically describing the meaning of qualitative material (**Schreier**, 2012).

To identify the main fandoms of European podcasts, this research has firstly identified and analysed the top podcasts on *Spotify* of the five biggest European markets, namely France, Germany, Italy, Spain, and the United Kingdom. *Spotify* was selected as the main platform due to its high popularity as a podcast platform within the European market (**Bossetta**, 2020).

To obtain a sample of programmes that is representative of what audiences listen to (and which is more susceptible to enabling a noticeable fandom) the most popular podcasts were considered for analysis. Rather than focusing on podcasts that discuss a specific theme or that meet certain production characteristics (e.g.: interview-based), focusing on the most popular ones allows for identifying what audiences are more drawn to, and exploring whether certain genres or types of podcasts are more susceptible to generating fandom around them.

To identify what these programmes were, the website *Podcast charts by Spotify* was used, which publishes official information gathered and generated by the platform itself (*Spotify*, 2022). A purposeful sample of five hundred podcasts was extracted from this source, which included the top one hundred most popular podcasts in each one of the countries that were part of the sample. The selection of podcasts took place in February 2022. Hence, the characteristics that enable the sample would be the fact that the programme is available on *Spotify* and that it is officially classified by the platform as one of the most popular ones.

After compiling the final list of the most popular podcasts, a preliminary content analysis was conducted to understand the podcasts, as well as finding the programmes with an active fandom. This resulted in a framework of comparison focusing on two units of analysis: the programme's (1) main characteristics and (2) use of digital tools and social media to engage with potential fandom.

3.1.1. Coding sheet

The preliminary analysis was conducted to understand the defining characteristics of the most popular programmes, with the purpose of data scrubbing and conducting further nethnographic qualitative analysis of programmes that showed evidence of bottom-up or top-down strategies. In this phase of analysis, categories included country, name of the programme, host or hosts of the podcast, and the description they have on *Spotify*, along with the keywords that stand out in these descriptions.

Another element of analysis was the topic of the podcast, which refers to the subject discussed and the category of the programme. For this classification, we adapted the "category podcaster" observed indicators suggested by **Tsagkias** *et al.* (2008) and considered the authors' claim that podcasts are highly topical and narrow-targeted. Considering this classification, the official classification of the programmes on *Spotify* and the description of the podcast, a list of values was created in a deductive manner.

It is worthy of mention that a specific distinction is made between "Comedy" (content mainly relying on humour) and "Entertainment" (the content can be humorous, but the main goal is to amuse, different emotions can be identified in the episodes). Hence, the deductive taxonomy of podcasts includes seventeen distinct values: Business, Children, Comedy, Culture and society, Current affairs, Documentary, Entertainment, Fiction, Lifestyle, Personal, Philosophy, Politics, Psychology, Science, Sexuality, Sports, and True Crime.

The seventh category analysed was the digital platforms, for which two specific social networks were selected: *Instagram* and *Twitter*. Both sites allow for social interaction and potential social experience, which enhance a sense of community; and are preferred by fandoms to enable their activities and share their experience (**Blight**; **Ruppel**; **Schoenbauer**, 2017; **Radmann**; **Hedenborg**, 2022). These platforms also comply with the requirements of netnography analysis identified by **Kozinets** (2015), stating that sites must be, among other factors, relevant, interactive, heterogeneous, rich in data, and experiential. Podcasts may have a presence on *Instagram*, *Twitter*, both sites or none.

Related to this, the analysis was performed also considering online communities around *ad hoc* hashtags (**Bruns**; **Burgess**, 2011). Data was collected from *Instagram* and *Twitter* using different methods explained below, in six months, from January to June 2022, both months included. Although this time frame does not allow to describe the evolution of fandom, it accounts for a significant part of the podcast season.

To collect data from *Instagram*, the digital scraper *Apify* was used; in particular, its tool *Fast Instagram Hashtag Scraper*, which extracts data from the available *Instagram* posts for a given list of hashtags. Five runs were conducted with the scrapper, each of them with the list of hashtags pertaining to the podcasts of each one of the countries analysed. A total of 7,161 *Instagram* posts were retrieved with this method (263 in France, 1,712 in Germany, 397 in Italy, 1,430 in Spain, and 3,359 in the United Kingdom).

Original tweets were collected using *Python* and the open-source *Python* package *Tweepy*, which grants access to the *Twitter* API. The same list of hashtags was used, with a limitation of five hundred tweets per request. In total, 8,033 tweets containing the pertinent query were collected (903 in France, 1,874 in Germany, 478 in Italy, 1,874 in Spain, and

2,904 in the United Kingdom). This translates into a total of 18,002 posts on both platforms combined.

> The chosen methods are content and netnographic analysis of the fandom activity in some of the most popular podcast programmes in the European markets

Finally, fandom activity was filtered for conducting further analysis, and this consisted of two elements: fan-created content and fan touchpoints. In this first phase of analysis, the main purpose was to find whether this fandom activity existed or not, simply marking each element as positive or negative. Besides the examination of hashtags, two other techniques were used to find active fandom: a search query with the name of the podcast on each platform, with the intention of finding fan accounts, and an exploration of tagged *Instagram* posts in the last six months (from January to June 2022), which is a strategy used by fans to reach out to their programme of interest. These tagged posts were manually counted from the podcasts' *Instagram* accounts, finding 2,808 posts in total (153 in France, 445 in Germany, 205 in Italy, 423 in Spain, and 1,582 in the United Kingdom).

Fan-created content was marked positive when explored *Instagram* posts and tweets included elements of productive fandom such as fan-created accounts or fan art. Enunciative comments about the podcasts were not considered fan content. Although any interaction with a program could be considered a way of engagement, this exclusion allowed to distinguish casual social media users from active fans. Fan touchpoints were detected when posts and tweets included content about users having physical interaction with the podcasts or their hosts, via merchandising or attendance to live events.

This allowed us to clearly identify fandoms and focus on online communities that are (1) suitable for the research questions and topic), (2) demonstrated higher engagement, and (3) generated descriptively rich data, which are elements that imply an important adaptation to the online context and guarantee the proper application of the next step of examination: netnography analysis (**Kozinets**, 2002).

3.2. Netnographic analysis of fandom activity

Netnography analysis examines how social reality is constructed online, allowing researchers to study the interaction between users, different narratives and practices, and even how people manifest creativity online (**Kozinets**, 2015). This approach allows for applying observational and textual analysis when studying fandom (**Hernández-Santaolalla**; **Rubio-Hernández**, 2017).

After the first filtering, programmes that showed an active fandom by having (1) fan-created content, and/or (2) fan touchpoints were selected. A total of 36,5% of podcasts generated fan-created content, whereas 33,1% of the analysed podcasts had fan touchpoints. This translates into a final selection of forty programmes that showed to have an active fandom by having either both or one of the elements mentioned above.

The Table 2 includes the fandom activity for six months, from January to June 2022, both months included. A final qualitative content analysis was performed on this sample, with a total of 18,093 data points, analysing the activity of the fandom. Out of the possible forms of consumer engagement that have been discussed in the literature (**Barger**; **Peltier**; **Schultz**, 2016), for this research, the analysis focuses on fandom that posts user-generated content, as it shows a higher level of engagement with the podcast programmes.

Considering this, two aspects of fandom production were analysed: fandom type, referring to the nature of the post (fan account, fan art, fan memes, fan events, fan pictures) and fandom content, referring to the textual matter of the posts (merchandising, a recap of an episode, parody, fake clips, segments of the programme, brand identity, or host(s) praise).

3.3. Limitations

Although the methodology described has been proved valid and reliable when studying fandom and online communities, there are certain limitations drawn from the choice of methods that are worthy of acknowledgement.

On the one hand, the limitations of netnography revolve around the focus on online communities, which makes it difficult to generalise the findings to an offline environment where fandom may be present too (**Kozinets**, 2002). On the other hand, the final sample is not too extensive, and future projects studying this topic would benefit from selecting a longitudinal time frame to broaden the sample and potentially assess the evolution of the programmes and their fandoms throughout full seasons. This paper aims to contribute to the field of podcasting fandom, which has not been largely analysed, but it is important to acknowledge that this contribution is exploratory and including a wider sample and longitudinal across time would improve the generalizability of results.

Finally, a key challenge of netnography is that researchers face datasets that are constantly changing. Considering that the sample represents fandom activity for six months, results describe European podcast fandom in this specific period, but the datasets (both the most popular European podcasts and the ones with an active fandom) are sensitive to shifts in a relatively brief period of time.

> The programmes that are the most celebrated in terms of fandom in Europe fall into two categories: entertainment, and culture and society

Table 2. List of selected podcasts with an active fandom

Podcast	Country	Posts (IG)	Tweets	Fan accounts	Tagged posts	Total
Le précepteur	France	36	11	0	13	60
FloodCast	France	31	487	1	0	519
Le coeur sur la table	France	1	5	0	65	71
Les couilles sur la table	France	88	4	0	59	151
Hondelatte raconte	France	107	396	0	16	519
Gemischtes Hack	Germany	449	241	32	9	731
Hobbylos	Germany	13	1	2	1	17
Fest & Flauschig	Germany	367	491	7	0	865
Offline + Ehrlich	Germany	3	1	1	0	5
Geschichten aus der Geschichte	Germany	43	6	0	21	70
Mordlust	Germany	392	371	9	68	840
Baywatch Berlin	Germany	280	495	16	62	853
Kaulitz Hills - Senf aus Hollywood	Germany	80	248	1	250	579
Mord auf ex	Germany	85	20	7	34	146
Muschio selvaggio	Italy	164	239	0	118	521
Il podcast di Alessandro Barbero: Lezioni e conferenze di storia	Italy	8	137	0	30	175
*Non Aprite quella podcast**	Italy	21	17	0	0	38
Demoni urbani	Italy	82	11	1	0	94
Cachemire podcast	Italy	112	68	1	57	238
Dee Giallo	Italy	10	6	0	0	16
Estirando el chicle	Spain	303	324	3	279	909
Nadie sabe nada	Spain	373	498	3	33	907
Entiende tu mente	Spain	364	499	0	99	962
La pija y la quinqui	Spain	4	33	1	7	45
Acabar	Spain	0	2	0	5	7
Deforme semanal ideal total	Spain	41	26	0	0	67
Bilateral con Calle y Poché	Spain	345	492	0	0	837
The Joe Rogan experience	United Kingdom	816	457	2	1.070	2.345
The diary of a CEO with Steven Bartlett	United Kingdom	664	333	0	0	997
The always sunny podcast	United Kingdom	68	84	0	40	192
Rob Beckett and Josh Widdicombe's parenting hell	United Kingdom	185	136	1	22	344
JaackMaate's happy hour	United Kingdom	0	494	0	0	494
Off menu with Ed Gamble and James Acaster	United Kingdom	188	19	1	70	278
Call her daddy	United Kingdom	84	486	1	311	882
*Sh**ged married annoyed*	United Kingdom	479	494	1	0	974
The fellas	United Kingdom	18	8	0	3	29
ShxtsNGigs	United Kingdom	17	19	0	23	59
The girls bathroom	United Kingdom	76	3	0	40	119
Huberman lab	United Kingdom	757	137	0	0	894
Fozcast - The Ben Foster podcast	United Kingdom	7	234	0	3	244
Total		7.161	8.033	91	2.808	18.093

*This programme has been included because, despite not having tagged posts, the official account of the programme highlights fan reactions and merchandising on their *Instagram* account.

4. Results

It is pertinent to mention that although the first purposeful sample is balanced in terms of quantity and shows certain homogeneity among countries (selecting the 20 most popular programmes out of the list of the 100 most popular podcasts), there is a certain disparity in terms of the categories that form the sample and not all countries are part of the final sample in the same proportion. Hence, out of the forty programmes, 5 (13%) are from France, 9 (23%) are from Germany, 6 (15%) are from Italy, 7 (18%) are from Spain, and 13 (33%) are from the United Kingdom.

Moving on to the more specific results, to explain the elements that set podcast audiences apart from fandom, as aforementioned in the literature review and the methodology, both top-down and bottom-up strategies are considered. The selected sample leaves out podcasts that have an active fandom revolving around the host rather than the programmes, to avoid having a contaminated sample. These are programmes that the host promotes through their social media and where no specific fandom-created content or touchpoints related to the podcast could be found. Likewise, in the case of *It's always sunny podcast*, fan posts that were more related to the television show rather than the podcast itself have not been counted.

Out of the sample of one hundred programmes, 36,5% of podcasts generated fan-created content (fan art, fan accounts, etc.), whereas 33,1% of the analysed podcasts had fan touchpoints (either live shows or merchandising).

General results showed that the main categories of the most popular podcasts in Europe are entertainment, culture and society and current affairs, and fandom does revolve around the first two topics, but the third place is occupied by comedy, with no programme dedicated to current affairs showing any active fandom.

This result is particularly interesting to establish a line of research when studying fandom audiences, since determining which categories are the ones motivating fandoms the most, and whether it aligns with the most popular categories or not, allows for a more in-depth study and selection of the sample, and it can be inferred that genre does play a role in audience engagement (**García-Marín**, 2020).

There are categories of programmes that have a significant presence in the general sample that completely disappear in the selected sample with active fandoms, such as programmes that focus on current affairs or politics. This suggests that the nature of the podcast itself may have a strong influence on fandom engagement, but at the same time, it is worthy to mention that these programmes were amongst the ones with not as strong top-bottom strategies.

Notwithstanding, both aspects might be related, as news programmes are not as inclined to the studied top-bottom strategies such as creating merchandising or touring and interacting with audiences in live shows.

Figure 1. Topics of the most popular podcasts in Europe

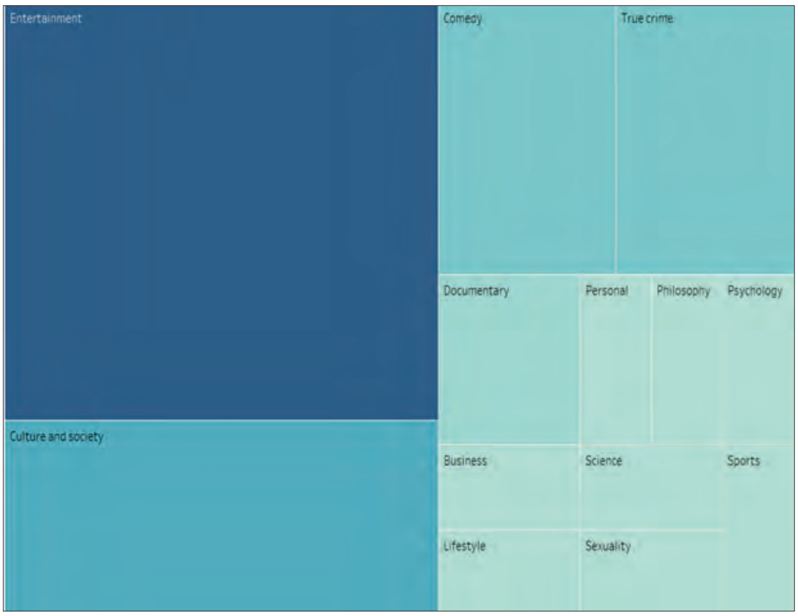

Figure 2. Topics of European podcasts with an active fandom

As per "where" the main European podcast fandoms are, the majority of these communities are active on both *Twitter* and *Instagram* but there is a preference shown towards *Instagram* for fandom-created content. Fandoms use exclusively *Instagram* 60% of the time, 37,5% of the time both *Instagram* and *Twitter*, and exclusively *Twitter* only 2,5% of the time. These results show that *Twitter* is not as used in this regard, although fandom seems to gather around the podcasts' names and hashtags to express their admiration and have informal conversations. Podcast hosting platforms such as *Anchor* and *iVoox* are well established on *Twitter*, but they don't have such a strong presence on *Instagram*, which points to inconsistency with fandom activity (**Caballero-Escusol**; **Nicolas-Sans**; **Bustos-Díaz**, 2021).

To understand how European fandom engages with podcasts, within the selected sample three main elements were analysed: (1) the platform (*Instagram*, *Twitter*), (2) the type of fandom activity (fan account, fan art, fan meme, fan event, or fan picture), and (3) the content of the activity (merch, recaps, parody, fake clip, mashups, segment, brand identity, or host praise).

The most common type of fandom activities is mainly fan art and fan pictures. Podcast fandoms create fan art, usually, digital illustrations, which display the brand identity of the podcasts, highlighting their main elements such as the name, the hosts, and quotes that have caught their attention. In some cases, these illustrations are handwritten, and a photograph is uploaded, which still demonstrates a prominent level of fandom involvement.

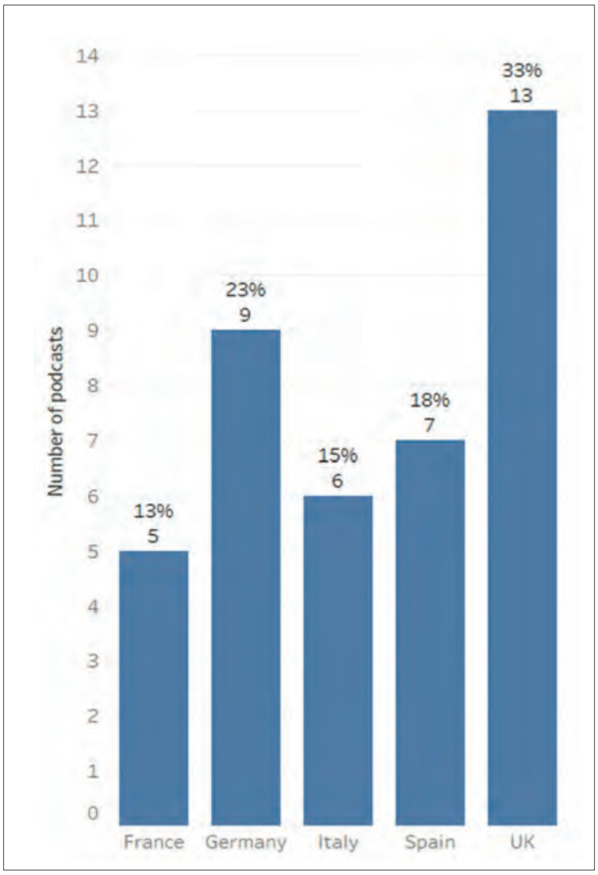

Figure 3. Podcasts with an active fandom per country

Fan pictures, on the other hand, are mainly from fandoms that attend the podcasts' live shows, meet the hosts, or upload personal pictures of themselves watching the podcast or, notably, with merchandising. In all of these cases, although the fandom did not create transmedia expansions (**Scolari**, 2013), they are building the podcasts' presence in the digital environment. These are also instances of enunciative fandom (**Fiske**, 1992). Sharing the attendance to shows, or the ownership of merchandising, signals individuals as fans and supporters of the content.

The third most usual form of fan creation, fan accounts, are not as predominant but still have a significant presence. There is a particular phenomenon that seems to be consistent across the fandoms that are part of the sample, which is the creation of accounts "out of context" on *Twitter*. This means that the authors of these accounts take segments of the programme that they find interesting, funny, or catchy and they upload these short clips without a caption (without context). It has an entertaining goal for the rest of the fandom. The recirculation of content under new contexts demonstrates the "spreadability" of podcasts (**Jenkins**; **Ford**; **Green**, 2013). Even if these contributions are based on remixing and repetition, they are transformative expansions of content. Findings about meme-content creation are rather minor, but they are present, and some fan accounts are entirely dedicated to memes about the podcast programme.

As per the content of these creations, the vast majority of fandom activity revolves around the brand identity of the programme or specific aspects of its content, without fake clips, mashups, or fictional writing (e.g.: fan fiction) being among the examined content. It is also worthy of mention that despite the podcasts being programmes designed to be consumed primarily in an audio format, most of the fandom creation is either audio-visual or strictly visual. This is consistent with the fact that most media fandom has traditionally centred around television and film (**Coppa**, 2006), which makes it usual for fandom to produce content using these elements. Furthermore, *Instagram* is the main platform on which audiences share their creations, and this platform is very visual as well.

> The main elements that set audiences apart from fandom are both top-down and bottom-up strategies: fans sharing content from the programmes and creating related content such as "fan art"

When comparing the analysed countries, there is an unbalanced distribution of fandoms among countries, which is particularly interesting to compare with patterns of consumption and the most active audiences in Europe.

It is noticeable that the countries with a higher number of active fandoms are Germany (9 programmes out of 20) and the United Kingdom (13 programmes out of 20). The United Kingdom is the country with the most activity, which is also consistent with results related to the number of data points related to fandom generated by the programmes.

Related to this, in the top-10 programmes with the most fandom-related data points, most programmes are notably from the United Kingdom (5 out of 10 programmes, accounting for 6,092 fandom data points in total, considering hashtags on *Instagram* and *Twitter*, fan accounts and tagged posts), Spain (three programmes with a total of 2,778 fandom-related data points, considering the same units of analysis), and Germany (two programmes, 1,718 fandom data points).

Table 3. Top podcasts with the most fandom-related data points

Podcast (title)	Country	Topic	Fandom data points
The Joe Rogan experience	United Kingdom	Entertainment	2,345
The diary of a CEO with Steven Bartlett	United Kingdom	Business	997
*Sh**ged married annoyed*	United Kingdom	Entertainment	974
Entiende tu mente	Spain	Psychology	962
Estirando el chicle	Spain	Entertainment	909
Nadie sabe nada	Spain	Entertainment	907
Huberman lab	United Kingdom	Science	894
Call her daddy	United Kingdom	Culture and society	882
Fest & Flauschig	Germany	Comedy	865
Baywatch Berlin	Germany	Entertainment	853

The United Kingdom is the only country that seems to show certain consistency between its reach to podcast listeners and active fandoms. It is the second country with the most active podcast audiences (as seen in the literature review) and the country with more podcast programmes with fandom. Nonetheless, this is the only case with a clear correlation between audiences and fandom. The country with the highest percentage of occasional listeners, Spain, comes in third in terms of active fandom (after the United Kingdom and Germany). This indicates that productive fandom is a small fraction of the audience. Some users may consume a high volume of podcasts and could even claim a fan identity while not participating in online spaces or producing fan objects.

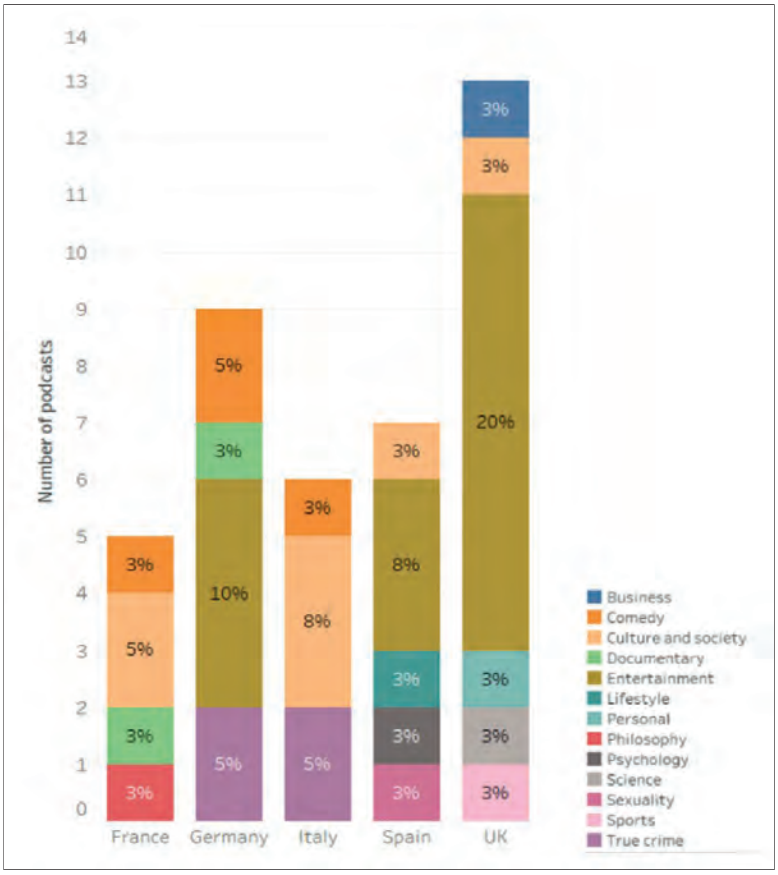

Figure 4. Topics of podcasts with an active fandom per country

Although fandoms gather around different themes across countries, it is pertinent to mention that there seems to be an agreement on entertainment podcasts being the ones that gather the most active fandoms around the three most prolific countries (the United Kingdom, Germany, and Spain).

This demonstrates that podcast fandoms in Europe are diverse, but at the same time, they have several points of convergence that encourage fandom engagement, such as favoured topics to create fandom around, as well as sharing platforms in which to articulate their activities and produced content.

5. Discussion and conclusions

This paper has discussed the relevance of studying podcast audiences and, more particularly, podcast fandoms. The programmes that are the most celebrated in terms of fandom in Europe fall into two categories: entertainment and culture and society. These two themes are also the main ones for listeners (non-fandom) in general, but whereas current events are the third option for general audiences, European fandoms prefer comedy podcasts. Several categories made it into the most popular podcasts that simply do not generate a fandom around them, despite being able to gather active listeners and supporters.

Results show solid reasons for this. When analysing the general scenario of podcast reception, the main elements that set audiences apart from fandom are both top-down and bottom-up strategies. Regarding the former, fandoms reward the efforts that their programmes make by sharing pictures of the podcasts' merchandising or live shows on social media. Furthermore, and showing a higher level of commitment, European fandoms that are part of the analysed sample also reflect on well-identified bottom-up strategies, particularly by creating visual (and audio-visual) content in the form of fan art that highlights the brand identity of their preferred audio programmes. These practices resonate with the "affirmational" dimension of fandom where fans' interests align with the contents of the programme (**Jenkins**; **Ford**; **Green**, 2013).

The United Kingdom stands out as the country with the highest number of fandoms, and it is also one of the top countries when it comes to active podcast audiences, just behind Spain. Podcast fandoms generate similar topics around all countries

The fact that the fan-created content is visual may have to do with the fact that European fandom mainly uses *Instagram*, a visual-based platform, to share this fan-created content. It might be also related to the fact that most fandom tradition is based on visual media. This contradicts conventional digital strategies of the programmes, which considered *Twitter* the leading site to create a network.

Nonetheless, both platforms gather fandom as an online community around *ad hoc* hashtags, and the content shared on *Instagram* uses this element (the hashtag) to identify their creations with their community. *Twitter*, on the other hand, is mainly used to create "out of context" fan accounts, with the aim of entertaining audiences and creating a rather informal gathering of fans engaging with that content.

In contrast to the activity of fandom of other media productions, European podcast fandoms do not rely as much upon writing fictional texts and stories about programmes or their protagonists. Rather, their textual production is based on entertaining content that features the brand identity of the podcast or focuses on showing admiration for the host or hosts.

Lastly, in terms of comparison among European countries, the United Kingdom stands out as the country with the highest number of fandoms, and it is also one of the top countries when it comes to active podcast audiences, just behind Spain. Similarly, podcast fandoms are also gathered around comparable topics across countries, regardless of the most popular programmes showing more disparity in this sense.

Furthermore, to build upon similarities, fan art and fan pictures are the most common types of fandom creation in all countries, whereas fan memes are the least common type of fandom creation in all countries. These findings are quite significant since they show that there are more consistencies across European fandoms than exist across European audiences.

This paper contributes to the existing knowledge about podcasts and fandom but fills the gap regarding the fandoms of podcast programmes in the biggest European markets. Future research would benefit from expanding the time horizon of the study and addressing a longitudinal analysis, which would help understand the evolution of podcast fandom in Europe and improve the generalizability of results. Considering the increased interest in podcasts and fandom, this is an evolving line of research that would benefit from further contributions.

6. References

Abercrombie, Nicholas; **Longhurst, Brian** (1998). *Audiences: A sociological theory of performance and imagination*. London: SAGE Publications. ISBN: 978 1 4462 6455 3

Adler-Berg, Freja-Sørine (2021). "The value of authenticity and intimacy: A case study of the Danish independent podcast Fries before guys' utilization of Instagram". *Radio journal: International studies in broadcast & audio media*, v. 19, n. 1, pp. 155-173.
https://doi.org/10.1386/rjao_00039_1

Alberto, Maria (2020). "Fan users and platform studies". *Transformative works and cultures*, v. 33.
https://doi.org/10.3983/twc.2020.1841

Askwith, Ivan (2007). *Television 2.0: Reconceptualizing TV as an engagement medium*.
https://cms.mit.edu/television-2-0-tv-as-an-engagement-medium

Barger, Victor; **Peltier, James W.**; **Schultz, Don E.** (2016). "Social media and consumer engagement: A review and research agenda". *Journal of research in interactive marketing*, v. 10, n. 4, pp. 268-287.
https://doi.org/10.1108/JRIM-06-2016-0065

Berry, Richard (2016). "Part of the establishment: Reflecting on 10 years of podcasting as an audio medium". *Convergence*, v. 22, n. 6, pp. 661-671.
https://doi.org/10.1177/1354856516632105

Blight, Michael G.; **Ruppel, Erin K.**; **Schoenbauer, Kelsea V.** (2017). "Sense of community on Twitter and Instagram: Exploring the roles of motives and parasocial relationships". *Cyberpsychology, behavior, and social networking*, v. 20, n. 5, pp. 314-319.
https://doi.org/10.1089/cyber.2016.0505

Boling, Kelli S.; **Hull, Kevin** (2018). "Undisclosed information - Serial is my favorite murder: Examining motivations in the true crime podcast audience". *Journal of radio & audio media*, v. 25, n. 1, pp. 92-108.
https://doi.org/10.1080/19376529.2017.1370714

Bonini, Tiziano (2014). "Doing radio in the age of Facebook". *Radio journal: International studies in broadcast & audio media*, v. 12, n. 1-2, pp. 73-87.
https://doi.org/10.1386/rjao.12.1-2.73_1

Bonini, Tiziano (2015). "La "segunda era" del podcasting: El podcasting como nuevo medio de comunicación de masas digital". *Quaderns del CAC*, v. 41, n. 18, pp. 23-33.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_ES.pdf

Booth, Paul (2017). *Digital* fandom *2.0: New media studies*. New York: Peter Lang. ISBN: 978 1 4331 3150 9

Bossetta, Michael (2020). "Podcasts in the European Union: Why Spotify will shape the future of European podcasting". In: *Podcast trends and issues in Australia and beyond*. Canberra: News & media research centre, University of Canberra. pp. 48-49.
https://doi.org/10.25916/sgv0-qh32

Brentnall, Alina (2021). "Podcast listening gains popularity in the former EU-5". *Insider Intelligence*, 7 Octuber.
https://www.emarketer.com/content/podcast-listening-gains-popularity-former-eu-5

Bruns, Axel (2008). *Blogs, Wikipedia, Second Life, and beyond: From production to produsage*. New York: Peter Lang. ISBN: 978 0 8204 8866 0

Bruns, Axel; **Burgess, Jean** (2011). "The use of Twitter hashtags in the formation of ad hoc publics". In: *Proceedings of the 6th European Consortium for Political Research (ECPR) General conference 2011*.
https://eprints.qut.edu.au/46515

Caballero-Escusol, Adrián; **Nicolas-Sans, Rubén**; **Bustos-Díaz, Javier** (2021). "El impacto de las plataformas de podcast en redes sociales: Estudio de caso en las cuentas oficiales de iVoox y Anchor en Instagram, Facebook y Twitter". *aDResearch: Revista internacional de investigación en comunicación*, v. 25, n. 25, pp. 92-105.
https://doi.org/10.7263/adresic-025-05

Cameron, Kelsey (2017). "Constructing queer female cyberspace: 'The L word' fandom and Autostraddle.com". *Transformative works and cultures*, v. 24.
https://doi.org/10.3983/twc.2017.0846

Chadha, Monica; **Avila, Alex**; **Gil de Zúñiga, Homero** (2012). "Listening in: Building a profile of podcast users and analyzing their political participation". *Journal of information technology & politics*, v. 9, n. 4, pp. 388-401.
https://doi.org/10.1080/19331681.2012.717481

Chan-Olmsted, Sylvia; **Wang, Rang** (2022). "Understanding podcast users: Consumption motives and behaviors". *New media & society*, v. 24, n. 3, pp. 684-704.
https://doi.org/10.1177/1461444820963776

Coppa, Francesca (2006). "A brief history of media fandom". In: Hellekson, Karen; Busse, Kristina (eds.). *Fan fiction and fan communities in the age of the Internet*. North Carolina: McFarland. pp. 41-59. ISBN: 978 0 7864 5496 9

De-Kosnik, Abigail (2012). "Interrogating "free" fan labor". *Spreadable media*.
https://spreadablemedia.org/essays/kosnik/index.html

De-Kosnik, Abigail (2013). "Fandom as free labor". In: Scholz, Trebor (ed.). *Digital labor: the Internet as playground and factory*. Farnham, Surrey: Ashgate. pp. 98-111. ISBN: 978 0 203 14579 1

Establés-Heras, María-Josefa (2020). *Entre profesionales y aficionados: Relaciones y tensiones entre fans e industrias culturales, procesos y estrategias de trabajo y creación: Estudios de caso de los* fandoms *castellanoparlantes de Doctor Who y El Ministerio del Tiempo*.
https://repositori.upf.edu/handle/10230/45057

Fiesler, Casey; **Dym, Brianna** (2020). "Moving across lands: Online platform migration in fandom communities". In: *Proceedings of the ACM on human-computer interaction*, v. 4, n. 42.
https://doi.org/10.1145/3392847

Fiske, John (1992). "The cultural economy of fandom". In: Lewis, Lisa A. (ed.). *The adoring audience: Fan culture and popular media*. New York: Routledge, pp. 30-49. ISBN: 0 415 07820 2

Florini, Sarah (2019). "Enclaving and cultural resonance in black 'Game of Thrones' fandom". *Transformative works and cultures*, v. 29.
https://doi.org/10.3983/twc.2019.1498

García-Marín, David (2020). "Mapping the factors that determine engagement in podcasting: Design from the users and podcasters' experience". *Communication & society*, v. 33, n. 2, pp. 49-53.
https://doi.org/10.15581/003.33.2.49-63

García-Marín, David; **Aparici, Roberto** (2020). "Voces domesticadas y falsa participación: Anatomía de la interacción en el podcasting transmedia". *Comunicar*, v. 28, n. 63, pp. 97-107.
https://doi.org/10.3916/C63-2020-09

Giles, David C. (2002). "Parasocial interaction: A review of the literature and a model for future research". *Media psychology*, v. 4, n. 3, pp. 279-305.
https://doi.org/10.1207/S1532785XMEP0403_04

Grandío, María-del-Mar (2016). *Adictos a las series: 50 años de lecciones de los fans*. Barcelona: Editorial UOC. ISBN: 978 84 911 6510 1

Gray, Jonathan (2010). *Show sold separately: Promos, spoilers, and other media paratexts*. New York & London: New York University Press. ISBN: 978 0 8147 3234 2

Gwenllian-Jones, Sara; **Pearson, Roberta E.** (2004). *Cult television*. Minneapolis & London: University of Minnesota Press. ISBN: 978 0 8166 3830 7

Hartmann, Tilo; **Goldhoorn, Charlotte** (2011). "Horton and Wohl revisited: Exploring viewers' experience of parasocial interaction". *Journal of communication*, v. 61, n. 6, pp. 1104-1121.
https://doi.org/10.1111/j.1460-2466.2011.01595.x

Hernández-Santaolalla, Víctor; **Rubio-Hernández, María-del-Mar** (2017). "Fandom político en *Twitter*: *La Cueva* y los partidarios de Alberto Garzón en las elecciones generales españolas de 2015 y 2016". *Profesional de la Información*, v. 26, n. 5, pp. 838-849.
https://doi.org/10.3145/epi.2017.sep.06

Hills, Matt (2009). "From *BBC* radio personality to online audience personae: the relevance of fan studies to Terry Wogan and the TOGs". *Radio journal: International studies in broadcast & audio media*, v. 7, n. 1, pp. 67-88.
https://doi.org/10.1386/rajo.7.1.67/1

Hills, Matt (2013). "Fiske's 'textual productivity' and digital fandom: Web 2.0 democratization versus fan distinction?". *Participations. Journal of audience & reception studies*, v. 10, n. 1, pp. 130-153.
https://www.participations.org/Volume%2010/Issue%201/9%20Hills%2010.1.pdf

Jenkins, Henry (1992). *Textual poachers: Television fans & participatory culture*. New York: Routledge. ISBN: 0 415 90572 9

Jenkins, Henry (2008). *Convergence culture: Where old and new media collide*. New York: New York University Press. ISBN: 978 0 8147 4281 5

Jenkins, Henry; **Ford, Sam**; **Green, Joshua** (2013). *Spreadable media: Creating value and meaning in a networked culture*. New York: New York University Press. ISBN: 978 0 8147 4390 4

Kozinets, Robert V. (2002). "The field behind the screen: Using netnography for marketing research in online communities". *Journal of marketing research*, v. 39, n. 1, pp. 61-72.
https://doi.org/10.1509/jmkr.39.1.61.18935

Kozinets, Robert V. (2015). *Netnography: Redefined*. London: SAGE Publications. ISBN: 978 1 4462 8574 9

Krippendorff, Klaus (1980). *Content analysis: An introduction to its methodology*. London: SAGE Publications. ISBN: 978 0 8039 1497 1

Lamerichs, Nicolle (2018). *Productive fandom: Intermediality and affective reception in fan cultures*. Amsterdam: Amsterdam University Press. ISBN: 978 90 8964 938 6

López, Debora-Cristina; **Monteiro-Homssi, Aline** (2021). "Cuando se encuentran cultura fan y podcasting: las nuevas relaciones con la audiencia en O Caso Evandro". *Hipertext.net*, n. 23, pp. 93-103.
https://doi.org/10.31009/hipertext.net.2021.i23.09

Meserko, Vincent M. (2014). "Going mental: podcasting, authenticity, and artist–fan identification on Paul Gilmartin's Mental Illness Happy Hour". *Journal of broadcasting & electronic media*, v. 58, n. 3, pp. 456-469.
https://doi.org/10.1080/08838151.2014.935848

MIDiA Research (2021). "Music market subscriber shares 2021: Growth is not letting up yet". *MIDiA Research*, 22 December.
https://www.midiaresearch.com/reports/music-market-subscriber-shares-2021-growth-is-not-letting-up-yet

Mulligan, Mark (2019). "Spotify, the decline of playlists and the rise of podcasts". *Music industry blog*, 11 April.
https://musicindustryblog.wordpress.com/2019/04/11/spotify-the-decline-of-playlists-and-the-rise-of-podcasts

Murray, Simone (2009). "Servicing 'self-scheduling consumers': Public broadcasters and audio podcasting". *Global media and communication*, v. 5, n. 2, pp. 197-219.
https://doi.org/10.1177/1742766509341610

Pande, Rukmini (2018). *Squee from the margins*. Iowa City: University of Iowa Press. ISBN: 978 1 60938 618 4
https://doi.org/10.2307/j.ctv7r43q4

Pavelko, Rachelle L.; **Myrick, Jessica-Gall** (2020). "Muderinos and media effects: How the *My favorite murder* podcast and its social media community may promote well-being in audiences with mental illness". *Journal of radio & audio media*, v. 27, n. 1, pp. 151-169.
https://doi.org/10.1080/19376529.2019.1638925

Pearson, Roberta (2010). "Fandom in the digital era". *Popular communication*, v. 8, n. 1, pp. 84-95.
https://doi.org/10.1080/15405700903502346

Prego-Nieto, Marta (2020). "Tendencias epistemológicas de los fan studies en la investigación en comunicación: una propuesta de clasificación". *Anàlisi: quaderns de comunicació i cultura*, v. 63.
https://doi.org/10.5565/rev/analisi.3250

Radmann, Aage; **Hedenborg, Susanna** (2022). "Introduction: female fandom studies in a global perspective". *Soccer & society*, v. 23, n. 3, pp. 241-244.
https://doi.org/10.1080/14660970.2022.2037206

Rogers, Everett M. (2003). *Diffusion of innovations*. New York: Free Press. ISBN: 0 7432 2209 1

Rubin, Alan M. (2002). "The uses-and-gratifications perspective of media effects". In: Bryant, Jennings; Oliver, Mary-Beth (eds.). *Media effects: Advances in theory and research*. New York: Routledge, pp.165-185. ISBN: 978 1 4106 0242 8
https://doi.org/10.4324/9780203877111

Salvati, Andrew J. (2015). "Podcasting the past: Hardcore history, fandom, and DIY histories". *Journal of radio & audio media*, v. 22, n. 2, pp. 231-239.
https://doi.org/10.1080/19376529.2015.1083375

Samuel-Azran, Tal; **Laor, Tal**; **Tal, Dana** (2019). "Who listens to podcasts, and why?: The Israeli case". *Online information review*, v. 43, n. 4, pp. 482-495.
https://doi.org/10.1108/OIR-04-2017-0119

Savit, Lauren (2020). "Examining the fan labor of episodic TV podcast hosts". *Transformative works and cultures*, v. 34.
https://doi.org/10.3983/twc.2020.1721

Schlütz, Daniela; **Hedder, Imke** (2021). "Aural parasocial relations: Host-listener relationships in podcasts". *Journal of radio & audio media*.
https://doi.org/10.1080/19376529.2020.1870467

Schreier, Margrit (2012). *Qualitative content analysis in practice*. London: SAGE Publications. ISBN: 978 1 4462 8992 1

Scolari, Carlos-Alberto (2013). *Narrativas transmedia: cuando todos los medios cuentan*. Barcelona: Deusto. ISBN: 978 84 234 1336 2

Scott, Suzanne (2008). "Authorized resistance: Is fan production frakked?" In: Potter, Tiffany; Marshal, C. W. (eds.). *Cylons in America. Critical studies in Battlestar Galactica*. New York, London: Continuum, pp. 210-223. ISBN: 978 1 4411 5706 5

Scott, Suzanne (2019). *Fake geek girls: Fandom, gender, and the convergence culture industry*. New York: New York University Press. ISBN: 978 1 4798 3860 8

Seelig, Michelle; **Millette, Diane**; **Zhou, Chun**; **Huang, Jialing** (2019). "A new culture of advocacy: An exploratory analysis of social activism on the web and social media". *Atlantic journal of communication*, v. 27, n. 1, pp. 15-29.
https://doi.org/10.1080/15456870.2019.1540418

Sellas, Toni (2011). *El podcasting: la (r)evolución sonora*. Barcelona: Editorial UOC. ISBN: 978 84 9029 109 2

Spinelli, Martin; **Dann, Lance** (2019). *Podcasting: The audio media revolution*. New York: Bloomsbury Publishing USA. ISBN: 978 1 5013 2866 4

Spotify (2022). *Podcast charts by Spotify*.
https://podcastcharts.byspotify.com/es

Stanfill, Mel (2019). *Exploiting fandom: How the media industry seeks to manipulate fans*. Iowa City: University of Iowa Press. ISBN: 978 1 60938 623 8

Stanfill, Mel; **Condis, Megan** (2014). "Fandom and/as labor". *Transformative works and cultures*, v. 15.
https://doi.org/10.3983/twc.2014.0593

Stassen, Murray (2020). "Amazon is investing in podcasts to challenge Spotify". *Music business worldwide*, 29 May. *https://www.musicbusinessworldwide.com/amazon-wants-to-challenge-spotify-with-podcast-push-report*

Statista (2021). "Podcasts listening intensity". *Statista global service update*. *http://www.statista.com/statistics/1291333/podcast-listeners-europe-by-country*

Statista (2022). "Estimated number of podcast listeners in the United Kingdom (UK) from 2017 to 2026". *Statista advertising & media outlook*. *http://www.statista.com/forecasts/1147560/podcast-reach-uk*

Sullivan, John L. (2019). "The platforms of podcasting: Past and present". *Social media + society*, v. 5, n. 4. *https://doi.org/10.1177/2056305119880002*

Terranova, Tiziana (2013). "Free labor". In: Scholz, Trebor (ed.). *Digital labor: the Internet as playground and factory*. Farnham, Surrey: Ashgate. pp. 33-57. ISBN: 978 0 203 14579 1

Tsagkias, Manos; **Larson, Martha**; **Weerkamp, Wouter**; **De-Rijke, Maarten** (2008). "PodCred: A framework for analyzing podcast preference". In: *2nd ACM workshop on information credibility on the web*, pp. 67-74. *https://doi.org/10.1145/1458527.1458545*

Turk, Tisha (2013). "Fan work: Labor, worth, and participation in fandom's gift economy". *Transformative works and cultures*, v. 15. *https://doi.org/10.3983/twc.2014.0518*

Weinstock, Jeffrey-Andrew (2018). *Critical approaches to Welcome to Night Vale: Podcasting between weather and the void*. Cham: Springer International Publishing. ISBN: 978 3 319 93090 9 *https://doi.org/10.1007/978-3-319-93091-6*

Williams, Frederick; **Rice, Ronald E.**; **Rogers, Everett M.** (1988). *Research methods and the new media*. New York: Simon and Schuster. ISBN: 978 0 02 935331 8

Włodarczyk, Agata; **Tyminska, Marta** (2015). "Cultural differences: Polish fandom of "Welcome to Night Vale"". *Transformative works and cultures*, v. 19. *https://doi.org/10.3983/twc.2015.0591*

Wrather, Kyle (2016). "Making 'Maximum fun' for fans: Examining podcast listener participation online". *Radio journal: International studies in broadcast & audio media*, v. 14, n. 1, pp. 43-63. *https://doi.org/10.1386/rjao.14.1.43_1*

The sound of responsibility: evolution of the use of radio advertising as a corporate social responsibility (CSR) communication channel before and after Covid-19. A significant increase

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Abstract

Radio is an audio communication medium that has always stood out for its credibility and close relationship to its audience, which makes it an appealing option for organizations that want to make their responsible behavior known. The Covid-19 pandemic has created a new landscape in which the strategic role of corporate social responsibility (CSR) in the company has been strengthened and in which advertising messages are proving to be an interesting way of disseminating organizations' responsible actions. Based on the quantitative content analysis of 562 radio advertisements taken from the three principal mainstream Spanish radio broadcasters and collected 2 years apart (2019 and 2021), this study seeks to find out whether the Covid-19 health crisis has led to changes in the use of radio advertising as a vehicle for communicating organizations' CSR. To this end, the variables analyzed were the presence of CSR elements, advertiser, economic sector, CSR dimensions, beneficiary stakeholders, and communication area. The results show, among other data, that the communication of CSR through radio advertising has experienced significant growth after overcoming the worst moments of the pandemic. This growth indicates that companies are increasingly sensitive to issues related to CSR and that radio advertising has provided them with a way to publicize their socially responsible actions. It seems that corporations understand that credibility, trust, and a not inconsiderable penetration rate encourage the circulation of their CSR campaigns through the medium of radio.

Keywords

Audio communication; Advertising; Radio; Advertisers; CSR; Social responsibility; Corporate communication; Companies; Enterprises; Corporations; Evolution; Stakeholders; CSR dimensions; Covid-19; Pandemics: Organizations; Content analysis.

1. Introduction

On March 14, 2020, the Spanish government declared a state of alarm with the objective of minimizing the impact Covid-19 was going to have, most likely, on all parts of our society. From that moment, the business community undertook a series of actions to respond to the health emergency and provide solutions to cope with an unprecedented global, social, and financial crisis.

This situation has put social structures to the test (**Xifra**, 2020), representing a significant change in the business environment and marking a new era in the development of CSR (**He**; **Harris**, 2020). The relationship between the private and public sectors, the impact on work routines, and the social response to the resulting needs are areas of action that have been addressed by companies' corporate social responsibility (CSR) departments, which has made it necessary to strengthen the relationships between companies and their audiences.

Corporations have sought to strengthen ties with consumers and users, but also with a society that needs media content to find answers to a situation hitherto unknown. Companies and institutions, after the initial confusion, strengthened their points of contact with their audiences through the media. Radio was no exception. Its credibility, loyal audience, high penetration rate, and adaptability make it a useful tool for crisis situations:

> "Radio can be a lifesaver in times of crisis and emergency (...) Radio can be useful in emergency response operations and help reconstruction" (**Ki-Moon**, 2016).

After the advent of the biggest pandemic to take place in the 21st century, a scenario emerged in which organizations' commitment to society gives CSR strategic value and in which advertising messages enhance the reach and awareness of responsible corporate actions. In this context, this research aims to find out whether radio has become a possible point of contact between organizations and citizens to broadcast organizations' responsible actions, especially after a period marked by the pandemic's impact. In short, this raises a question: how has the communication of corporations' CSR through radio advertising evolved in the wake of the Covid-19 crisis?

2. Corporate social responsibility

CSR is one of the intangible values of organizations that is undergoing increased development, especially in the business sphere. It has become a key factor in the agendas of companies of all types, and its importance in academia has increased (**Sanclemente-Téllez**, 2017), as has been covered by various national and international researchers, giving rise to differing definitions that lack consensus (**Villagra**, 2015; **Sanclemente-Téllez**, 2017). However, Barrio-Fraile and Enrique-Jiménez observed a series of items that are repeated when delimiting the concept of CSR and advocated for a definition that reflects the criteria that recur most frequently. Thus, they define CSR as

> "the consequence of a voluntary commitment to all groups with a stake in economic, social, and environmental matters, with the aim of taking responsibility for the consequences and impacts of their actions and maximizing the creation of shared value for all stakeholders" ["*la consecuencia de un compromiso voluntario adoptado con todos sus grupos de interés en materia económica, social y medioambiental, con el objetivo de responsabilizarse de las consecuencias e impactos que derivan de sus acciones y maximizar la creación de valor compartido para todo el conjunto de stakeholders*"] (**Barrio-Fraile**; **Enrique-Jiménez**, 2015, p. 29).

Through CSR, organizations strive to respond to the overall interests of all their stakeholders, which is why its management requires the presence of a cross-sectional department in a company with a holistic understanding of the corporate vision and mission (**Monfort**; **Villagra**, 2016).

> Radio's credibility supports the organizations' responsible messaging

When approaching CSR as a corporate strategy, it is necessary to focus its application on the three dimensions that **Elkington** (1998) defined as the "triple bottom line," that is, the act of seeking the economic sustainability of the company while taking into account its social and environmental development. A description of each of the three dimensions is presented below, according to the work of **De-la-Cuesta** and **Valor** (2003) and **Barrio-Fraile** (2019).

The economic dimension of CSR refers to the search for efficiency and productivity, considering CSR actions that create value for all stakeholders. This dimension includes CSR actions aimed at creating benefits for employees by providing them, in many cases, with financial benefits, such as training programs and opportunities for professional development and promotion within the organization. For consumers, actions aimed at offering products and services at competitive prices, thereby facilitating access to the product, stand out. This dimension also includes those actions that promote a better quality of life for suppliers, helping them become more competitive in the market. As for the local community, this dimension includes all CSR actions that promote economic activity, such as advisory workshops and collaborative work with the local business network. Finally, initiatives that ensure the appropriate use of investors' capital are also included in this dimension.

The social dimension consists of all those actions that aim to improve the well-being of the organization's stakeholders. In relation to employees, this means those initiatives that promote work–life balance, such as teleworking or a flexible schedule; initiatives to improve occupational health and safety; and nondiscrimination and equal opportunities regardless of ideology, religion, gender, country of origin, or social status. For consumers, this covers actions aimed at improving the quality and accessibility of products or services. By way of illustration, here one can find actions such as offering healthy products or adapting a website for people with visual impairment. Also, those actions that seek to improve societal well-being, such as implementing awareness campaigns about the importance of a balanced diet or holding workshops for adolescents on the importance of self-esteem and self-acceptance, fall under this dimension.

Finally, the environmental dimension includes all those initiatives that contribute to the reduction of the environmental impact of the company's economic activity. In this dimension are actions such as the use of sustainably sourced raw materials, the reduction of energy consumption, the reduction of water consumption throughout the value chain, the use of renewable energy sources, and even awareness campaigns for environmental sustainability. In relation to this last dimension, it is interesting to note how, during Covid-19, the prominence enjoyed by the environmental dimension, bolstered by the *2030 Agenda for Sustainable Development*, shifted to the social dimension, a dimension that organizations backed more firmly during the worst moments of the health crisis (**Barrio-Fraile**; **Enrique-Jiménez**, 2021).

Another concept closely linked to the term CSR is "stakeholder." Stakeholder theory has become the dominant paradigm in the study of CSR (**Estanyol**, 2020). **Freeman** (1984, p. 25) defined a stakeholder as

> "any group or individual who can affect or is affected by the achievement of the organization's objectives."

Since then, corporate vision has changed from a model focused exclusively on maximizing shareholder benefits to one that views organizations as social entities comprising a wide variety of stakeholders whose interests must be taken into

Table 1. Criteria for the classification of stakeholders

Author	Stakeholder classification criteria
Svendsen (1998)	Differentiates between primary (directly related to the organization's future) and secondary (can affect or be indirectly affected) stakeholders.
Dowling (2001)	Bases classification on criteria categorized as normative, functional, diffused, or a final group made up of customers.
Ibisate (2007)	Categorizes them as structural, management, or complementary.
Navarro (2008)	Classifies them as internal or external.
Freeman, **Harrison**, and **Wicks** (2008)	Redefine the classification of primary and secondary stakeholders.
Azuero (2009)	Differentiate between stakeholders who would lose something if the organization shut down, stakeholders who can influence the brand, and stakeholders who represent interests that can be affected by a company's day-to-day operation.
Raghubir, **Roberts**, **Lemon**, and **Winer** (2010)	Distinguish between classic strategic marketing groups, internal groups, and external groups.
Bajo (2015)	Differentiate between primary stakeholders, without whom the business could not succeed, and secondary stakeholders, who are important but not crucial for the business.
Barrio-Fraile and **Enrique-Jiménez** (2018)	Propose distinguishing between beneficiaries and partners.

Source: based on **Svendsen** (1998); **Dowling** (2001); **Ibisate** (2007); **Navarro** (2008); **Freeman**, **Harrison**, and **Wicks** (2008); **Azuero** (2009); **Raghubir** *et al.* (2010); **Bajo** (2015); and **Barrio-Fraile** and **Enrique-Jiménez** (2018).

consideration in business management (**Estanyol**, 2020; **Barrio-Fraile**, 2019; **Báez** *et al.*, 2018). To address all of these diverse interests, companies must identify their stakeholders and determine each one's needs. This aspect has been addressed by different authors, resulting in differing criteria for the identification and classification of stakeholders in an organization (**Orozco-Toro**; **Alzate**, 2018).

The importance of the last classification provided by **Barrio-Fraile** and **Enrique-Jiménez** (2018) lies in its differentiation between beneficiaries and partners. Beneficiary stakeholders are those stakeholders toward whom the organization directs its CSR actions, such as consumers, employees, suppliers, the local community, and society. Stakeholder partners are those stakeholders who work together with the company to implement various CSR actions, most notably nonprofit organizations, collaborating companies, public administration, distributors, and the media.

3. CSR communication

Villagra (2007) points out the misgivings that some companies express about CSR communication on account of its potentially instrumentalist objective, its sole purpose being to achieve a positive corporate image. These organizations are concerned that their audiences perceive CSR communication as purely superficial action. To this point, **Orozco-Toro** and **Ferré** (2013) explain that corporate greenwashing fails in the long term and that, to avoid the pitfall of CSR communication being seen as instrumentalist, it should be perceived as accountability, with transparency as a foundation. To this end, with the aim of having an impact on the various stakeholders, these authors are committed to the use of various media or channels for the dissemination of their CSR, such as reporting, patronage, mass media advertising, free press, accountability reports, sponsorships, blogs, direct client relationship campaigns, conferences, and management and "below the line" reports, among others.

Companies perceived as socially responsible have greater public support, which usually translates into positive behavior toward them (**Carreras**; **Alloza**; **Carreras**, 2013). In fact, organizations' responsible behavior has an impact on their reputation, which is why its management is crucial from a communicative standpoint (**Estanyol**, 2020). To carry out said communication, two factors are key: an organization's transparency (**Epstein**; **Birchard**, 2001; **Monfort**; **Villagra**; **López-Vázquez**, 2019) and the credibility of the actions being communicated (**Villagra**; **Cárdaba**; **Ruiz-San-Román**, 2016).

With respect to whether advertising represents an effective technique for communicating CSR, a change in trend has been noted. Whereas twenty years ago advertising was thought of as a controversial mode of publicizing CSR (**Dawkins**, 2004), in the last decade, organizations' responsible behavior has enriched traditional advertising campaigns with additional content (**Azuero**, 2009). For some companies that implement CSR plans, advertising has become a means of disseminating their corporate image and reputation (**Orozco-Toro**; **Roca**, 2011).

As reflected in the report published by *Dircom* in 2020, entitled *Communicating in times of pandemic* [*Comunicar en tiempos de pandemia*], the Covid-19 health crisis has led companies to promote their more caring side by organizing initiatives that have helped counteract the pandemic's most serious effects. Companies have made public all their solidarity efforts. The *Dircom Association* stresses that this was not an attempt at self-promotion but rather at informing and communicating to society that the companies were there, providing support with their resources and paying special attention to what was happening. This report also indicates that companies have opted to create new narratives from a collaborative and constructivist approach, which makes even more sense when that communication's content is related to sustainability or CSR:

> "Sustainability narratives are an excellent tool that allows us to consider people as resourceful citizens, who assist in building sustainability, and who transform attitudes of complaint or indignation into processes of collective construction. Through these new narratives, it is possible to move from fear to trust" ["*Las narrativas en materia de sostenibilidad son una excelente herramienta que permiten considerar a las personas como ciudadanos con recursos, que ayudan en la construcción de la sostenibilidad, y que transforman actitudes de queja o indignación en procesos de construcción colectiva. A través de estas nuevas narrativas, se puede pasar del miedo a la confianza*"] (*Dircom*, 2020, p. 61).

The study conducted by the *Association of Advertising Agencies of Spain* [*Asociación de Agencias de Publicidad de España*] (2021) confirms that the major brands have adapted their advertising to the crisis situation, opting for a more empathetic, engaged, and emotional message, and there has been an increase in advertising linked to CSR or companies' objectives. Whereas, in 2019, only 9% of the advertising campaigns analyzed were categorized as CSR, this figure increased to 33% by 2020.

In addition, a report by *Llorente y Cuenca* (2021) points out that consumers reward brands that understand that now is the moment for simple, meaningful ideas that have a positive impact on society. Therefore, consumers are becoming increasingly discerning, demanding the highest quality products as well as social commitment from brands. Environmental and social impact is becoming increasingly relevant at the time of purchase. In this "era of purpose," consumers are putting more pressure on brands by demanding greater coherence and representativeness, making brands take a stand on values and social phenomena with high environmental impact or footprint.

In short, we are witnessing a new way to advertise whose audience demands that companies be more connected to the *raison d'être* of the company than to appearances; this is why we consider it important and necessary to analyze and study how this new approach is being expressed through the medium of radio, which we believe, due to its intrinsic characteristics, is an appropriate means of communicating organizations' CSR.

> CSR communication through radio advertising has experienced significant growth after overcoming the worst moments of the pandemic

4. Radio advertising

Perelló-Oliver and **Muela-Molina** (2013) define advertising as a persuasive activity whose main objective is to convince the target audience that, to satisfy a need, they must select a certain brand or product and, therefore, their creative components include rational arguments and emotional arguments that ultimately influence the purchase decision. In this sense, organizations implement ongoing communication strategies to connect with their audiences, with radio advertising being part of a long-established strategy that organizations use to communicate with their audiences through sound and the sense of hearing (**Barbeito-Veloso**; **Perona-Páez**, 2019).

Radio, the audio communication medium par excellence, is synonymous with companionship, proximity, warmth, immediacy, credibility, and imagination (**Balsebre** *et al*., 2006). These distinctive characteristics of radio make it an ideal medium for credibly and reliably transmitting organizations' CSR through radio advertising. However, radio is undervalued by the advertising sector (**Barbeito-Veloso**; **Vázquez-Gestal**, 2000; **Barbeito-Veloso**; **Fajula-Payet**, 2005; **Perelló-Oliver**; **Muela-Molina**, 2013), which has been experiencing creative stagnation for decades, as reflected in the formats, in the message construction, in the use of sound language, and its informational and expressive potential **(Espinosa**; **Vico**, 2016; **Barbeito-Veloso**; **Perona-Páez**, 2019; **Fajula-Payet**; **Barbeito-Veloso**; **Perona-Páez**, 2021). This lack of interest is also evident in the importance given to radio studies in Spanish academia (**Piñeiro-Otero**, 2017).

On the other hand, as highlighted above, radio has credibility among listeners and remains, to this day, the medium that engenders the greatest trust in its audience (**Montaña-Blasco**; **Ollé-Castellà**; **Lavilla-Raso**, 2020). In addition, this sense of closeness favors an intimate and personal experience when listening to messages, which increases the audience's feelings of warmth and transparency. In this line, **Perona-Páez** (2007) also highlights the commitment of radio advertising to information as a guarantee of credibility, selling the product from reality, without enhancing fantasy, which makes it an appropriate setting to communicate companies' responsible behavior.

In regard to the effects that the Covid-19 pandemic has had on radio consumption, it should be noted that, in times of crisis, there is a general increase in audience in traditional media (*Havas Media Group*, 2020). This is due to citizens' need to be more informed, causing a rise in news consumption and, consequently, an increase in audience. Studies carried out in several countries have recorded an overall increase in radio consumption, both in the number of listening hours and in the number of listeners (**Rodero**; **Blanco**, 2020). There are two advantages to this medium that become relevant in difficult moments such as the one we have lived through: the psychological influence it exerts on listeners (**Rodero**, 2020) and the credibility of the medium (**Montaña-Blasco**; **Ollé-Castellà**; **Lavilla-Raso**, 2020). Regarding the latter aspect, these authors state that, although the consumption of radio to keep informed is not remarkable,

> "this medium is considered to be the most credible, along with television" ["*este medio es considerado como el más creíble, conjuntamente con la televisión*"] (**Montaña-Blasco**; **Ollé-Castellà**; **Lavilla-Raso**, p. 155).

If concrete data are studied, according to the *General Framework for Media in Spain* [*Marco general de los medios en España*] report prepared by the *AIMC* (2022), radio has an audience of around 23 million listeners (22,775,000) and a penetration rate of 55.4%, which places it in fourth place, after the Internet, television, and the external environment. Further, if we analyze the level of trust that citizens have with respect to the media in general, for Spaniards, radio is the most trustworthy means of communication; 45% of Spaniards and 53% of Europeans believe so (*Eurobarometer*, winter 2020/2021). This fact is closely related to radio being a medium that, to date, has weathered crises with relative ease. **Madinaveitia** (2021) explains that, despite the fact that radio has always grown more moderately during periods of strong investment growth, when a crisis occurred and investment fell sharply, radio always fell less. This means that its performance has always been flatter than those of the market as a whole.

In short, based on the remarkable credibility of the radio medium compared with other media (**Perona-Páez**, 2007), as well as its audience's behavior and perception toward this audio medium during the pandemic, the foundations seem to be laid for an area conducive to communicating organizations' CSR through advertising. In this way, radio advertising and CSR can become productive partners, together positively impacting the messages conveyed to the organizations' stakeholders.

5. Research method

The Covid-19 pandemic has had a significant impact on many areas of our lives. Companies and institutions have not been spared from this exogenous factor's impact on both their daily work and their communication. Taking this as a starting point, this research is based on one main objective: to analyze whether Covid-19 has brought about changes in the use of radio advertising as a vehicle to communicate organizations' CSR.

To achieve this main objective, the following research questions were posed:

Q1: What percentage of advertising spots in the selected sample communicated or disclosed CSR actions?

Q2: Which sectors and advertisers are most invested in communicating CSR through radio advertising?

Q3: What dimensions of CSR are communicated most through radio advertisements?

Q4: Who are the main beneficiary stakeholders of the CSR that is disseminated through radio advertising spots?

Q5: To which area or field of communication are advertising spots concerning CSR confined?

To respond to these questions, a methodological design was proposed based on the quantitative content analysis of two representative samples of radio advertising spots, one corresponding to the year before the pandemic broke out, that is, 2019, and another collected after the worst waves of Covid-19 had been overcome, that is, 2021. **Riffe**, **Lacy**, and **Fico** (1998) point out that it is not possible to conduct a study on media without analyzing its content. In addition, as argued by Perelló-Oliver and Muela-Molina, two authors with extensive research experience in the Spanish radio advertising field, quantitative content analysis

> "allows us to dissect the communicative product, examine it in detail to understand the internal structure of messages, its constituent elements and its operation to infer and interpret social phenomena" ["*permite diseccionar el producto comunicativo, examinarlo al detalle con el objeto de conocer la estructura interna de los mensajes, sus elementos constituyentes y su funcionamiento para inferir e interpretar los fenómenos sociales*"] **(Perelló-Oliver**; **Muela-Molina**, 2013, p. 35).

The two samples were obtained by recording contemporaneous advertising spots broadcast by the three principal mainstream Spanish broadcasters (*Cadena SER*, *COPE*, and *Onda Cero*). The broadcasters were chosen based on data provided by the *General Media Framework* (*Marco General de Medios*) of the *Association for Media Research* (*Asociación para la Investigación de los Medios de Comunicación*) (*AIMC*, 2021). With the purpose of making a comparison that would allow us to identify the changes that took place between the pre- and post-pandemic periods, the first sample was collected on February 4, 2019, while the second was recorded on November 8, 2021. These dates were chosen at random, avoiding periods in which advertising campaigns were significantly altered, such as the back-to-school season, Christmas, Easter, etc. In both cases, it was decided that advertisements that appeared during the 9 a.m. to 12 p.m. slot, which includes part of the primetime slot for radio in Spain, would be selected and analyzed (*AIMC*, 2019; 2021). A total of 562 spots were gathered, 239 in the first recording and 323 in the second, which were analyzed using an ad hoc template that allowed us to classify and categorize the different study variables. The table contains the following classification elements: year, broadcaster, time slot, presence of CSR content, advertiser, economic sector, CSR dimensions, beneficiary stakeholders, and communication area (Table 2).

Table 2. Variables for analysis

Years	2019 2021
Broadcasters	*SER* *COPE* *Onda Cero*
Time slots	9:00–10:00 a.m. 10:00–11:00 a.m. 11:00 a.m.–12:00 p.m.
Presence of CSR content	Yes/No
Advertisers	
Economic sectors	*InfoAdex* sectors (Table 3)
CSR dimensions	Economic Environmental Social Combination (specify)
Beneficiary stakeholders	Consumers Employees Providers Local community Society Others
Types of communication	Corporate Commercial

Regarding the information presented on the analysis variables, it should be noted that the CSR dimensions variable has been studied following the works of **De-la-Cuesta** and **Valor** (2003) and **Barrio-Fraile** (2019). The types of communication were established based on the proposal made by **Costa** (2011), who presents a comprehensive communication model comprising three spheres (corporate communication, commercial communication, and internal communication). Internal communication has not been included in the typology because, upon analysis, we observed that this variable did not appear in the sample.

For the classification of economic sectors, the sectoral classification offered by *InfoAdex* was taken as a reference (Table 3).

Table 3. Classification of economic sectors

1. Automotive
2. Distribution and foodservice
3. Finance
4. Telecommunications and internet
5. Food
6. Public and private services
7. Beauty and hygiene
8. Culture, education, and media
9. Beverages
10. Gambling and betting
11. Health
12. Transport, travel, and tourism
13. Home
14. Sports and leisure
15. Energy
16. Miscellaneous
17. Cleaning
18. Construction
19. Textiles and clothing
20. Industrial, equipment, agricultural
21. Office and retail supplies
22. Personal items
23. Tobacco
24. Unknown

Source: *InfoAdex* (2021).

The data obtained from this analysis allow us to understand the magnitude of advertising spots from the selected sample that publicize CSR actions, as well as which dimensions are communicated the most and the primary beneficiaries of these types of actions. In addition, considering that we are working with two samples obtained at two distinct times (pre-Covid and post-Covid), we are able to observe whether the pandemic has produced any kind of change in radio advertising campaigns that would qualify as CSR. A comparative study would allow us to compare whether there are a similar number of actions in both groups or whether there has been an increase or decrease in CSR-specific radio advertising spots.

6. Results

The communication of CSR through radio advertising experienced significant growth after overcoming the worst moments of the pandemic, according to the results of this study. In 2019, 6 spots were found in the total sample (n = 239), which means that only 2.5% of the ads incorporated CSR content, whereas in 2021, 35 out of a total of 323 analysis units, or 10.8% of the ads, were identified as such. This increase of just over 8 points indicates that organizations are opting, albeit tentatively, to promote their CSR messages on radio. In fact, although only 6 advertisers were broadcasting this type of content in 2019, this figure was three times higher in 2021, totaling 18 (Table 4). Regarding the number of campaigns issued in both years, in 2019, the 6 spots gathered correspond to 6 different advertising campaigns, whereas in 2021, the 35 advertising spots with CSR content represent 20 different advertising campaigns.

The analysis shows that *Sanitas* and the *Atresmedia* group are the two advertisers most committed to CSR communication, leading the 2021 ranking with a total of seven and five spots, respectively. Following *Sanitas* and *Atresmedia*, by a considerable margin, are *El Corte Inglés*, *J. García Carrión*, and *ONCE*, which broadcast CSR content in 2019 and 2021, albeit with only one radio advertising spot each. If we focus on the number of campaigns (Table 4), the *Atresmedia* group stands out by carrying out three different advertising campaigns in 2021, whereas the rest of the advertisers only carried out one, both before and after Covid-19.

Table 4. Advertisers who publicize CSR initiatives

Data by number of spots				Data by number of campaigns			
Year 2019 (6 spots)		Year 2021 (35 spots)		Year 2019 (6 campaigns)		Year 2021 (20 campaigns)	
Economic sectors	No. of spots	Economic sectors	No. of campaigns	Economic sectors	No. of campaigns	Economic sectors	No. of campaigns
Atresmedia	1	*Sanitas*	7	*Atresmedia*	1	*Atresmedia*	3
El Corte Inglés	1	*Atresmedia*	5	*El Corte Inglés*	1	*Balay*	1
Repsol Foundation	1	*Banco Sabadell*	3	*Repsol Foundation*	1	*Banco Sabadell*	1
J. García Carrión	1	*Bankinter*	3	*J. García Carrión*	1	*Bankinter*	1
Corsa Group	1	*Balay*	2	*Corsa Group*	1	*Bosch*	1
ONCE	1	*CaixaBank*	2	*ONCE*	1	*CaixaBank*	1
		Ibercaja	2			*El Corte Inglés*	1
		Bosch	1			*Factorenergía*	1
		El Corte Inglés	1			*Feníe Energía*	1
		Factorenergía	1			*Novo Nordisk Group*	1
		Feníe Energía	1			*Ibercaja*	1
		Novo Nordisk Group	1			*J. García Carrión*	1
		J. García Carrión	1			*Mercado Organic*	1
		Mercado Organic	1			*Mutua Madrileña*	1
		Mutua Madrileña	1			*ONCE*	1
		ONCE	1			*Panasonic*	1
		Panasonic	1			*Repsol*	1
		Repsol	1			*Sanitas*	1

The increase in radio advertising with CSR content, of course, implies an increase in the economic sectors concerned, from six in 2019 to nine in 2021. Although, in absolute numbers, this change is not significant, the percentage increase in terms of sectors is 50%. The sectors present in the two time periods studied are Culture, education, and media; Gambling and betting; and Energy. In 2021, Finance, a sector that accounts for 10 of the 35 spots observed, and Health, with 8 spots, had a very strong showing. Table 5 also shows that the Culture, education, and media sector went from one spot in 2019 to five in 2021, while Energy also experienced notable growth, increasing from one to four. The other emerging sectors in 2021 were, in this order, Home (with three advertisements), Food (two), Public and private services (one), and Transport, travel, and tourism (one). If we analyze the behavior of the different sectors in relation to the number of campaigns, the sectors with the highest number of campaigns are Finance (with four different campaigns), Energy (four), and Culture, education, and media (three).

Table 5. Economic sectors that disseminate CSR initiatives

Data by number of spots				**Data by number of campaigns**			
Year 2019 (6 spots)		**Year 2021 (35 spots)**		**Year 2019 (6 campaigns)**		**Year 2021 (20 campaigns)**	
Advertisers	**No. of spots**	**Advertisers**	**No. of campaigns**	**Advertisers**	**No. of campaigns**	**Advertisers**	**No. of campaigns**
Distribution and foodservice	1	Finance	10	Distribution and foodservice	1	Finance	4
Culture, education, and media	1	Health	8	Culture, education, and media	1	Energy	4
Beverages	1	Culture, education, and media	5	Beverages	1	Culture, education, and media	3
Gambling and betting	1	Energy	4	Gambling and betting	1	Food	2
Energy	1	Home	3	Energy	1	Health	2
Miscellaneous	1	Food	2	Miscellaneous	1	Home	2
		Public and private services	1			Public and private services	1
		Gambling and betting	1			Gambling and betting	1
		Transport, travel, and tourism	1			Transport, travel, and tourism	1

In the midst of the pandemic, the economy, employment, and health were what most worried Spaniards (*Wunderman Thompson*, 2020). What is most striking about this study is that, after the worst stretch of the pandemic, the economy (finance sector), health, and culture/education, those sectors encompassing three of the aspects traditionally most valued by society as a whole, take very prominent positions in terms of the number of radio advertising spots.

This is consistent with the increase in the social dimension of advertisements that publicize CSR actions (Figure 1). Whereas in 2019 this dimension was present in 50% of campaigns that opted to publicize CSR initiatives, it is present in 70% of campaigns of this type in 2021. On the other hand, the environmental dimension decreased by 15%, from 50% of advertisements that publicized some type of CSR to only 35%. The economic dimension, which, according to data provided by the *Wunderman Thompson* (2020) study, is an element that worries Spaniards, remained stable in this study, at around 35%, in the two periods analyzed.

It is also interesting to note how some advertisers opted to communicate

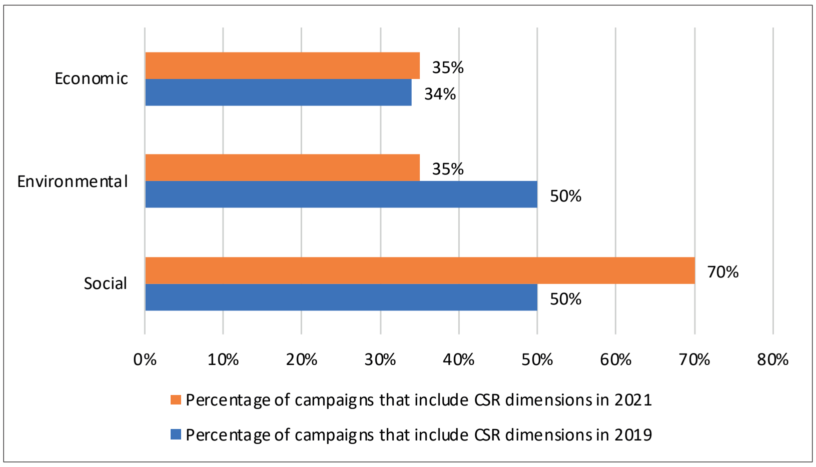

Figure 1. The presence of all three dimensions in campaigns with CSR content

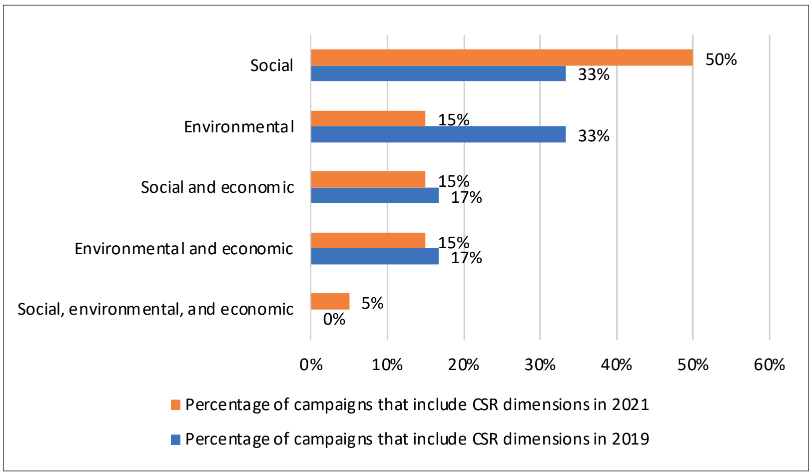

Figure 2. CSR dimensions present in CSR campaigns

more than one dimension of CSR. Figure 2 shows that, in 2019 and 2021, around 65–66% of advertisers that publicized their CSR through radio advertising opted to communicate a single dimension of CSR, be it social or environmental. On the other hand, 30–34% communicated two dimensions of CSR –social and economic or environmental and economic– so the economic dimension is never communicated in isolation, only in conjunction with the social or environmental dimension. In 2021, an advertisement that encompassed the three dimensions of CSR was found, as well.

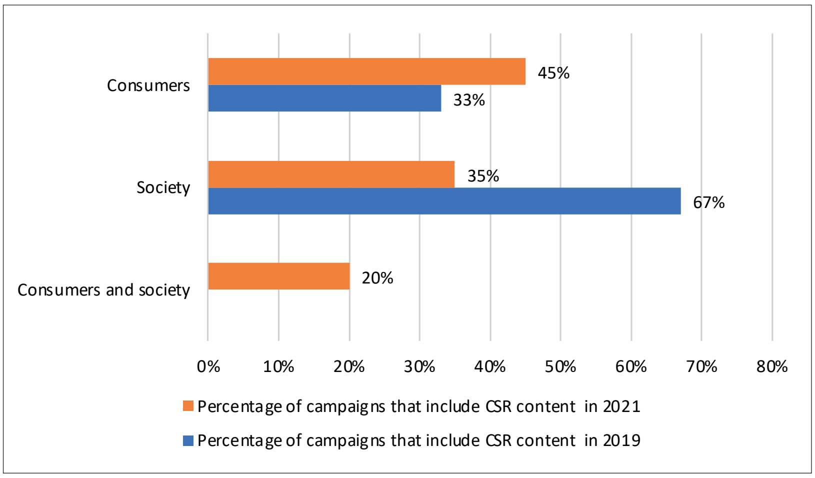

Figure 3. Stakeholders benefiting from CSR actions publicized through radio advertising

As for the stakeholders targeted by CSR actions communicated through radio advertising (Figure 3), in both years, consumers and society were the focus, whereas other important CSR audiences, such as employees, did not appear in the advertisements analyzed. The most significant data related to stakeholders was the increase in CSR advertisements that communicated actions that benefit consumers, from 33% to 45%.

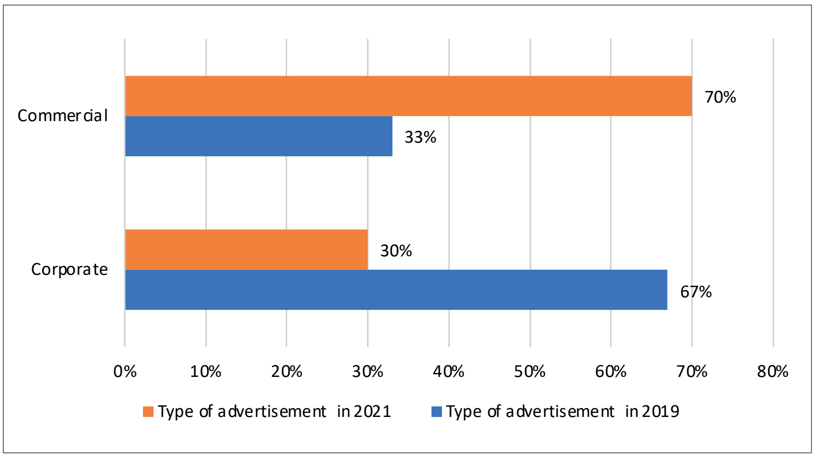

Figure 4. Communication area for advertisements with CSR content

Another very remarkable aspect of this research is that the transmission of CSR content no longer seems to be an action unique to corporate communication; rather, the data reflect an upward trend in the use of commercial communication to publicize CSR actions. Before Covid-19, the predominant type of advertising used to communicate CSR was related to corporate communication (67% of cases), compared with 33% of advertising linked to commercial communication. In contrast, after Covid-19, commercial advertising accounted for 70% of campaigns with CSR content.

7. Discussion and conclusions

The pandemic has had an impact on media consumption habits. Television, official statements, and the online press, in this order, have been the channels used most to stay informed about the spread of the virus. Although radio is not one of the top dogs as far as most consumed media, it did overtake television as the medium that engenders the most trust (**Rodero**, 2020; **Montaña-Blasco**; **Ollé-Castellà**; **Lavilla-Raso**, 2020). Therefore, as **Balsebre** *et al*. (2006) and **Perona-Páez** (2007) pointed out, at present, audio content continues to maintain its long-established credibility in the face of the message saturation and multiple offerings that provide greater access to the population.

Aware of this, organizations approach radio as a communication tool. Its credibility is precisely what justifies broadcasting advertising messages via this medium that, despite not reaching the massive audience levels of others, maintains a penetration rate of around 50% and loyal listeners.

Corporations seem to understand that credibility, trust, and a not inconsiderable penetration rate encourage the dissemination of their CSR campaigns through the medium of radio. At a time when society is looking for solutions and needs answers, companies and institutions are relying on radio to show their commitment to their external stakeholders.

At a time when society is looking for solutions and needs answers, companies and institutions are relying on radio to show their commitment to their external stakeholders

In relation to the first research question (Q1), the increase in spots with CSR content is notable if we take 2019, before the pandemic, and 2021, after a year of living with the virus, as reference points. The increase in the number of such spots from 2.5% to 10.8% shows a remarkable growth trend. These data coincide with those provided by the study prepared by the *Spanish Associa-*

tion of Advertising Agencies (*Asociación de Agencias de Publicidad de España*; 2021), which reflect the increase in CSR advertising campaigns in the media. Therefore, it can be said that radio follows media's general trend toward an increase in advertising with CSR content.

> The stakeholders targeted by CSR actions communicated through radio advertising are consumers and society

The increase in the number of spots has been accompanied by a threefold increase in the number of advertisers, from 6 to 18. These are advertisers who, answering the second question (Q2), are mainly spread across the Healthcare, Finance, and Media sectors, with *Atresmedia* as the leading advertiser, leveraging its radio platform, *Onda Cero*, as a loudspeaker for its awareness campaigns.

In response to Q3, the research shows, as **Barrio-Fraile** and **Enrique-Jiménez** (2021) pointed out, that the social dimension is growing compared with 2019 and has taken the lead, overtaking the environmental and economic dimensions. The pandemic's impact may explain this trend. It seems that Covid-19 has led organizations to focus on enhancing those intangible aspects most related to people's quality of life through their radio advertising. It will be interesting to see whether this trend takes hold or whether, once the pandemic is over, the economic and environmental dimensions will regain ground and recover their leading roles in CSR radio campaigns.

Regarding the stakeholders targeted by CSR actions communicated through radio advertising (Q4), it is interesting to note the absence of such relevant stakeholders as employees, suppliers, or local communities in CSR material. In both years, these types of communications focused their messages on actions that primarily benefited the consumer, without neglecting actions aimed at society in general. This could be explained by the fact that companies use other, more internal means to communicate CSR actions targeted at employees or suppliers, but it could also be a reflection of the data provided by *Llorente y Cuenca* (2021), which indicate that we are dealing with an increasingly discerning consumer who demands quality products and social commitment from companies, that is, CSR for consumers and society. Since radio is a complementary medium at the advertising level, the shift in the type of audience targeted by the campaigns analyzed should be understood in general terms; in other words, consumers, rather than society, are addressed first and foremost owing to strategic criteria at the organizations' communicative level.

Regarding the final research question (Q5), it is interesting to observe how the borders between the commercial and corporate communication areas converge. Thus, if traditionally the CSR dimensions were linked to a more corporate type of communication, the pandemic has accelerated the process by which CSR has leaked into messages usually described as more commercial. These results coincide with the trend indicated by the study of *Llorente y Cuenca* (2021), which highlighted the existence of an increasingly discerning public that rewards brands' social commitment, so it would be logical that consumers' demand for this company profile leads to increased commercial advertising about CSR to provide another argument or benefit for their purchasing decisions.

This research is not without limitations. The first comes from the geographical scope of the study itself, which was conducted in Spain; therefore, it would be interesting to replicate this research in other countries. The second and primary limitation of the research is the final number of advertising spots analyzed. Although it is true that a total of 562 spots were collected (239 in 2019 and 323 in 2021), only 41 of them (6 in 2019 and 35 in 2021) had CSR content. This figure is very small for a detailed statistical analysis, but it is enough to show a trend toward organizations' increased use of radio advertising to communicate CSR. Therefore, the objective of the investigation has been fulfilled. In the aftermath of the Covid-19 pandemic, radio advertisements with CSR content have increased. Some companies have decided to communicate their more social side, and what is most significant is that they do so through their commercial communications.

Despite the limitations mentioned above, the results obtained represent an advance in the study of the use of radio advertising as a vehicle to communicate organizations' more social and sustainable sides, which lays the groundwork for the development of future research. The research presented paves the way for further work on the usefulness of radio as a medium for corporations' CSR messages. Continuing this line of work will make it possible to determine whether the data provided are due to a one-off situation stemming from the pandemic's effects or whether this marks a turning point, indicating that organizations understand that radio can offer special features that help their messages reach a certain audience profile.

> Covid-19 has caused organizations to focus on strengthening CSR's social dimension at the expense of the environmental dimension

9. References

AIMC (2019). *Marco general de los medios en España: 2019*.
https://www.aimc.es/a1mc-c0nt3nt/uploads/2019/01/marco19.pdf

AIMC (2021). *Marco general de los medios en España: 2021*.
https://www.aimc.es/a1mc-c0nt3nt/uploads/2021/02/marco2021.pdf

AIMC (2022). *Marco general de los medios en España: 2022*.
https://www.aimc.es/a1mc-c0nt3nt/uploads/2022/01/marco2022.pdf

Asociación de Agencias de Publicidad de España (2021). *El comportamiento de las grandes marcas ante la pandemia*.
https://www.agenciasdeespana.com/estudio-sobre-el-comportamiento-de-las-grandes-marcas-ante-la-pandemia

Azuero, Diana (2009). *La comunicación de la RSE. Propuestas para un modelo de comunicación responsable*. Madrid: Forética, ISBN: 978 84 613 0113 3

Báez, Valerie-Gessey; **Apolo, Diego-Eduardo**; **Pasquel, Gabriela-Estefanía**; **Pauker, Lizeth-Michelle** (2018). "Gestión de stakeholders: un enfoque comunicacional". En: Túñez, José Miguel; Costa, Carmen; Valdiviezo, Cesibel. *Comunicación organizacional en entornos "online". Gestión, actores y recursos*. Sociedad Latina de Comunicación Social. ISBN: 978 84 17314 07 1

Bajo, Ana (2015). "El diálogo empresa-stakeholders como fundamento del reconocimiento empresarial". En: Benavides, Juan; Monfort, Abel. *Comunicación y empresa responsable* (pp. 91-110). Barañáin: Eunsa, ISBN: 978 84 313 3063 7

Balsebre, Armand; **Ricarte-Bescós, José-María**; **Perona-Páez, Juan-José**; **Roca, David**; **Barbeito-Veloso, Mariluz**; **Fajula-Payet, Anna** (2006). "Los mitos de la publicidad radiofónica. Estrategias de la comunicación publicitaria en la radio española". Madrid: Cátedra. ISBN: 978 84 376 2291 0

Barbeito-Veloso, Mariluz; **Fajula-Payet, Anna** (2005). "La radio publicitaria: el peso del inmovilismo". *Quaderns del CAC*, v. 22, pp. 49-62.
https://www.cac.cat/sites/default/files/2019-04/Q22_barbeitofajula_ES.pdf

Barbeito-Veloso, Maria-Luz; **Perona, Juan-José** (2019). "Comunicación organizacional en clave sonora: el caso de *Blink*, los podcast de *BBVA*". *El profesional de la información*, v. 28, n. 5, e280511.
https://doi.org/10.3145/epi.2019.sep.11

Barbeito-Veloso, Mariluz; **Vázquez-Gestal, Montse** (2000). "La radio, un medio publicitario infravalorado". En: Pena, Alberto; Fernández-Areal, Manuel. *La publicidad en la radio.* Pontevedra: Diputación de Pontevedra, pp. 207-224. ISBN: 84 8457 023 1

Barrio-Fraile, Estrella (2019). *Responsabilidad social corporativa. De la noción a la gestión*. Barcelona: UOC, ISBN: 978 84 9180 409 3

Barrio-Fraile, Estrella; **Enrique-Jiménez, Ana-María** (2015). "La responsabilidad social corporativa en las empresas y su relación con los grupos de interés. Los casos de Unilever y Nestlé". *Revista internacional de investigación en comunicación aDResearch ESIC*, v. 11, n. 11, pp. 26-39.
https://doi.org/10.7263/adresic-011-02

Barrio-Fraile, Estrella; **Enrique-Jiménez, Ana-María** (2018). "Responsabilidad social corporativa. Estudio sobre la identificación y clasificación de los stakeholders". *Revista internacional de investigación en comunicación aDResearch ESIC*, v. 17, n. 17, pp. 90-109.
https://doi.org/10.7263/adresic-017-02

Barrio-Fraile, Estrella; **Enrique-Jiménez, Ana-María** (2021). "The strategic value of corporate social responsibility (CSR): the present and future of its management". *Profesional de la información*, v. 30, n. 3, e300312.
https://doi.org/10.3145/epi.2021.may.12

Carreras, Enrique; **Alloza, Ángel**; **Carreras, Ana** (2013). *Reputación corporativa*. Madrid: Lid Editorial. ISBN: 978 84 835 6721 0

Costa, Joan (2011). *El ADN del dircom. Origen, necesidad, expansión y futuro de la dirección de comunicación.* Barcelona: CPC Editor. ISBN: 978 84 615 0260 8

Dawkins, Jenny (2004). "Corporate responsibility: the communication challenge". *Journal of communication management*, v. 9, n. 2, pp. 108-119.
https://www.emerald.com/insight/content/doi/10.1108/13632540510621362/full/html

De-la-Cuesta, Marta; **Valor, Carmen** (2003). "Responsabilidad social de la empresa: concepto, medición y desarrollo en España". *Boletín económico de ICE (Información Comercial Española)*, n. 2755, pp. 7-20.

Dircom (2020). *Comunicar en tiempos de pandemia*. Madrid: Dircom. ISBN: 978 84 09 25973 1

Dowling, Grahame-Robert (2001). *Creating corporate reputations. Identity, image, and performance*. New York: Oxford University Press. ISBN: 978 0 199252206

Elkington, John (1998). *Cannibals with forks. The triple bottom line of 21st century business*. Canada, Gabriola Islan: New Society Publishers. ISBN: 0 8 657 1392 8

Epstein, Marc J.; **Birchard, Bill** (2001). *La empresa honesta: cómo convertir la responsabilidad corporativa en ventaja competitiva*. Barcelona: Paidós. ISBN: 84 493 1137 3

Espinosa-Mirabet, Sílvia; **Vico-Blanco, Maria** (2016). "La involución de los formatos comerciales radiofónicos: España 10 años después". *ZER: Revista de estudios de comunicación*, v. 21, n. 41.
https://doi.org/10.1387/zer.17293

Estanyol, Elisenda (2020). "Communicating corporate social responsibility (CSR): An analysis of the most award-winning campaigns of 2018". *El profesional de la información*, v. 29, n. 3, e290334.
https://doi.org/10.3145/epi.2020.may.34

Eurobarometer (2021). *Media use in the European Union*. Brussels: European Commission.
https://op.europa.eu/en/publication-detail/-/publication/d2dbcf78-11e0-11ec-b4fe-01aa75ed71a1

Fajula-Payet, Anna; **Barbeito-Veloso, Mariluz**; **Perona-Páez, Juan-José** (2021). "El estancamiento creativo de la publicidad radiofónica en el nuevo escenario sonoro: análisis del tono y estilo de las inserciones publicitarias". *Historia y comunicación social*, v. 26, n. 2, pp. 403-415.
https://doi.org/10.5209/hics.77077

Freeman, R. Edward (1984). *Strategic management. A stakeholder approach*. Boston: Pitman. ISBN: 05 211 5174 0

Freeman, R. Edward; **Harrison, Jeffrey S.**; **Wicks, Andrew C.** (2008). *Managing for stakeholders: survival, reputation, and success*. New Haven, Connecticut: Yale University Press. ISBN: 03 001 3849 0

Havas Media Group (2020). *Estudio del impacto del coronavirus en hábitos y medios*. Madrid: Havas Group.
https://www.pmfarma.es/noticias/noticias/28431/files/ESTUDIO_HMG%20IMPACTO%20Covid-19%20HABITOS%20Y%20MEDIOS_17%20abril_def.pdf

He, Hongwei; **Harris, Lloyd** (2020). "The impact of Covid-19 pandemic on corporate social responsibility and marketing philosophy". *Journal of business research*, v. 116, pp. 176-182.
https://doi.org/10.1016/j.jbusres.2020.05.030

Ibisate, Angel (2007). "La gestión corporativa de los grupos de interés". En: Real Academia de Ciencias Económicas y Financieras (eds.). *La responsabilidad social de la empresa. Propuesta para una economía de la empresa responsable y sostenible*. Barcelona: Racef, pp. 281-287. ISBN: 978 84 611 7801 8

InfoAdex (2021). *Estudio InfoAdex de la inversión publicitaria en España 2021*.
https://www.infoadex.es/home/wp-content/uploads/2021/02/NP-Estudio-InfoAdex-de-la-Inversi%C3%B3n-Publicitaria-en-Espa%C3%B1a-2021.pdf

Ki-Moon, Ban (2016). *Mensaje del Secretario General con motivo del Día Mundial de la Radio*. Naciones Unidas, 13 de febrero de 2016.
https://www.un.org/es/sg/messages/2016/radioday2016.shtml

Llorente y Cuenca (2021). *Informe tendencias del consumidor 2021*.
https://ideas.llorenteycuenca.com/2021/02/tendencias-consumidor-2021

Madinaveitia, Eduardo (2021). "La inversión publicitaria en radio se desploma hasta valores de los años noventa". *El publicista*, 6 de marzo.
https://www.elpublicista.es/articulos/inversion-publicitaria-radio-desploma-hasta-valores-anos-noventa

Monfort, Abel; **Villagra, Nuria** (2016). "Corporate social responsibility and corporate foundations in building responsible brands". *El profesional de la información*, v. 25, n. 5, pp. 767-777.
https://doi.org/10.3145/epi.2016.sep.07

Monfort, Abel; **Villagra, Nuria**; **López-Vázquez, Belén** (2019). "Exploring stakeholders' dialogue and corporate social responsibility (CSR) on *Twitter*". *El profesional de la información*, v. 28, n. 5, e280513.
https://doi.org/10.3145/epi.2019.sep.13

Montaña-Blasco, Mireia; **Ollé-Castellà, Candela**; **Lavilla-Raso, Montse** (2020). "Impacto de la pandemia de Covid-19 en el consumo de medios en España". *Revista latina de comunicación social*, v. 78, pp. 155-167.
https://www.doi.org/10.4185/RLCS-2020-1472

Navarro-García, Fernando (2008). *Responsabilidad social corporativa: teoría y práctica.* Madrid: ESIC. ISBN: 978 84 7356 528 8

Orozco-Toro, Jaime-Alberto; **Alzate, Jaime-Eduardo** (2018). "Stakeholders: strategic actors in brand building". *Anagramas rumbos y sentidos de la comunicación*, v. 16, n. 32, pp. 95-109.
https://doi.org/10.22395/angr.v16n32a6

Orozco-Toro, Jaime-Alberto; **Ferré-Pàvia, Carme** (2013). "La comunicación estratégica de la responsabilidad social corporativa". *Razón y palabra*, n. 83, pp. 513-533.
http://www.razonypalabra.org.mx/N/N83/V83/20_OrozcoFerre_V83.pdf

Orozco-Toro, Jaime-Alberto; **Roca, David** (2011). "Construcción de imagen de marca y reputación a través de campañas publicitarias de RSC". *Sphera publica*, v. 11, pp. 273-289.
https://www.redalyc.org/pdf/297/29729580016.pdf

Perelló-Oliver, Salvador; **Muela-Molina, Clara** (2013). "Análisis de contenido de la publicidad radiofónica en España". *Revista de ciencias sociales*, v. 1, n. 1, pp. 33-52.
https://doi.org/10.17502/m.rcs.v1i1.24

Perona-Páez, Juan-José (2007). "Formatos y estilos publicitarios en el 'prime-time' radiofónico español: infrautilización y sequía de ideas". *ZER: Revista de estudios de comunicación*, v. 12, n. 23, pp. 219-242.
https://ojs.ehu.eus/index.php/Zer/article/view/3658

Piñeiro-Otero, Teresa (2017). "La radio en la investigación comunicativa en España: Una línea minoritaria para un medio mayoritario". *Signo y pensamiento*, v. 35, n. 69, pp. 30-48.
https://doi.org/10.11144/Javeriana.syp35-69.rice

Raghubir, Priya; **Roberts, John**; **Lemon, Katherine N.**; **Winer, Russell S.** (2010). "Why, when, and how should the effect of marketing be measured? A stakeholder perspective for corporate social responsibility metrics". *Journal of public policy & marketing*, v. 29, n. 1, pp. 66-77.
https://doi.org/10.1509/jppm.29.1.66

Riffe, Daniel; **Lacy, Stephen**; **Fico, Frederick** (1998). *Analyzing media messages. Using quantitative content analysis in research*. Mahwah, New Jersey: Lawrence Erbaum Associates. ISBN: 978 1 138613980

Rodero, Emma (2020). "La radio: el medio que mejor se comporta en las crisis. Hábitos de escucha, consumo y percepción de los oyentes de radio durante el confinamiento por el Covid-19". *El profesional de la información*, v. 29, n. 3, e290306.
https://doi.org/10.3145/epi.2020.may.06

Rodero, Emma; **Blanco, María** (2020). "El papel de la radio en situaciones de crisis. Iniciativas en la pandemia del coronavirus". *Index comunicación*, v. 10, n. 3, pp. 193-213.
https://doi.org/10.33732/ixc/10/03Elpape

Sanclemente-Téllez, Juan-Carlos (2017). "Marketing and corporate social responsibility (CSR). Moving between broadening the concept of marketing and social factors as a marketing strategy". *Spanish journal of marketing - ESIC*, v. 21, n. S1, pp. 4-25.
https://doi.org/10.1016/j.sjme.2017.05.001

Svendsen, Ann (1998). *The stakeholder strategy*. San Francisco, California: Berrett-Koehler. ISBN: 1 5 767 5047 7

Villagra, Nuria (2007). "¿Por qué tenemos miedo de comunicar la responsabilidad social corporativa?". En: Bajo, Anna; Villagra, Nuria. *Evolución conceptual y práctica de una gestión responsable.* Madrid: Universidad Pontificia de Comillas, pp. 77-94. ISBN: 978 84 8468 224 0

Villagra, Nuria (2015). "La gestión de intangibles y la dirección de comunicación". En: Enrique, Ana-María; Morales, Francisca. *Somos estrategas*. *Dirección de comunicación empresarial e institucional*. Barcelona: Gedisa, pp. 61-84. ISBN: 978 84 9784 974 6

Villagra, Nuria; **Cárdaba, Miguel A. M.**; **Ruiz-San-Román, José A.** (2016). "Comunicación de RSC: una revisión de las tesis clásicas sobre la coherencia entre la acción de RSC y la actividad organizacional". *Communication & society review*, v. 29, n. 2, pp. 133-149.
https://doi.org/10.15581/003.29.2.133-146

Wunderman Thompson (2020). *Covid-19. Crisis. Entendiendo la nueva realidad.*
http://www.latinspots.com/sp/noticia/wt-espaa-presenta-informe-para-entender-la-nueva-realidad-del-mercado/53588

Xifra, Jordi (2020). "Comunicación corporativa, relaciones públicas y gestión del riesgo reputacional en tiempos del Covid-19". *El profesional de la información*, v. 29, n. 2, e290220.
https://doi.org/10.3145/epi.2020.mar.20

Spotify effect in new podcast markets. Combined model proposal for analysis of increasing interest in podcasting: The case of Turkey

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Abstract

Podcasts have been offered as a new service by digital music providers for several years now. The shift from Really Simple Syndication (RSS) distribution to central distribution channels has increased the interest in podcasts in low-consumption markets. This study aimed to examine the reasons for the recent increased interest in podcasts in Turkey. To analyze the growth in the popularity of podcasts, a model based on the technology acceptance model and the uses and gratifications theory was used, and a questionnaire targeting the users who listened to podcasts through *Spotify*, the most popular music streaming service in Turkey, was administered. According to the data obtained, the majority of the participants had first heard about podcasts through *Spotify* once they announced that they were offering podcasts as part of their services. The perceived ease of use in listening to podcasts served as the major factor behind listening motivations, perceived usefulness of the services, and attitude toward use. Therefore, although the popularization of podcasts in new markets seems to be associated with their unique content, the decisive factor driving the popularization of podcasts is actually more related to the ability podcasts offer users, who are faced with so many stimuli, to access the preferred content anytime and anywhere in a clear and straightforward manner.

Keywords

Podcasts; Podcasting; RSS; Audiences; Technology acceptance model; Uses and gratifications theory; *Spotify*; Central distribution networks; Perceived ease of use; Webcasting.

1. Introduction

Podcasts have recently been attracting greater attention as a popular form of broadcasting in Turkey. Despite its long history, podcast broadcasting in Turkey still has relatively limited production and interest. However, over the last few years, radio stations and free content producers have stepped up their efforts to broadcast podcasts more frequently than before to cultivate a greater demand in their audiences. For instance, the *Google Trends* data for the period between 2014 and 2021 indicate that the frequency of searching the term "podcast" started to increase in 2019 and peaked in April 2020, a date that aligned with the onset of the global Covid-19 pandemic. Although *iTunes* started to offer podcasts after 2005, global market players like

> Turkey had the highest increase in the world in the rate of people listening to podcasts in 2020

Google and *Spotify*[1] began to create movement in the podcast market in 2018 and 2019, respectively, a factor believed to have increased the interest in podcasts in Turkey.

With the inception of the Really Simple Syndication (RSS) distribution format some time ago, podcasts were adopted by the producers of professional and independent contents in the U.S. and Europe. Podcasts were seen as symbols of the "do-it-yourself" approach, one of the main principles of Web 2.0. The more personalized listening experience offered by podcasts and the options these experiences create for advertisement opportunities compared to those of traditional radio are perceived as both an advantage and a challenge for traditional broadcasting (**Markman**; **Sawyer**, 2014). As podcasts have evolved, they have turned into an attractive media format, insofar as they go beyond a simple fill-in-the gap secondary audio medium. With their on-demand, time and space independent, and mobile-powered features, podcasts serve as an essential audio tool for today's demanding media consumers (**Chan-Olmsted**; **Wang**, 2020). In highlighting how online platforms have been making investments to enter the podcast market in order to access new advertisers and increase their advertising revenue, **Sullivan** (2019) noted that such actions have changed the relevant market.

> Listeners in the podcast system of Turkey are concentrated in the younger population and there is a high level of dedication to the act of listening

It has often been mentioned that not enough research has been conducted on podcast broadcasting (**Bonini**, 2015; **Bottomley**, 2015; **Markman**, 2012; **McClung**; **Johnson**, 2010; **Mou**; **Lin**, 2015). Despite the regularly conducted research on the educational use of podcasts, it has been argued that most of the limited amount of research conducted within the scope of broadcasting was carried out in the infancy of this media (**Bottomley**, 2015). In Turkey, there are only a limited number of studies on podcasts, which is still a very new market, and in these studies, the subject has only been discussed conceptually (**Akıner**, 2011; **Budak**, 2019; 2021; **Kutlu**, 2020; **Şener**, 2020; **Soydan**, 2016; **Tufan**, 2020; **Yıldırım**; **Kalender**, 2018; **Yücel**, 2020). The history of market analyses on podcasts covers the last couple of years, with the first of these analyses involving a questionnaire administered by *Podiolab*, a Turkish podcasting site, to its audience. According to the results of this questionnaire, 69.9% of participants stated that they listened to podcasts every day (**İbrişim**, 2019). Another study showed that Turkey had the highest increase in the world in the rate of people listening to podcasts in 2020 (**Koyuncu**, 2021). The latest research published by *Ipsos* (2021) revealed that in Turkey, *Spotify* was the site on which podcasts were listened to the most.

More research on podcast listeners in emerging markets like Turkey is needed. Podcast broadcasting, which is based on RSS feeds and has an irregular distribution model, has undergone a transformation by transitioning to a platform-based distribution model. In terms of visibility and accessibility, music streaming platforms offer a more useful environment for podcast broadcasting than RSS. Although RSS is considered a useful add-on for websites, it has not been widely adopted by internet users. According to the present study, the addition of podcasts to the content catalog of *Spotify* increased the interest in podcasts in Turkey. The aim of this study was to determine the factors driving *Spotify* users to listen to podcasts by conducting a survey based on a model that adapts the measurement instruments of the Technology Acceptance Model and the Uses and Gratifications Theory. It is believed that the data obtained will provide important information related to defining user response to the changes in the distribution format of podcast broadcasting and to the development of new markets like Turkey.

2. Literature review

2.1. Definition of podcast

Podcasts, which are digital audio and video files that were developed at the beginning of the 21st century, when social media and cloud computing did not yet exist, have a decentralized distribution structure with open source RSS support and a variety of sources, from professional ones, like radios, publishers, journalists and educational institutions, to independent producers, artists or amateurs, and they can be downloaded to a computer, *iPod*, or mobile media player for later play back (**Bonini**, 2015; **DeLys**; **Foley**, 2006; **Lee** *et al.*, 2009; **McClung**; **Johnson**, 2010; **Menduni**, 2007; **Mou**; **Lin**, 2015; **Stachyra**, 2017).

The term "podcasting" is based on the combination of the words broadcasting and *iPod*[2] ; however, the mindset behind that technology is rooted the world of blogging (**Crofts** *et al.*, 2005). Essentially, the first podcasts were even described as audio blogs. The emergence of podcast begins with Mark Curry, a former *MTV* VJ, who looked for a solution on how to download audio files automatically from the Internet to make his job easier. Because Dave Winer, the creator of the blog syndication code Real Simple Syndication (RSS) had adapted RSS software to handle audio files, a solution arose for Curry. According to **Berry** (2006), Winer and Curry began discussing how this technology could be used to get content from the web automatically. Curry created the first version of *iPodder*, a tool for capturing pods. Then, Curry's Daily Source Code program took the digital consumption model of podcasting mainstream in August 2004; Winer helped develop RSS for this purpose for his program *Morning Coffee Notes* (**Prince**, 2020). Consequently, podcasting software directories such as *iPodder* became available, and podcasting increased in popularity. Shortly after that, *iTunes* began to offer podcasts to users (**Menduni**, 2007; **McClung**; **Johnson**, 2010; **Markman**, 2012; **Botomley**, 2015). However, it has been argued that the popularity of podcasting seems to revolve around a company (*Apple*) and is even associated with a player (*iPod*) released by that company; therefore, a bias against *iPod* developed among the listeners (**Bottomley**, 2015).Within a short period of time, files that allowed listeners to access and use the broadcasts at their own discretion became known as "podcasts" (**Swanson**, 2012). A number of researchers have argued that the RSS feature is what distinguishes podcasts from other audio feeds and downloadable online audio files on the internet (**Bottomley**, 2015). Unlike many cultural media found on the web today (e.g., *YouTube* for videos, *Flickr* for photographs, and *Facebook* for socializing), the platform for podcasts serves as a central point connecting producers and audiences (**Sullivan**, 2019). More precisely, podcasts are conceptualized as a unique form of online participation that is characterized as grassroots media. Contrary to traditional structuring, a podcast broadcaster does not need studios, transmitters, or licenses, an advantage that facilitates the transition from listener to producer (**Berry**, 2006). Podcasts offer traditional broadcasters the opportunity to expand their reach and internet users the opportunity of becoming a media producer without being subject to traditional editorial oversight, advantages that are considered to be a reflection of the internet's great symmetrical communication potential (**Markman**; **Sawyer**, 2014; **Nyre**; **Ala-Fossi**, 2008). Therefore, podcasts can be understood as an example of user generated content (UGC), which is closely tied to the culture of convergence (**Hartley**, 1996; **Jenkins**, 2006; **Spurgeon**; **Goggin**, 2007).

> *Spotify*'s acquisition of *Gimlet Media*, *Anchor*, and *Parcast* in 2019 drew the attention of investors, advertisers, and content creators toward the podcast sector in Turkey

Although podcasts support audio, video, or multiple formats, users tend to equate them with audio and associate them with radio (**Markman**; **Sawyer**, 2014). Podcasts, by their very nature, are dependent upon the cultural definition of audio files as a secondary medium and are designed to accompany daily life practices. Thus, in this sense, they are similar to old radio broadcasts that try to draw the attention of audiences (**Morris**; **Patterson**, 2015). In fact, podcasts have been compared to the broadcasting works of amateur radio operators (**Menduni**, 2007). However, those who emphasize that podcasts are not live and instant like radio suggest that podcasts should be considered as a new instrument and form of communication rather than a digital, mobile, and on-demand extension of radio (**Chan-Olmsted**; **Wang**, 2020; **Perks** *et al.*, 2019; **Perks**; **Turner**, 2019). However, the potential that podcast broadcasting has to evade institutional constraints has attracted the attention of sponsors and turned podcasting into a profitable business (**Stachyra**, 2017). In fact, predictions about the commercial future of podcasting have emerged since it became widespread in the USA. In addition to having the same features as traditional media like radio, its other features such as time-shifting, user control, portability, and global coverage provide it with potential for an applicable commercial medium (**Claburn**, 2005). Drawing attention to the effort of brands to exist on developing platforms to reach consumers under today's conditions when media consumption is increasingly fragmented, **Bezbaruah** and **Brahmbhatt** (2022) have emphasized that although podcasts offered by music platforms are at a very new stage, they attract advertisers and a significant number of consumer groups. Podcast advertising, with high approval and conversion rates, is characterized as extraordinary at a time when many consumers are trying to abstain from advertising (**Moe**, 2021). Although it has been highlighted that the number of podcast followers has increased exponentially, that advertisers believe that podcast hosts have become trustable influencers among the listeners, and that advertisements have yielded positive results for brands, industry experts agree that the transcendent commercialization of podcast has yet to materialize (**Brinson**; **Lemon**, 2022).

Pointing out that the definition of "podcast" has changed over time, **Olmsted** and **Wang** (2020) argue that "downloadability" and "audio" are no longer absolutes. Podcast producers and consumers commonly use *YouTube* as a distribution platform, and discussions about video podcasts have become popular. Another change has been the replacement of the "download and listen later" model with the "listen now" model. Podcasts are no longer simply contents that can be accessed via an RSS feed, but rather, have turned into a cloud-based audio format that can be synchronized between phones, tablets, computers, and other audio devices connected to a network (**Berry**, 2016).

2.2. Podcast as a broadcasting format in Turkey

Although the history of podcasts dates to the early 2000s, it is often highlighted that podcasts are a very new concept for Turkish audiences. In fact, according to one study, only 11% of people in Turkey have heard about the term "podcast" (*Ipsos*, 2021). Data from *Google Trends* show that the frequency of searches for the term "podcast" gained momentum in 2005 and peaked in 2006. The search frequency of the term, which was relatively low up to 2017, peaked again in April of 2020. Trends data further show that the queries most relevant to podcasts included the terms "*Spotify*" and "*Spotify* podcast".

In early studies in Turkey examining podcasts as a form of broadcasting, the concept appears as a distribution technology and extension of radio (**Akıner**, 2011; **Soydan**, 2016; **Yücel**, 2020). However, limiting the idea of podcasts to technological instruments and the ability to use them has been criticized (**Şener**, 2020). According to **Tufan** (2020), the adaptation to podcasts in Turkey has gone slower than the speed of the transition from radio to internet broadcasting.

> *Spotify* is the most preferred music platform in Turkey, and podcast consumption is mostly done through it

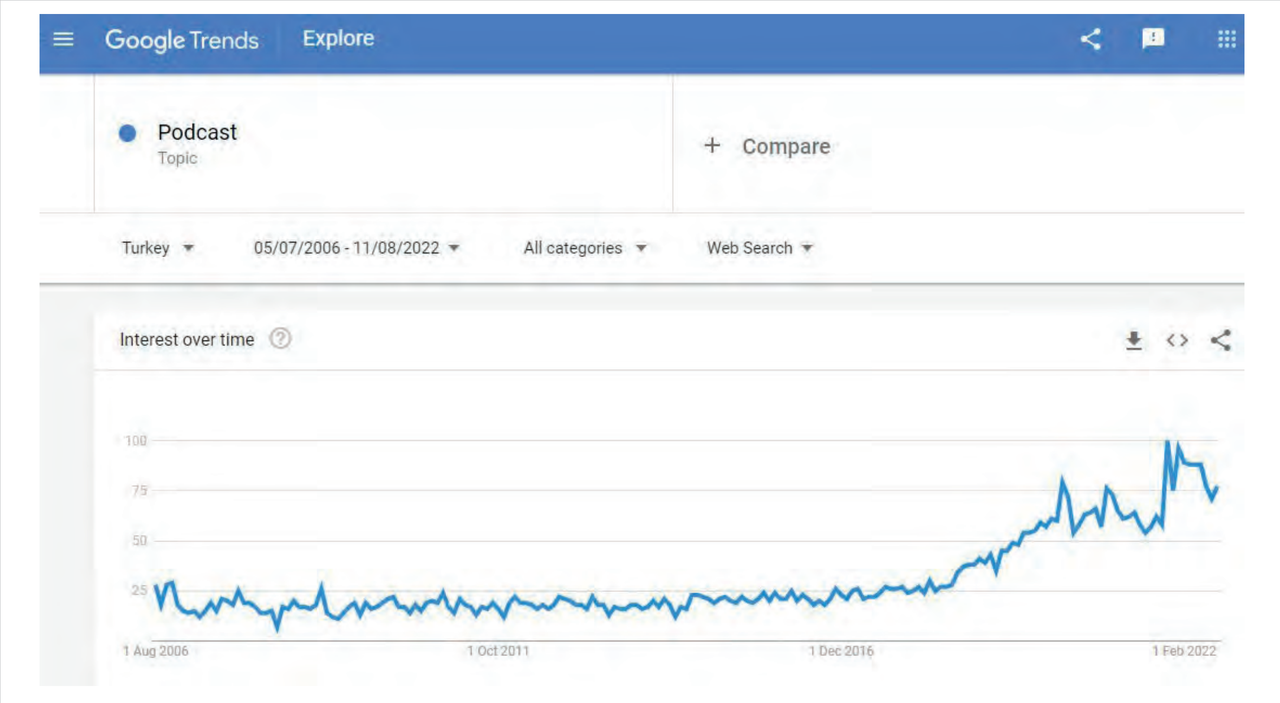

Figure 1. Interest over time (2006-2022) of the word "podcast" in Turkey, according to *Google Trends*

The fact that podcasts offer mass broadcasting opportunities to amateur content producers without requiring advanced technology knowledge and infrastructure is viewed as a practical way for those who have difficulty making their voices heard through mass media in Turkey, as well as for journalists who have been removed from mainstream media for whatever reason, to reach the public (**Budak**, 2021; **Kutlu**, 2020; **Şener**, 2020). Therefore, in this sense, podcast broadcasting is positioned as alternative media. However, emphasis is placed on the potential that podcasts offer in broadcasting cultural, educational, and informative content, rather than entertainment content, due to their structure being independent of general broadcasting. Data from the relevant literature indicate that some traditional media organizations in Turkey have also aimed to reach podcast audiences by converting their news content or television programs on their websites into audio files (**Kutlu**, 2020). However, the majority of these podcasts are simply a continuation of the aforenoted contents and programs and offer no podcast-specific content (**Tufan**, 2020). Therefore, researchers argue that podcasts produced by media organizations are insufficient in terms of quality and quantity, thus, they are far from being competitive on a global scale (**Semiz-Türkoğlu**; **Ağca**, 2021).

Academic research on a new form of media for Turkey mostly deals with podcasting at a conceptual level and market research is limited, which does not provide a sufficient data set to define Turkish podcast listeners. However, the data that *Podiolab*, a Turkish podcast site, has conducted in one of the pioneering studies released can be a clue. Based on these data, 34.2% of the site's followers who participated in the study regularly listened to a podcast in the last 1–3 years. Of the participants, 49.1% reported that they listen to podcasts to learn new information, 28.7% for personal education (e.g., learning a new language), and 17.9% to follow daily news and developments. By age distribution, 41.9% were 25–34, 29.5% were 18–24, and 19.5% were in the 35–44 age range. The data obtained indicated that podcast listeners listen to approximately 80–90% of a podcast broadcast uninterruptedly (*Digitalage*, 2019). It can be claimed based on these results that listeners in the podcast system of Turkey are concentrated in the younger population, and that there is a high level of dedication to the act of listening.

An academic study, conducted with 11 podcast listeners, that differed from other studies in terms of being listener-oriented, examined the participants' motivations for listening (**Kaynar**, 2021). The results of the study showed that participants listen to podcasts to spend time well, to learn new information, to follow current events, and to spend high quality free-time. Participants also noted that they often listen to podcasts while doing daily tasks that do not require attention, walking, or travelling. They regard podcasts as both an alternative and a complementary element to traditional broadcasting tools. Another result obtained from this study was that although participants previously used other podcast platforms, they now prefer *Spotify* for its ease of use (**Kaynar**, 2021).

It can be argued in light of the limited data obtained from these studies that the significant factor among the motivations that lead to podcast use in Turkey is obtaining information. Having fun and spending time as other motivational factors also draw attention. In this context,

> Although podcast publishing became more active in 2019, especially in the field of journalism, Turkey is still at the entry level in this sector

podcast listening trends in Turkey are in line with the listening trends in countries where podcast listening is common. A study conducted by **Craig** *et al.* (2021) with university students found that entertainment, escape, and obtaining knowledge were dominant motivational factors. This study also reported that entertainment was a strong predictor of podcast listening, and that both entertainment and escapism were predictors of positive attitudes toward podcasts. Another study revealed that podcasts were preferred for listening using portable devices, and that listeners could listen to the content they wanted whenever they wanted, were the prominent motivational factors (**McClung**; **Johnson**, 2010). According to **Perks** *et al.* (2019), who argue that listening to podcasts is not just about the podcast itself, podcast is an easily intertwined medium that fits effortlessly into the cramped, media-rich lives we live today.

> This study focuses on not only the intrinsic motivations but also on the external motivations responsible for triggering the interest in podcasts

2.3. Central distribution networks and podcasts

The increased interest in podcasts can be attributed to their global platforming. After web 2.0, as the internet transformed into an area where platforms developed and expanded, social networks have become the central points where internet users are concentrated (**Sullivan**, 2019). Digital platforms are now central to the generation, distribution, and monetization of cultural contents. The search engines, social networks, photo and video sharing services, messaging apps, operating systems, app stores, and cloud services operated by these platforms shape visibility and access to cultural content (**Poell**, 2020).

As a result, the RSS-based and decentralized structure of the Internet in the early days began to centralize in parallel with the increase in the effectiveness of social networks. RSS developers have focused on a structure that will allow users to set their own online preferences. However, social networks, likewise RSS, provide a feed of the latest news from the Internet. This structure also provides greater benefits to companies that oversee networks. Although RSS continues to power many applications on the web today, it has become an obscure technology for most people (**Target**, 2019). Even though RSS is actively used by websites, it needs to be emphasized that it does not attract the attention of Internet users; moreover, most users who do not adopt RSS do not understand what RSS is, and some users are not aware of whether they use RSS or not (**Ma**, 2015). A study on the use of RSS in educational fields reported that students do not tend to subscribe to RSS feeds; instead, they preferred to download media files manually (**Lee** *et al.*, 2009). It is noteworthy that Internet browsers that offer RSS support and companies that develop popular RSS readers no longer update these programs, which is a negative development. Although RSS podcasting is argued to be a distinguishing feature from other on-demand audio formats (**Hoyt** *et al.*, 2021), RSS also enables the proliferation of inconsistent and idiosyncratic podcast metadata on the Internet, thus causing a problem for the user in terms of keeping track of these podcast series. On the other hand, **Winer** (2021) criticizes the efforts of companies such as *Spotify* to dominate podcasting on its blog and points out that users should own the technology design underlying the podcast and that developers should rebuild it from scratch to preserve the freedom that podcasting provides to listeners and creators.

Over time, podcasts have evolved from do-it-yourself amateur niche media to commercial mass media (**Bonini**, 2015). In markets where interest in podcasts is high, music streaming services have expanded towards podcast audiences to commercially evaluate their commitment profiles as active listeners. Users who believe podcasts are superior to other audio media platforms also tend to be heavy users of online music. Recognizing this trend, *Spotify* and *Pandora*, two giants of the music streaming sector, have started to invest heavily in podcasts to appeal to audio audiences (**Chan-Olmsted**; **Wang**, 2020). Companies offering podcast hosting charge content producers subscription fees, which are usually scheduled monthly and/or on the number of downloads. However, the increasing demand for podcasts on a global scale has also increased the value of the podcast hosting business. At this point, purchases among companies providing podcast services constitute the first steps toward centralization of their fragmented structure. The success of business models based on monthly subscription payments, such as *Netflix*, has set an example for podcast service providers, and RSS-based open access has gradually started to transform into subscription-based listening (**Yücel**, 2020).

Spotify's acquisition of *Gimlet Media*, *Anchor*, and *Parcast* in 2019 drew the attention of investors, advertisers, and content creators toward the podcast sector in Turkey (**İbrişim**, 2019). According to İlkan Akgül, one of the co-founders of the podcast site *Podfresh*, Turkey is a *Spotify* country and Turkish subscribers' interest in podcast content has increased because most digital music consumption is carried out through *Spotify* (**Nebil**, 2020). **Küpeli** (2020) from *Podimag*, a Turkish podcast magazine, also emphasizes that *Spotify* is mostly used to listen to podcasts in Turkey. However, according to **Uzunoğlu** (2019) –one of the founders of *Mediapod*, another Turkish podcast website– there is not yet a common approach to what a podcast is in Turkey. It is even debated whether it is suitable for Turkish culture. **Küpeli** (2020), on the other hand, argued that many social media celebrities started podcasting during the pandemic with the enthusiasm and excitement of being a pioneer in this new publishing field for Turkey, thus contributing to an increase in the awareness of podcasting. However, according to Küpeli, the most difficult part of this new medium is the confu-

> It is more effortless and easier to listen to podcasts that have transformed from RSS-based distribution to platform-based access

sion about how to listen to it. There are many applications, primarily *Spotify*, where the podcast publisher can meet with the listener and this, at some point, has made it difficult for listeners to make a choice among them.

Based on data of the *Chartable* site, which carries out podcast measurements globally, in Turkey in 2020, there was a 3.5-fold increase in podcast production compared to the previous year's data, whereas there was a 5.2-fold increase on the listener side (**Zohrob**, 2021). Although this seems related to Covid-19 restrictions, it has been stated that almost half of podcast listeners in Turkey listen to podcasts via *Spotify*, and that podcast genres most listened to are comedy and interview (**Muradoğlu**, 2021).

Commercialization, which **Bonini** (2015) calls the second age of podcasting and associates it with the first business models that started in the US in 2012, seems to have just started for the Turkish podcast ecosystem. Following a very weak production and consumption process, *Spotify*'s positive impact on the awareness of podcasts merged with individuals' confinement to their homes during the pandemic and provided an opportunity for them to discover new experiences. Therefore, in addition to increasing listening rates, increasing content production has also led to the search for business models. However, according to **Uzunoğlu** (2019), there are still some obstacles to the popularization of podcasting in Turkey that need to be overcome. That author proposes the obstacles include that podcast production requires freedom of expression and comfort, that the podcast genre is useless without creativity, openness, and polyphony, and that the economic model of podcasting has not yet been established and is a field awaiting investment. Although podcast publishing became more active in 2019, especially in the field of journalism, Turkey is still at the entry level in the podcast sector.

3. Research model and hypotheses

In research on podcast audiences, the theoretical framework is generally based on the uses and gratifications approach. This theory argues that people's communication-based attitudes are shaped around their needs and desires, where it is assumed that audiences actively scan the media to meet their personal needs (**Ongena** *et al.*, 2013 as cited in **Katz** *et al.*, 1973). Motivation and satisfaction are the two core constructs of the uses and gratifications (U&G) theory. From a general perspective, motivation refers to what consumers seek and expect, while satisfaction refers to what consumers actually obtain (**Chan-Olmsted**; **Wang**, 2020). Assuming the presence of a purposeful and intentional audience will provide a good theoretical framework to understanding podcast audiences (**Perks**; **Turner**, 2019). The motivation factors in the research on the motivations of listening to podcasts include mobility and ability to listen to any content anytime and anywhere (**McClung**; **Johnson**, 2010), customizable experiences and multi-tasking (**Perks** *et al.*, 2019), entertainment, escape and information **(Craig** *et al.*, 2021), and helping to fall asleep (**Samuel-Azran** *et al.*, 2019). It is believed, however, that this theoretical framework, which focuses on intrinsic motivations and satisfaction factors, would offer only a one-sided approach to analyzing the reasons for the rise of podcasts in Turkey. This study therefore focuses on not only the intrinsic motivations but also on the external motivations responsible for triggering the interest in podcasts.

There are many studies investigating the adoption and use of informational technologies. These studies have developed theoretical models to reveal how consumers adapt to technology. One of these models, the Technology Acceptance Model (TAM), is often preferred as a framework model because it offers a lean approach to the adoption of innovations. Using the concepts of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) at the technology adoption stage, **Davis** (1989) aimed to reveal users' behavioral tendency in the adoption of technology, as well as the real purpose behind the use of technology. PEOU has a significant impact on PU, and both have an effect on Attitude Toward Use (ATU). The model structure allows the adaptations to be understood in terms of the relationships between the variables [e.g., the Technology Acceptance Model 2 by **Venkatesh** and **Davis** (2000); the Technology Acceptance Model 3 by **Venkatesh** and **Bala** (2008); and the Combined Technology Acceptance and Usage Model seen in different studies (**Venkatesh** *et al.*, 2003, 2012)]. As a tool set used in many empirical studies, TAM contains the statistics needed for a meta-analysis (**King**; **He**, 2006).

This model has also been preferred as a theoretical basis for examining the acceptance and use of online media. However, researchers who have pointed to the limited capacity of TAM to address business processes have noted that the model should be combined with the U&G theory to better identify the internal and external motivations regarding media usage behaviors **(Cha**, 2013; **Luo** *et al.*, 2006). Although U&G is not a theory of business technology use, it nonetheless does not exclude the technology used from the context of consumer motivations. While TAM is often associated with organizational targets, the theoretical focus of U&G is personal. Another relevant approach proposes examining the differences in user acceptance patterns for productivity-oriented and hedonic-oriented information systems in TAM research. Accordingly, users are likely to be either more hedonist or more pragmatic in their tendency to use information systems (**Van-der-Heijden**, 2004). The difference between TAM-based models and U&G is claimed to be the scenario applied (**Stafford** *et al.*, 2004). It has been noted that technological innovation, which is the subject of TAM research, takes place in environments where the use of technology is imperative. For this rea-

> For the question on where they had heard about podcasts, the most ticked option was *Spotify* (32.1%), followed by social media (30.9%). *Spotify* was the most preferred site for listening podcasts

son, **Al Omoush** and **Amin** (2010), who considered the voluntariness dimension to be controversial, worked on an extended model with U&G that examined why people use media and the satisfaction derived from media use and access. **Huang** (2008) analyzed e-consumer behaviors through a technology acceptance model that included two U&G attitudes. **Joo** and **Sang** (2013) performed research that combined TAM and U&G theory to specify the motivations affecting the adoption and use of smart phones by Koreans.

Podcasts have been available on *iTunes* for a long time. However, it was not until platforms like *Spotify*[3] entered the market that the interest in podcasts in Turkey really picked up, as it has become easier and requires less effort to listen to podcasts once their access transformed from an RSS-based distribution to a platform-based service.

Accordingly, a framework model wherein TAM and U&G methodologies were integrated was designed for the present research because PEOU, the basic independent variable of TAM, is an important factor. While TAM mostly focuses on the impact of technological innovation within a workflow on business efficiency, the choice of listening to podcasts is personal. Therefore, the motivations within the U&G approach are included in the model to define both internal and external motivations.

Perceived ease of use (PEOU): It is a predictor that measures users' beliefs about the effortless use of a specific technology. PEOU of technology affects both PU and ATU. People are more willing to use a new technology when they consider it easy to use (**Davis**, 1986; 1989). According to this study, *Spotify* had a significant impact on users' PEOU and PM in terms of accessing the podcasts through the platform.

H1a: PEOU has a significant impact on INF.
H1b: PEOU has a significant impact on EN.
H1c: PEOU has a significant impact on PASST
H1d: PEOU has a significant impact on ESC.
H1e: PEOU has a significant impact on SC.
H2: PEOU of the platform has a significant impact on PU.
H3: PEOU of the platform has a significant impact on ATU.

Listening motivations: According to U&G theories, an individual's behavior is shaped by their needs. This variable can serve as a basic indicator for understanding how and why users utilize media (**Al-Omoush**; **Shaqrah**, 2010). Ultimately, target-oriented action meets one's needs. Studies examining the reasons for watching television have shown that the reasons include passing time, resting/relaxing, friendship, social interaction, habit, entertainment, information, stimulation, and escape (**Abelman** *et al.*, 1997; **Albarran**; **Umphrey**, 1993; **Rubin**, 1983). Research on the motivations to use the internet yielded similar results (**Cha**; **Chan-Olmsted**, 2012; **Ferguson**; **Perse**, 2000; **Papacharissi**; **Rubin**, 2000). In studies conducted to identify the reasons for listening to podcasts, different motives have been reported. However, these studies focused on uses in more established markets and were related to RSS-based distribution forms. Therefore, it is important that user behaviors, as they relate to the new market of podcasts, be analyzed in the new music platform distribution services. Usually in such cases, types from existing media are selected and analyzed in relation to the new media (**Perks** *et al.*, 2019). This study thus focuses on the motivation factors that U&G research often intersects. In this context, the motivation factors most frequently encountered in U&G research are information (INF), entertainment (EN), passing time (PASST), escape (ESC), and social interaction (SC).These motivations are believed to have a significant impact on both PU and ATU.

H4a: INF, a listening motivation factor, has a significant impact on PU.
H4b: EN, a listening motivation factor, has a significant impact on PU.
H4c: PASST, a listening motivation factor, has a significant impact on PU.
H4d: ESC, a listening motivation factor, has a significant impact on PU.
H4e: SC, a listening motivation factor, has a significant impact on PU.
H5a: INF, a listening motivation factor, has a significant impact on ATU.
H5b: EN, a listening motivation factor, has a significant impact on ATU.
H5c: PASST, a listening motivation factor, has a significant impact on ATU.
H5d: ESC, a listening motivation factor, has a significant impact on ATU.
H5e: SC, a listening motivation factor, has a significant impact on ATU.

Perceived usefulness (PU): This term refers to whether users consider a specific technology to be useful for what they aim to do. In the original model, this term is expressed as the degree to which an individual believes that using a certain system will improve their work performance (**Davis**, 1986; 1989). As often emphasized in previous studies, PU directly affects attitude toward use (ATU) within the context of technology adoption. In this study, PU was associated with the perceived benefit that audiences receive from using podcast services.

H6. PU of the platform has a significant impact on ATU.

Attitude Toward Use (ATU): According to original TAM research, ATU measures people's beliefs regarding the use of a certain technology. It represents definite spectrum of positive and negative attitudes, such as like or dislike and good or bad. ATU is determined by PU and PEOU (**Davis**, 1986). In this study, ATU was associated with attitude toward listening.

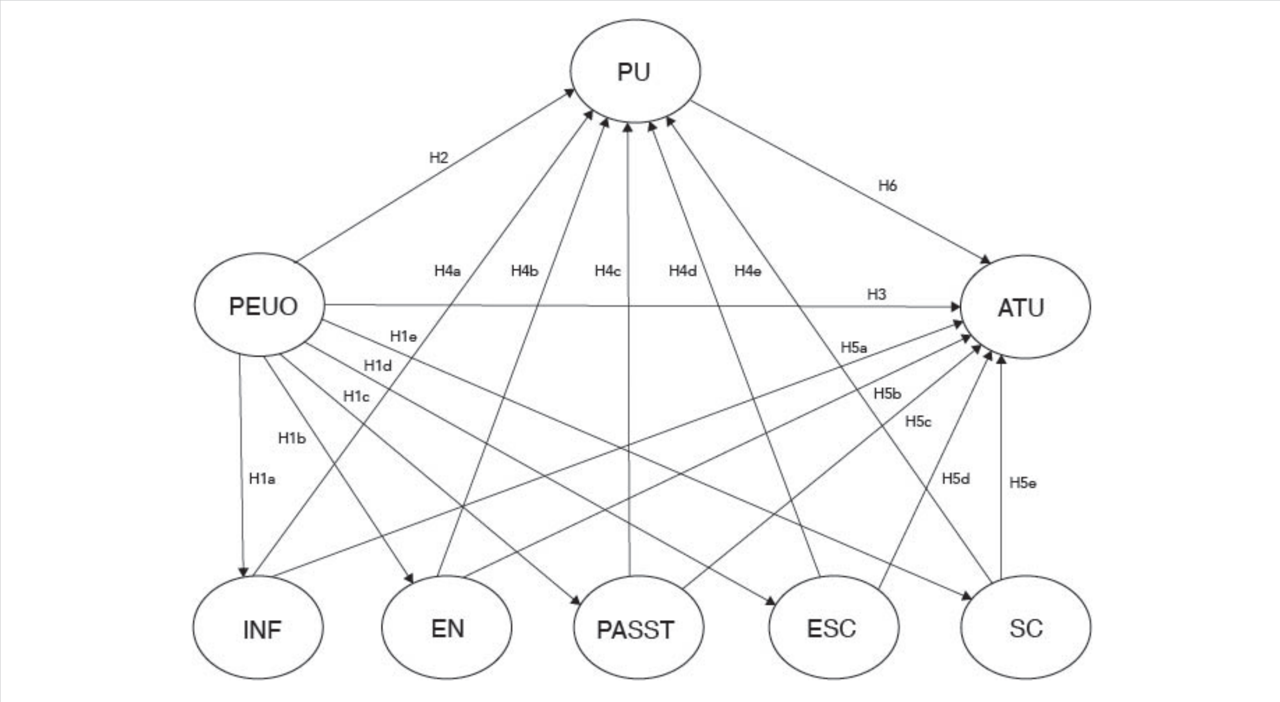

Figure 2. Proposed research model

4. Method

4.1. Population and sample

According to research conducted by the research company *Ipsos* (2021), 53% of active podcast listeners are under the age of 25, and 43% live in the Marmara Region of Turkey. The sample for the study was drawn in September 2021 from a population of 67,241 students studying in different programs (associate-bachelor-postgraduate) at a university in the Marmara Region. It was easy to contact the selected sample and there was the opportunity to collect robust data as a result of the Covid-19 pandemic conditions, which was an advantage. Random sampling was used to select the participants for the sample. Although there are no fixed standards in advanced statistical analyses, it is recommended that the ratio between the sample size and observed variables not go below 1:5 (**Hair** *et al.*, 2010). On the other hand, one of the most important factors affecting the sample size is actually the size of the model, in other words, its complexity. As the model grows (becomes more complex), the sample also needs to grow. According to one approach in factor analysis, a sample size of 50 is very poor, 100 is weak, 200 is adequate, 300 is good, 500 is very good, and 1000 and above is excellent (**Tabachnick**; **Fidell**, 2020). In this study, to determine the sample size, the formula of $n = \pi (1- \pi)/(e/Z)^2$, an error margin of 5%, and a confidence level of 95% were applied, with the results indicating a minimum sample size of 382. To disseminate the online questionnaire form among students, invitations to take part in the questionnaire were sent to the accounts of active users of *Facebook*, *Twitter*, and *Instagram* and to other social groups from the selected university. A total of 736 participants were contacted in this way. The response forms of 103 participants, 91 who stated that they were from other universities and 12 who provided false information, were excluded from the analysis. The remaining 633 response forms and other study data were analyzed with the *Statistical Package for the Social Sciences* (*SPSS*) program and the *AMOS* package programs. Structural Equation Modeling (SEM) was applied in the present study.

Of the participants, 45 were studying in an associate degree program, 546 were studying in a bachelor's degree program, and 42 were studying in a postgraduate program. Moreover, 63% of the participants were female, while 37% were male. A majority of the participants (54.5%) were between 20 and 22 years of age, followed by the 23-25 year age group (19.7%), the 17-19 year age group (15%), and the 26 and above age group (10.7%).

4.2. Data collection and scale development

The measurement instruments selected in line with the TAM and U&G theory were those that have been commonly used in previous studies and thus could be considered highly reliable and valid. Accordingly, the scale items related to PEOU, PU, and ATU that formed the model were adapted from the studies of **Davis** (1989), **Davis** *et al.* (1989), **Davis** *et al.* (1992), **Mathieson** (1991), **Venkatesh** and **Davis** (2000), **Venkatesh** *et al.* (2003),

> This study suggests that although podcasts have been offered for a long time in Turkey, the increased interest in them in recent years is related to the new form of distribution, offered by music services

Van-der-Heijden (2003), **Pavlou** (2003), **Shih** (2004), **Cheng** *et al.* (2006), **Huang** (2008), **Al-Omoush** and **Amin** (2010), and **Cha** (2013). The items related to U&G were adapted from previous U&G studies. Along with the studies by **Rubin** (1983), **Albarran** and **Umphrey** (1993), **Abelman** *et al.* (1997), **Papacharissi** and **Rubin** (2000), **Ferguson** and **Perse** (2000), **Hanson** and **Haridakis** (2008), and **Cha** and **Chan-Olmsted** (2012), research studies on the podcast listening motivations were also utilized (**Chan-Olmsted**; **Wang**, 2020; **McClung**; **Johnson**, 2010; **Perks** *et al.*, 2019). To address each of the hypotheses, a 5-point Likert-type scale (1=Definitely agree, 5=Definitely disagree), which is commonly used and familiar to the participants, was used.

Table 1. Reliability coefficients

Dimensions		Statements	Reliability coefficients (Cronbach's α)
TAM	Perceived Ease of Use (PEOU)	5	.852
	Perceived Usefulness (PU)	4	.864
	Attitude Toward Use (ATU)	5	.938
U&G	Information (INF)	5	.874
	Entertainment (EN)	4	.895
	Passing Time (PASST)	4	.862
	Escape (ESC)	2	.882
	Socialization (SC)	4	.800

Table 2. Variance distribution

Component	Extraction sums of squared loadings		
	Total	% of variance	Cumulative %
1	12.625	38.258	38.258
2	2.998	9.086	47.344
3	2.116	6.412	53.756
4	1.577	4.779	58.536
5	1.508	4.569	63.105
6	1.314	3.983	67.088
7	1.158	3.510	70.598
8	1.105	3.350	73.947

A pilot test of the questionnaire form was conducted in late May 2021 with 12 people through face-to-face interviews (video chat) to identify ambiguities or any other errors in the 41 scale items and prevent any issues regarding the comprehensibility of the items. Results from this pilot test revealed that two of the statements on the socialization motivation (SC) were similar, and therefore one of them was excluded from the scale. A similar action was also taken for two of the statements on entertainment motivation. These similarities were believed to be related to the daily language practices in the official language of the country where the questionnaire was originally administered. In the second step, in June 2021 the questionnaire form was administered to 100 people through an online module to test the factor distributions and reliability levels of the hypotheses; one of the SC statements was found to have received loads from at least two factors and thus was excluded from the study.

In the last step, Exploratory Factor Analysis (EFA) and reliability tests (Cronbach's alpha) were performed to determine the structural validity and reveal the factor structure on 33 statements. Per the reliability test data, the reliability level was observed to increase significantly after two out of the six statements forming the Perceived Usefulness (PU) dimension were excluded. Furthermore, the reliability coefficient was found to increase significantly after three out of the five statements related to escape motivation that were adopted from U&G studies were excluded.

Principal component analysis and oblique rotation were preferred in this study because the former is the most frequently used analysis used in practice and the latter is preferred when there is correlation between the factors. The Kaiser-Meyer-Olkin Sampling Adequacy value was found to be 0.919, while the Bartlett test result was calculated as $\chi^2(528) = 6108.7981$, $p < 0.05$. These results indicated that a sufficient size was achieved for the correlation between the items constituting the structure, which included 33 statements and 8 factors and explained 73.9% of the total variance.

> Previous studies defined podcasts as subscription-based content that can be downloaded through file-based systems and identified RSS as being the most distinctive feature of podcasts

Table 3. Factor analysis results

	FACTORS							
	ATU	PEOU	SC	INF	EN	PASST	ESC	PU
I think listening to podcasts through *Spotify* is a good idea	.858							
I think using podcast services through *Spotify* is a good idea	.857							
I think that the podcast services offered through *Spotify* are useful	.802							
I like the idea that podcast content is included on *Spotify*	.786							
I think listening to podcasts through *Spotify* is fun	.771							
Accessing podcasts through *Spotify* does not require much mental effort		.830						
I find the process of accessing the podcast contents of *Spotify* to be very clear and understandable		.799						
Learning to use the podcast content offered on *Spotify* was easy for me		.777						
I find it easy to find the podcast I want on *Spotify*		.736						
I generally find accessing the podcasts through *Spotify* to be easy		.723						
I can listen to podcasts with my friends			.818					
I can listen to podcasts with my family			.784					
I can talk to my friends about the podcasts I listen to			.729					
I can communicate on podcasts with other podcast listeners			.587					
I can learn how to do something I have never done before thanks to the podcasts I listen to on *Spotify*				.837				
I can learn about things that can contribute to my personal development from the podcasts I listen to on *Spotify*				.767				
I can gain information about new developments from the podcasts I listen to on *Spotify*				.744				
I can learn new things from the podcasts I listen to on *Spotify*				.699				
I can learn about others from the podcasts I listen to on *Spotify*				.645				
The podcasts I listen to on *Spotify* help to relax me					-.852			
The podcasts I listen to on *Spotify* help make me happy					-.827			
The podcasts I listen to on *Spotify* can entertain me					-.817			
The podcasts I listen to on *Spotify* help me to have a fun time					-.754			
If I do not have anything better to do, I may prefer listening to podcasts on *Spotify*						.734		
Listening to podcasts on *Spotify* can help pass the time when I am bored						.716		
Listening to podcasts on *Spotify* can keep me busy in my spare time						.626		
Listening to podcasts on *Spotify* can be a quality way to pass time						.571		
Listening to podcasts on *Spotify* can help me escape from my personal problems for a while.							-.879	
Listening to podcasts on *Spotify* can help me escape from my school problems for a while.							-.865	
I can listen to podcasts easily with *Spotify*								-.862
I can access podcasts anywhere using *Spotify*								-.744
I can quickly access the podcasts offered by *Spotify*								-.675
The podcasts services of *Spotify* are generally useful								-.617
Extraction method: Principal Component Analysis. Rotation method: Oblimin with Kaiser normalization.								
a. Rotation converged in 13 iterations.								
PEOU: Perceived ease of use, PU: Perceived usefulness, ATU: Attitude toward use, INF: Information, EN: Entertainment, PASST: Passing time, SC: Socialization, ESC: Escape								

5. Results

5.1. Descriptive results

Of the participants, 50.6% stated that they listened to podcasts, whereas 49.4% (313 participants) stated that they did not. Among the participants who did not listen to podcasts, 51.8% (162 participants) had no idea about what a podcast was, 39.6% (124 participants) were not interested, and 8% (25 participants) knew what a podcast was but still did not listen. Two participants (0.6%) knew what a podcast was but did not have time to listen to them. For the question on where they had listened to a podcast, which was asked to the 320 participants who were podcast listeners, the most ticked option was *Spotify* (32.1%), followed by social media (30.9%).

According to the responses given to another question asked to the participants who stated that they listened to podcasts, *Spotify* was the most preferred method for listening to podcasts, followed by *YouTube* (15.8%) and downloadable applications (8.4%).

Table 4. From where or whom did you learn about podcasts? (multiple choice)

	N	Percent
My friends	91	13.4%
Social media	209	30.9%
Websites that I follow	80	11.8%
iTunes	21	3.1%
Google podcasts	10	1.5%
Spotify	217	32.1%
Radio channels	24	3.5%
News	7	1.0%
Search engines	13	1.9%
E-mail	2	0.3%
YouTube	2	0.3%
Other	1	0.1%

Table 5. From where do you listen to podcast? (multiple choice)

	N	Percent
Website of the radio that I follow	31	6.5%
iTunes	31	6.5%
Google podcasts	18	3.8%
Spotify	256	54.0%
Websites offering podcast distribution and listening service	23	4.9%
Applications that can be downloaded to computers and/or mobile devices to listen to podcasts	40	8.4%
YouTube	75	15.8%

On the questionnaire, a set of questions on RSS, which is considered to be the common distribution form of podcasts, was asked to the participants. Of the participants who said they listened to podcasts, 232 (72.5%) stated that they did not know anything about RSS, while 59 (18.4%) partially knew about RSS and 29 (9.1%) fully knew about RSS. Among the participants who partially and fully knew about RSS, 65.9% (58 participants) stated that they did not use RSS services. Of the 30 participants who stated that they used RSS services, 21 used RSS to listen to podcasts, while nine did not utilize RSS.

The participants were also asked whether they regularly listened to podcasts on *Spotify*, to which 265 participants reported that they regularly followed podcasts through *Spotify*, while 55 participants reported that they did not follow the podcast broadcasts through *Spotify*. At this point of the analysis, question groups containing the hypotheses were directed to 265 participants.

5.2. Structural model and hypothesis tests

In the 8-factor structure obtained through factor analysis, a structural equation model (SEM) was developed to reveal the correlation between the factors. SEM is a frequently preferred analysis technique for testing the causal relationships between observed and non-observed variables. The goodness of fit indices were examined first to assess the fitness of the model. In many evaluations conducted on goodness of fit indices, a wide variety of opinions have been offered (**Barrett**, 2007; **Goffin**, 2007; **Tomarken**; **Waller**, 2003). There is nonetheless general agreement that a range of values, (RMR, RMSEA, AGFI, TLI, GFI[4], NFI, IFI, CFI, RFI), especially the chi-square fitness value, should be considered (**Bentler**; **Yuan**, 1999; **Browne**; **Cudeck**, 1992; **Hooper** *et al.*, 2008; **Kenny**; **McCoach**, 2003). Despite the absence of consensus on which of these values should be considered more or excluded, it is not recommended to use all parameters together. Generally, it is emphasized that different goodness of fit indices can be used depending on the researchers' aims, and that at least one of the three goodness of fit test groups should be used (**Garson**, 2015).

The initial analysis values were χ^2=1175.125; df=477; p=0.000; χ^2/df=2.464, TLI=0.860; IFI=0.882; CFI=0.881; RFI=0.784; and NFI=0.817, and the RMSEA value (0.048) was within the estimated value range. Since the chi-square and RMSEA values were within the suitable ranges but the CFI value was low, the Modification Index was examined to achieve a better fit in the analysis. While there are different opinions about the use of the modification index

> The structural model analysis results indicated that Perceived Ease of Use had a significant relationship with all dimensions

(**MacCallum** *et al.*, 1992), it is known that the modification index can serve as a guide for a more complex model structure than the theory assumes, and that a limited configuration can yield better results. Improvement recommendations for the index, especially for the U&G-related dimensions, were added as covariance to the model, and a second analysis was performed. The analysis yielded the following values: χ^2= 884.181; df= 467; p=0.000; χ^2/df=1.893, TLI=0.914; IFI=0.930; CFI=0.929; RFI=0.834; and NFI=0.862; and the RMSEA value (0.038) improved. It was assumed that the values of chi-square, RMSEA, and CFI supported the acceptability of the structural model.

The structural model analysis results indicated that PEOU had a significant relationship with all dimensions, while the relationship between motivation dimensions and other dimensions varied. The relationship between PU and ATU was also found to be significant.

Table 6. Hypothesis test results regarding the structural model

				β1*	β2**	SE	CR	p	Result
H1a	IN	<--	PEOU	0.254	0.343	0.096	3.592	<0.001	Supported
H1b	EN	<--	PEOU	0.389	0.500	0.086	5.803	<0.001	Supported
H1c	PASST	<--	PEOU	0.380	0.472	0.091	5.205	<0.001	Supported
H1d	ESC	<--	PEOU	0.235	0.527	0.158	3.346	<0.001	Supported
H1e	SC	<--	PEOU	0.319	0.579	0.134	4.315	<0.001	Supported
H2	PU	<--	PEOU	0.392	0.484	0.078	6.202	<0.001	Supported
H3	ATU	<--	PEOU	0.212	0.243	0.072	3.366	<0.001	Supported
H4a	PU	<--	IN	0.053	0.048	0.063	0.766	0.443	Not Supported
H4b	PU	<--	EN	0.129	0.124	0.072	1.727	0.084	Not Supported
H4c	PU	<--	PASST	0.35	0.347	0.080	4.362	<0.001	Supported
H4d	PU	<--	ESC	0.028	0.015	0.033	0.465	0.642	Not Supported
H4e	PU	<--	SC	0.048	0.033	0.045	0.726	0.468	Not Supported
H5a	ATU	<--	IN	0.262	0.222	0.053	4.163	<0.001	Supported
H5b	ATU	<--	EN	0.113	0.101	0.059	1.691	0.091	Not Supported
H5c	ATU	<--	PASST	0.21	0.194	0.069	2.803	0.005***	Supported
H5d	ATU	<--	ESC	-0.048	-0.024	0.027	-0.900	0.368	Not Supported
H5e	ATU	<--	SC	0.028	0.018	0.037	0.480	0.631	Not Supported
H6	ATU	<--	PU	0.243	0.226	0.073	3.091	0.002***	Supported

β1*: Std. MLE, β2**: MLE, ***p<0.005

In TAM studies, PEOU, which is expressed as a predictor of users' beliefs about the effortlessness of a particular technology, has been shown to have a significant impact on all dimensions. According to the results, PEOU had the greatest impact on EN (r=0.389) and PASST (r=0.380). Among the motivation dimensions, ESC (r= 0.235) was the least influential. Therefore, all H1 sub hypotheses were accepted as correct. According to the results, PEOU had a significant impact on PU (r=0.392), which represents whether users consider a technology to be useful for what they aim to do, and on ATU (r=0.212), which measures people's beliefs regarding the use of a technology. Therefore, H2 and H3 hypotheses were accepted as correct.

The effects of listening motivations on PU and ATU varied. PASST had a significant impact on PU (r=0.350) and ATU (r=0.210), while INF had a significant impact on ATU (r=0.262). However, other motivations did not have a significant impact on PU and ATU. Therefore, among the hypotheses focusing on the impacts of motivation factors, H4c, H5a, and H5c were accepted as correct.

PEOU also had a significant impact on ATU. Therefore, hypothesis H6 was accepted as correct.

6. Conclusion

This study suggests that although podcasts have been offered for a long time in Turkey, the increased interest in them in recent years is related to the new form of distribution. The presentation of podcasts, originally offered through an RSS distribution format, via music streaming services, have contributed to popularizing podcasts. *Spotify* in particular has been the most preferred streaming service for music and podcast listening in Turkey. Therefore, in this study, a questionnaire was administered to test a series of hypotheses predicting university students' intention to use the podcast services offered through *Spotify*.

Previous studies defined podcasts as subscription-based content that can be downloaded through file-based systems (**Lee** *et al.*, 2009) and identified RSS as being the most distinctive feature of podcasts (**Bottomley**, 2015; **Hoyt** *et al.*, 2021). However, in recent years, as the dominance of cloud services has strengthened, RSS has fell into disuse. Although RSS feeds are still active on many websites, one study indicated that users were not aware that they were using this

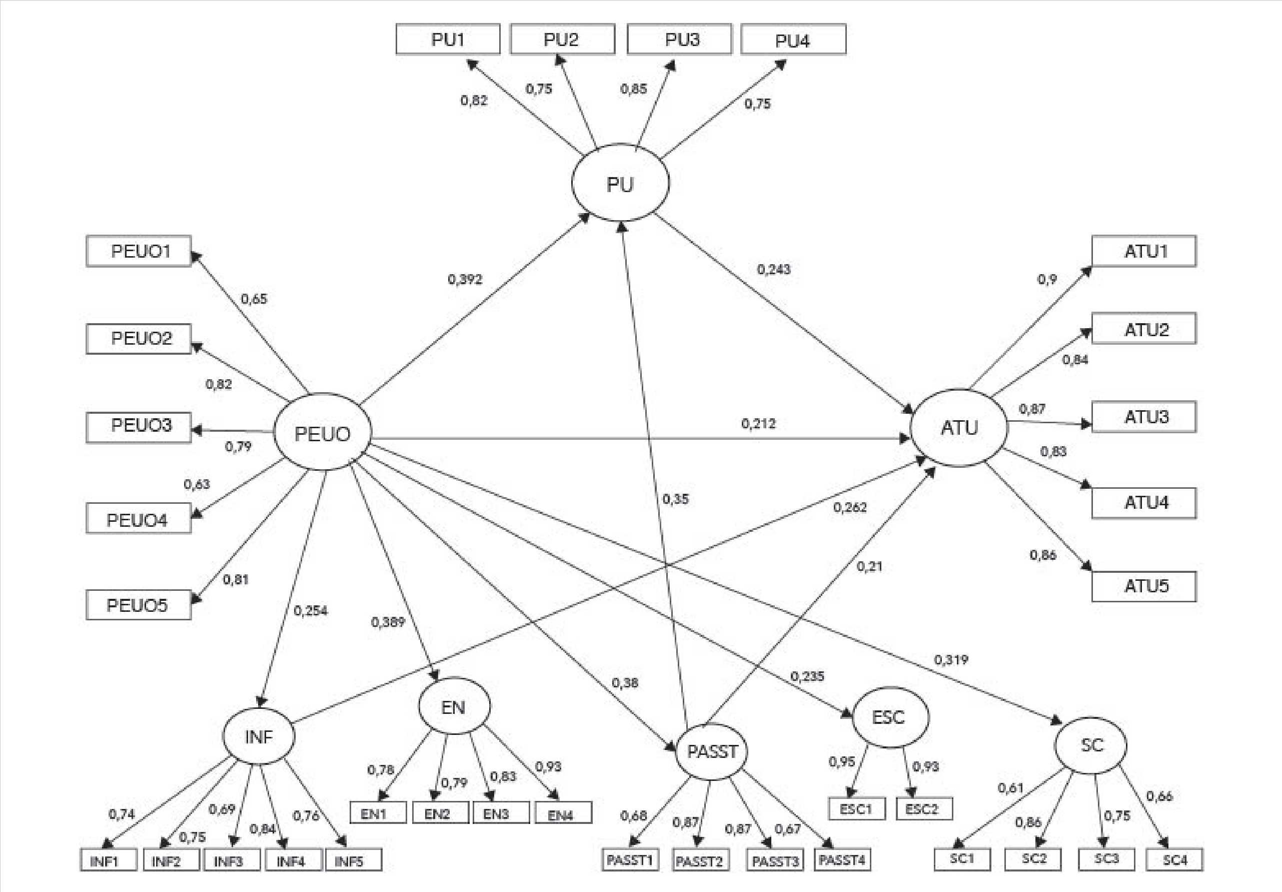

Figure 3. Structural model obtained from the analysis

technology or that they found it complex and thus did not prefer to use it (**Lee** *et al.*, 2009; **Ma**, 2015). Although RSS was developed as an open-source software to help internet users define their own preferences, the increased dominance of social networks and increased interest in cloud services have led users to prefer these systems. Therefore, companies that manage these networks and cloud services have come to wield greater control over the internet. As a result, the decentralized structure of the internet in the early days began to centralize with the emergence of web 2.0 technology and social networks (**Bonini**, 2015). Since podcasts function like a symbol of the emancipatory production and "do-it-yourself" culture, they are considered a profitable investment by companies aiming to offer new services to their users. The increased interest in podcasts in Turkey can be associated with these developments. According to the data obtained in this study, awareness of podcasts has foremost been generated by *Spotify* and social networks, as compared to other variables. In addition, the majority of the participants were not knowledgeable about RSS, and those who knew about podcasts did not prefer using RSS. *Spotify* is the most preferred service for listening to podcasts regularly.

In this study, PEOU was predicted to be a major factor in the popularization of podcast services –which transformed from an RSS-based distribution format to platform-based access– in Turkey, where there was only limited awareness about these services. Although ordinarily in TAM studies, PEOU has been shown to have rather indirect effects on intentions to adopt a particular technology, and it has been argued that its effects are more direct and central when it comes to adopting a technology that requires more time and effort (**Järveläinen**, 2007). PEOU has been claimed to play a key role in the use of entertainment-oriented technologies (**Bassiouni** *et al.*, 2019; **Van-der-Heijden**, 2004). The fact that podcast listening experiences were offered as a "new service" by *Spotify* contributed to the users perceiving podcasts as activities that do not require much effort and that are easily accessible and understandable. Hedonic information systems are strongly linked to self-actualization purposes and home and leisure activities rather than instrumental values, and they focus on the entertaining aspect of use and promote long-term use rather than productivity (**Van-der-Heijden**, 2004). This approach is supported by statistical results indicating the significant impact of PEOU on U&G motivations and other TAM dimensions added to the model. EN and PSST, which were defined as listening motivations, were among the motivations most affected by PEOU.

Listening motivations were expected to have separate effects on PU and ATU. However, based on the results, only PSST motivation had an impact on PU. Moreover, INF and PSST motivation had a significant impact on ATU. In studies on the personal use of the internet, it has been reported that the internet is generally used for passing time, but entertainment and socialization also appear as key motivations of use. It is not surprising that these motives, defined as ritual purposes in traditional media use, play an active role in the use of the new media for hedonic purposes. Traditional U&G studies note that users can use the media instrumentally or ritually, depending on their personality, lifestyle, moods, or the time of day (**Rubin**, 1984). However, given the unique diversity of content available through new media, there is a relatively equal level of instrumental and ritualized use (**Metzger**; **Flanagin**, 2002). In the light of the data obtained in the present study, it can be said that both instrumental and ritual motivations are effective, albeit limited.

> Since podcasts function like a symbol of the emancipatory production and "do-it-yourself" culture, they are considered a profitable investment by companies aiming to offer new services to their users

In research conducted in countries where podcasts are more in demand, motives pointing to the instrumental use (library creation, time shifting, asynchronous listening, mobility) as well as ritual use (entertainment and socialization) have been discovered. However, these studies have primarily examined the uses related to the RSS-based distribution format. Given the limited impact of predicted motivation factors on PU and ATU that was found in this study within the scope of a different distribution format like *Spotify*, further studies are required to better understand users' trends.

The growing interest in podcasts on a global scale due to mobile consumption has increased the value of podcast hosting and resulted in subscription-based *Netflix*-like business models and more centralization. It is clear that the real leap for podcast services, where there has been a shift from "download and listen" to "click and listen", has been achieved with the investments made by platforms like *Spotify*. As a result, the amount of effort spent in developing hedonic informational systems and improving ease of use are among the significant factors responsible for the spread of the service. Therefore, despite the idea that the popularization of podcasts in new markets seems to be associated with the original content they offer, the ability podcast services offer users, who today are faced with such a profusion of stimuli, to access their content of choice anytime and anywhere in a clear and understandable manner is a decisive factor in this growth of popularity. Entrepreneurs need to consider these factors in the markets where podcasts have just begun to be popular.

This study was conducted with a small group selected through convenience sampling. The data collected from this sample set, which consisted of educated young adults, does not represent the population at large. Yet with that said, motives emphasized the most in the U&G theory were used. Different results could therefore be achieved with different motivation factors. The data collected from the early users of a new market can serve as a guide for future studies. However, more studies that examine markets where podcasts are just developing should be performed.

7. Notes

1. Daniel Ek, the CEO of *Spotify*, made a statement about the future of the company on a blog and underlined that *Spotify* would be more than just a music streaming service and focus on broadcasting podcasts.
https://newsroom.spotify.com/2019-02-06/audio-first

2. The concept of 'podcasting' is claimed to have been mentioned first by Hammersley in an article published in *The Guardian* in 2004; this concept involves the combination of personal mp3 player, *Apple iPod*, and broadcasting (**Markman**, 2012, p. 562). Furthermore, **Bottomley** (2015, p. 166) noted that Hammersley used this concept to refer to any "downloadable radio" distributed on the internet and that Hammersley did not limit the scope of "podcasting" to the audio content offered through RSS.

3. According to a questionnaire conducted by *MIDiA* in the USA, Canada, Australia, England, Germany, and France, *Spotify* has a higher number of podcast listeners than *Apple*.
https://www.midiaresearch.com/blog/podcasts-q2-2020-spotify-takes-an-early-lead

4. The GFI and AGFI values are not calculated in the *Amos* version used
http://amosdevelopment.com/support/faq/no_gfi.htm

8. References

Abelman, Robert; **Atkin, David**; **Rand, Michael** (1997). "What viewers watch when they watch TV: Affiliation change as case study". *Journal of broadcasting & electronic media*, v. 41, n. 3, pp. 360-379.
https://doi.org/10.1080/08838159709364413

Akıner, Nurdan (2011). "Birleşik kitle iletişim araçları platformu: Cep telefonu televizyon". *Istanbul University Faculty of Communication journal*, v. 0, n. 37, pp. 6-19.
https://dergipark.org.tr/en/pub/iuifd/issue/22856/244060

Albarran, Alan B.; **Umphrey, Don** (1993). "Profile: An examination of television motivations and program preferences by Hispanics, blacks, and whites". *Journal of broadcasting & electronic media*, v. 37, n. 1, pp. 95-103.
https://doi.org/10.1080/08838159309364206

Al-Omoush, Khaled; **Shaqrah, Amin** (2010). "An empirical study of household internet continuance adoption among Jordanian users". *International journal of computer science and network security*, v. 10.
www.researchgate.net/publication/237125861_An_Empirical_Study_of_Household_Internet_Continuance_Adoption_among_Jordanian_Users

Barrett, Paul (2007). "Structural equation modelling: Adjudging model fit". *Personality and individual differences*, v. 42, n. 5, pp. 815-824.
https://doi.org/10.1016/j.paid.2006.09.018

Bassiouni, Dina H.; **Hackley, Chris**; **Meshreki, Hakim** (2019). "The integration of video games in family-life dynamics: An adapted technology acceptance model of family intention to consume video games". *Information technology & people*, v. 32, n. 6, pp. 1376-1396.
https://doi.org/10.1108/ITP-11-2017-0375

Bentler, Peter M.; **Yuan, Ke-Hai** (1999). "Structural equation modeling with small samples: Test statistics". *Multivariate behavioral research*, v. 34, n. 2, pp. 181-197.
https://doi.org/10.1207/S15327906Mb340203

Berry, Richard (2006). "Will the iPod kill the radio star? Profiling podcasting as radio". *Convergence*, v. 12, n. 2, pp. 143-162.
https://doi.org/10.1177/1354856506066522

Berry, Richard (2016). "Part of the establishment: Reflecting on 10 years of podcasting as an audio medium". *Convergence*, v. 22, n. 6, pp. 661-671.
https://doi.org/10.1177/1354856516632105

Bonini, Tiziano (2015). "The second age of podcasting: Reframing podcasting as a new digital mass medium". *Quaderns del CAC*, v. 18, n. 41, pp. 23-33.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_EN_0.pdf

Bottomley, Andrew J. (2015). "Podcasting: A decade in the life of a 'new' audio medium: Introduction". *Journal of radio & audio media*, v. 22, n. 2, pp. 164-169.
https://doi.org/10.1080/19376529.2015.1082880

Brinson, Nancy H.; **Lemon, Laura L.** (2022). "Investigating the effects of host trust, credibility, and authenticity in podcast advertising". *Journal of marketing communications.*
https://doi.org/10.1080/13527266.2022.2054017

Browne, Michael W.; **Cudeck, Robert** (1992). "Alternative ways of assessing model fit". *Sociological methods & research*, v. 21, n. 2, pp. 230-258.
https://doi.org/10.1177/0049124192021002005

Budak, Emrah (2019). "Türk medyasında dijital spor yayıncılığı üzerine bir araştırma". *TRT akademi*, v. 4, n. 8, pp. 226-245.
https://dergipark.org.tr/tr/pub/trta/issue/47420/559648

Budak, Emrah (2021). "Dijital haberciliğe farklı bir bakış: Podcast yayınları". *Gümüşhane Üniversitesi İletişim Fakültesi elektronik dergisi*, v. 9, n. 1, pp. 373-398.
https://doi.org/10.19145/e-gifder.826706

Cha, Jiyoung (2013). "Predictors of television and online video platform use: A coexistence model of old and new video platforms". *Telematics and informatics*, v. 30, n. 4, pp. 296-310.
https://doi.org/10.1016/j.tele.2013.01.001

Cha, Jiyoung; **Chan-Olmsted, Sylvia M.** (2012). "Substitutability between online video platforms and television". *Journalism & mass communication quarterly*, v. 89, n. 2, pp. 261-278.
https://doi.org/10.1177/1077699012439035

Chan-Olmsted, Sylvia; **Wang, Rang** (2020). "Understanding podcast users: Consumption motives and behaviors". *New media & society*, v. 24, n. 3, pp. 684-704.
https://doi.org/10.1177/1461444820963776

Cheng, T. C. Edwin; **Lam, David Y. C.**; **Yeung, Andy C. L.** (2006). "Adoption of internet banking: An empirical study in Hong Kong". *Decision support systems*, v. 42, n. 3, pp. 1558-1572.
https://doi.org/10.1016/j.dss.2006.01.002

Claburn, Thomas (2005). "New iPods debut and a marketing medium, too". *Information week*, 23 February.
https://www.informationweek.com/it-life/new-ipods-debut-and-a-marketing-medium-too

Craig, Clay-Martin; **Brooks, Mary-Elizabeth**; **Bichard, Shannon** (2021). "Podcasting on purpose: Exploring motivations for podcast use among young adults". *International journal of listening*.
https://doi.org/10.1080/10904018.2021.1913063

Crofts, Sheri; **Fox, Mark**; **Retsema, Andrew**; **Williams, Bob** (2005). "Podcasting: A new technology in search of viable business models". *First Monday*, v. 10, n. 9.
https://doi.org/10.5210/fm.v10i9.1273

Davis, Fred D. (1986). *A technology acceptance model for empirically testing new and user information systems: Theory and results*. Cambridge.
https://dspace.mit.edu/handle/1721.1/15192

Davis, Fred D. (1989). "Perceived usefulness, perceived ease of use, and user acceptance of information technology". *MIS quarterly*, v. 13, n. 3, pp. 319-340.
https://doi.org/10.2307/249008

Davis, Fred D.; **Bagozzi, Richard P.**; **Warshaw, Paul R.** (1989). "User acceptance of computer technology: A comparison of two theoretical models". *Management science*, v. 35, n. 8, pp. 982-1003.
https://www.jstor.org/stable/2632151

Davis, Fred D.; **Bagozzi, Richard P.**; **Warshaw, Paul R.** (1992). "Extrinsic and intrinsic motivation to use computers in the workplace". *Journal of applied social psychology*, v. 22, n. 14, pp. 1111-1132.
https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

DeLys, Sherre; **Foley, Marius** (2006). "The exchange: A radio-web project for creative practitioners and researchers". *Convergence*, v. 12, n. 2, pp. 129-135.
https://doi.org/10.1177/1354856506066112

Ferguson, Douglas A.; **Perse, Elizabeth M.** (2000). "The world wide web as a functional alternative to television". *Journal of broadcasting & electronic media*, v. 44, n. 2, pp. 155-174.
https://doi.org/10.1207/s15506878jobem4402_1

Garson, G. David (2015). *Structural equation modeling*. Statistical Associates Publishers. ISBN: 978 1 626380325

Goffin, Richard D. (2007). "Assessing the adequacy of structural equation models: Golden rules and editorial policies". *Personality and individual differences*, v. 42, n. 5, pp. 831-839.
https://doi.org/10.1016/j.paid.2006.09.019

Hair, Joseph F. Jr; **Black, William C.**; **Babin, Barry J.**; **Anderson, Rolph E.** (2010). *Multivariate data analysis: Global edition*, 7th ed. Pearson Education. ISBN: 978 0 138132637

Hanson, Gary; **Haridakis, Paul** (2008). "YouTube users watching and sharing the news: A uses and gratifications approach". *The journal of electronic publishing*, v. 11, n. 6.
https://doi.org/10.3998/3336451.0011.305

Hartley, John (1996). *Popular reality: Journalism, modernity, popular culture*. St. Martin's Press. ISBN: 978 0 340584897

Hooper, Daire; **Coughlan, Joseph**; **Mullen, Michael R.** (2008). "Structural equation modelling: Guidelines for determining model fit". *Electronic journal of business research methods*, v. 6, n. 1, pp. 53-60.
https://doi.org/10.21427/D7CF7R

Hoyt, Eric; **Bersch, J. J.**; **Noh, Susan**; **Hansen, Samuel**; **Mertens, Jacob**; **Morris, Jeremy-Wade** (2021). "PodcastRE analytics: Using RSS to study the cultures and norms of podcasting". *DHQ: Digital humanities quarterly*, v. 15, n. 1.
http://www.digitalhumanities.org/dhq/vol/15/1/000519/000519.html

Huang, Echo (2008). "Use and gratification in e-consumers". *Internet research*, v. 18, n. 4, pp. 405-426.
https://doi.org/10.1108/10662240810897817

İbrişim, Aykut (2019). "Türkiye'de podcast sektörünün geleceği". *Digital age*, 10 June.
https://digitalage.com.tr/turkiyede-podcast-sektorunun-gelecegi

Ipsos (2021). "Türkiye'deki podcast bilinirliği ve dinleme alışkanlıkları". *Ipsos*, 7 April.
https://www.ipsos.com/tr-tr/turkiyedeki-podcast-bilinirligi-ve-dinleme-aliskanliklari

Järveläinen, Jonna (2007). "Online purchase intentions: An empirical testing of a multiple-theory model". *Journal of organizational computing and electronic commerce*, v. 17, n. 1, pp. 53-74.
https://doi.org/10.1080/10919390701291000

Jenkins, Henry (2006). *Convergence culture: Where old and new media collide*. New York University Press. ISBN: 978 0 814742815

Joo, Jihyuk; **Sang, Yoonmo** (2013). "Exploring Koreans' smartphone usage: An integrated model of the technology acceptance model and uses and gratifications theory". *Computers in human behavior*, v. 29, n. 6, pp. 2512-2518.
https://doi.org/10.1016/j.chb.2013.06.002

Kaynar, Açelya (2021). "Podcast dinleme alışkanlıkları üzerine bir inceleme". *Yeni medya*, v. 10, pp. 43-62.
https://dergipark.org.tr/tr/pub/yenimedya/issue/62586/873416

Kenny, David A.; **McCoach, D. Betsy** (2003). "Effect of the number of variables on measures of fit in structural equation modeling". *Structural equation modeling*, v. 10, n. 3, pp. 333-351.
https://doi.org/10.1207/S15328007SEM1003_1

King, William R.; **He, Jun** (2006). "A meta-analysis of the technology acceptance model". *Information & management*, v. 43, n. 6, pp. 740-755.
https://doi.org/10.1016/j.im.2006.05.003

Koyuncu, Hüseyin (2021). "2020'de dünyada en çok podcast dinleme artışı Türkiye'de oldu". *Euronews*, 4 February.
https://tr.euronews.com/2021/02/04/2020-de-dunyada-en-cok-podcast-dinleme-art-s-turkiye-de-oldu

Küpeli, Çağrı (2020). "Podcast yeni YouTube mu?". *Podiomag*, 1 July.
https://www.flipsnack.com/podiomag/podiomag-1.html

Kutlu, Tezcan-Özcan (2020). "Sosyal medya ve yeni yayıncılık formları: Türkiye'de podcast yayıncılığının gelişimi". In: Dingin, Ali Emre (ed.). *Disiplinlerarası yaklaşımla sosyal medya*, Literatür Yayıncılık, pp. 213-240. ISBN: 978 605 3372592

Lee, Mark J. W.; **Miller, Charlynn**; **Newnham, Leon** (2009). "Podcasting syndication services and university students: Why don't they subscribe?". *The internet and higher education*, v. 12, n. 1, pp. 53-59.
https://doi.org/10.1016/j.iheduc.2008.10.001

Luo, Margaret-Meiling; **Remus, William**; **Chea, Sophea** (2006). "Technology acceptance of internet-based information services: An integrated model of TAM and U&G theory". *AMCIS 2006 Proceedings - Proceedings of the Twelfth Americas conference on information systems*, AIS Electronic Library (AISeL), pp. 1139-1150.
https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1701&context=amcis2006

Ma, Dan (2015). "Push or pull? A website's strategic choice of content delivery mechanism". *Journal of management information systems*, v. 32, n. 1, pp. 291-321.
https://doi.org/10.1080/07421222.2015.1029400

MacCallum, Robert C.; **Roznowski, Mary**; **Necowitz, Lawrence B.** (1992). "Model modifications in covariance structure analysis: The problem of capitalization on chance". *Psychological bulletin*, v. 111, n. 3, pp. 490-504.
https://doi.org/10.1037/0033-2909.111.3.490

Markman, Kris M. (2012). "Doing radio, making friends, and having fun: Exploring the motivations of independent audio podcasters". *New media & society*, v. 14, n. 4, pp. 547-565.
https://doi.org/10.1177/1461444811420848

Markman, Kris M.; **Sawyer, Caroline E.** (2014). "Why pod? Further explorations of the motivations for independent podcasting". *Journal of radio & audio media*, v. 21, n. 1, pp. 20-35.
https://doi.org/10.1080/19376529.2014.891211

Mathieson, Kieran (1991). "Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior". *Information systems research*, v. 2, n. 3, pp. 173-191.
https://www.jstor.org/stable/23010882

McClung, Steven; **Johnson, Kristine** (2010). "Examining the motives of podcast users". *Journal of radio & audio media*, v. 17, n. 1, pp. 82-95.
https://doi.org/10.1080/19376521003719391

Menduni, Enrico (2007). "Four steps in innovative radio broadcasting: From QuickTime to podcasting". *Radio journal: International studies in broadcast & audio media*, v. 5, n. 1, pp. 9-18.
https://doi.org/10.1386/rajo.5.1.9_1

Metzger, Miriam J.; **Flanagin, Andrew J.** (2002). "Audience orientations toward new media". *Communication research reports*, v. 19, n. 4, pp. 338-351.
https://doi.org/10.1080/08824090209384862

Moe, Margaret (2021). "Podvertising II: "Just like my best friend" - Relationships in host-read podcast advertisements". *Journal of radio & audio media*.
https://doi.org/10.1080/19376529.2021.1960840

Morris, Jeremy-Wade; **Patterson, Eleanor** (2015). "Podcasting and its apps: Software, sound, and the interfaces of digital audio". *Journal of radio & audio media*, v. 22, n. 2, pp. 220-230.
https://doi.org/10.1080/19376529.2015.1083374

Mou, Yi; **Lin, Carolyn A.** (2015). "Exploring podcast adoption intention via perceived social norms, interpersonal communication, and theory of planned behavior". *Journal of broadcasting & electronic media*, v. 59, n. 3, pp. 475-493.
https://doi.org/10.1080/08838151.2015.1054997

Muradoğlu, Candeğer (2021). "Türkiye'de tekil kullanıcı sayısı geçen seneye göre 3,5 kat artan podcast dünyasına bakış". *Webrazzi*, 14 April.
https://webrazzi.com/2021/04/14/turkiye-de-tekil-kullanici-sayisi-gecen-seneye-gore-3-5-kat-artan-podcast-dunyasina-bakis

Nebil, Füsun-Sarp (2020). *Spotify'a PodCast tarafından bakalım... T24*, 15 October.
https://t24.com.tr/yazarlar/fusun-sarp-nebil/spotify-a-pod-cast-tarafindan-bakalim,28354

Nyre, Lars; **Ala-Fossi, Marko** (2008). "The next generation platform: Comparing audience registration and participation in digital sound media". *Journal of radio & audio media*, v. 15, n. 1, pp. 41-58.
https://doi.org/10.1080/19376520801978142

Ongena, Guido; **Wijngaert, Van de Wijngaert, Lidwien A. L.**; **Huizer, Erik** (2013). "Designing online audiovisual heritage services: an empirical study of two comparable online video services". *New review of hypermedia and multimedia*, v. 19, n. 1, pp. 61-79.
https://doi.org/10.1080/13614568.2013.772662

Papacharissi, Zizi; **Rubin, Alan M.** (2000). "Predictors of internet use". *Journal of broadcasting & electronic media*, v. 44, n. 2, pp. 175-196.
https://doi.org/10.1207/s15506878jobem4402_2

Pavlou, Paul A. (2003). "Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model". *International journal of electronic commerce*, v. 7, n. 3, pp. 101-134.
https://doi.org/10.1080/10864415.2003.11044275

Perks, Lisa-Glebatis; **Turner, Jacob S.** (2019). "Podcasts and productivity: A qualitative uses and gratifications study". *Mass communication and society*, v. 22, n. 1, pp. 96-116.
https://doi.org/10.1080/15205436.2018.1490434

Perks, Lisa-Glebatis; **Turner, Jacob S.**; **Tollison, Andrew C.** (2019). "Podcast uses and gratifications scale development". *Journal of broadcasting & electronic media*, v. 63, n. 4, pp. 617-634.
https://doi.org/10.1080/08838151.2019.1688817

Poell, Thomas (2020). "Three challenges for media studies in the age of platforms". *Television & new media*, v. 21, n. 6, pp. 650-657.
https://doi.org/10.1177/1527476420918833

Prince, Barbara F. (2020). "Podcasts: The potential and possibilities". *Teaching sociology*, v. 48, n. 4, pp. 269-271.
https://doi.org/10.1177/0092055X20959837

Rubin, Alan M. (1983). "Television uses and gratifications: The interactions of viewing patterns and motivations". *Journal of broadcasting*, v. 27, n. 1, pp. 37-51.
https://doi.org/10.1080/08838158309386471

Rubin, Alan M. (1984). "Ritualized and instrumental television viewing". *Journal of communication*, v. 34, n. 3, pp. 67-77.
https://doi.org/10.1111/j.1460-2466.1984.tb02174.x

Samuel-Azran, Tal; **Laor, Tal**; **Tal, Dana** (2019). "Who listens to podcasts, and why?: the Israeli case". *Online information review*, v. 43, n. 4, pp. 482-495.
https://doi.org/10.1108/OIR-04-2017-0119

Semiz-Türkoğlu, Hülya; **Ağca, Mahmut-Enes** (2021). "Dijital dönüşümle radyoda podcast içeriklerin üretilmesi ve incelenmesi: 'Ntv Radyo' örneği". *Selçuk iletişim*, v. 14, n. 4, pp. 1673-1695.
https://doi.org/10.18094/josc.982279

Şener, Orhan (2020). "Gazeteciler için podcast". In: Durna, Tezcan (ed.). *Sivil toplum kuruluşları için hak temelli gazetecilik kılavuzu*. Um: Ag, pp. 215-252. ISBN: 978 605 7882 44 8

Shih, Hung-Pin (2004). "Extended technology acceptance model of Internet utilization behavior". *Information & management*, v. 41, n. 6, pp. 719-729.
https://doi.org/10.1016/j.im.2003.08.009

Soydan, Ersoy (2016). "Radyonun demokratikleştirilmesinde yeni bir olanak: İnternet radyoculuğu". *İletişim kuram ve araştırma dergisi*, v. 42, pp. 340-352.
https://www.academia.edu/29034739/Radyonun_Demokratikle%C5%9Ftirilmesinde_Yeni_Bir_Olanak_%C4%B0nternet_Radyoculu%C4%9Fu

Spurgeon, Christina; **Goggin, Gerard** (2007). "Mobiles into media: Premium rate SMS and the adaptation of television to interactive communication cultures". *Continuum*, v. 21, n. 2, pp. 317-329.
https://doi.org/10.1080/10304310701278173

Stachyra, Grażyna (2017). "Podcasting as an audio technology. Prospects for development". *Studia medioznawcze media studies*, v. 1, n. 68.
https://studiamedioznawcze.pl/article.php?date=2017_1_68&content=stachyra&lang=en

Stafford, Thomas F.; **Stafford, Marla-Royne**; **Schkade, Lawrence L.** (2004). "Determining uses and gratifications for the internet". *Decision sciences*, v. 35, n. 2, pp. 259-288.
https://doi.org/10.1111/j.00117315.2004.02524.x

Subhalakshmi, Bezbaruah; **Kuldeep, Brahmbhatt** (2022). "Are podcast advertisements effective? An emerging economy perspective". *Journal of international consumer marketing*.
https://doi.org/10.1080/08961530.2022.2085222

Sullivan, John L. (2019). "The platforms of podcasting: Past and present". *Social media + society*.
https://doi.org/10.1177/2056305119880002

Swanson, Douglas J. (2012). "Tuning in and hanging out: A preliminary study of college students' use of podcasts for information, entertainment, and socializing". *The social science journal*, v. 49, n. 2, pp. 183-190.
https://doi.org/10.1016/j.soscij.2011.08.011

Tabachnick, Barbara G.; **Fidell, Linda S.** (2020). "*Çok değişkenli istatistiklerin kullanımı - Using multivariate statistics*". Baloğlu, Mustafa, Nobel Akademik Yayıncılık (ed.). ISBN: 978 605 320 250 9

Target, Sinclair (2019). "The rise and demise of RSS". *Vice*, 9 January.
https://www.vice.com/en/article/a3mm4z/the-rise-and-demise-of-rss

Tomarken, Andrew J.; **Waller, Niels G.** (2003). "Potential problems with 'well fitting' models". *Journal of abnormal psychology*, v. 112, n. 4, pp. 578-598.
https://doi.org/10.1037/0021-843X.112.4.578

Tufan, Fırat (2020). "Podcasting trends of radio stations in Turkey". In: Akkor Gül, Ayşen; Ertürk, Yıldız Dilek; Elmer, Paul (eds.). *Digital transformation in media and society*. İstanbul: İstanbul Üniversitesi yayınları, pp. 63-81. ISBN: 978 605 07 0741 0

Uzunoğlu, Sarphan (2019). "2019 Türkiye'de podcast yılı olabilir mi?". *Platform24*, 11 January.
http://platform24.org/yazarlar/3541/2019-turkiye-de-podcast-yili-olabilir-mi

Van-der-Heijden, Hans (2003). "Factors influencing the usage of websites: the case of a generic portal in The Netherlands". *Information & management*, v. 40, n. 6, pp. 541-549.
https://doi.org/10.1016/S0378-7206(02)00079-4

Van-der-Heijden, Hans (2004). "User acceptance of hedonic information systems". *MIS quarterly*, v. 28, n. 4, pp. 695-704.
https://doi.org/10.2307/25148660

Venkatesh, Viswanath; **Bala, Hillol** (2008). "Technology acceptance model 3 and a research agenda on interventions". *Journal of information technology*, v. 39, n. 2, pp. 273-315.
https://doi.org/10.1111/j.1540-5915.2008.00192.x

Venkatesh, Viswanath; **Davis, Fred D.** (2000). "A theoretical extension of the technology acceptance model: Four longitudinal field studies". *Management science*, v. 46, n. 2, pp. 186-204.
https://www.jstor.org/stable/2634758

Venkatesh, Viswanath; **Morris, Michael G.**; **Davis, Gordon B.**; **Davis, Fred D.** (2003). "User acceptance of information technology: Toward a unified view". *MIS quarterly*, v. 27, n. 3, pp. 425-478.
https://doi.org/10.2307/30036540

Venkatesh, Viswanath; **Thong, James Y. L.**; **Xu, Xin** (2012). "Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology". *MIS quarterly*, v. 36, n. 1, pp. 157-178.
https://doi.org/10.2307/41410412

Winer, Dave (2021). "Why podcasting isn't dominated". *Scripting*, 21 December.
http://scripting.com/2021/12/21/124205.html?title=whyPodcastingIsntDominated

Yıldırım, Seda; **Kalender, Mert** (2018). "Sosyal medyanın üniversite öğrencilerinin satın alma davranışlarına etkisi üzerine kavramsal bir bakış". *Anemon Muş Alparslan Üniversitesi sosyal bilimler dergisi*, v. 6, n. 4, pp. 569-578.
https://doi.org/10.18506/anemon.392053

Yücel, Rıdvan (2020). "Podcast'in kısa tarihi: Doğuşu, yükselişi, monetizasyonu". *Erciyes iletişim dergisi*, v. 7, n. 2, pp. 1303-1319.
https://doi.org/10.17680/erciyesiletisim.724106

Zohrob, Dave (2021). "How podcasts powered through the pandemic - and what comes next". *Chartable*, 3 February.
https://chartable.com/blog/2020-year-in-review#footnote-2

Internet radio and podcasts as alternative to the public service and commercial mainstream media in Poland: the cases of *Radio Nowy Świat*, *Radio 357*, and *Raport o stanie świata*

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Abstract

The aim of this article is to show to what extent alternative audio media can be built online, not only by amateurs but also as a combination of the energy and involvement of professional journalists and the community of listeners who are ready to support them. Moreover, the topic of the extent to which this form of production is similar to the model of alternative media produced by amateurs described by Hackett and Caroll (2006), as well as Atton and Hamilton (2010), is also discussed. Special attention is paid to the ways this can challenge the institutional media logic and provide an interesting alternative to pro-government public media and commercial mainstream media in a country in Central and Eastern Europe that is dropping down the rankings of the Democracy Index. The podcast *Raport o stanie świata* and two Internet radio stations, *Radio Nowy Świat* and *Radio 357* from Poland, which are analysed in this article, were born in an act of protest against the negative changes in public service broadcasting, which became a propaganda tool. They are financed by listeners via the crowdfunding platform *Patronite* and do not broadcast advertising. A framework for analysing their functioning is devised using, in particular, theories of the public sphere and of alternative media. The study is based on content analysis of the call-in broadcasts disseminated for the first anniversary of the stations, *Radio Nowy Świat* (April 16 and July 9, 2022) and *Radio 357* (January 5, 2022). Pre-structured interviews with the patrons of *Raport o stanie świata* are also used. Websites and social media accounts of these initiatives, as well as press coverage and data gathered by the *National Broadcasting Council* in relation to *Polish Radio*, are analysed as well. The research found that all three initiatives *Raport o stanie świata*, *Radio Nowy Świat* and *Radio 357*, despite being started by professionals, share some of the characteristics of alternative media and can significantly change the model of audio production, financing and consumption routines in Poland.

Keywords

Radio; Internet radio; Digital audio; Web radio; Radio stations; Podcasts; Podcasting; Public radio; Media; Audio communication Poland; Central and Eastern Europe; Media system; Independent media; Public sphere; Alternative media.

1. Introduction

The media ecology has mutated from the traditional broadcasting system to a new media ecology, adapted to new models of media consumption (**Scolari**, 2018).

Streaming media started with radio in the mid-1990s, and it was radio that made the text-and-graphics-based web a fully multimedia platform (**Bottomley**, 2016, p. 3). Internet radio –an audio signal delivered through the Internet (**Black**, 2001), including web-only radio stations– permeates the logics of radio, making participation and co-creation by audience the central point (**Bottomley**, 2016, pp. 18-19).

The term 'podcasting', introduced in 2004 by the journalist Ben Hammersley, is a combination of the particles 'pod' after the name of the mp3 player –*iPod*– and 'cast' from the word 'broadcast'. The term was introduced to describe the emerging phenomenon of production of audio content and putting it on the Internet (**Bonini**, 2015). Podcasting's eureka moment came with the release of *Serial* in October 2014, telling the story of a 1999 murder at a Baltimore high school. It was downloaded more than 80 million times (**Frary**, 2017).

The more popular podcasting has become, the more often it has been suggested that podcasts are rather 'complex multimodal texts' (**Vasquez**, 2013, p. 240), distinguishable from traditional radio due to the 'hyper-intimacy' of close and active listening to people from one's own community or specific sphere of interest (**Berry**, 2016, p. 667).

As reported by Mark Frary, podcasts have proven the perfect tool to share knowledge and information also in the world's most highly censored areas, and become part of the free-speech movement. For example, he discusses the case of Vietnam and *Loa.fm* podcast under the editor Quyên Ngô, which appeared in April 2015. In Zimbabwe, Christopher Farai Charamba and Tawanda Henry Biti have produced the weekly *Politics and Beyond* podcast since the end of 2016 (**Frary**, 2017). *Sinica*, a weekly podcast on events in China hosted by long-time Beijing residents Kaiser Kuo and Jeremy Goldkorn used to be very popular as well (*Sinica*, 2018).

The topic of the role of digital audio in providing an alternative to mainstream media is rather understudied. There are many studies about community radio as a form of alternative discourse on the air (**Howley**, 2005; **Gordon**, 2012), however, they rarely concentrate on Internet radio or podcasting as a form of community broadcasting. Yet, as underlined by some authors, public-purpose podcasting has created a unique (and uniquely valuable) space of public discourse, especially in the pre-commercial phase of podcasting (**Aufderheide** *et al.*, 2020).

This article examines to what extent alternative digital audio media can be built, not only by amateurs, but as a combination of the energy and involvement of professional journalists and the community of listeners who are ready to support them. The geographical context of this study is important –Poland is a country located in Central and Eastern Europe in which freedom of speech still exists, but it is increasingly difficult to exercise, especially in public service media. The goal is to show of how this kind of media, as in the model of alternative media produced by amateurs described by **Hackett** and **Caroll** (2006), can contest the concentration of institutional media power (**Atton**; **Hamilton**, 2010, p. 124) and is becoming an interesting alternative to the commercial and pro-government public media.

2. Media in Central and Eastern Europe

After World War II most countries of Central and Eastern Europe were found in the Soviet sphere of influence. The media certainly had an impact on the overthrow of communism in the region after 1989, being the accelerator of change (**Ociepka**, 2003, p. 18). The transformation of the system from communism to democracy resulted in the emergence of new media centres, including broadcast media: private radio stations and television stations, which began to play a very important role in individual countries. After a brief period of exultation in the freedom and diversity of the media in Central and Eastern Europe, the media became subject to political and economic conflict. The attitude based on market expectations also left a deep mark on the emerging media systems, resulting in their commercialization and globalization. What is more, as **Jakubowicz** and **Sükösd** (2008, p. 18) point out, in Central and Eastern European countries, public policy in the media field served party goals rather than the public interest. It was also rarely seen in terms of a set of clearly defined values the media are supposed to serve (**Sparks**; **Reading**, 1998, p. 180).

Slavko Splichal emphasizes that despite the commercialization of the media system in Central and Eastern Europe in the early 1990s, communist methods of control were evident (**Splichal**, 1994, p. 86), and even in the late 1990s there were "a surprising amount of the old order" (**Sparks**; **Reading**, 1998, p. 175). Bogusława Dobek-Ostrowska accurately diagnoses that we should associate the phenomenon of the politicization of mass media with the immaturity of political elites and with the inheritance of certain habits developed during the communist period (**Dobek-Ostrowska**, 2002, p. 28). For new political parties that were poorly embedded in social movements, control of the media was extremely important (**Hallin**; **Mancini**, 2012, p. 21).

Unfortunately, these problems are still visible in countries from the region. Central and Eastern Europe is characterized by a much more visible top-down role of state power in the media than in Western societies (**Bognar**, 2018, p. 228). Politicians in individual countries, despite the democratic systems in these countries, still use, to a greater or lesser extent, power and influence to exert pressure on media (**Williams**, 2008, p. 149). Peter Bajomi-Lázár underlines that while a certain degree of state interventionism in the media market is advisable and necessary, in Central and Eastern

Europe it is too often confused with the destructive interventionism of the ruling elites, which he places in the context of partisan media politics (**Bajomi-Lázár**, 2017). In this context, it is worth recalling Karol Jakubowicz's assertion that most post-communist media systems are "free but not independent" (**Jakubowicz**, 2001, p. 59). However, it is worth stressing that periods of some de-politicization are interspersed with periods of greater control.

3. The Polish case

Poland, which was able to draw from the experience of underground opposition journalists, was, along with the Czech Republic and Hungary, among the leaders in the region in terms of the pace of media privatization and recognition of their independence after 1989 (**Curry**, 2006, p. 92). However, Poland did not avoid problems typical of other countries from Central and Eastern Europe. Former communists, as well as opposition representatives, tried to have an influence on media. There are noticeable characteristic backward steps in the process of the democratization of media, which led to increased control over the media (**Curry**, 2006, p. 92). What we can now observe is a serious backward step on the path of media democratization. After a phase of stable growth, Poland has dropped down the rankings in the *Democracy Index*, published by the *Economist Intelligence Unit* (*EIU*). The country is no longer ranked in the highest category of 'consolidated democracy', according to the report's methodology. Instead, it is classified as a 'semi-consolidated democracy'. The *EIU* put the blame squarely on Poland's nationalist and populist ruling *Law and Justice* (*PiS*) party for the country's reduced rank and stated:

> "The ruling conservative-nationalist *Law and Justice* (*PiS*) party continued its efforts to turn the country into an illiberal democracy, by constraining the independence of the judiciary and consolidating media ownership in Polish hands" (*EIU*, 2020).

In the *World Press Freedom Index*, Poland fell to its lowest ever position of 64th, following consecutive years of decline from a high of 18th (*World Press Freedom Index*, 2021).

The negative changes in the media system are becoming increasingly visible and include, but are not limited to, converting public media into a propaganda tool, giving financial support to media outlets that support the government from state-owned companies in the form of advertising (whereas oppositional media outlets cannot count on this kind of support), large private media companies being taken over by state-owned companies supervised by government supporters, attempts to eliminate private companies that are in opposition to the government from the market through changes in the media law.[1] The media landscape has become very polarized, reflecting a division in Polish society between government supporters and opponents. In contrast to the situation in Hungary, many private media entities in Poland are highly critical of the government (**Karolewski**; **Benedikter**, 2016), but the environment for conducting such an activity is becoming increasingly unfriendly.

In the context of this article, especially interesting changes are these related to the public media sector, which gave rise to independent audio initiatives on the Internet and have significantly changed the media landscape in this field.

After the *Law and Justice Party* won the elections in autumn 2015, they successfully changed the legal system under which public media authorities were elected. This new regulation, called the *Small Amendment of the Broadcasting Act of 29 December, 1992* (*Polish Parliament*, 2015), allowed an immediate replacement of *Telewizja Polska i Polskie Radio Boards*. According to Stanisław Jędrzejewski, because of these changes,

> "the principle which formed the basis of the regulatory philosophy (...) of this system was also questioned, i.e. that the government's authority over public media is exercised by an authority other than that directly subordinate to the government or a part of it" (**Jędrzejewski**, 2021).

This reform was followed by others, the most important of which was the establishment of the *National Media Council* (*Rada Mediów Narodowych*) in 2016 with the right to hire and fire management staff for *Telewizja Polska i Polskie Radio* –a power that had been previously in the hands of the *National Broadcasting Council* (*Krajowa Rada Radiofonii i Telewizji*) (*Polish Parliament*, 2016).[2] These changes in the legal system were the start of significant changes in the programmes of *Telewizja Polska i Polskie Radio*.

It is true that before *Law and Justice* became a ruling party in 2015, the preceding governments tried to have an influence on what was broadcast in public media and who the chairman of Polish TV and Radio broadcasting might be, but this influence was never so immediate, so severe and so deeply questioning of the basic rules under which the public service media was functioning. *Telewizja Polska i Polskie Radio* have become propaganda tools which openly support the government. As shown by Piotr Żuk on the basis of the analysis of the programme of Polish TV, this propaganda is based on the promise of social assistance from the populist authorities as well as nationalist, homophobic and exclusionary ideology (**Żuk**, 2020). This is the reason why people in Poland started

> The podcast *Raport o stanie świata* and two Internet radio stations, *Radio Nowy Świat* and *Radio 357* from Poland, which are analysed in this article, were born in an act of protest against the negative changes in public service broadcasting, which became a propaganda tool

to call the station *TVPIS* (*Television of the Law and Justice Party*) instead of *TVP* (*Polish Television*). Several independent portals and social media accounts were created to document and mock official propaganda, especially on Polish TV, like *tvpis.org*, *pasek-tvpis.pl*, *www.facebook.com/tvpisstop/*

The changes in *Polskie Radio* arouse especially strong emotions in the society in the case of the *Third Channel* of *Polskie Radio*. This channel was created in 1958 and obtained national coverage in 1962. The programme was based on radio personalities and had a musical angle. It had been dedicated to an educated and very devoted audience (**Oleszkowicz**, 2021) seeking a different style of radio than was offered by other channels; not so official, in which more Western music was presented and a little bit more freedom of speech in the Communist Era was tolerated (**Gutowski**, 2012). The unique character of the Third Channel was built over the years and survived to a greater or lesser extent until spring 2020. It is true that major personnel and programme changes, and the shift of the general tone in the pro-government and conservative direction, can be observed in the *Third Channel* since 2016, however, the unique formula was finally removed by direct political intervention into the programming of the station in 2020.

https://raportostanieswiata.pl/

On 15 May, 2020, the *Third Channel* broadcast the weekly listing of the *Hits List*, which was led by one of the leading personalities of the station, Marek Niedźwiedzki. According to the information provided during the programme, the first place on the list was taken by a Polish rapper, Kazik and his song "Your pain is better than mine", which contains references to Jarosław Kaczyński's (a leader of the *Law and Justice* party) visit to a cemetery on 10 April, 2020, despite its closure due to the pandemic. After the broadcast, the song was removed from the official website of the radio, and the website of the *Hits List* stopped working. It caused the mass exodus of the most popular journalists of the *Third Channel* from the station, which was preceded by the dismissal, or the leaving of the station by other *Third Channel* celebrities. As the popularity of the channel and its unique character was based on them, it caused a complete change in the programme as well in the audience that was closely related to the station and showed solidarity with the journalists leaving the station.

The attempts to rescue the programme with such a long history did not end with success despite several protests organized by the listeners, politicians and the support of different organisations. The listenership of the station decreased to the lowest level in its history of less than 2% (**Kurdupski**, 2021). However, this situation paved the way for innovative alternative solutions of how to deal with an unfavourable environment for audio broadcasting in Poland. This is how the history of the podcast *Raport o stanie świata* and two Internet radio stations, *Radio Nowy Świat* and *Radio 357* started, as well as some other media initiatives. The success of these projects even exceeded the expectations of the founders.

Dariusz Rosiak, who used to be the host of a well-known high-quality *Third Channel* broadcast *Raport o stanie świata* [*World Status Report*] in which current international affairs were discussed, was taken off the air in January, 2020, without any explanation from the *Channel*'s Board of Directors. The only chance to say goodbye to the listeners who listened to the broadcast for 13 years was a post on the *Facebook* fan page (*Raport o stanie świata*, 2020). He decided to ask the listeners for help to be able to continue his activity in the form of an independent podcast. The production is financed by the listeners via the crowdfunding *Patronite* platform.

"The new life of the *Report* begins now" –with these words, the first episode of the podcast, published on 7 March, 2020, on podcasting platforms, was started. It is worth mentioning that the host of this podcast, Dariusz Rosiak, turned out to be not only very successful in collecting money for his project but also the community of journalists placed high value on his production. He was awarded the prestigious award, *Journalist of the Year 2020* (*Press*, 2021). Other major journalists of *Third Channel*, who were either dismissed from *Polskie Radio* or resigned, advised by loyal listeners who could not

> The goal is to show of how this kind of media, as in the model of alternative media produced by amateurs described by Hackett and Caroll (2006), can contest the concentration of institutional media power (Atton, Hamilton, 2010, p. 124) and is becoming an interesting alternative to the commercial and pro-government public media

stand the disappearance of the bellowed radio personalities from the air, also decided to look for Internet solutions for their activity. Those who left the station a little earlier decided to start the Internet radio station *Radio Nowy Świat*. The foundation of the station was preceded by collecting money for this purpose via the crowdfunding platform *Patronite* in April, 2020 (**Bochyńska**, 2020a), which was a resounding success and made it possible to launch an Internet radio station in July, 2020. The station became very popular in a short period of time and led to skyrocketing sales of receivers adapted for online radio use. They were advertised on the most popular selling portal in Poland as receivers via which "it is possible to listen to *Radio Nowy Świat*". That is why we can call this station the one that started a small radio revolution in Poland on the market of Internet radio receivers. The station proved that despite only being active on the Internet, it could attract a large audience, who were not only ready to listen to the radio online but also to buy new equipment if needed and finance the station on a daily basis.

This station was followed by *Radio 357* –another online radio station created by former journalists of *Third Channel*. It started broadcasting in January 2021 and is also financed by listeners via the crowdfunding platform *Patronite*. During the first year of its functioning, the station overtook *Radio Nowy Świat* in the amount of people who regularly support its functioning.

4. Internet, new media and an alternative public sphere

The term public sphere was originally defined by German philosopher Jürgen Habermas who characterised the public sphere as being

> "made up of private people gathered together as public and articulating the needs of society with the state" (**Habermas**, 1989).

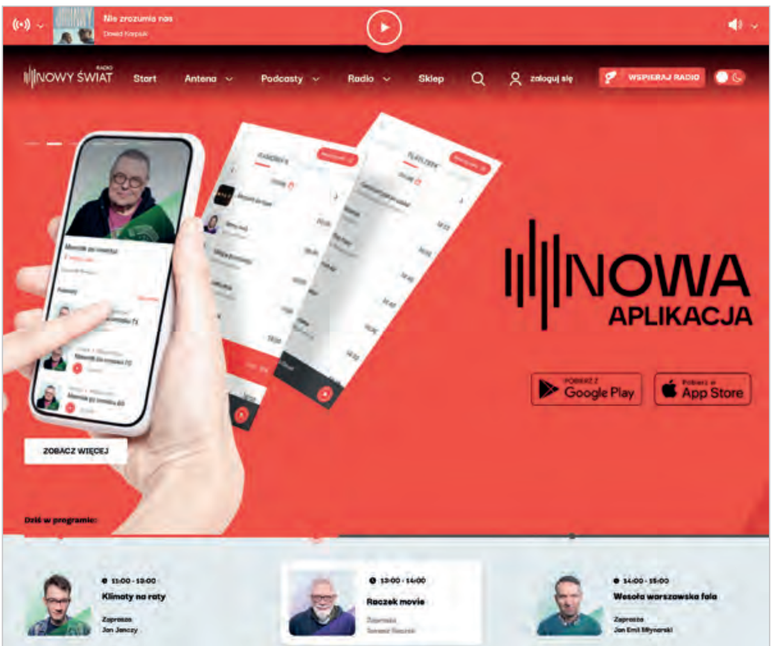
Public sphere is a place common to all, where ideas and information can be exchanged. In *Structural Transformation of the Public Sphere*, Habermas argues that the mass media, which should facilitate the debate and provide space for different voices, is not very successful in this field, because of its commercialization and the influence of public relations (**Habermas**, 1989).

The public sphere in the media context can be analysed in the three dimensions introduced by **Dahlgren** (2005): structural, representational and interactional. The structural dimension of the public sphere refers to the manner of organization of a particular communicative space –this dimension is connected with issues such as access, freedom of speech and the level of inclusiveness. The representational dimension is a structure built on openness and accessibility. This dimension is related to issues such as agenda-setting, pluralism of views, accuracy of coverage and others. The last dimension is the interactional one. It is connected with the exchange of views between citizens and the media and between citizens themselves (**Batorski**; **Grzywińska**, 2018).

Since the Internet became popular in everyday life, scholars have argued whether the emergence of the Internet would support the development of democracy and public debate (**Dahlgren**, 2005). Many researchers were convinced that it would contribute to the democratization of society (**Papacharissi**, 2002) and encourage citizen activity (**Kling**, 1996).

However, despite declarations that the digital age heralds new opportunities for plurality, the reality is different –not all voices are equal and not all are equally heard (**Luce** *et al.*, 2017). The public sphere in the era of big online media platforms became heavily commercialized, and as underlined by **Sekloča** (2019), reciprocity exists between users when they exchange content, but not between users and the content-based media or political centre. The Internet is far from revitalizing the public sphere, and it quite often instead adapts to the current *status quo* (**Morozov**, 2011).

Yet there are many examples that the Internet can serve as an alternative discussion platform to traditional media discourse. This phenomenon is largely observed in authoritarian countries (**Etling**; **Roberts**; **Faris**, 2014), where it becomes a mechanism for political communication that can lead to remarkable democratic victories (as witnessed, for example, what social media did, by the Arab Spring) (**Ingram**; **Bar-Tura**, 2014). Blogs were recognized as a platform that provided an alternative public sphere: a space for civic discussion and



https://nowyswiat.online/

organization that differs significantly from that provided by the mainstream media, TV, and government (**Etling**; **Roberts**; **Faris**, 2014) as well as some *YouTube* channels (**Antony**; **Thomas**, 2010, pp. 1280-1296). Hyperlocal media is defined by covering very small geographic areas, having a community orientation, providing coverage of spaces forgotten by the mainstream media, producing original content and having a majority presence on the Internet (**Metzgar**; **Kurpius**; **Rowley**, 2011, p. 714; **Harte** *et al.*, 2019) and are also worth mentioning in this context. However, an alternative can also be offered by Internet-based audio content.

The negative changes in the media system are becoming increasingly visible and include, but are not limited to, converting public media into a propaganda tool, and giving financial support to media outlets that support the government from state-owned companies in the form of advertising (whereas oppositional media outlets cannot count on this kind of support)

5. Characteristics of alternative media

The growing popularity of audio content online, especially in the form of podcasting, but also web radio, makes digital audio a perfect tool for providing an alternative to mainstream media.

Alternative media is generally understood to include non-dominant media (in contrast to what is often termed mainstream media, linked to hegemonic discourses and great economic power) (**Atton**, 2002).

Hackett and **Carroll** (2006) presented three characteristics of alternative media.

1. Alternative media tend to be 'relatively autonomous from corporate capital and the state'. Their independence from the dominant methods of organizing media encourages them to experiment with more inclusive and egalitarian forms of control, such as collective and consensus decision-making;

2. Alternative media tend to pursue politically progressive aims; they 'give voices to issues marginalized in hegemonic media';

3. The promotion of 'horizontal communication between members of marginalized groups and across these groups'.

Hackett and **Carroll** (2006) underline the importance of alternative media in transforming audiences from consumers of media to participants of the media production process. What is more, as **Curran** and **Seton** showed (1997), based on the example of the English Radical press, alternative media leads to the redrawing of technical and professional roles and responsibilities, together with social and cultural transformation.

As pointed out by O'Donnell, within a public sphere context, alternative media on the Internet could offer an alternative to mass media by using different production practices, such as those fostering capacities for reflection on the experiences of media audiences (**O'Donnell**, 2001).

6. Methodology

A framework for analysing *Radio 357*, *Radio Nowy Świat* and *Raport o stanie świata* activity on the Internet is devised using particular theories of the public sphere and of alternative media.

The analysis is based on the content analysis of the call-in broadcasts disseminated for the first anniversary of the stations *Radio Nowy* (two broadcasts from 9 July, 2021) and *Radio 357* (one broadcast from 5 January, 2022). Two of them were received directly from the stations –they were not published online, or the access to them was limited only to patrons. Four pre-structured interviews with podcast *Raport o stanie świata* patrons which were carried out in June 2021, were also analysed (**Doliwa** *et al.*, 2022).

In the research on these projects, statements published on official websites, *Patronite* profiles, as well as *Facebook* fan pages proved useful. Additional data were derived from press articles. Information about the budget of the national *Polskie Radio*, used in the discussion section to better understand the effectiveness of newly established Internet radio stations, were derived from official reports published by the regulator *National Broadcasting Council*. The radio listenership of the *Third Channel* of the *Polskie Radio* is provided by a recognised research centre responsible for regular research in this field: *Track Kantar Polska*. The data about the number of streamers of the *Radio Nowy Świat* and *Radio 357* comes from the stations themselves and they were at first collected by the journalists of the online portal dedicated to media *wirtualnemedia.pl*.

The complete list of sources used is available in the reference list.

The starting point of the analysis is the date of taking the broadcast *Raport o stanie świata* [*World Status Report*] by Dariusz Rosiak off the air of the *Third Channel* of the *Polskie Radio* in January, 2020. This event encouraged the author to start a podcast under the same name, financed by the listeners via a crowdfunding platform and it paved the way for the development of two other successful Internet audio projects *Radio Nowy Świat* and *Radio 357* also started by former *Third Channel* journalists. The end of the study is marked by the first anniversary of the functioning of the youngest of the discussed projects –*Radio 357* in January 2022 and a summary of the financial results of all three initiatives provided by the crowdfunding platform *Patronite* in February 2022.

7. Results

The analysis of the functioning of the three projects was conducted to in reference to the elements of the characteristics of alternative media provided by **Hackett** and **Carroll** (2006) and described earlier.

7.1. Relatively autonomous from corporate capital and the state

The independence of *Radio Nowy Świat*, *Radio 357* and the podcast *Raport o stanie świata* is secured mostly by the model of funding of all three discussed initiatives. They decided to base their activity on the financial support of their listeners and not broadcast advertising. This makes them independent from corporate capital, or state funding. In the case of the discussed online radio stations, support from listeners is the main source of income, however, occasional sponsorship and collaboration agreements between the companies and these audio initiatives does occur. But, at this moment, they can certainly be sustainable even without this additional financial support.

Raport o stanie świata was the first project from this group registered at the crowdfunding platform –it was on 25 February, 2020. *Radio Nowy Świat* soon followed and started collecting money via *Patronite* less than two months after *Raport o stanie świata*. This initiative also collected the largest amount of money since its inception. However, as for now, the largest number of patrons support *Radio 357*, which results in the biggest sum of monthly payments, not only in the context of these three initiatives, but also in general in Poland.

Table 1. Basic data about the functioning of *Radio Nowy Świat*, *Radio 357* and *Raport o stanie świata* in the *Patronite* crowdfunding platform (9 February, 2022).

Name	Registration date	Number of patrons	Monthly income in PLN/€	Income in total in PLN/€
Dariusz Rosiak (*Raport o stanie świata*)	25.02.2020	6,067	91,440 / 19,202	1,646,885 / 345,846
Radio Nowy Świat	16.04.2020	30,976	632,043 / 132,729	14,641,353 / 3,074,684
Radio 357	05.10.2020	43,387	817,591 / 171,694	10,386,402 / 2,181,144

What is important is the fact that the patrons seem to be very loyal and ready for long-term financial support. This is confirmed by the research conducted among the patrons of *Raport o stanie świata* (**Doliwa** *et al.*, 2022), but also data collected by the *Patronite* platform, which was admitted by one of the employees of the platform, Marcin Skonieczny, during the anniversary broadcast of *Radio 357* (*Radio 357*, 2022).

The independence from the state in the case of the three analysed initiatives is also secured by way of disseminating the programme –via the Internet, which means that no special permission or formal license of broadcasting is needed. These two foundations –financing system and Internet, whose implementation makes these projects resistant to not only governmental, but also business pressure.

This independence is seen and admired by the listeners. The opinion of one of them, expressed during the anniversary broadcasts in *Radio 357* can serve as an example.

> "*Radio 357* is the first free, truly free medium in Poland, because contrary to what could be seen on the streets lately, the fight for free media, *Radio 357* is independent from politics and aggressive advertisements" (Marcin; *Radio 357*, 2022).

7.2. They tend to pursue politically progressive aims, they give voices to issues marginalized in hegemonic media

The model of functioning of the analysed media outlets is different from other media, which itself makes them different and alternative to what is offered by traditional radio stations. This is related to a different model of financing and organizing of the station, but also different programming.

One of the differences is the fact that politicians are not invited to the station (their voices appear only in news bulletins in the case of radio stations). Instead, political journalists and experts comment on current affairs.

What is more, no advertisements are broadcast on air. Instead, on *Radio 357* a jingle is provided "Advertisements? Thanks to you –we do not have them" and short sketches are offered which are advertisement parodies.

What seems to be important in the case of the analysed radio stations, they support young journalistic, thespian and musical talents. As declared by the chief editor of the station *Nowy Świat* [*New World*]

> "It is not 'New World' only in name –we want to educate future generations of professional radio broadcasters who will take over the reins in a few, or a dozen years, and will do it skilfully" (**Bochyńska**, 2020b).

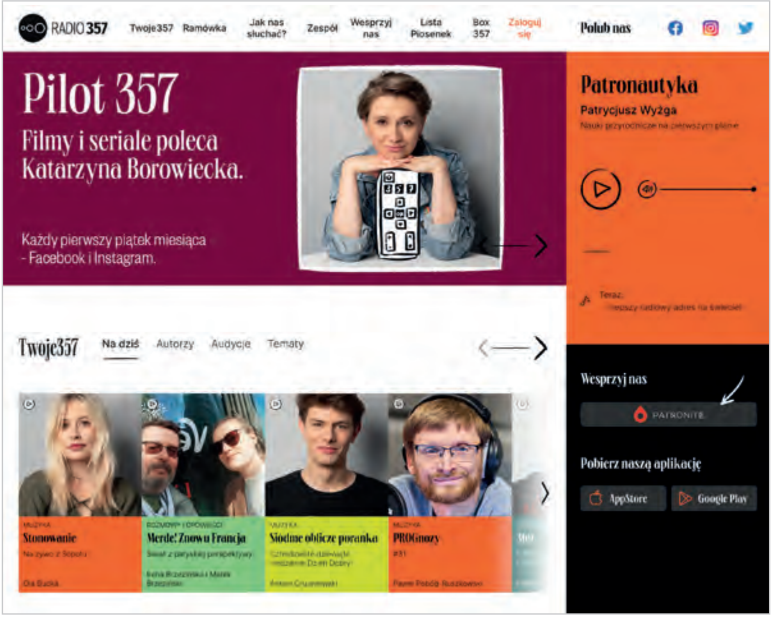
> The station proved that despite only being active on the Internet, it could attract a large audience, who were not only ready to listen to the radio online but also to buy new equipment if needed and finance the station on a daily basis

The team offered not only air time to young talents who were selected during the application process, but also provided training for this group of people.

Both stations strongly support young artists. As underlined by one of the former celebrities of the *Third Channel* of *Polskie Radio*, now employed by the *Radio 357*, Piotr Stelmach,

> "We strongly support Polish artists and help young artists. We ourselves receive a lot of support from patrons and we want to share it by passing it on" (**Jk**, 2022).

Both stations organize concerts of young musicians, invite them to the studio and also give them the chance to be radio presenters.



https://radio357.pl

Moreover, the programme of both radio stations is not strictly formatted. This means that they are open to a variety of music styles. Additionally, both stations do not resign from high quality and expensive production content; examples include radio features and documentaries, as well as radio drama, genres that were previously limited to public radio.

Tiziano Bonini describes podcasters as the heirs of the free spirit of the creators of independent pirate radio (**Bonini**, 2015). When we compare the 'big wave' of pirate radio in Poland from the early 1990s (**Doliwa**, 2022) with those discussed in this article, two online radio stations and the podcast *Raport o stanie świata*, we can find a lot of similarities as well. What is worth stressing, in particular, is the unique enthusiasm that accompanies such initiatives by the creators as well as the listeners of such stations, who, as in the 1990s, are ready to support such projects.

7.3. Horizontal communication

One of the aspects of communication which unites all three initiatives is the strong relationship with the audience in general and patrons in particular. When describing the project, their creators often use terms like 'our podcast' and 'our station', making the supporters an important part of these initiatives. For example, the author of the podcast *Raport o stanie świata*, Dariusz Rosiak, calls it on the official website,

> "a home for thousands of listeners who want to get to know the world in all its richness, a complex but fascinating, ambiguous and inspiring world" (*Raport o stanie świata*, 2022).

The creators of all three initiatives feel responsible before the listeners and patrons and all of them communicate the importance of this relationship and involve the audience in several initiatives. These are not only live concerts and broadcasts from public places (which during the pandemic had to be limited) but also special platforms that can be used as a channel of two-way communications, for example, closed Facebook groups for patrons. 'Old-fashioned' ways of communication are also in use, for example, for the *Polish TOP Radio 357* (the list of the best songs in the world published since the time when most of the journalists of *Radio Nowy Świat* and *Radio 357* used to work at the *Third Channel* of *Polskie Radio*) over 9,000 postcards with suggestions of songs were sent. Making the patrons the indispensable element of the project is also provided at the symbolic level. For example, *Radio 357*, when preparing a video clip for a song specially recorded for the first anniversary of the station, decided to use not only the faces of popular presenters of the station, but also those sent by patrons (**Ørganek**; **Komoszyńska**, 2022).

The close relationship between the broadcasters and the listeners is also possible to be reported from an audience perspective. An example can be a statement coming from one of the interviews with the patrons supporting *Raport o stanie świata* financially. As admitted by one of them, Maciej Adamczyk,

> "I have established a relationship with the authors. It is a form of closeness or familiarity, the listeners are closer to the senders" (**Doliwa** *et al.*, 2022).

What is worth stressing, in particular, is the unique enthusiasm that accompanies such initiatives by the creators as well as the listeners of such stations, who are ready to support such projects

Similar opinions were shared during the anniversary call-in broadcasts in *Radio Nowy Świat* and *Radio 357*.

> "*Radio 357* works in collaboration with its listeners and thus is a truly independent medium that can actually do what it wants with the listeners who actually co-create this radio. Happy birthday" (Marcin; *Radio 357*, 2022).

> Both stations do not resign from high quality and expensive production content; examples include radio features and documentaries, as well as radio drama, genres that were previously limited to public radio

> "I am a patron from the very beginning, as soon as I found out that the channel would start. This news really moved me. After completing the formalities and joining the group of patrons, we only had to wait, because we waited together with my wife, and in fact the whole family. This waiting, it was like being a child waiting for Christmas to come, you basically look at the calendar –is it already? Oh no, not yet (…). So we waited until it finally took off. It was great excitement" (Mariusz; *Radio Nowy Świat*, 2021a).

The listeners also do not hesitate to give some advice to the station via email, social media or phone calls, like Dawid, who called the station during the anniversary broadcast.

> "Such a small comment, I think, organizational. It is very important to reply to e-mails from the listeners" (Dawid; *Radio 357*, 2022).

They are also involved in organising some radio events –like the anniversary meeting of the patrons and *Radio Nowy Świat* journalists in *Przypki* (*Radio Nowy Świat*, 2021a).

The stations feel responsible before the listeners and try to be as transparent in their functioning as possible. This can be illustrated by the statement of the chief editor Magdalena Jethon of *Radio Nowy Świat*, who, in the broadcast for the first anniversary, presented a short description of how the money from the patrons is spent and announced the date when the detailed report on finances would be made official (*Radio Nowy Świat*, 2021b).

Moreover, the analysed radio stations' initiatives seem to have a more democratic model of functioning inside the station. This is particularly visible in *Radio 357*, which has a form of limited partnership based on an employee cooperative and two leading personalities behind this initiative –Kuba Strzyczkowski and Marek Niedźwiecki, and the Board, which is responsible for the fulfilment of the goals agreed on with the patrons. As underlined by Tomasz Michniewicz, one of the creators of *Radio 357*, this is a far more democratic and transparent radio structure than in a typical radio station.

> "We have chosen this form because it is the closest to us. It enforces consensus, there is no prescriptive, hierarchical corporate governance. We have already worked in such a structure. Now we want to build a place that we will all host. This does not mean that every matter will be decided by everyone, but the point is to agree on the directions and strategy, to choose it with the vote of the majority" (**Kozielski**, 2021).

Radio Nowy Świat also has a legal form of partnership with limited liability, but the shares are in the hands of the most important journalists and people involved in making this project possible.

It is worth stressing that the journalists have the feeling that it is their radio, which can be illustrated by a statement by one of the leading journalists of *Radio 357* during the anniversary broadcast.

> "I remember the delivery, when everyone admired the first console, the microphones that came in such large packages. When unpacking, we felt a bit like children with Christmas presents. We arranged the schedule, we came up with new programme titles, paying attention to what it costs because it was known that we could not afford everything" (Strzyczkowski; *Radio 357*, 2022).

Especially at the initial phase of the radio creation, the journalists had to be involved in activities which are not typical for them, like planning the budget and securing the technical and legal aspects of radio. They were happy in that because they had the feeling that they were taking part in something important, what they had an influence on.

8. Conclusion

All three initiatives, *Raport o stanie świata*, *Radio Nowy Świat* and *Radio 357*, despite being started by professionals, share some of the alternative media characteristics in all three aspects described by **Hackett** and **Carroll** (2006). They proved that what seemed to be up to that point unlikely was, in fact, possible. For example, they showed that it is possible to collect money for such initiatives among listeners and resign from advertising. The model of financing these projects is completely different from what was known before, especially if we take into account the scale of these initiatives and the number of listeners and patrons supporting them.

> These two foundations –financing system and Internet– makes these projects resistant to not only governmental, but also business pressure

They also proved that a lack of a license and disseminating the programme only on the Internet is not a big problem anymore. The two analysed stations became game-changers as far as listening to the radio via the Internet is concerned and played a similar role in Poland in popularizing this way of listening to audio content that *Serial* performed in America in popularising podcasting (**Spinelli**; **Dann**, 2019). Poles of different ages showed that they were ready to listen to *Radio Nowy Świat* or *Radio 357* on a daily basis, not only via computers and mobile phones but also by investing in new Internet radio receivers.

All three initiatives, *Raport o stanie świata*, *Radio Nowy Świat* and *Radio 357*, despite being started by professionals, share some of the alternative media characteristics in all three aspects described by Hackett and Carroll. They showed that it is possible to collect money for such initiatives among listeners and resign from advertising

The analysed initiatives also proved that they could offer high-quality programmes (the quality, for example, was confirmed by prizes and nominations won by the journalists of *Raport o stanie świata*, *Radio Nowy Świat* and *Radio 357* in the *Grand Press 2020* and *2021*) for much less money than a public broadcaster. Taking into account the fact that, as declared by the chief editor of *Radio Nowy Świat*, the station costs around 6 million PLN (1,260,000 €) per year (*Nowy Świat*, 2021b), the sum is several times smaller than that spent for the *Third Channel* of the *Polskie Radio*, which in 2020 received public support of more than 45 million PLN (9,450,000 €) (*KRRiT*, 2021), despite the fact that the station can count on additional money from advertising.

In light of this fact, a kind of paradox is also the popularity of *Radio Nowy Świat* and *Radio 357* as opposed to the listenership of the *Third Channel* of the *Polskie Radio*. Of course, there are important differences in the methodology of the research in the case of FM and Internet radio, which makes a comparison very difficult. However, the listenership of the *Third Channel* station decreased to the lowest level in its history (less than 2% of Poles aged from 15 to 75, which means that the number of listeners oscillates around half a million Poles (**Kurdupski**, 2021)), whereas in December 2021, the *Radio Nowy Świat* and *Radio 357* stream was downloaded by a total of 1.3 million IP addresses in the case of each station (*Ram*, 2022).

9. Notes

1. The case of the leading television news channel in Poland *TVN24*, which was to be eliminated from the market by changes in the *Broadcasting law* that would have forced the owners of the company *TVN–Discovery* group to sell its shares because of the American origins of the capital involved in this venture can serve as an example; in December 2021 this amendment to the *Broadcasting Act* was vetoed by the President.

2. The *National Broadcasting Council* is a regulator in the broadcast media market, whose members are appointed by the President, the *Sejm* (lower house of the *Polish Parliament*) and the *Senat* (the upper house of the *Polish Parliament*), and whose autonomy from the changes in the government is to some extent secured by the rule that every two years only one/third of the *Council* can be replaced, which makes the immediate changes in the Board of the public service media impossible.

The analysed radio stations' initiatives seem to have a more democratic model of functioning inside the station

10. References

Antony Mary-Grace; **Thomas Ryan J.** (2010). "'This is citizen journalism at its finest': YouTube and the public sphere in the Oscar Grant shooting incident". *New media & society*, v. 12, n. 8, pp. 1280-1296.
https://doi.org/10.1177/1461444810362492

Atton, Chris (2002). *Alternative media*. London: Sage. ISBN: 978 0 7619 6770 5

Atton, Chris; **Hamilton, James F.** (2008). *Alternative journalism*. London: Sage. ISBN: 978 1 412947039

Aufderheide, Patricia; **Lieberman, David**; **Alkhallouf, Atika**; **Ugboma, Jiji-Majiri** (2020). "Podcasting as public media: The future of US news, public affairs, and educational podcasts". *International journal of communication*, v. 14, pp. 1683-1704.
https://ijoc.org/index.php/ijoc/article/view/13548

Bajomi-Lazar, Peter (2017). "Particularistic and universalistic media policies: Inequalities in the media in Hungary". *Javnost - the public*, v. 24, n. 2, pp. 162-172.
https://10.1080/13183222.2017.1288781

Batorski, Dominik; **Grzywińska, Ilona** (2018). "Three dimensions of the public sphere on Facebook". *Information, communication & society*, v. 21, n. 3, pp. 356-374.
https://doi.org/10.1080/1369118X.2017.1281329

Berry, Richard (2016). "Part of the establishment: Reflecting on 10 years of podcasting as an audio medium". *Convergence*, v. 22, n. 6, pp. 661-671.
https://doi.org/10.1177/1354856516632105

Black, David A. (2001). "Internet radio: A case study in medium specificity". *Media, culture & society*, v. 23, n. 3, pp. 397-408.
https://doi.org/10.1177/016344301023003007

Bochyńska, Nikola (2020a). *Dariusz Rosiak odchodzi z Polskiego Radia*, January 15.
https://www.wirtualnemedia.pl/artykul/dariusz-rosiak-odchodzi-z-trojki-nieprzedluzenie-umowy-raport-o-stanie-swiata-dlaczego-opinie-kariera

Bochyńska, Nikola (2020b). *Radio 'Nowy Świat' ma już 500 tys. zł i dwa studia. Do zespołu szuka młodych talentów*, May 15.
https://www.wirtualnemedia.pl/artykul/radio-nowy-swiat-dwa-studia-zespol-mlode-talenty-poszukiwania-kiedy-start

Bognar, Bulcsu; **Pázmány, Péter** (2018). "A culture of resistance: Mass media and its social perception in Central and Eastern Europe". *Polish sociological review*, n. 2, pp. 225-242.
https://doi.org/0.26412/psr202.05

Bonini, Tiziano (2015). "The 'second age' of podcasting: Reframing podcasting as a new digital mass medium". *Quaderns del CAC*, v. 41, n. 18, pp. 21-30.
https://www.cac.cat/sites/default/files/2019-01/Q41_Bonini_EN_0.pdf

Bottomley, , Andrew J. (2016). *Internet radio: A history of a medium in transition*. PhD. Madison: The University of Wisconsin-Madison.
https://search.library.wisc.edu/catalog/9912282134002121

Curran, James; **Seton, Jean** (1997). *Power without responsibility: The press and broadcasting in Britain*. London, New York: Routledge. ISBN: 978 0 415114073

Curry, Jane (2006). "Transformacja mediów w Europie Środkowo-Wschodniej: komplikacje wolności dla każdego" [Media transformation in Central and Eastern Europe: The complications in freedom for everyone]. In: Dobek-Ostrowska, Bogusława. *Media masowe w demokratyzujących się systemach politycznych* [Mass media in democratizing political systems], Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego, pp. 90-114. ISBN: 83 229 2697 9

Dahlgren, Peter (2005). "The internet, public spheres, and political communication: Dispersion and deliberation". *Political communication*, v. 22, n. 2, pp. 147-162.
https://doi.org/10.1080/10584600590933160

Dobek-Ostrowska, Bogusława (2002). "Przejście do demokracji a transformacja systemów medialnych w Europie Środkowo-Wschodniej". [The transition to democracy and the transformation of media systems in Central and Eastern Europe]. In: Dobek-Ostrowska, Bogusława. *Transformacja systemów medialnych w krajach Europy Środkowo-Wschodniej po 1989 roku*, Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego, pp. 13-33. ISBN: 83 229 2231 0

Doliwa, Urszula (2022). *Pirate waves: Polish private radio broadcasting in the period of transformation 1989-1995*. Berlin: Peter Lang. ISBN: 978 3 631817001

Doliwa, Urszula; **Szydłowska, Magdalena**; **Szczepańska Paulina**; **Stachowicz Ada**; **Kaźmierczak, Piotr** (2022). "Crowdfunding jako metoda finansowania podcastów - analiza motywacji patronów wspierających 'Raport o stanie świata'". [Crowdfunding as a method of financing podcasts - analysis of the motivation of patrons supporting 'Raport o stanie świata']. *Media - biznes - kultura*, v. 12, n. 1, pp. 125-141.
https://doi.org/10.4467/25442554.MBK.22.008.16153

EIU (2020). *Democracy index 2019*.
http://www.eiu.com/topic/democracy-index

Etling, Bruce; **Roberts, Hal**; **Faris, Rob** (2014). *Blogs as an alternative public sphere: The role of blogs, mainstream media, and TV in Russia's media ecology*. Cambridge: Berkman Center for Internet and Society.
https://ssrn.com/abstract=2427932

Frary, Mark (2017). "Power to the podcast: Podcasting is bringing a whole new audience to radio and giving investigative journalism a boost. Plus, our handy guide to making your own podcasts". *Index on censorship*, v. 46, n. 3, pp. 24-27.
https://doi.org/10.1177/0306422017730789

Gordon, Janey (2012). *Community radio in the twenty first century*. Oxford: Peter Lang. ISBN: 3034307284

Gutowski, Marcin (2012). *Trójka z dżemem: palce lizać* [The Third Channel with jam: lick your fingers]. Krakow: Społeczny Instytut Wydawniczy Znak. ISBN: 978 83 24022021

Habermas, Jürgen (1989). *The structural transformation of the public sphere: an inquiry into a category of bourgeois society*. Cambridge: The MIT Press. ISBN: 0 262 08180 6

Hackett, Robert A.; **Carroll, William K.** (2006). *Remaking media: The struggle to democratize public communication*. New York, London: Routledge. ISBN: 0415394694

Hallin, Daniel C.; **Mancini, Paolo** (2012). "Comparing media systems between Eastern and Western Europe". In: Gross, Peter; Jakubowicz, Karol. *Media transformations in the Post-Communist world: Eastern Europe's tortured path to change*. Maryland: Rowman & Littlefield, pp. 15-32. ISBN: 978 0 7391 7494 4

Harte, David; **Howells, Rachel**; **Williams, Andy** (2019). *Hyperlocal journalism: the decline of local newspapers and the rise of online community news*. London: Routledge. ISBN: 978 1 138674547

Howley, Kevin (2005). *Community media: people, places, and communication technologies*. Cambridge: Cambridge University Press. ISBN: 978 0 521796682

Ingram, David; **Bar-Tura, Asaf** (2014). "The public sphere as site of emancipation and enlightenment: a discourse theoretic critique of digital communication". In: Boros, Diana; Glass, James M. *Re-imagining public space: the Frankfurt school in the 21st century*. New York: Palgrave Macmillan. ISBN: 978 1 349 48052 4

Jakubowicz, Karol (2001). "The genie is out of the bottle". In: Giles, Robert; Snyder, Robert W.; DeLisle, Lisa. *Reporting the Post-Communist revolution*. New Jersey: Transaction Publisher. ISBN: 978 1 351307369

Jakubowicz, Karol; **Sükösd, Miklos** (2008). "Twelve concepts regarding media system evolution and democratization in post-communist societies". In: Jakubowicz, Karol; Sükösd, Miklos. *Finding the right place on the map. Central and Eastern European media change in a global perspective.* Bristol: Intellect Books, pp. 9-41. ISBN: 978 1 841501932

Jędrzejewski, Stanisław (2021). "The media in Poland: Five years after the breakdown". *Academia letters*, Article 3941.
https://doi.org/10.20935/AL3941

Jk (2022). *Radio 357 nadaje już rok: klip ze słuchaczami*, *'Dobrze się słyszeć!' nowym hasłem*, January 7.
https://www.wirtualnemedia.pl/artykul/radio-357-haslo-urodziny-jak-odbierac-the-new-years

Karolewski, Ireneusz P.; **Benedikter, Roland** (2016). *Poland is not Hungary*, September 21.
https://www.foreignaffairs.com/articles/central-europe/2016-09-21/poland-not-hungary

Kling, Rob (1996). *Computerization and controversy, 2nd ed.: value conflicts and social choices*. London: Morgan Kaufmann. ISBN: 978 0 124150409

Kozielski, Maciej (2020). *Radio 357 przedstawiło strukturę. 'Bez hierarchicznego, korporacyjnego ładu'*, October 22.
*https://www.press.pl/tresc/63654,radio-357-przedstawilo-strukture_-_bez-hierarchicznego_-korporacyjnego-ladu_*

KRRiT (2021). *Sprawozdanie KRRiT z działalności w 2020 roku*.
https://www.gov.pl/web/krrit/sprawozdanie-i-informacja-z-dzialalnosci-w-2020-roku

Kurdupski, Michał (2021). *Słuchalność Trójki w ciągu 5 lat spadła z 8 proc. do 2 proc. 'Moment krytyczny w kilkudziesięcioletniej historii rozgłośni'*, October 31.
https://www.wirtualnemedia.pl/artykul/sluchalnosc-trojka-w-ciagu-5-lat-spadla-z-8-proc-do-2-proc-moment-krytyczny-w-kilkudziesiecioletniej-historii-rozglosni

Luce, Ann; **Jackson, Daniel**; **Thorsen, Einar** (2017). "Citizen journalism at the margins". *Journalism practice*, v. 11, n. 2-3, pp. 266-284.
https://doi.org/10.1080/17512786.2016.1222883

Metzgar, Emily T.; **Kurpius, David D.**; **Rowley, Karen M.** (2011). "Defining hyperlocal media: proposing a framework for discussion". *New media & society*, v. 13, n. 5, pp. 772-787.
https://doi.org/10.1177/1461444810385095

Morozov, Evgeny (2011). *The net delusion: How not to liberate the world*. London: Penguin UK. ISBN: 1610391063

O'Donnell, Susan (2001). "Analysing the Internet and the public sphere: The case of Womenslink". *Javnost - the public*, v. 8, n. 1, pp. 39-58.
https://doi.org/10.1080/13183222.2001.11008764

Ociepka, Beata (2003). *Dla kogo telewizja? Model publiczny w postkomunistycznej Europie Środkowo-Wschodniej* [*Who is TV for? The public model in post-communist Central and Eastern Europe*]. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego. ISBN: 978 83 22923214

Oleszkowicz, Magdalena (2012). "Public media in Poland". In: Pokorna-Ignatowicz, Katarzyna. *The Polish media system*. Krakow: Krakow Society for Education: AFM Publishing House, pp. 111-120. ISBN: 978 83 7571 217 9

Ørganek; **Bela Komoszyńska** (2022). *'A jednak cud' - The new years 2022 feat*, January 5.
https://www.youtube.com/watch?v=g-_MrhBbNvg&t=13s

Papacharissi, Zizi (2002). "The virtual sphere: the internet as a public sphere". *New media & society*, v. 4, n. 1, pp. 9-27.
https://doi.org/10.1177/14614440222226244

Polish Parliament (2015). "Broadcasting act of 29 December 1992, amended 30 December 2015". *Journal of laws* 2016, item1531.

Polish Parliament (2016). Act of 22 June 2016 about the National Media Council.
http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=wdu20160000929

Press (2021). *Dariusz Rosiak Dziennikarzem Roku 2020*.
https://grandpress.press.pl/archiwum/grand-press-2020/dariusz-rosiak-dziennikarzem-roku-2020

Radio 357 (2022). *Anniversary broadcast: 'Co państwo na to' from 12 am*, January 5.

Radio Nowy Świat (2021a). *Anniversary broadcast: 'Popołudniowa audycja wyjazdowa' from 4 pm*. July 9.

Radio Nowy Świat (2021b). *Anniversary broadcast: 'Mija rok od rozpoczęcia zbiórki. Świętujemy Dzień Patronów'*, April 16.
https://nowyswiat.online/mija-rok-od-rozpoczecia-zbiorki-swietujemy-dzien-patronow

Ram (2022). Radio Nowy Świat i Radio 357 podsumowują ostatni rok i snują plany na przyszłość, January 18.
https://www.wirtualnemedia.pl/artykul/radio-nowy-swiat-radio-357-liczba-sluchaczy-popularne-audycje-plany-na-2022-rok

Raport o stanie świata (2020). *Raport o stanie świata Dariusza Rosiaka*.
*https://www.facebook.com/raportostanie/about/?ref=page_*

Raport o stanie świata (2022). *Raport o stanie świata Dariusza Rosiaka*.
https://raportostanieswiata.pl

Scolari, Carlos A. (2018). "Transmedia literacy: rethinking media literacy in the new media ecology". In: Matthew Freeman, Renira Rampazzo Gambarato. *The Routledge companion to transmedia studies*. New York: Routledge, pp. 323-331. ISBN: 978 1 351054904

Sekloča, Peter (2019). The centre and the periphery: productivity and the global networked public sphere. *TripleC*, v. 17, n. 1.
https://doi.org/10.31269/triplec.v17i1.1062

Sinica (2018). *Sinica*.
https://www.chinafile.com/library/sinica-podcast

Sparks, Colin; **Reading, Anna** (1998). *Communism, Capitalism and the mass media*. London: Sage. ISBN: 978 1 446224830

Spinelli, Martin; **Dann, Lance** (2019). *Podcasting. The audio media revolution*. New York, London: Bloomsbury. ISBN: 978 1 501328688

Splichal, Slavko (1994). *Media beyond socialism: theory and practice in East-Central Europe*. Boulder: Westview Press. ISBN: 978 0 367157647

Vasquez, Vivian-Maria (2013). "Analyzing digital texts as literacy artifacts". In: Peggy Albers; Teri Holbrook; Amy Flint. *New methods of literacy research*. New York: Routledge, pp. 238-242. ISBN: 978 0 415624435

Williams, Kevin (2008). *Media w Europie* [Media in Europe]. Warsaw: Wydawnictwa Akademickie i Profesjonalne. ISBN: 978 83 60807 46 0

World Press Freedom Index (2021). *World Press Freedom Index*.
https://rsf.org/en/ranking/2021

Żuk, Piotr (2020). "One leader, one party, one truth: public television under the rule of the populist right in Poland in the pre-election period in 2019". *Javnost - the public*, v. 27, n. 3, pp. 287-307.
https://doi.org/10.1080/13183222.2020.1794413

Artificial intelligence strategies in European public broadcasters: Uses, forecasts and future challenges

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Abstract

As artificial intelligence (AI) gains space in the media, public broadcasters are testing and experimenting with these technologies to raise their services to the new standards of the audiovisual ecosystem. From algorithms that help recommend the most suitable content for users, to others that detect news and automate some of the tasks of journalists, these tools are increasingly present in public audiovisual corporations. The data were obtained from semi-structured in-depth interviews with a convenience sample of 15 corporations from 12 countries. The results reflect a heterogeneous application of artificial intelligence in corporations, oriented towards the automatic creation of content from structured data, the improvement of audience interaction through chatbots, and personalisation or verification. The implementation of these technologies also poses major challenges. Firstly, the economic cost of adapting these systems to each corporation and the difficulties in hiring experts to develop AI solutions prevent a complete deployment of these tools in public broadcasters. As main conclusions, we have understood that AI as a "culture" is believed to be vital for the public audiovisual services of the future, although its application is still far from being a standard and generally does not occupy a relevant strategic position in the innovation departments of corporations.

Keywords

Artificial intelligence; AI; Algorithms; Media; Automation; Journalism; Innovation; Public service media; News; Broadcasting; Audiovisual; Technology.

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1. Introduction. The impact of AI on the media ecosystem

Since the *Quakebot* algorithm of the *Los Angeles Times* first published news on an earthquake in California in March 2014 (**Ufarte-Ruiz**; **Manfredi-Sánchez**, 2019), more than 30 leading international media have applied artificial intelligence (AI) in the automatic generation of news. The map of the impact of AI in the media drawn by **Fanta** (2017) has undergone a considerable update of small media that have followed the path opened by the *Associated Press* and *Reuters* agencies, and *The Washington Post*, which are pioneers in these techniques (**Rojas-Torrijos**, 2019).

AI, with its entry into media newsrooms and its application in news production processes, gives rise to what we know as 'automated journalism' (**Carlson**, 2015; **Graefe**, 2016), 'algorithm journalism' (**Diakopoulos**, 2019; **Dörr**, 2016), 'robot journalism' (**Oremus**, 2015) or 'artificial journalism' (**Túñez-López**; **Toural-Bran**; **Valdiviezo-Abad**, 2019), replacing certain tasks of information professionals through the use of algorithms; although the experience of recent years tells us that it should be considered as a tool that allows journalists to enrich storytelling based on natural language generators, which transform structured computational data into human language (**Dörr**, 2016; **Marconi**; **Siegman**, 2017).

The *European Broadcasting Union* (*EBU*) *News Report* (2019) concludes that only some of the tasks of journalism will be automated. However, it also indicates that the changes brought about by the application of this technology will, in one way or another, cut across many newsroom tasks so that journalists will inevitably need to become more technologically literate. In the current application of automated journalism, **Graefe**'s (2016) prediction that the profession is not at risk and that AI is not seen as a replacement for human journalists still holds true, but editors are highly likely to be assigned to 'higher value-added activities', complementing the mechanical work of algorithms (**Sirén-Heikel** *et al.*, 2019).

> According to the *EBU* report, the *Organization for Economic Co-operation and Development* has estimated that almost half of all occupations will disappear or be fundamentally changed in 15-20 years due to automation and machine learning. 'In the field of communication, we are experiencing the biggest transformation since the advent of traditional media. It is also the greatest social disruption since the Second World War' (*EBU*, 2021).

1.1. Automated solutions at all phases of journalism

Túñez, **Toural** and **Frazão** (2020) point to the use of AI beyond the creation of news, transcending nowadays to most journalistic tasks. In its current applications, AI is used in the creation of alerts and recommendations, in product verification and marketing and in the intelligent automation of workflows (**Rojas-Torrijos**, 2019). The *European Broadcasting Union* (2019) believes that the advancement of language technologies such as machine translation, speech recognition and speech-to-text generation will provide exciting possibilities for the media of the future.

Con la IA, las noticias se escriben automáticamente utilizando una biblioteca de narraciones. Bases de datos estructuradas permiten la producción de noticias con estructuras y códigos coherentes, lo que es suficiente para la cobertura común y rutinaria de eventos como las finanzas, la bolsa, los deportes o el tiempo. Esta cadena de producción acelera el uso de los datos para la verificación de la información en tiempo real, donde se cruzan cifras y declaraciones (**Hansen** *et al.*, 2017).

Table 1. Benefits of applying AI in the media. Source: *European Broadcasting Union* (2019).

Benefits of applying AI in the media
Detect trends in social networks
Get trend-breaking tips
Get story angles, images and people suggested through an online search
Fact-checking
Verify fake photos and videos
Checking for deep fakes
Finding email addresses connected to websites
Discovering bots on social networks
Audio transcription
Creating stories from structured data
Automatic text translation
Automatic text correction
AI assistance in video editing
Automated audio editing
Automating workflows
Predictive analytics to generate revenue and increase customer satisfaction
Chatbot creation
Data cleansing and filtering

With AI, news are automatically written using a library of narratives. These structured databases enable the production of news stories with coherent structures and codes, which is sufficient for common, routine coverage of events such as finance, the stock market, sports or weather. This production chain accelerates the use of data for real-time verification of information, where figures and statements are cross-checked (**Hansen** *et al.*, 2017).

AI systems interpret, organise and produce news in a user-recognisable format through algorithms that first process the information, take pre-programmed news structures, select key aspects and insert new terms, statistics or pictures (**Anderson**, 2013). As a result, using these automatic language generation techniques, they transform the source data into journalistic products in which human intervention has been minimal (**Carlson**, 2015) and narrated autonomously (**Montal**; **Reich**, 2017).

In the area of distribution and interaction, the contributions of algorithms are also increasingly valuable for the media. *Yle Finland* was one of the pioneering public service media (in 2014) to experiment with personalisation through its personalised news application, *Yle NewsWatch*, which has become a benchmark for the media as a whole. This tool collects data from three sources: "the user's active choices, the behaviour of other users and editorial decisions". In addition, it incorporated the first intelligent personal news assistant (*Voitto*) that displays news recommendations directly on the lock screen. *Voitto* has also helped publishers in the coverage of events such as municipal elections or *National Hockey League* (*NHL*) games (*Yleisradio*, 2018).

Along these lines, European public broadcasters joined forces in building a platform where they share their data science and personalisation tools. This *EBU PEACH* (personalisation for each) project operates diversified algorithms, through which it tries to expand the user's content catalogue (*EBU*, 2019). Content recommendation is also valuable in the specific case of young audiences, bringing them closer to the formats with which they feel most recognised and are most interested. This can help to address the loss of relevance of television and public media for them, which is accompanied by a historical decline in the consumption of these spaces.

Regarding disinformation caused by the proliferation of fake news, this is one of the main threats to the media system. For this reason, automated solutions are essential to solve or speed up part of the routine verification work carried out by journalists. In this sense, artificial intelligence makes it possible to track keywords, cross-check information and analyse large volumes of data in record time. This decision allows information professionals to focus on specific testing, monitoring or logistical tasks in which they provide greater value (**Fieiras-Ceide**; **Vaz-Álvarez**; **Túñez-López**; 2022).

1.2. Debates in the application of AI: provenance of systems, limitations and possibilities in PSM, social responsibility, costs and privacy

In the application of AI tools, the media must decide how they approach the implementation of intelligent systems. The first is to create an in-house algorithm, which involves not only a large financial outlay but also serious difficulties in finding qualified personnel in the market with the skills to build and manage an AI infrastructure. The second option is to go to the market in search of third-party products, which may not be ideal, especially in the case of public service media (PSMs), because of their specific content and data processing needs (**Rojas-Torrijos**, 2019).

The media have undergone a restructuring with the advent of the internet; new platforms such as cybermedia have appeared, and new actors such as 'hypertextuality, interactivity and multimedia have been added to the journalistic profile' (**Túñez-López**; **Toural-Bran**; **Valdiviezo-Abad**, 2019). One of the challenges of this new context is that AI applications replace, in addition to the routine part of journalistic work, its cognitive part. To exercise this algorithm, journalists must also put themselves on the side of the technology, getting used to thinking like a machine (**Lewis**; **Guzmán**; **Schmidt**, 2019).

A parallel discussion on the application of AI can be found in the field of PSMs. Traditionally, these media are constituted with the mandate to guarantee a series of rights, such as access to information, diversity and universality, among others (**Aslama-Horowitz**; **Nieminen**, 2017). For this reason, the application of intelligent tools that select, filter and distribute content is especially delicate, understanding that the principles governing these mechanisms must be aligned with the public service values committed to by corporations, avoiding the creation of filter bubbles or the omission of relevant information for the construction of a democratic society.

However, the high cost of AI technologies, both in terms of technical deployment and recruitment of talent, is a limitation for many PSM in some of their most demanding or customised applications. Privacy management, on the other hand, is a major challenge for PSM in the use of these technologies. The need for data by algorithms in the execution of their functions raises some issues for public media, the most contentious being the legitimacy of holding and using personal audience data in the generation of new products.

PSMs are constrained by the rules of the *General Data Protection Regulation* (in force since 25 May 2018), which, among other things,

> "provides for the extension of users' rights to protect personal information, including the right to be informed about the processing of their data and the right to be forgotten" (**Sørensen**; **Van-den-Bulck**, 2018).

This regulation, while necessary, arguably represents a significant competitive disadvantage vis-à-vis media giants that use personal data on a more regular basis through their subscription services.

In 2021, *Tortoise Media* updated its global AI index, through which it analysed how 62 countries apply and evolve with respect to this technology. Its study is based on three fundamental sections: investment, innovation and implementation. The United Kingdom, the leading European nation and number three in the world after the US and China, is the third-best rated in terms of talent, behind only the US and India. Spain ranks eleventh outside the top 10 leading regions in Europe. Despite this, Spain's governance strategy is the fourth highest rated by *Tortoise Media*.

Table 2. European AI ranking. Source: *Tortoise Media* (2021)

Country	Talent	Infrastructure	Operational environment	Research	Development	Government strategy	Commercial	Global ranking
1. United Kingdom	3rd	23rd	24th	5th	11th	11th	4th	3rd
2. The Netherlands	6th	9th	10th	15th	8th	33rd	18th	8th
3. Germany	11th	13th	30th	6th	12th	10th	8th	9th
4. France	9th	14th	17th	16th	15th	5th	10th	10th
5. Ireland	8th	5th	31th	28th	7th	25th	25th	12th
6. Finland	16th	22nd	18th	17th	20th	8th	21st	13th
7. Denmark	13th	18th	11th	13th	32nd	18th	26th	14th
8. Luxembourg	18th	3rd	33rd	23rd	17th	30th	20th	15th
9. Switzerland	14th	11th	54th	3rd	13th	58th	9th	18th
10. Sweden	10th	17th	34th	11th	22nd	47th	22nd	19th
11. Spain	21st	19th	23rd	26th	29th	4th	28th	21st

More recent research on AI follows in the wake of older, but pioneering work (including **Kim** *et al.*, 2007; **Matsumoto** *et al.*, 2007; **Van-Dalen**, 2012; **Clerwall**, 2014; **Edge**, 2014; **Karlsen**; **Stavelin**, 2014; **Napoli**, 2012; **Lecompte**, 2015; **Dörr**, 2016; **Graefe**, 2016; **Fanta**, 2017; **Hansen** *et al.*, 2017; **Lindén**, 2017; **Marconi**; **Siegman**, 2017).

Studies by **Diakapoulos** (2019) have explained how machine learning and data mining have changed investigative journalism. **Saurwein** (2019), for his part, values 'distributed responsibility' in the design and application of algorithms in recommendations, classification, content production or decision making. In addition, **Soffer** (2019) reflects on variations of intelligent personalisation in communication flow theories, and **Gran**, **Booth** and **Bucher** (2020) raise the debate on whether talking about algorithmic knowledge level can lead to talking about the digital divide.

Yanfang (2019) draws a comparison between human-written and machine-constructed news, assessing the perceived objectivity and credibility of both journalistic products and corroborates that the conclusions of **Clerwall**'s (2014) analysis still hold, and audience reactions do not detect significant differences between human-written and machine-constructed news.

While **Wu**, **Tandoc** and **Salmon** (2019) draw on Bourdieu's work to explore how automation generated by external companies can be applied to the news environment. In this regard, **Dierickx** (2019) points to the vital need to incorporate journalists from the first phase of automating news creation.

2. Materials and methods

This research is descriptive and exploratory, with a blinded hypothesis. We chose to use qualitative methods and conducted in-depth personal interviews with the directors of innovation, strategy and AI of the public broadcasters of Germany (*ARD* and *ZDF*); Belgium (*VRT* and *RTBF*); Denmark (*DR*); Spain (*RTVE*); Finland (*YLE*); France (*France TV*); Great Britain (*BBC*); the Netherlands (*NPO*); Ireland (*RTÉ*); Italy (*RAI*); Sweden (*SVT*); Switzerland (*RTS*); as well as members of the *EBU*, in Delphi mode and in two rounds.

A purposive convenience sample was selected and expanded through the 'snowball' methodology based on contacts shared by the interviewees, and a second consultation was carried out to refine aspects of the information collected.

We worked with a semi-structured questionnaire that never exceeded 12 questions and in which specific questions were included, depending on the corporation interviewed. The main blocks were the application of AI, relative weight of AI in their innovation strategy, and forecasts and future challenges with respect to this technology.

Forty contacts were made, and the sample was finally validated, in which PSM from the three media models described by **Hallin** and **Mancini** (2004) were represented. The final panel of 15 interviewees is described in table 3.

> The *BBC* has started experimenting with Object-based media, a new way of personalising content based on the user's situation

Table 3. Purposive convenience sample of the study

Abbreviation	Name	Corporation	Position
(AM/*RAI*)	Alberto Messina	*RAI*	R&D Director
(AJ/*EBU*)	Atte Jääskeläinen	*EBU*	Professor at *LUT University* and consultant at the *EBU*
(BV/*NPO/EBU*)	Bob Van de Velde	*NPO/EBU*	Head of Data and Archives at NPO; Co-Director of AI at *EBU*
(DC/*RTVE*)	David Corral	*RTVE*	Head of content innovation
(JF/*DR*)	Jakob Faarvang	*DR*	Digital Product Manager
(JK/*YLE*)	Jarno Koponen	*YLE*	Head of AI and perosnalisation
(JA/*BBC*)	Jatin Aythora	*BBC*	Chief Architect, responsible for AI
(JL/*SVT*)	Johan Linden	*SVT*	Strategy Director
(JB/*BR/ARD*)	Jonas Bedford	*BR/ARD*	Innovation Leader at Bayerischer Rundfunk
(KB/*FranceTV*)	Kati Bremme	*France TV*	Artificial Intelligence Vision Director
(LB/*RTS/EBU*)	Léonard Bouchet	*RTS/EBU*	Data and Archives Lead at *RTS*; Co-Director of AI at *EBU*
(LV/*RTBF*)	Loïc de Visscher	*RTBF*	Innovation Director
(MM/ *VRT*)	Mike Matton	*VRT*	Responsible for international innovation partnerships
(RW/*RTÉ*)	Richard Waghorn	*RTÉ*	Director of Operations, Technology and Transformation
(RA/*ZDF*)	Robert Amlung	*ZDF*	Digital Strategy Director

Table 4. Correspondence between corporations/**Hallin** and **Mancini** model (2004)

Polarised pluralist	Democratic corporatist	Liberal	Other
FranceTV (France) *RAI* (Italy) *RTVE* (Spain)	*ARD* (Germany) *DR* (Denmark) *NPO* (Netherlands) *RTBF* (Belgium) *RTS* (Switzerland) *SVT* (Sweden) *VRT* (Belgium) *YLE* (Finland) *ZDF* (Germany)	*BBC* (United Kingdom) *RTÉ* (Ireland)	*European Broadcasting Union* (*EBU*)

Thus, by models, the polarised pluralist model is represented by *RTVE*, *FranceTV* and *RAI*; the corporatist-democratic model is represented by *VRT*, *RTBF*, *DR*, *RTS*, *SVT*, *ZDF*, *ARD*, *NPO* and *YLE*; and the liberal model is represented by the *BBC* and *RTÉ*.

Interviews were conducted between April 2020 and February 2022 via *Skype*, *Zoom* and *Google Meetings* platforms, with an average duration of over 40 minutes. The first round of contact to the broadcasters' corporate email addresses began on 1 March 2020, with a subsequent fine tuning and personal contact with each of the professionals of interest. The transcription and translation of the material were carried out in parallel to its collection, whereas the analysis of the results began after this period.

Methodological triangulation was achieved through a scan of the scientific literature on the application of AI and the importance of innovation in PSM and a review of the websites and web platforms of the corporations contacted to contextualise the questions and verify the answers of the interviewees.

The objectives set out in the development of this article can be divided as follows:

- Main objective: To draw an overview of the status and use of AI technologies in European PSM.
- Secondary objectives: To identify the different sections and production processes in which AI is used in corporations and to expose the challenges perceived by the consulted media regarding the use and implementation of AI in their companies.

These objectives were achieved through the following research questions proposed in the construction of the article:

- What are the processes in which European PSM are applying and plan to apply AI?
- What are the problems and challenges faced by European PSM in using these technologies?
- How do European PSM see the future with the implementation of these technologies in their various departments?

3. Results

The results obtained reveal a diverse picture of the use of AI in PSM. Although this technology is applied in a cutting-edge way in a few cases, examples demonstrate innovative attitudes to the use of AI in the media sector. These examples are led, as is to be expected, by corporations with the biggest budgets.

The *BBC* has already started experimenting with the idea of 'object-based media', a new way of personalising content that considers the user's situation (geographical, postural, sensory) and automatically adapts content to different formats on demand. On a practical level, this can be understood through the following example: If you have a 15-minute walk to work every morning, you can ask the *BBC* app to summarise the main news of the morning in a podcast of that length (even narrating content that may have originally been conceived in text format); by contrast, if you commute 30 minutes on a train every day, you may be more interested in receiving that content in text format, audiovisual format, or a mix of both.

The *ARD* has already drawn a preliminary picture of the areas and operations in the corporation where AI will be applied. AI will play a leading role in content production, verification, recommendation, image recognition and even in internal operational aspects of the corporation through a novel strategy that even considers the use of these technologies for the calculation of its employees' bonuses.

In corporations as a whole, we can summarise the application of this technology in four different areas: production (news, automated production, metadata), content management (archive management, recommendations), verification and the extension of services (automatic translation of content, automatic subtitling for the accessibility of people with hearing disabilities).

No great homogeneity exists among European PSMs in terms of the specific software used, which reinforces the idea of AI as an ad hoc technology requiring a customised installation in each case, which is one of the reasons why it is highly costly and very difficult to scale. The case of AI is comparable to the use of internal management technologies in the field of broadcasting, which usually need customised technological solutions and not so often standard market products because of the particularities of their workflows and intranets.

In the following sections, the uses of AI in each of the European PSM that deal with these technologies in the exercise of their activities are described.

3.1. AI technology in European *PSM*

After analysing the 15 interviews with the 15 corporations and the *EBU* AI leaders, we confirmed that AI is a technology of great interest to corporations, constituting a relevant part of the innovation roadmap of European PSM.

Different interpretations of what AI means for these organisations are identified. Some of them, such as the *ZDF*, reject the term 'artificial intelligence' and opt for 'machine intelligence', given that, in their opinion, the procedures that generate value in this technology do not follow the usual patterns of the human mind.

All the corporations agree that AI has enormous potential that they are still beginning to understand and implement and are, therefore, still in what we could consider to be the first phase of experimentation. This phase is characterised by the proliferation of a multitude of pilot projects, but without scalable productions or with little strategic approach. However, considerable progress is expected in the short term. In the words of Alberto Messina, *RAI* Italy's director of development and innovation, they hope to 'reduce the amount of effort needed to produce certain content or create better content with the same effort'.

According to the results obtained, the prototyping and testing of AI tools are costly and complex, so inter-corporate collaborations are frequent, with private companies and start-ups, and in the case of PSM, with the *EBU* as a meeting point. Among the uses that public broadcasters make of this technology, the management of the corporations' internal archives and the metadata of the content hosted there stand out. This is seen as fundamental by all the professionals interviewed and is considered a first step in speeding up the distribution and creation of new products. Work on the accessibility of content, with automated subtitles as the protagonist, was another issue on which the corporations consulted were in agreement.

The general view in corporations is that misinformation is a long-lasting, complex problem against which the human factor will need to be applied. AI by itself is not expected to be sufficient to counteract the crisis of trust that PSM are going through, but it is projected as an enabler of verification at different stages of information production.

Among the challenges facing professionals in the application of AI is overcoming the cultural barrier to the technology. Although the perception of AI in newsrooms is beginning to show a positive trend, some reticence occurs, especially in corporations with a more traditional structure, regarding the use and presence of these technologies in certain processes. The internal reading that corporations make in this respect reveals two factors: on the one hand, the fear of professionals to hand over certain responsibilities that could lead to an eventual replacement of their functions, and on the other hand, the lack of technical knowledge, which distances the most experienced workers from potential new production processes.

Corporations such as *France TV* conduct AI literacy sessions with their employees with the aim of bringing their staff closer to the sensitivities and possibilities of these technologies, with a special emphasis on the complementary nature of AI in newsroom work. In other words, they seek to project the presence of these technologies as an opportunity for journalists to focus their time on the creative and reflective aspects of their work, eliminating the more tedious and mechanical aspects.

3.2. Specific uses of AI in European public broadcasters

Below are three tables of results showing the areas in which each European public broadcaster consistently applies AI. The corporations are grouped in the tables according to the media system, following Hallin and Mancini's paradigm. The most common processes where AI is used are in algorithmic recommendation engines, content creation, content accessibility, metadata and indexing, verification and audience interaction.

A number of common concerns are recognised among the corporations that merit future monitoring of their progress and impact. These include the difficulty of locating experienced professionals in the use of artificial intelligence in the media, which is coupled with the complexity of training their own employees. This issue, together with the high costs of implementing the systems, limits in many cases the implementation of intelligent solutions. Another issue that deserves to be monitored is the capacity of media organisations to develop large-scale AI projects within their structures and their capacity to adapt them to their specific needs, as ready-made applications often fail to fulfil the corporations' specific needs.

Table 5. Specific uses of artificial intelligence in polarised pluralist model corporations

Corporation	Application of artificial intelligence in polarised pluralist model televisions
RAI (Italy)	- Experimentation with *natural language processing* (NLP), *computer vision* and visual information analysis. - They work on content accessibility and automatic subtitling and in automatic voice recognition in news transcription, information retrieval and automatic recommendation of news material. - Data collection, cleaning and display (example: femicide project). - Automatic recommendation by algorithm.
RTVE (Spain)	- Subtitling of news programmes in regional languages. - Facial and voice recognition for metadata generation, both for cataloguing the archive and for new content (transcription of press conferences identifying interlocutors). - Intelligent realisation using a single camera to enable and improve the quality of certain broadcasts. - Automatic news generation with *Narrativa* and *EFE*.
FranceTV (France)	- Indexing. Speech to text and image recognition to add more and faster index content. - Automatic creation of articles in the newsroom on parties, electoral processes or the weather. - Creation of automatic football videos for broadcasting on social networks. - Recommendation algorithm.

Table 6. Specific uses of artificial intelligence in corporations in the democratic corporatist model

Corporation	Application of artificial intelligence in democratic corporatist model television stations
VRT (Belgium)	- Subtitling using the speech recognition engine. - AI-based recommendation engine. - Chatbots for audience interaction. - Tools for news verification. - Real-time sports statistics (provided by suppliers)
RTBF (Belgium)	- Automatic tagging of metadata for the archive and new content. - Analysis of the post-production process. - Conceptual evidence of content summaries and highlights. - Small projects with start-ups - Content recommendation.
SVT (Sweden)	- Creation of graphic solutions. - Creation of journalistic content. - Content recommendation algorithm.
DR (Denmark)	- Machine learning for personalisation. - Analytical systems, also for customisation. - Metadata generation (with *Media Distillery*)
NPO (Netherlands)	- Live subtitles, real-time translation. - Use of AI throughout the media chain (production, aggregation and dissemination). - Metadata generation. - Analysis of usage data and user data. - Creative applications (e.g. music, lyrics). - Automatic generation of trailers and promos. - Experiments generating sports news and election results from structured data. - Search for information in large databases by means of automatic searches.
YLE (Finland)	They divide AI innovation into four areas: 1. Understanding of content, data and metadata. 2. Content creation with smart tools. 3. Content distribution and personalisation. 4. Analysis. -They are also creating metadata to use systems that can recognise images. -They experiment with content creation using automated systems that generate images and illustrations.
ZDF (Germany)	-*Machine learning* (not used to generate automatic content, such as texts). -Video analysis or machine translation.
RTS (Switzerland)	- Generation of metadata and searching of the archive through it. - Voice recognition. - Creation of customised classifiers.
ARD (Germany)	- Creation of texts from regional data. - Verification. - Transcription and automation of routine tasks. - Image and text recognition for metadata and file enlargement. - Algorithmic recommender systems. - In the near future: AI strategic plan to automate administrative operations (e.g. calculation of workers' capital gains).

Table 7. Specific uses of artificial intelligence in corporations in the liberal model

Corporation	Application of artificial intelligence in liberal model televisions
BBC (UK)	- Content recommendation. - Ethical dimension of AI. - Partnerships with other entities against disinformation. - Implementation of AI machine learning for journalistic work. - Small specific tests in audiovisual content creation but no large-scale or chain creation. - In the future: object-based media (automation of the production of flexible multi-platform content personalised to the user's personal situation).
RTÉ (Ireland)	- Microsoft indexer for content indexing. - Creation of metadata. - *Machine learning* for automatic database analysis.

The PSMs agree in highlighting the value of AI in the management of their archives, opening up the possibility of turning it into a 'live' system capable of retrieving information more efficiently and in turn feeding the archive with new content generated from previous ones. In some cases, this is done by applying facial or voice recognition systems based on AI that manage to tag the contents (identification of people, interlocutors, contents and themes), making them more easily identifiable and retrievable. Despite this consensus on the usefulness of the technology, most corporations have not catalogued, classified or tagged their archives with metadata, making them difficult to access and disorganised. The Swiss *RTS*, in particular, not only performs speech-to-text transcription but also manages to differentiate between male and female voices.

> "We work with various facial or voice recognition applications to preserve the archive, the only way to keep it alive is to catalogue it through metadata. These tools are made in collaboration with the *EBU*, they are very expensive tools, and it is necessary to unify resources" (DC/*RTVE*).

> "We have several tools that we are pioneering. I think we have the only metadata video archive in the world" (LB/*RTS*).

Accessibility of content is another priority issue for European public broadcasters. AI is useful in bringing content closer to people with limitations, for example, hearing impairments and through automatic subtitling with voice recognition and transcription systems. Such real-time AI systems are becoming increasingly common, and in corporations such as VRT, it was the first AI tool to be integrated into content.

> "We use AI for subtitling in the different languages recognised by the State, in the news, for example" (DC/*RTVE*).

> "The first area where we applied AI was in subtitling, the speech recognition engine has been with us for more than 10 years and, for a long time, it was the only resource where we used machine learning. Now, we are also using it in chatbots and verification systems" (MM/*VRT*).

> "On one of our channels, where we cover all the debates, we do real-time subtitles. This is based on an AI system that understands the speech, translates it into text and even translates it live" (BV/*NPO*).

The perception of European public broadcasters using AI is that they are able to expand their content coverage while improving the quality of their content. *RTVE*, for example, is working on the implementation of a smart camera system that will allow it to produce live coverage with a single device. For its part, the *BBC* has tried creative alternatives and has even tried important management tasks, such as the automated direction of the programming and content of one of its channels.

> Big advances expected by corporations are related to the technical side, with specific tools that allow them to be more efficient and increase the quality of specific tasks

> "We are applying AI in camera systems. When you can't move a whole team, if one camera can provide intelligent live production with different shots, it allows us to extend our coverage" (DC/*RTVE*).

> "Last year, we ran *BBC Channel 4* entirely powered by AI, we ran programming and content successfully because of it. We have a lot of specific use cases, but we don't have large-scale production cases yet" (JA/*BBC*).

In terms of their relationship with their audience, PSMs also take advantage of the benefits of AI, both in their interactions with the audience through chatbots and in the personalisation of their content offer. Algorithmic recommendation systems are one of the solutions that European public broadcasters apply to bring relevant products to the user and thus fulfil one of their public service missions. However, Atte Jääskeläinen (*EBU*) explained that private broadcasters are much more advanced in these services.

> "Digitalisation has brought about major changes. There is now a lot more information, so personalisation can channel the situation and offer relevant content for the user and add value to the public service. Still, private media are ahead of PSM. While public corporations worked cautiously trying not to make mistakes, *Google*, *Facebook* and *Twitter* have developed high-quality services" (AJ/*EBU*).

3.3. Future prospects and challenges for European *PSM* in relation to AI

The main challenge for European PSMs lies in the learning and deep cultural implementation of the technologies to exploit the benefits of the technology while analysing and managing the various problems (workflow, corporate culture, organisation and professional profiles and ethics) that may arise from its use.

In the field of verification, deepfake, through which a speech or image of a character can be synthetically falsified, is another of the great challenges identified by corporations in the use of AI. *RAI* proposes that this can be used constructively to revive characters from the past, for example.

> "An interesting topic is deepfake. It is dangerous if it is used to make things appear to be what they are not, but it is already being used in the reconstruction of characters from the past" (AM/*RAI*).

Another common forecast is the creation of mixed human-machine teams, so that their correct adaptation will give added value to the entire product development chain. This also responds to a prophylactic need to always supervise and accompany the activity of machines with the presence and editorial criteria of human professionals, as specified in the AI white paper published by the *European Commission* in 2020.

> "With AI, we will be more creative to be able to target different audiences in the perfect way with the right programme, but all those tasks should be done hand in hand with humans. Not just robots, and not just people, really working together creates something useful and valuable" (KB/*France TV*).

Big advances expected by corporations are related to the technical side, with specific tools that allow them to be more efficient and increase the quality of specific tasks. These algorithms and systems affect all phases of the production chain until they reach a point where AI generates parts of their content. For the moment, many of them have only worked on prototypes and proofs of concept, but the results are positive, and their intention is to continue innovating with AI as the main actor.

> "Editing systems will have artificial intelligence plugins to enhance the image; or in distribution, we will have technologies that can encode our content more intelligently and find the right files for the end user. All of that is done with algorithms" (BV/*NPO*).

> "We explore AI solutions to generate some summary, some highlights, in short, to generate new content. At the moment, what we are doing is testing conceptual projects. I think in 5 years, it is possible that AI will generate some parts of our content" (LV/*RTBF*).

Among the challenges that European PSM identify in the implementation of AI, the cultural barrier to technology and the ethical dimension, privacy and management of user data, especially relevant in the field of public service, stand out among the challenges that European PSM identify in the implementation of AI.

Many journalists still fear that this new technology will replace them in their jobs. Along this line, corporations are trying to communicate that machines will only replace people in routine tasks in which the contribution of human value is not essential to be able to devote their efforts and time to creative areas that are fundamental to the final result. *France TV* is emphasising this point by organising sessions to make its journalists aware of the advantages that AI will bring to them.

> "We create automated content from structured data, but it's complicated. Journalists are afraid of having their work taken away from them, so we do sessions to explain to them that AI will do the stupid tasks so they can focus on doing the smart ones" (KB/*France TV*).

> "We are working on how public service broadcasters should be cautious in their use of data and privacy management. We have guidelines and principles that we adhere to every time we develop any kind of machine learning or AI" (JA/*BBC*).

PSMs are concerned about building mixed teams because they cannot find professionals specialised in building smart technologies. This is partly due to the lack of economic incentives in the public sector compared to the supply and economic resources that exist in the private sector. This makes it very difficult to incorporate new professional profiles and, therefore, to renew the internal culture of companies and the implementation of innovative technological initiatives.

Another challenge is funding. Public service broadcasters stress that they must claim and strengthen their relevance and the trust of the audience to avoid falling into a delegitimisation that would compromise their future survival. In the short term, AI can play an important role in this sense, given that the strategic decision for corporations to be mediated by external technology for budgetary reasons can generate problems in the medium term, not only because this would mean being dependent on third-party technology but also because it implies a de facto lack of control and capacity for the specific design of this technology for public service use. Against this background, whether to opt for in-house technological development or for a mixed solution may mark the future of corporations.

> We can summarise the application of AI in four areas: production, content management, verification and the extension of services

> "One of the challenges is to defend the relevance of public service media for generations to come. This goes hand in hand with the challenge of funding: if we are relevant it will be more difficult to make cuts, if we are not, they will. The main challenge is trust, adaptability, resilience, adaptability, and I think we still have a lot to learn in that respect" (LB/*RTS*).

> "I think the biggest challenge is people. There is strategic scenario planning from which we conclude that if nothing is done with AI, our services will be very irrelevant in the future. There are 3 possible scenarios: our service will be mediated by the internet technology giants, in that context our services and values will not be relevant; we focus only on our own services, without being mediated, so we would need huge expertise; the third is that we do nothing, and if we do this we will have no idea whether our services would still be relevant" (JA/*BBC*).

All corporations understand AI as a cross-cutting issue. In fact, this position is expected to be maintained in the future, as the creation of dedicated AI teams is generally not considered essential. However, AI-related proposals are commonly worked on in multidepartmental innovation labs.

> "Firstly, I don't think there will be an AI learning department. I think AI will be the culture of all our engineering activities at the *BBC*. Secondly, I think the focus for us will be more on training models, on ensuring knowledge of the technology, and then on the services that can be offered on top of them" (JA/*BBC*).

> "We have no innovation or AI department. Nor will we have either in five years' time. As I said at the beginning, they really need to be in all parts of the company. We need to make the whole company more flexible to be able to not only produce good linear products and some add-ons. Really the core of the company has to be able to adapt to digital, to be able to innovate, to be an agile organisation using the AI tool" (RA/*ZDF*).

4. Discussion and conclusions

AI is identified as the technological proposal par excellence to which European public broadcasters are turning and plan to turn in the near future. Some of them, such as *ZDF*, have decided to use an alternative term (machine intelligence) because of the differences between their procedures and those of the human mind. None of the corporations, except Finland's *YLE*, have specific departments dedicated to AI, nor do they plan to incorporate it in the near future. Even so, all corporations consider it a cross-cutting element across all departments and employees, and a large number of them are already experimenting with its future applications in their respective innovation labs. In the coming years, it will be key to analyse whether AI management and development becomes independent in new departments or is integrated transversally into already existing sections.

Comparing the budgetary capacity of the different corporations with their interest in and deployment of AI, we can see that the size of these PSM is of relative but not decisive importance. The *ARD* and the *BBC*, with the two largest budgets in the sample analysed, are, at the same time, the corporations with the greatest foresight and ambition (at least, and at this stage, at a theoretical level) regarding the use of these technologies. However, other media, such as the Swiss *RTS* or the Finnish *YLE*, with moderate budgets, have some of the most advanced technologies, particularly in archive management and automated news production, respectively. However, it is not yet clear whether talent will be enough to accomplish successful results in the application of AI, or if the biggest differences will be marked almost exclusively by the corporations' financial resources.

Corporations have been intentionally grouped according to the media system models proposed by Hallin and Mancini, with the intention of testing for the presence of any relationship between this classification and the perceived uses and challenges of AI, particularly those referring to corporate culture and uses that may have a deeper ethical dimension. At this level, no notable differences were observed. Hence, we can understand, at least preliminarily, that the application of AI is not directly influenced by the political particularities of each region and media system.

Expectations for this technology are high, yet European public broadcasters are still in the early stages of experimentation and implementation, with various projects, more of a voyeuristic attitude than a firm strategic approach, and no large-scale proposals. The PSMs agree that developing prototypes based on AI is costly and complex. Therefore, they resort to cooperation with other media, private companies, start-ups, universities or the *EBU*.

In terms of applications that are currently recognised, tools for the automatic creation of simple content from structured data, intelligent audiovisual production of programmes, those related to improving interaction with the audience through chatbots, the generation of summaries, the personalisation and recommendation of content and the verification and fight against fake news stand out.

The weight and importance given to the generation of metadata to keep their archives alive, considered the heritage of their respective countries, gains relevance through the interviews. The need to broaden access to content, particularly with the expansion of their competences and public service duties in using this technology to reach new groups of people or to facilitate consumption and reception for population groups with greater difficulties, is also a major consideration.

> Corporations are still in a first phase of experimentation characterised by a proliferation of pilot experiences

Corporate practitioners do not believe that AI will be sufficient to counter the crisis of trust in PSM, or at least that this solution will not come simply through technology, but will inevitably have to be accompanied by an extensive exercise in public education and media literacy.

> Corporations recognise the difficulty of locating professionals with experience in the use of AI in the media, coupled with the complexity of training their own employees

Some corporations with more traditional schemes or a lower incidence of AI in their media and technology ecosystems also face a greater challenge: overcoming the cultural barrier to technology, maintaining audience trust, surviving budget cuts and managing data, privacy and the ethical dimension of everything related to AI.

In terms of future forecasts, PSMs agree on the need to make their structures more flexible, on the construction of journalistic profiles that are more technologically trained, on the growing relative weight that Video On Demand platforms will have in their companies and on the generational differences that will be recognised in these changes. This fact opens up a discussion and a larger question: Should PSM, also to looking for ways to reach young audiences, also look for ways to rejuvenate themselves from within? At the intersection of AI, journalism and public media, the professional profiles that dominate these fields are scarce and often beyond the hiring capabilities of corporations.

Furthermore, changes are expected in the relationship with its audience; a new two-way relationship in which the suggestions of users and for which chatbots can play a leading role must be considered.

Finally, the challenges that European public broadcasters expect to face in the coming years are linked to technological re-adaptation, budget cuts, cultural barriers within and outside the organisations, maintaining the trust and attention of audiences and, in short, maintaining their capacity for innovation.

In this sense, in line with the current deployment of IA in European media public corporations, we can determine that it has a long, multidimensional and polyvalent path in these corporations, solving part of the difficulties related to operability and efficiency, but which promises to add important challenges in the cultural, budgetary and aptitudinal aspects of the different corporations.

5. References

Anderson, Christopher W. (2013). "Towards a sociology of computational and algorithmic journalism". *New media and society*, v. 15, n. 7, pp. 1005-1021.
https://doi.org/10.1177/1461444812465137

Aslama-Horowitz, Minna; **Nieminen, Hannu** (2017). "Diversity and rights. Connecting media reform and public service media". *Scientific journal of information and communication*, v. 14, pp. 99-119.
http://icjournal-ojs.org/index.php/IC-Journal/article/view/385/341

Carlson, Matt (2015). "The robotic reporter: Automated journalism and the redefinition of labor, compositional forms, and journalistic authority". *Digital journalism*, v. 3, n. 3, pp. 416-431.
https://www.tandfonline.com/doi/abs/10.1080/21670811.2014.976412

Clerwall, Christer (2014). "Enter the robot journalist. Users' perceptions of automated content". *Journalism practice*, v. 8, n. 5, pp. 519-531.
https://doi.org/10.1080/17512786.2014.883116

Diakopoulos, Nicholas (2019). *Automating the news. How algorithms are rewriting the media*. London, UK: Harvard University Press. ISBN: 978 0 674976986

Dierickx, Laurence (2019). "Information automatisée et nouveaux acteurs des processus journalistiques". *Sur le journalisme*, v. 8, n. 2.
https://doi.org/10.25200/SLJ.v8.n2.2019.408

Dörr, Konstantin-Nicholas (2016). "Mapping the field of algorithm, journalism". *Digital journalism*, v. 4, n. 6, pp. 700-722.
https://doi.org/10.1080/21670811.2015.1096748

Edge, Abigail (2014). "Ophan: Key metrics informing editorial at The Guardian". *Journalism.co.uk*, 2 December.
https://www.journalism.co.uk/news/how-ophan-offers-bespoke-data-to-inform-content-at-the-guardian/s2/a563349

Fanta, Alexander (2017). *Putting Europe's robots on the map: Automated journalism in news agencies*. University of Oxford; Reuters Institute for the Study of Journalism.
https://goo.gl/wBfuQs

Fieiras-Ceide, César; **Vaz-Álvarez, Martín**; **Túñez-López, Miguel** (2022). "Verificación automatizada de contenidos en las radiotelevisiones públicas europeas: Primeras aproximaciones al uso de la inteligencia artificial". *Redmarka. Revista de marketing aplicado*, v. 26, n. 1, pp. 36-51.
https://doi.org/10.17979/redma.2022.26.1.8932

Graefe, Andreas (2016). *Guide to automated journalism*. Broadway, USA: Columbia Tow Center for Digital Journalism.
https://doi.org/10.7916/D80G3XDJ

Gran, Anne-Britt; **Booth, Peter**; **Bucher, Taina** (2020). "To be or not to be algorithm aware: A question of a new digital divide?" *Information, communication & society*, v. 24, n. 12, pp. 1779-1796.
https://doi.org/10.1080/1369118X.2020.1736124

Hallin, Daniel C.; **Mancini, Paolo** (2004). *Comparing media systems: three models of media and politics*. Cambridge, UK: Cambridge University Press. ISBN: 978 0 511790867
https://doi.org/10.1017/CBO9780511790867

Hansen, Mark; **Roca-Sales, Maritxell**; **Keegan, Jonathan M.**; **King, George** (2017). *Artificial intelligence: Practice and implications for journalism*. New York: Tow Center for Digital Journalism; Brown Institute for Media Innovation.
https://doi.org/10.7916/D8X92PRD

Karlsen, Joakim; **Stavelin, Eirik** (2014). "Computational journalism in Norwegian newsrooms". *Journalism practice*, v. 8, n. 1, pp. 34-48.
https://doi.org/10.1080/17512786.2013.813190

Kim, Jong-Hwan; **Lee, Kang-Hee**; **Kim, Yong-Duk**; **Kuppuswamy, Naveen-Suresh**; **Jo, Jun** (2007). "Ubiquitous robot: A new paradigm for integrated services". In: 2007 *IEEE International conference on robotics and automation*, pp. 2853-2858.
https://doi.org/10.1109/ROBOT.2007.363904

Lecompte, Celeste (2015). "Automation in the newsroom". *Nieman reports*, 1 September.
http://niemanreports.org/articles/automation-in-the-newsroom

Lewis, Seth C.; **Guzman, Andrea L.**; **Schmidt, Thomas R.** (2019). "Automation, journalism, and human-machine communication: Rethinking roles and relationships of humans and machines in news". *Digital journalism*, v. 7, n. 4, pp. 409-427.
https://doi.org/10.1080/21670811.2019.1577147

Lindén, Carl-Gustav (2017). "Algorithms for journalism: The future of news work". *The journal of media innovations*, v. 4, n. 1, pp. 60-76.
https://doi.org/10.5617/jmi.v4i1.2420

Marconi, Francesco; **Siegman, Alex** (2017). *The future of augmented journalism: A guide for newsrooms in the age of smart machines.*
https://www.ap.org/assets/files/2017_ai_guide.pdf

Matsumoto, Rie; **Nakayama, Hideki**; **Harada, Tatsuya**; **Kuniyoshi, Yasuo** (2007). "Journalist robot: Robot system making news articles from real world". In: 2007 *IEEE International conference on robotics and automation*, pp. 1234-1241.
https://doi.org/10.1109/IROS.2007.4399598

Montal, Tal; **Reich, Zvi** (2017). "I, robot. You, journalist. Who is the author? Authorship, bylines and full disclosure in automated journalism". *Digital journalism*, v. 5, n. 7, pp. 829-849.
https://doi.org/10.1080/21670811.2016.1209083

Napoli, Philip M. (2012). "Audience evolution and the future of audience research". *International journal on media management*, v. 14, n. 2, pp. 79-97.
https://doi.org/10.1080/14241277.2012.675753

Oremus, Will (2015). *No more pencils, no more books*. Slate. New Mexico: Public Service Aliance.
http://publicservicesalliance.org/wp-content/uploads/2015/10/Adaptive-learning-software-is-replacing-textbooks-and-upending-American-education.-Should-we-welcome-it.pdf

Rojas-Torrijos, José-Luis (2019). "La automatización en las coberturas deportivas. Estudio de caso del bot creado por The Washington Post durante los JJ.OO. de Río 2016 y Pyeongchang, 2018". *Revista latina de comunicación social*, n. 74, pp. 1729-1747.
https://doi.org/10.4185/RLCS-2019-1407

Saurwein, Florian (2019). "Emerging structures of control for algorithms on the Internet". In: Eberwein, Tobias; Fengler, Susanne; Karmasin, Matthias. *Media accountability in the era of post-truth politics. European challenges and perspectives*. Abingdon, UK: Routledge. ISBN: 978 1 351115780

Sirén-Heikel, Stefanie; **Leppänen, Leo**; **Lindén, Carl-Gustav**; **Bäck, Asta** (2019). "Unboxing news automation: Exploring imagined affordances of automation in news journalism". *Nordic journal of media studies*, v. 1, n. 1, pp. 47-66.
https://doi.org/10.2478/njms-2019-0004

Soffer, Oren (2019). "Algorithmic personalization and the two-step flow of communication". *Communication theory*, v. 31, n. 3, pp. 297-315.
https://doi.org/10.1093/ct/qtz008

Sørensen, Jannick-Kirk; **Van-den-Bulck, Hilde** (2018). "Public service media online, advertising and the third-party user data business: A trade versus trust dilemma?". *Convergence: The international journal of research into new media technologies*, v. 26, n. 2, pp. 421-447.
https://doi.org/10.1177/1354856518790203

Tortoise Media (2021). *The global AI index*. London: Tortoise Media.
https://www.tortoisemedia.com/intelligence/global-ai

Túñez-López, José-Miguel; **Toural-Bran, Carlos**; **Frazão-Nogueira, Ana-Gabriela** (2020) "From data journalism to robotic journalism: The automation of news processing". In: Vázquez-Herrero, Jorge; Direito-Rebollal, Sabela; Silva-Rodríguez, Alba; López-García, Xosé. *Journalistic metamorphosis. Studies in big data*, v. 70. Springer, Cham.
https://doi.org/10.1007/978-3-030-36315-4_2

Túñez-López, José-Miguel; **Toural-Bran, Carlos**; **Valdiviezo-Abad, Cesibel** (2019). "Automation, bots and algorithms in newsmaking. Impact and quality of artificial journalism". *Revista latina de comunicación social*, n. 74, pp. 1411-1433.
https://doi.org/10.4185/RLCS-2019-1391en

UER (2019). *EBU news report 2019. The next newsroom: unloking the power of AI for public service journalism*. Geneva: EBU, European Broadcasting Union.
https://www.ebu.ch/publications/strategic/login_only/report/news-report-2019

Ufarte-Ruiz, María-José; **Manfredi-Sánchez, Juan-Luis** (2019). "Algoritmos y bots aplicados al periodismo. El caso de Narrativa Inteligencia Artificial: estructura, producción y calidad informativa". *Doxa comunicación*, n. 29, pp. 213-233.
https://doi.org/10.31921/doxacom.n29a11

Van-Dalen, Arjen (2012). "The algorithms behind the headlines". *Journalism practice*, v. 6, n. 5-6, pp. 648-658.
https://doi.org/10.1080/17512786.2012.667268

Wu, Shangyuan; **Tandoc, Edson C.**; **Salmon, Charles T.** (2019). "A field analysis of journalism in the automation age: understanding journalistic transformations and struggles through structure and agency". *Digital journalism*, v. 7, n. 4, pp. 428-446.
https://doi.org/10.1080/21670811.2019.1620112

Yanfang, Wu (2020). "Is automated journalistic writing less biased? An experimental test of auto-written and human-written news stories". *Journalism practice*, v. 14, n. 8, pp. 1008-1028.
https://doi.org/10.1080/17512786.2019.1682940

Yleisradio (2018). *The first of its kind in the world: Yle NewsWatch's smart Voitto assistant shows recommendations directly on the lock screen*. Helsinki: Yle.
https://yle.fi/aihe/artikkeli/2018/10/12/the-first-of-its-kind-in-the-world-yle-newswatchs-smart-voitto-assistant-shows

Early career researchers in the pandemic-fashioned 'new scholarly normality': voices from the research frontline

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Abstract
After two-years of talking to around 170 early career science/social science researchers from China, France, Malaysia, Poland, Russia, Spain, UK and US about their work life and scholarly communications during the pandemic, the *Harbingers-2* project is in possession of a mountain of verbatim data. The purpose of this paper is to highlight the kinds of comments ECRs are raising, with a focus on those that provide a particular interesting and illuminating take on ECRs' experiences under difficult times. Comments, for instance, that might challenge the established order of things or that presage big changes down the line. The selection of comments presented here were made by the national interviewers shortly after the completion of the last of three rounds of interviews (two interviews in the case of Russia). The understandings, appreciations and suggestions thus raised by the ECRs are insightful and constructive, which is what we might have expected from this cohort who are very much at the forefront of the research enterprise and veritable research workhorses. Sixteen broad scholarly topics are represented by quotes/comments, with the main focus of the comments on a subset of these: research performance and assessment, scholarly communication transformations, networking and collaboration, social media and access to information/libraries, which suggests, perhaps, where the action, concerns and interest mainly lie.

Keywords
Research; Scholarly communication; Early career researchers; ECR; Pandemics; COVID-19; Harbingers project; Impacts; Pandemic consequences; Interviews; Resilience; Country differences; China; France; Malaysia; Poland; Russia; Spain; UK, United Kingdom; US; United States.

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1. Introduction
This paper constitutes a companion to the recently published paper on the impacts of the pandemic on early career researchers (**Nicholas** *et al.*, 2022). It is complementary in that it looks at the same data, but this time bottom-up rather than top-down. Thus, it is populated by quotes and paraphrases of individual ECRs, rather than the summations of individual national reviewers, focuses not so much on broad impacts as on the voices of individual ECRs, and it is organised by scholarly topic rather than by country. Taken together, the two papers provide a rounded picture of ECRs during the time of the pandemic.

For the 'impact' paper, we asked the national interviewers to tell us what they thought were the biggest and most long-lasting impacts of the pandemic on the basis of the reading of their own ECRs' findings. The main conclusion of this comparative exercise, the biggest impact identified, was that the pandemic had fast-tracked researchers to a virtual and remotely-operated scholarly world, with all the advantages and disadvantages that this state of affairs entailed. As it can be argued that the impacts identified were thus rather widely trailed, we decided to take a bottom-up, more personal approach to the data, which would highlight more its topical individuality and help look for signs of change or interest at a more micro-level.

2. Aims and rationale

Seeking to round out the 'big' picture emerging from the aforementioned 'impacts' paper by presenting micro-level data, the national interviewers were tasked with identifying individual comments, which furnished an illuminating, different or interesting take on ECRs' work life and scholarly communications, and, perhaps, represented an attack on the ways things are currently undertaken by the junior research community. The overarching aim of the paper, then, is to provide an annotated, topic-based selection of the most insightful comments provided by ECRs when they were asked about their work-life and scholarly communications in pandemic-times. The secondary aim is to ground the findings of the 'impact' companion paper with empirical evidence.

3. Background

The *Harbinger-2* project constitutes a two-year extension [2020-2022] to the original, four-year [2016–2019], longitudinal *Harbingers-1* research project[1], which explored the working lives and scholarly communication attitudes/behaviour of 116 junior science and social science researchers in eight countries [China, France, Malaysia, Poland, Russia, Spain, UK and US]. *Harbingers-2* enabled the investigation to continue studying change at a time when the far-reaching effects of the pandemic seemed to have brought about unprecedented and sudden change in scholars' circumstances, too. In *Harbingers-2*, as well, the data are drawn from the aforementioned eight countries, but this time covering more ECRs (177 at the start of the project) and strengthening the representation of disciplines in the pandemic frontline, such as medicine, economics and psychology. The project is coming to an end (October 2022) and the main data collection is complete with the third of three, repeat, semi-directed interviews of around 75–120 minutes in duration having been recently undertaken. The analysis of the mountain of data obtained in the interviews, whilst already underway, will take time, but the overarching impacts and themes emerging from the vast body of information that we have are already clear, as this paper will show on the basis of the voices of ECRs from all around the world.

4. Methodology and data analysis[2]

The findings reported here are based upon data arising from 3 rounds of repeat interviews, held at 6-monthly intervals over two years. ECRs were recruited by the eight national interviewers, utilizing their local networks and connections, with numbers supplemented by mail-outs from scholarly publisher lists. Each national interviewer was provided with a quota of interviewees in order to achieve representativeness from age, gender and subject point of view, and to ensure that the demographics of national samples are as similar as possible. The recruiting target was between 20 and 24 interviewees per country. The project began with 177 ECRs and finished with 167.

The interview schedule[3] contained 54 questions, a mix of closed, open and hybrid ones, covering a wide range of topics: the impact of the pandemic on ECRs' job, status, career aims, assessment, research directions and working life, as well as their views of transformations yet to come in the scholarly enterprise. Essentially, it was an open-ended conversation, guided and punctuated by more direct questioning [i.e., semi-directed], conducted remotely over *Zoom* and similar platforms [because of the pandemic], typically in each ECR's national language. The interviews, 75–120 min in duration, were recorded, with the transcripts returned to ECRs to ensure agreement and to obtain further clarity. Following the ECRs' approval of the interview transcript, a summary was prepared by national interviewers and for this paper the quotes and/or paraphrases of the ECRs' responses entered in these summaries are utilized, occasionally also the observations or insights provided by the national interviewers. More details of the methodology can be found in the companion paper (**Nicholas** *et al.*, 2022) and on the project website:
http://ciber-research.com/harbingers-2

5. Literature review

The magnitude of the disruptive effects of the COVID-19 pandemic on the scholarly enterprise posed unprecedented challenges to early career researchers, as indicated by the extensive, literature-based exploration of their circumstances, published in this journal (**Herman** *et al.*, 2021), and by the recent update in the companion paper to this article (**Nicholas** *et al.*, 2022). Indeed, if ECR life has forever been fraught with the characteristic precarity that renders it a particularly trying experience, it became much more so in the critical days of the truly unparalleled uncertainty of the pandemic. It is perhaps not very surprising then to find that junior researchers,

The magnitude of the disruptive effects of the COVID-19 pandemic on the scholarly enterprise posed unprecedented challenges to early career researchers. If their life has forever been fraught with the characteristic precarity that renders it a particularly trying experience, it became much more so in the critical days of the truly unparalleled uncertainty of the pandemic

having been somewhat neglected in the preceding years (**Nicholas** *et al.*, 2020), became a hot topic during the virus-induced crisis, with the discussions of their fate spurred on by the 'horror scenario' of their turning into a lost generation. Interestingly, though, with all that the cohort was thus very much in the limelight, with a host of scientific studies, expert forecasts and anecdotal accounts centring upon their experiences and predicting their scholarly future, to the best of our knowledge no study attempted to bring their authentic voices in a comprehensive, organised and systematic fashion, certainly not from an international angle, leaving a gap that we set out to fill here.

Thus, ECRs' first-hand testimonies as to how they have been faring during the pandemic are based on two main categories of sources:

1. Direct quotes brought about as supporting evidence in empirical studies;
2. Anecdotal evidence, reported verbatim, as published personal accounts.

5.1. Direct quotes

Evidence in the form of direct quotes is often cited in studies reporting pandemic-associated findings. This is certainly the case in qualitative studies, but in surveys, too, in which the answers to open-ended questions enable us to hear the authentic voices of ECRs. These are often studies exploring specific topics, of which the widening of the gender divide brought about by the pandemic (**Duncanson** *et al.*, 2021) and the particular hardships experienced by women (**Smith**; **Watchorn**, 2020), and especially academic mothers (**Minello**; **Martucci**; **Manzo**, 2020), seem to have attracted the most attention. However, there are many additional topics explored, highlighting different aspects of ECR work-life and research communication practices, such as: the effects of the pandemic-wrought financial crisis in Higher Education on ECRs (**Gilbert**, 2021, citing data from **Watermeyer** *et al.*, 2020 and **Watermeyer** *et al.*, 2021; **Woolston**, 2021a); academic-research careers (**Woolston**, 2020; 2021b; 2021c; 2021d); burnout (**Gewin**, 2021; 2022); authorship and publishing (**Watchorn**; **Heckendorf**; **Smith**, 2020); online conferences (**Hartley**, 2020); and collaboration (**Williams**, 2022).

Some of the studies bringing the voices of ECRs take a more wide-ranging approach to their experiences, but focus on specific knowledge areas, such as ecology and evolutionary biology (**Aubry**; **Laverty**; **Ma**, 2021), pediatric pain (**Hartley**, 2020) or autism (**Harrop** *et al.*, 2021). Others look at the situation of ECRs in specific countries (**Aubry**; **Laverty**; **Ma**, 2021, **McGaughey** *et al.*, 2021; **Morin** *et al.*, 2022) and even specific HE institutes, such as **Gates** & **Gavin**'s (2021) research on the impact of Covid-19 on *University of Southampton* Early Career Researchers.

5.2. Personal accounts

Another important source of information on how ECRs have been faring during the pandemic are personal accounts of ECRs discussing their circumstances and experiences, either in general or regarding specific components of their lives and practices. Researchers' lived-stories, published in the popular media or in special sections of scholarly journals –by now a regular feature in many journals, for example, in *Science*, *Nature* and *Physics World*– often focus on ECRs, widely held to be the cohort most likely to disproportionally affected by the pandemic-incurred hardships (**Baker**, 2020a; 2020b; **Cardel**; **Dean**; **Montoya-Williams**, 2020; **Christian** *et al.*; **Doran**, 2021; **Harrop** *et al.*, 2021; **Maas** *et al.*, 2020; **Radecki**; **Schonfeld**, 2020).

Although these accounts represent anecdotal evidence, they provide authentic insights into various aspects ECR life under the terms of the virus-shaped new normal. Indeed, here again, the topics covered are the ones that appear to have been occupying the minds (and hearts) of commentators on the impact of the pandemic on the scholarly undertaking. Most notably it is the widening of the gender divide and its dire effects on women's and especially mothers' productivity (**Ascher**, 2020; **Donald**, 2020; **Fazackerley**, 2020; **Flaherty**, 2020; **Harris**, 2020a; **Kitchener**, 2020; **Langin**, 2021a; 2021b; **Minello**, 2020; **Peters**, 2020), but other aspects of ECRs' personal and professional lives in a COVID-governed world are featured, too. Thus, for example, the work-lives of ECRs and their ability to pursue their research interests is another much-discussed topic (**Harris**, 2020b; **Penaflor**, 2021; **Redden**, 2020), as is their career prospects in the new realities brought about by the pandemic (**Collini**, 2020; **Schleunes**, 2020; **Yan**, 2020) and the shift to virtual conferences (**Kwon**, 2020; **Olena**, 2020).

6. Results

The quotes of more than 50 ECRs from 8 countries are presented here, although with some ECRs making multiple quotes, we are providing more than 70 quotes spread across 16 broad scholarly topics, all with the pandemic in the foreground or background. Each quote is furnished with the discipline and country of the ECR. Above each quote is a strapline which furnishes its key message.

6.1. The new normal is virtual

The pandemic has normalised the wholesale shift to online in the scholarly undertaking [UK]

A soft social scientist[4] put it this way: *I think the pandemic has normalised virtual and hybrid events, working from home and long-distance collaboration.* Thinking much along the same lines, a medical scientist added: *I believe the pandemic has increased the online presence of the scientific research. This has a great impact on research findings dissemination and information flow*.

A more general acceptance of remote working methods [US]

Many ECRs had to work remotely at some point during the pandemic and missed being on-site or attending in-person meetings. However, the move clearly had its benefits, so much so, that it is in all likelihood here to stay, as a hard social scientist[5] explains: *A lot of us had to pivot to doing interventions remotely and obviously, like a lot of healthcare, switched to telehealth. And I am glad that we're not seeing a full going back to what was normal before. There does seem to be just a more general acceptance of remote methods, both from an assessment standpoint and intervention standpoint, which means that we can do things like recruiting outside of geographical limitations that we once had, which can make for a more representative sample*.

Remote working methods –an improvement [UK]

I suppose my 'fieldwork' would be seeing participants in clinic, as opposed to remote data collection. This was a shift I really struggled with in the 1st and 2nd year of the Ph.D. as I love clinical work, but I am accepting it now and see the benefits of doing remote data collection as in-person appointments with participants are really time consuming [medical scientist].

And yet: the more it changes the more it stays the same [UK]

There are a lot of changes happening in the way research is disseminated. For example: blogging, twitter, outreach and apps like Researcher are more so used than they were by previous generations. However, traditional journals and scholarly communications still play a central role in the scientific community and it will not change for a long time, in my views [medical scientist].

6.2. Research performance, its assessment and reputation building

Productivity up but not for everything [Spain]

The general sense is that during the lockdowns phase of the pandemic ECRs were more productive thanks to the time they saved by not having to commute to work and because they could concentrate better on their own at home. This was true despite the added effort that distance teaching entailed for those who taught. This is how a chemist summed it all up: *Because of the work done in 2020 I had produced a lot in 2021 and 2022 and had the possibility of improving my position at the university in a year or so.* However, the fly in the ointment was the effect of the pandemic on creativity, as another chemist clarified: *Pandemic was advantageous for writing papers, disadvantageous for generating new results*.

The notion of measuring scientific success by the number of publications is wrong [Russia]

A Russian physicist attacked the whole notion of achieving scholarly success: *I was disappointed because as it turned out, it doesn't really matter what you research, the main thing is to publish, publish and publish in good journals with a high quartile. And the more of these journals you have on your account, the more awesome a scientist you are. There is often absolutely nothing behind this, or there are some studies that in real life turn out to be completely unnecessary and useless. It's just science for the sake of science. You need to do something, and here you are doing something, and there is something you publish.*

Frustration with an evaluation system that place too much emphasis on numbers [Malaysia]

A Malaysian hard social scientist also attacked the evaluation system that is heavily dependent on meeting the challenging quantified key performance indicator (KPI): *Our publication KPI is so astronomically high. I'm not a robot, I don't plan for numbers. I want to do more with research and they should consider the external factors. At the same time, more students are coming in, professional bodies demand, our facilities are not really great either. But it is too much because it's high KPI and this is the only part that made me emotional because I'm tired*.

Metric-based/journal-centred publishing is being questioned [Spain]

ECRs doubt the value of metrics, arguing for a more comprehensive appraisal of scholarly achievements. A hard social scientist opines that *The reputation of a researcher is more than numbers, I do not believe in metrics…*, and a chemist, obviously of the same mind, further clarifies: *Metrics depend on the popularity of the researcher and on its ability in using social media, not only on the quality of the work*.

Metrics are unappreciated [Malaysia]

ECRs acknowledge the importance of metrics but the social scientists especially do not like them: *Producing better leaders, impacting the world. Can I say citation metrics do that?* [hard social scientist]. Another commented that judging the reputation for social sciences by h-index does not work: *Deep inside my heart I know the h-index and the impact factor of the journal you publish in does not capture the knowledge that you have inside* [hard social scientist].

> The pandemic has significantly impacted on frontline researchers, which ECRs certainly are, despite the fact that they sometimes do not acknowledge that it might be so in the direct questioning, almost as if it would be a weakness to say so. Rather, the impacts tend to spring up when you ask them about run-of-the-mill scholarly activities

Metrics are useful for selecting a journal to publish in, but not for personal reputation building [Spain]

ECRs are very interested in journal metrics (IF) to select the outlet in which to publish their papers to best advance their careers: *In my field is necessary to publish in high IF journals included in Q1 and Q2. I would prefer more flexibility but this is the situation* [hard social scientist]. They are not very interested in personal metrics (such as the h-index), seeing them as less important for showcasing their achievements, although they use them when required: *…for assessment it is necessary to consider all the career of a researcher, not just the h-index* [environmental scientist].

> The pandemic seems to have further exposed existing weaknesses in the procedures associated with publishing papers and there is definitely an anti-publisher sentiment, especially in the case of Poland

On citations [Spain]

The number of citations of a paper is not a proxy for its evaluation [environmental scientist].

On citations [UK]

According to a hard social scientist, citations *are of some use, but it is who is doing the citing which is important*.

An alternative to citations [Malaysia]

A soft social scientist mentioned that *LinkedIn* is also being used by academics to discuss articles. People there discuss your work immediately after it is published. CEOs, CTOs too. So, we should go towards that, rather than citations which are so self-centredly academic.

Problem with altmetrics [UK]

According to a hard social scientist: *sometimes things go viral on social media because the methods are terrible and people are complaining about the article. Sometimes things go viral on social media because it's an excellent piece of work. You wouldn't be able to distinguish between these two just with a basic social media count indicator*. .

6.3. The scholarly system

Publishing –a 'sick' system as it stands and OA is the solution [Poland]

An environmental scientist explains: *I hope that there will be a reform of publishers. I don't understand why academics –authors of publications and reviewers– work on the whole process, while laurels and remuneration are collected by publishers. It is a sick system. I don't want payment for an article, but why should someone else, i.e., the publisher, get it? More and more researchers are realising this. This is at the heart of the OA movement… Open/openness –this is the domain of the younger generation, i.e., openness, transparency. We know everything about each other thanks to social media, this is the domain of our generation and it can be transferred to scientific activity*.

A journal-centric elitist system [Spain]

Impact factors control our lives so says one chemist.

A capitalist enterprise [Poland]

A physicist believes that, irrespective of OA, the trend will be: *Journals will commercialize even more. It is already difficult to publish something for free in my field. These are capitalist times; everyone wants to make money*.

The problem is not so much the system, but the people who inhabit the system [Poland]

There is no problem with the scientific communication system, rather there are problems with interpersonal communication, with the atmosphere between colleagues [chemist].

A generational schism opening up [France]

The bond that used to exist between ECRs and their mentors/PIs are breaking. The relationship between the two generations has deteriorated due to increasingly precarious working conditions engendered by the pandemic, a growing onus to obtain results and to publish, and finally the pressure to find funding. In the resulting oppressive research climate, some ECRs feel that their vision and/or values are no longer in line with those of their mentors. There is a sense that for the necessary changes to take place in the scholarly system, ECRs have to wait for their senior colleagues to leave, or, even worse, as one of the ECRs put it, *to get rid of them.* This largely explains why a sizeable number of ECRs have decided to leave the system. These comments from a physicist are illustrative: *I think we are here at the verge of a big breakdown between junior and senior researchers. Our vision of research, academia and careers do not converge anymore. Seniors and tenured staff are in time pace that are too slow and ECRs are in the emergency of securing their job. We are not in the same realities anymore*.

6.4. Transformations in the scholarly system

Pandemic a game changer in how ECRs are assessed and rewarded? No. [Malaysia]

For an ECR a successful academic career is heavily dependent on meeting the challenging quantified performance standards –Key performance indicators [KPI]. The pandemic brought no relief as this life scientist pointed out: *I think the previous KPI is still doable and we've already geared to that but when the current KPI is proposed, they basically moved the goal. So, we are stressed, when we are one step away from the goal but the goal is moved. The previous KPI is still* *okay, but the new one, I don't know, maybe there will be suicide cases in this university*.

Pandemic a game changer in how ECRs are assessed and rewarded? Yes. [UK]

A medical scientist has found that post-pandemic there is a big push from university to judge by quality, not Impact Factor, which is a requirement for REF (Research Excellence Framework), too. Her group has a focus group on seeing *how we can improve quality of work for publication, how we can produce more interdisciplinary work, more translationally relevant, and how to increase access to publications* (such as publishing open access).

Publishing will change [Poland]

A rather disgruntled ECR, a computer scientist, reflecting upon the pandemic induced changes, was also critical of current practices and felt there were fundamental changes in the air: *We will move away from publishing in journals behind paywalls and speed of online publishing will be promoted. In five years', time nothing will probably have changed yet, but it seems to me that, sooner or later, non-profit publishers run according to openness principles will take over the role of commercial publishers*.

New forms of journals will emerge [Poland]

A life scientist, plainly disillusioned with traditional journals, and clearly belonging to the novel and innovating camp, told us: *A whole new kind of journal is being created in Texas called PaperScore, where editors are to be replaced by an algorithm. There, you don't have a review system rejecting texts, you just get points for the reviews you do. I had a chance to be employed there, hence I know the subject. I believe that this form of publishing will definitely develop in the future, such is the future of the IT market*.

The future of journals is an app [Russia]

A chemist was undoubtedly thinking transformations in suggesting: *It would also be great for scientific communication to take the form of Steam [a gaming platform] or the App Store. Researchers would take the role of developers and directly provide products [articles] to the audience. Thus, access to articles would be much easier and not dependent on the publisher. And the articles might be available because the price was low due to the large audience size. And the developer [researcher] receives this money and can develop the project*.

ECRs are not in a position to ring in change [Malaysia]

A mathematician pondering on the role of ECRs as harbingers of change said: *Because we are contract, we are not really secure, that's why we just follow whatever the top management required us to do, not even fighting, not even a little fight, we just follow*.

There needs to be a transformation in scholarly communications, but ECRs do not have the time to bring it about [Poland]

Here is an environmental scientist, thinking much along the same lines: *Although I can see that this system is not perfect, I feel the need for change, but I don't have time to address it*.

6.5. Open access publishing

OA publishing helps careers [Spain]

When they have access to money from projects or grants from their institutions, ECRs prefer to publish open access because they believe in its benefits: *The trend should be to publish open access to permit the access to every publication and facilitate the international collaboration among scientists* [hard social scientist].

Most importantly, perhaps, they believe that it will bring them more citations, which will give their careers a lift: *The assessment criteria will increase the importance of publishing open access* [chemist].

For this reason, they take advantage of transformative agreements to publish in hybrid journals. However, as another ECR, a physicist, clarifies: *The assessment should take into account OA publications without taking into account only their impact factor*. *That will help the promotion of open science*. However, interest in repositories is minimal and most of the ECRs are unaware of the new open access platforms.

OA –a polarizing and largely negative force [China]

Chinese ECRs have very different perceptions of Open Access/Open Data/Open Science. Some are very supportive and understand it well and some are opposed to it and do not understand it well. This difference is mainly traceable to the perceptions and practices prevalent in different disciplines. Computer science ECRs are the most supportive, and many of them already have the experience of publishing with OA journals, or have shared open data/software. ECRs from other disciplines, especially engineering, medicine, and social sciences, exhibit a reserved or even negative attitude toward OA, which, they contend, allows for findings to be made public before its scientific value is confirmed via peer review. Most importantly, it is felt that open access journals have become a new money-making tool for commercial publishers, eager to find new markets, giving rise to the phenomenon of predatory publishing. This, they feel, will hurt the integrity of the scientific communication system. This mathematician ECR explains: "*I think 100% open for all data and research result maybe not a good thing for science development. The problem is not a 'paywall' for us now, it is information overload and the infodemic. We need a filter*." And clearly Open Science is felt to be making matters worse.

6.6. Research ethics

Haste makes waste, and research is no exception [Spain]

Some ECRs suggested that the need, indeed will to publish COVID-related findings quickly led to inadequate quality of some of the research articles that saw light. The repercussions of this state of affairs did not escape ECRs' attention, as a soft social scientist noted: *I am worried about the prevalence of fake news and disinformation brought by the pandemic*.

Scientific ethics are being seriously challenged, with the pandemic in part responsible, leaving ECRs between a rock and a hard place [China]

ECRs widely felt that scientific ethics are becoming ever more important since the pandemic provided a giant electrical shock to the scholarly system. Thus, because of technological developments (spurred on by the pandemic), there are more and more ways of academic misconduct, so that the 'grey area' between what is allowed and what is not is becoming bigger and bigger. Plainly then, it is more and more challenging for ECRs to remain on the right side of the ethical fence and the pandemic provides good cover for bad practices, as this physicist scientist explained: *During the epidemic, much personal information was illegally obtained and exposed, and some researchers used this data to conduct research. Strictly speaking, this is not in line with academic ethics, but many papers based on such data have still been published. I heard of a team that hacked a system during the pandemic, obtained a lot of personal data, used that data to conduct research, and published a paper in a top journal*.

An academic misconduct incurred international scholarly divide has opened up and is proving toxic [China]

Long before the pandemic, academic misconduct scandals involving Chinese researchers (mainly clinical medical researchers) were reported on social media, bringing disrepute to the Chinese scientific research community, a state of affairs that can probably be traced back to the focus on the number of published papers and the impact score of journals in the country's research evaluation system. Things have improved since the introduction of new evaluation policies, which do not prioritise journal paper publishing, but, as a result of the pandemic and China' being accused for it by some, many Chinese ECRs again feel that journal editors and reviewers discriminate against them. The following quote from a mathematical scientist illustrates this: *I've been rejected six times in a row for a paper since the pandemic, and it is something that never happened before the pandemic. I think this has nothing to do with my research and the quality of the paper. It concerns foreign reviewers' attitudes toward our Chinese authors' submissions after the pandemic breakout. Some reviewers' questions are very unreasonable and weird. It can be seen that they did not read my paper carefully at all. Some questions even insinuate. Clearly discriminatory*.

> "The pandemic has shone the light on peer review and its attendant problems, especially (slow) speed and lack of suitable reviewers"

6.7. Communicating/maintaining contact with peers

Trend towards more informal communication [Poland]

The use of more informal ways of communicating, brought on by the pandemic, is becoming institutionalised: These changes *are probably only related to the development of communication technologies like MS Teams or Messenger, which before the pandemic were probably more informal, but now can be treated as a formal channel of communication (chemist)*.

More informal communication –an effect of the pandemic? [UK]

A physicist, asked about a bigger role for informal communications in the scholarly world, said: *A change actually, not because of the pandemic but simply because attracting attention gets your name recognised, which in turn gets you to be more in the minds of people making decisions e.g., for awards or grants*.

The benefits of the move to more informal modes of communication [UK]

I have seen a Tweet that was made by a scientist, wherein he made mention that in his recently submitted grant proposal, he had mistakenly switched the titles of some of his figures –he was trying to call the attention of the reviewers, because they were anonymised. However, one of the reviewers acknowledged this tweet. This may not have been possible without Twitter, and may have led to an instant grant rejection had he not made this important move [life scientist].

Email remains the most reliable way to establish and maintain contacts [Poland]

Email appears to be the elephant in the room. This from a life scientist: *The most reliable way to make contact is by email. I sometimes post on ResearchGate, but I've noticed that some people very rarely go there, don't see the messages, and don't reply*. And this from a soft social scientist: *Mail is the most important. Maybe I would try on Academia.edu or RG to write a message, but only if mail would not work*.

6.8. Networking/collaboration

Collaborations hindered by the pandemic [US]

ECRs said collaborations were hindered in some way –either by not forming or maintaining ties (or both) with collaborators. The reasons most given were the inability to attend in-person conferences or other in-person activities, such as attending meetings and having a coffee together, even running into people on-campus/in an office setting. The greater difficulties of forming collaborations gave rise to concerns among ECRs that there would be a gap in their future research productivity (computer scientist).

Remote working makes teamwork more challenging [UK]

According to ECRs remote work is rendered more difficult because of the little opportunity it leaves for occasional conversations and the need for more careful planning. This is how a mathematician describes the experience: *…my personality relies a lot on interactive feedback and face-to-face meetings with collaborators. I like regularly working 'together' as in physical proximity, looking at the same screen, drawing plans with pens and paper, and so on. I feel that remote working makes it more challenging to keep teamwork and progress synchronised, depending on the working style and busy schedule of collaborators*. Lending further support to these sentiments, a researcher in environmental sciences says: *Worst thing is lack of creative space with colleagues… working remotely means less contact with colleagues so that the casual contact, which leads to ideas, does not happen*.

Networking is more technically feasible now thanks to the pandemic [Malaysia]

I think one of the permanent changes that definitely affects me is that we realise how powerful technology is in connecting people from one person to another at the other side of the globe. If you really want to put yourself out there, if you want to engage then it can be done. It's easier. The pandemic has taught us a lot. Working with other institutions [medical scientist].

Co-operation and collaboration are more technically feasible now largely thanks to *Zoom* [UK]

ECRs mentioned that setting up collaborations and maintaining ties were easier with *Zoom* (versus via emails and phone calls), as the explanations given by two medical scientists illustrate: *Collaboration post-COVID may be easier as people are now used to Zoom etc to meet up across the world;* and: *Achieving formal collaboration post-pandemic is easier because people are keen to have Zoom meetings to discuss plans while before the pandemic, they would have to meet in person which was more difficult*.

A *Facebook*-like scholarly platform to support collaboration [Poland]

Who would have thought it, when *Facebook* was introduced in 2004, that a platform modelled on it could be seen as an important tool for enabling collaboration among scholars? As a life scientist explains: *Facebook for scientists –in the sense of matching a collaborator for scientific research, this is the future for IT. It would be useful for such a Facebook for scientists to be more efficient than RG, i.e., to allow voice and text connections, as it is on Messenger, then the community would be more active. The idea is to make such a platform very popular, so that every scientist would want to have something like that. You could create discussion groups there, e.g., on a specific topic*.

6.9. Virtual meetings and conferences

Online conferences –a double-edged sword [Spain]

While everyone agrees that traditional conferences are better for networking, they also recognise that online conferences allow them to present their work and attend conferences in a more comfortable and cheaper manner. Shy researchers or those who want to expand their resume tend to prefer them. However, an environmental scientist pointed out the serious downside for ECRs: *You cannot make new contacts and the level of attention has decreased*.

Online conferences –a double-edged sword [UK]

Hybrid meetings and seminars offer flexibility, however, hinder collaboration and networking [medical scientist].

Traveling to or for work is becoming an endangered activity for many ECRs [Poland]

It was widely acknowledged that teaching remotely is not that satisfactory, but it is felt that remote works well for meetings and conferences. As a physical scientist explained*: I don't know if it makes sense to go back to travelling in the future. Online tools are enough here, I would like to leave them and not go everywhere anymore. Sometimes two or four days were lost. The hybrid form of the conference is also beneficial, those who can come and the rest participate online*.

6.10. Social media

Platforms for sharing ideas? [Poland]

Scholarly social platforms seem eminently suitable for sharing ideas; indeed, it is their proclaimed raison d'être, but are they used for the purpose? Apparently not, as a life scientist reported: *Basically, I don't share ideas and information on these platforms (ResearchGate, Academia). I sometimes answer questions there, sometimes recommend interesting articles, more often on RG than Academia.* Another ECR, this time a chemist echoed these thoughts: *I don't share my ideas on these portals, although I have accounts on them, they only serve me to post/upload my publications there*.

ResearchGate use is endemic, but a changing-of-the-guard seems just around the corner [Spain]

The use of social media is common, especially *ResearchGate*, which is used, above all, to showcase publications, and by so doing, to obtain more citations. However, it no longer arouses the enthusiasm of years ago –it seems to have lost its mojo! As a medical scientist put it: *I use social media less for showcasing. I am tired of self-promotion*. However, *Twitter* is gaining ground: *I use Twitter for being updated of science and politics and LinkedIn for having a public job profile* [another medical scientist].

The scholarly march of *Twitter* [UK]
According to a life scientist: *Famous labs are joining Twitter and the old guard have joined in*.

The scholarly march of *Twitter* [Spain]
This from a chemist *I want to dedicate more effort to Twitter when I have more time*.

Tweeting can bring about unwelcome exposure [Spain]
An environmental scientist sheds light on a less known effect of being 'talked about' on *Twitter*: *Thinking on being evaluated by followers on Twitter makes me shake with fear*!!!

Tweeting comes with abuse even in a scholarly setting [UK]
On tweeting for visibility, a chemist opined: *I mostly retweet, but I do give links. However, I do not like the abuse and therefore less ready to tweet*.

The social web and scholarly reputation: *TikTok* for visibility [Malaysia]
The highly competitive academic environment means that researchers need to engage in active self-branding to build their reputations. Thus, for example, Malaysian ECRs use *LinkedIn* to build their online narrative by showcasing publications, projects and other research-related outcomes and even a popular video sharing site, *TikTok*, as a physicist reports: *I also use my TikTok for visibility and share my research. I think it's a very powerful tool instead of waiting for seminar to say something. Nowadays just TikTok about your life, and the whole world knows about it.* Researchers are becoming social butterflies…

6.11. Peer review

On the verge of collapse [Spain]
The peer review system needs improvement. ECRs believe that the quality of the reviews had been declining pre-pandemic and things worsened with the pandemic. It is difficult to get competent and engaged reviewers. They also think that for traditional journals the system is slow and in some of the new ones the review periods are too short for comfort. Remuneration for reviewers is an increasingly more prevalent request. This is seen as the solution to the lack of availability of reviewers. An environmental scientist puts it this way: *It is on the verge of collapse. Many articles and few evaluators with time available to conduct a rigorous evaluation*.

COVID has changed peer review [UK]
There are fewer people available to do the work because of COVID [and falling ill] *so slowed down the whole process* [soft social scientist].

However, the change went deeper than that, as a medical scientist pointed out: *Traditional journals have been "shaken" in a way through the pandemic, they first saw a great increase in submissions with COVID-related research, which decreased the quality of peer review. However, once some of the big scandals occurred with falsified COVID data and the big Lancet retraction, there was new focus on the peer-review process, which I believe it helps refining the system itself*.

Depends very much on the luck of the draw [UK]
A physicist on trust in peer review: *I think that peer-review can fail when you simply don't get the right referees, and this is a major issue. This has sadly resulted in the submission process as requiring luck on whether or not you get 'appropriate' referees for the work you submit and they provide constructive feedback. Some referees I feel say some things just for the sake of having to comment sadly*.

Need to remunerate reviewers [UK]
Asked about new approaches to peer review, a physicist said: *I can only think of compensation, peer review is incredibly important and valuable and we should treat it as such via an appropriate compensation. Perhaps even some roles for researchers should be e.g., 5% of their time in the contract be devoted to peer review* [physicist].

6.12. Preprints

Not to be ignored [UK]
I think now preprints are so common that they can't be ignored. So, one reason for my preference is simple practicality. I also like the idea in principle of things being open and available from the moment the paper is finished rather than waiting for potentially months of peer review and revisions [life scientist].

The inevitable result of problems with the peer review system? [UK]
As a medical scientist explains: *There are so many submissions that the peer review process slows down and therefore researchers who want to get recognition use preprints*. To which a life scientist adds: *Because of the constraints of peer review, the time it takes for a paper to get published is now taking longer. However, pre-prints have now made it possible for information to reach a wider audience even much earlier before the peer review process is completed. Through this means, early-stage results, protocols, and ideas can easily be shared with the wider scientific community. This is almost the same with Twitter* [life scientist].

Misconceptions [Spain]
There seems to be a concern that publishing preprints will prevent publishing in a journal, as two Spanish ECRs contended: *Publishing preprints mean to burn out my research before publishing it in journals* [soft social scientist] and *I do not publish preprints because many journals don't accept manuscripts published as preprints* [hard social scientist].

Preprints were commended in particular for their ability to speed up dissemination, as a means of avoiding the peer-review traffic jams and, most interestingly, as a way of enabling outreach to the general public

To be considered a publication, if rewarded [Malaysia]
To submit or not, it goes back to the reward system. I would say preprint should be considered as a form of publication and receive rewards for it [life scientist].

May mislead the public [China]
Chinese ECRs, citing the many retractions of preprint papers during the pandemic, fear that research that has not been peer reviewed will contain errors and mislead the public, whose members by now are more likely to follow scientific developments.

6.13. Outreach

With the pandemic having made the general public more interested in science, academic misconduct attracts greater attention [China]
Thanks to social media, more reports of academic misconduct are exposed and brought to the public attention, which appears to shed more light on the problem. Indeed, because the pandemic has made the public more concerned about and interested in science and more prepared to participate in the scientific communication, any academic misconduct exposed by the media will become a social problem, attracting extensive public discussion and possibly resulting in negative repercussions. This is how a physicist analyses the situation: *I don't think there is more academic misconduct now than in the past. We heard more just because the social media is everywhere now, any negative news will be on the hot search, plus the negative news in the scientific community can attract everyone's attention. Therefore, the academic misconduct is more reported widely spread. This is a communication problem*.

6.14. Access to information/libraries

More accessibility [Spain]
A mathematician told us *Having information behind paywalls will decrease in a world with more and more accessibility to the information*.

Pandemic has highlighted the importance of full-text online availability [Poland]
The lockdowns drove home the importance to be accorded to online access to scholarly publications. As a soft social sciences ECR explained: *English articles are in Sci-Hub, but there is a problem with Polish texts. Maybe there will be more e-books. Pandemic showed our expectations for full texts online*.

When looking for information, libraries are at the back of the queue [Malaysia]
When it comes to locating information, a chemist minces few words: *I think libraries have limited tasks that they can help me with. I do not go to the library straight away to request for articles, I Google, go to my friends and students. The last worst-case scenario is that now we have Sci-Hub*.

The changing role of libraries [Spain]
The traditional roles of university libraries are considered less and less necessary, a state of affairs that has striving to acquire new roles, such as the management of OA fees: *Libraries will become less important because in a few years everything will be open access and we shall be working more remotely anyway. Although they have now the new role of managing the transformative agreements* [environmental scientist].

The waning role of libraries [Poland]
According to a chemist ECR, the library will still have an important role in the future, that of the guardian of the integrity of information: *The march of remote services will increase in pace but the risks will be higher. Libraries can put the brakes on pseudoscience and only provide access to verified sources of information*. However, a researcher in life sciences is less optimistic: *Libraries –the great unknown. Their role is declining. You can see that today's students no longer use libraries. They are a storehouse of books, not a place to exchange knowledge*.

Academic libraries no longer useful for researchers [France]
Academic libraries have completely disappeared from the scholarly discourse or even vision. They appear neither to be used as a source of information nor as a working space. The long period of lockdowns had French ECRs leaning more towards pirate libraries, such as *Sci-Hub*. As far as they are concerned, academic libraries are only useful for graduate students, as a life scientist explains: *More focused on students, much less on research.* By the same token a biochemist says: *Libraries will stay for sure but mainly for undergraduate students. I do not see them in the research area*.

Smartphone apps usurping the role of the library [Malaysia]

I use this app called "Researcher" on my phone...use this before I go to bed…using this I can know is my research is still a hot topic or has become outdated…I love this app, read only the title and abstract, but it gives me a lot of ideas. Because of this Researcher app, my phone has been my good friend [an always-on life scientist].

> It seems that the popular social media platforms, such as *Twitter* and *Facebook*, are stealing the social scholarly platforms' thunder, with *ResearchGate* being largely marginalised as a promotion and visibility platform and exhibiting a minimum of social engagement.

6.15. Re-evaluation of what is important in life

Work-life balance becomes more important in the wake of the pandemic [US]

A few ECRs came out of the pandemic with the desire to make changes in their work lives, as a researcher in life sciences explained: *I think that this idea of the time is limited and there's only so many hours and they don't match up with all the things that I want to do. So, I need to make choices and work on the things that I want to work on, but also make time for important things like family and not work activities. And I didn't appreciate that as much before.* Another ECR, a medical scientist, summed it all up, saying: *I didn't realize how exclusively I had focused on 'the professional' at the detriment to 'the personal', and I'm just not going to do that anymore*.

6.16. Pursuing an academic career

Despite the pandemic-incurred hardships, ECRs do not jump the academic ship [Spain]

The pandemic and then the Ukrainian war have introduced a feeling of instability into the research system that worries ECRs, as a physicist puts it: *I see possibilities of remaining at the university but I am worried because the economic situation can reduce the possibilities of tenure again, as in the years of the last economic crisis*. Rather than giving up, though, they resolutely work even harder and diversify their efforts to enrich their CV in order to improve their chances of career progression. Thus, for example, an environmental scientist leaves no doubt that whatever it takes, an academic career it is: *For obtaining tenure I will have to wait at least 8 years but I do not mind changing cities or countries!*

Career aspirations have not changed but research motivations have [China]

For all ECRs, engaging in scientific research is their principal interest, and their ideal job is to work in universities and research institutions. They like their work and feel they can realise their self-worth through their work. This is how a physicist put it: *Being a scientist is my dream since I was a child. I like to explore the truth, and I also enjoy quietness and devotion. Even if I encountered difficulties, I never thought about quite my scientist work, as if I would not do any other work*.

However, the sudden outbreak of COVID has made them rethink the value of work and life. Some began to re-evaluate the significance and practical value to society and country of their research. This was particularly evident among medical ECRs: *The pandemic has made the whole society understand and worship the profession of doctors. I began to think about the meaning of my life and profession. Before, I thought it was enough to do good research, produce good results, and publish papers. Now I don't value the publication of papers as I used to. I think that if I can help more patients through my own ability, I will be happier*.

7. Discussion and conclusions

By its very nature, qualitative research shines best through individual quotes ('voices'), captured with minimum prodding or shoehorning, so that people are given space to explain themselves fully and in their own way. In the *Harbingers-2* project we have collected hundreds and hundreds of comments raised by our interviewees, selecting for this paper the most interesting and, possibly, most significant ones in respect to ECRs' work life and scholarly communications. It is the individual, original and the different that are on display here, and, of course, this type of data tends to be absent from quantitative studies, such as the ubiquitous questionnaire survey.

We believe that this paper is important in that random ECR voices have been heard (and published) in the years of the pandemic, as indicated by the literature reviewed earlier, but to the best of our knowledge nobody has presented the information in a systematic (by scholarly topic/issue) and analytic fashion and, crucially, from an international perspective, with ECRs interviewed in their own languages (the exception being Malaysia where English language is widespread), which enabled them to be even more vocal.

It is clear from a myriad of comments that the pandemic has significantly impacted on frontline researchers, which ECRs certainly are, despite the fact that they sometimes do not acknowledge that it might be so in the direct questioning, almost as if it would be a weakness to say so. Rather, the impacts tend to spring up when you ask them about run-of-the-mill scholarly activities. Thus, the ease or otherwise of collaborating, an essential activity, as far as ECRs are concerned, for building a career, was raised a number of times, with the constructive role of *Zoom* in this regard particularly highlighted. It was also thought that ethics is being compromised by the pandemic, especially in China. As we well know, travelling, too, has been hit hard by the pandemic and that has left a big, long-lasting overhang, with remote meetings/conferences by now firmly embedded in the scholarly communication system.

Open access/scholarship –often defined in very broad terms– is clearly a focus of much interesting comment, largely positive, even if the jury is clearly out in the case of China. The pandemic seems to have further exposed existing weaknesses in the procedures associated with publishing papers and there is definitely an anti-publisher sentiment, especially in the case of Poland. The pandemic has shone the light on peer review and its attendant problems, especially (slow) speed and lack of suitable reviewers. Indeed, some ECRs believe it is cracking under pressure, perhaps, 'shell shocked'. The much-touted preprint (perhaps, the pandemic scholarly 'poster boy'), whose fame rose as a consequence of the pandemic, naturally came in for comment, which, it has to be said, is mostly positive (although not effusive). Preprints were commended in particular for their ability to speed up dissemination, as a means of avoiding the peer-review traffic jams and, most interestingly, as a way of enabling outreach to the general public.

When you examine the situation from bottom-up, the picture not only is more graphic, granular and personal, but you can also see the seedlings of potential change, or, put another way, the small bumps on the road that might become big enough, if not to derail current research activities and platforms, but to force things in different directions

Publishing clearly obtained a boost during lockdowns and working more from home, giving ECRs a feeling that they were more productive. Arguably the most interesting comment, though, talked about replacing the publisher-based system with an app, a bit like the idea of an app, raised by another ECR, meant to side-line the library (see below). Obtaining reputation, another activity held in esteem by ECRs for obvious career reasons, attracted much interesting comment. A wide range of opinions are exhibited here, but there is a consensus that citations should not hold a monopoly on reputation and there is evidence to show that the pandemic has nudged ECRs away from citation metrics towards considerations of research quality, but not altmetrics.

Accessing information, a key part of an ECR's job, not surprisingly, merited much interest. One ECR mentioned the fact that the pandemic has led to an increasing expectation that the full-text of articles should be easily and freely available (and this was said in the context of a *Sci-Hub* comment!) and another proposed an app which would be a good substitute for the library, which, anyway, was felt by some to be under threat, from a combination of open access, remote working and smartphones.

Unsurprisingly perhaps, given that most ECRs are millennials, social media figured highly in terms of interesting quotes. From some of the quotes it seems that the popular social media platforms, such as *Twitter* and *Facebook*, are stealing the social scholarly platforms' thunder, with *ResearchGate* being largely marginalised as a promotion and visibility platform and exhibiting a minimum of social engagement.

Perhaps, though, it is the additional/volunteered comments at the end of the interview that ushered in the most powerful suggestions. Thus, in regard to the pandemic, it was variously expressed that it had normalised virtual and hybrid events, had increased the presence of scientific research and is leading to the breaking of the bonds between ECRs and their mentors.

Of the countries, China and France offer the strongest signs of serious scholarly problems and challenges down the road. In the case of China, a schism is opening out between China and the West and, in the case of France, the schism is internal, an opening out between junior researchers and their tenured colleagues, something that was obviously there before but it now opening more widely because of the pandemic.

When you examine the situation from bottom-up, the picture not only is more graphic, granular and personal, but you can also see the seedlings of potential change, or, put another way, the small bumps on the road that might become big enough, if not to derail current research activities and platforms, but to force things in different directions.

Finally, this 'voices' paper is a companion one and its findings should be viewed in the light of the findings of the earlier 'impact' paper. In fact, it wholly supports the analysis produced in the 'impact' one. It does cover more ground, inasmuch as it mentions topics that were not gone into in detail (or at all) in the impact article, which is significant in itself, but it essentially grounds the overarching findings contained in the 'impact' paper in the empirical evidence of 'voices'.

8. Notes

1. *http://ciber-research.com/harbingers.html*

2. A more detailed explanation of the methodology can be found in the 'impact' companion paper (**Nicholas** *et al.*, 2022).

3. For the full interview schedule see,
http://ciber-research.com/harbingers-2/20201202-H2-Interview_schedule-1.pdf

4. We include among Soft Social Sciences: Anthropology, Politics and Sociology.

5. We include among Hard Social Sciences: Economics and Business, Geography and Psychology

9. References

Ascher, Dan (2020). "Mums 'do most childcare and chores in lockdown'". *BBC News*, May 27.
https://www.bbc.com/news/business-52808930

Aubry, Lise M.; **Laverty, Theresa M.**; **Ma, Zhao** (2021). „Impacts of COVID-19 on ecology and evolutionary biology faculty in the United States". *Ecological applications*, v. 31, n. 2, e2265.
https://doi-org.ezproxy.haifa.ac.il/10.1002/eap.2265

Baker, Simon (2020a). "HE financial crisis risks 'lost generation of researchers'". *Times higher education*, June 11.
https://www.timeshighereducation.com/news/he-financial-crisis-risks-lost-generation-researchers

Baker, Simon (2020b). "Most early career academics face funding cliff edge, survey suggests". *Times higher education*, May 18.
https://www.timeshighereducation.com/news/most-early-career-academics-face-funding-cliff-edge-survey-suggests

Cardel, Michelle I.; **Dean, Natalie**; **Montoya-Williams, Diana** (2020). "Preventing a secondary epidemic of lost early career scientists. Effects of COVID-19 pandemic on women with children". *Annals of the American Thoracic Society*, v. 17, n. 11, pp. 1366-1370.
https://doi.org/10.1513/AnnalsATS.202006-589IP

Christian, Katherine; **Johnstone, Carolyn**; **Larkins, Jo-ann**; **Wright, Wendy**; **Doran, Michael R.** (2021). "Research culture: A survey of early-career researchers in Australia". *ELife*, n. 10, e60613.
https://doi.org/10.7554/eLife.60613

Collini, Stefan (2020). "Covid-19 shows up UK universities' shameful employment". *The Guardian*, April 28.
https://www.theguardian.com/education/2020/apr/28/covid-19-shows-up-uk-universities-shameful-employment-practices

Donald, Athene (2020). "Yet another source of inequality?". *Athene Donald's Blog*, 27 April.
http://occamstypewriter.org/athenedonald/2020/04/27/yet-another-source-of-inequality

Duncanson, Kirsty; **Weir, Natasha**; **Siriwardhane, Pavithra**; **Khan, Tehmina** (2021). "How COVID is widening the academic gender divide". *The conversation.*
https://theconversation.com/how-covid-is-widening-the-academic-gender-divide-146007

Fazackerley, Anna (2020). "Women's research plummets during lockdown -but articles from men increase". *The Guardian*, May 12.
https://www.theguardian.com/education/2020/may/12/womens-research-plummets-during-lockdown-but-articles-from-men-increase

Flaherty, Colleen (2020). "No room of one's own". *Inside higher ed*, 21 April.
https://www.insidehighered.com/news/2020/04/21/early-journal-submission-data-suggest-covid-19-tanking-womens-research-productivity

Gates, Lucy; **Gavin, James-Peter** (2021). *Key survey findings: Impact of COVID-19 on University of Southampton early career researchers*. Southampton: University of Southampton (Project report).
https://doi.org/10.5258/SOTON/P0071

Gewin, Virginia (2021). "Pandemic burnout is rampant in academia". *Nature*, n. 591, pp. 489-491.
https://doi.org/10.1038/d41586-021-00663-2

Gewin, Virginia (2022). "Has the 'great resignation' hit academia?". *Nature*, n. 606, pp. 211-213.
https://doi.org/10.1038/d41586-022-01512-6

Gilbert, Natasha (2021). «UK academics see the over universities' cost-cutting moves". *Nature*, n. 596, pp. 307-308.
https://doi.org/10.1038/d41586-021-02163-9

Harris, Margaret (2020a). "Physics in the pandemic: 'A lack of childcare hugely reduces productivity'". *Physics world*, 5 May.
https://physicsworld.com/a/physics-in-the-pandemic-a-lack-of-childcare-hugely-reduces-productivity

Harris, Margaret (2020b). "Physics in the pandemic: 'Returning to the lab will be hugely beneficial for me'". *Physics world*, 22 May.
https://physicsworld.com/a/physics-in-the-pandemic-returning-to-the-lab-will-be-hugely-beneficial-for-me

Harrop, Clare; **Bal, Vanessa**; **Carpenter, Kimberley**; **Halladay, Alycia** (2021). "A lost generation? The impact of the COVID-19 pandemic on early career ASD researchers". *Autism research*, v. 14, n. 6, pp. 1078-1087.
https://doi.org/10.1002/aur.2503

Hartley, Caroline (2020). "Online options for future conferences will have an important positive impact for Early Career Researchers in pediatric pain". *Paediatric neonatal pain*, v. 3, n. 1, pp. 9-11.
https://doi.org/10.1002/pne2.12044

Herman, Eti; **Nicholas, David**; **Watkinson, Anthony**; **Rodríguez-Bravo, Blanca**; **Abdullah, Abrizah**; **Boukacem-Zeghmouri, Chérifa**; **Jamali, Hamid R.**; **Sims, David**; **Allard, Suzie**; **Tenopir, Carol**; **Xu, Jie**; **Świgoń, Marzena**; **Serbina, Galina**; **Parke-Cannon, Leah** (2021). “The impact of the pandemic on early career researchers: what we already know from the internationally published literature”. *Profesional de la información*, v. 30, n. 2, e300208.
https://doi.org/10.3145/epi.2021.mar.08

Kitchener, Caroline (2020). “Women academics seem to be submitting fewer papers during coronavirus. ‘Never seen anything like it,’ says one editor”. *The Lily*, 20 April.
http://shorturl.at/aDLZ1

Kwon, Diana (2020). “After conference cancellations, some scientists find a way”. *The scientist*, March 23.
https://www.the-scientist.com/news-opinion/after-conference-cancellations-some-scientists-find-a-way-67310

Langin, Katie (2021a). “Pandemic hit academic mothers especially hard, new data confirm”. *Science magazine*, 9 February.
https://doi.org/10.1126/science.caredit.abh0110

Langin, Katie (2021b). “‘On the verge of a breakdown.’ Report highlights women academics’ pandemic challenges”. *Science magazine*, 9 March.
https://doi.org/10.1126/science.caredit.abh4450

Maas, Bea; **Grogan, Kathleen E.**; **Chirango, Yolanda**; **Harris, Nyeema**; **Liévano-Latorre, Luisa-Fernanda**; **McGuire, Krista L.**; **Moore, Alexandria C.**; **Ocampo-Ariza, Carolina**; **Palta, Monica-Marie**; **Perfecto, Ivette**; **Primack, Richard B.**; **Rowell, Kirsten**; **Sales, Lilian**; **Santos-Silva, Rejane**; **Silva, Rafaela-Aparecida**; **Sterling, Eleanor J.**; **Vieira, Raísa R. S.**; **Wyborn, Carina**; **Toomey, Anne** (2020). “Academic leaders must support inclusive scientific communities during COVID-19”. *Nature ecology and evolution*, n. 4, pp. 997-998.
https://doi.org/10.1038/s41559-020-1233-3

McGaughey, Fiona; **Watermeyer, Richard**; **Shankar, Kalpana**; **Suri, Venkata-Ratnadeep**; **Knight, Cathryn**; **Crick, Tom**; **Hardman, Joanne**; **Phelan, Dean**; **Chung, Roger** (2021). “‘This can’t be the new norm’: academics’ perspectives on the COVID-19 crisis for the Australian university sector”. *Higher education research & development*, online first.
https://doi.org/10.1080/07294360.2021.1973384

Minello, Alessandra (2020). “The pandemic and the female academic”. *Nature. World view*, 17 April.
https://doi.org/10.1038/d41586-020-01135-9

Minello, Alessandra; **Martucci, Sara**; **Manzo, Lidia K. C.** (2020). “The pandemic and the academic mothers: Present hardships and future perspectives”. *European societies*, v. 23, Sup. 1, pp. S82-S94.
https://doi.org/10.1080/14616696.2020.1809690

Morin, Andréanne; **Helling, Britney A.**; **Krishnan, Seetha**; **Risner, Laurie E.**; **Walker, Nykia D.**; **Schwartz, Nancy B.** (2022). “Research culture: Surveying the experience of postdocs in the United States before and during the COVID-19 pandemic”. *Elife*, v. 11, e75705.
https://doi.org/10.7554/eLife.75705

Nicholas, David; **Jamali, Hamid R.**; **Watkinson, Anthony**; **Herman, Eti**; **Abrizah, Abdulah**; **Rodríguez-Bravo, Blanca**; **Boukacem-Zeghmouri, Chérifa**; **Xu, Jie**; **Świgoń, Marzena**; **Polezhaeva, Tatiana** (2020). “A global questionnaire survey of the scholarly communication attitudes and behaviours of early career researchers”. *Learned publishing*, v. 33, n. 3, pp. 198-211.
https://doi.org/10.1002/leap.1286

Nicholas, David; **Herman, Eti**; **Boukacem-Zeghmouri, Chérifa**; **Watkinson, Anthony**; **Sims, David**; **Rodríguez-Bravo, Blanca**; **Świgoń, Marzena**; **Abrizah, Abdullah**; **Xu, Jie**; **Serbina, Galina**; **Jamali, Hamid R.**; **Tenopir, Carol**; **Allard, Suzie** (2022). “Early career researchers in the pandemic-fashioned ‘new scholarly normality’: a first look into the big changes and long-lasting impacts (international analysis)”. *Profesional de la información*, v. 31, n. 4, e310418.
https://doi.org/10.3145/epi.2022.jul.18

Olena, Abby (2020). “COVID-19 ushers in the future of conferences”. *The scientist*, 28 September.
https://www.the-scientist.com/news-opinion/covid-19-ushers-in-the-future-of-conferences-67978

Penaflor, Ben (2021). “Physics in the pandemic: ‘We’ve been surprised at how easy it’s become to do high-level experiments from our homes’”. *Physics world*, 1 April.
https://physicsworld.com/a/physics-in-the-pandemic-weve-been-surprised-at-how-easy-its-become-to-do-high-level-experiments-from-our-homes

Peters, Diane (2020). “Women academics worry the pandemic is squeezing their research productivity”. *University affairs*, 7 July.
https://www.universityaffairs.ca/news/news-article/women-academics-worry-the-pandemic-is-squeezing-their-research-productivity

Radecki, Jane; **Schonfeld, Roger C.** (2020). *The impacts of COVID-19 on the research enterprise: A landscape review*. Ithaka S+R.
https://doi.org/10.18665/sr.314247

Redden, Elizabeth (2020). "Empty benches at empty lab tables". *Inside higher ed*, 30 March.
https://www.insidehighered.com/news/2020/03/30/nonessential-research-has-halted-many-campuses

Schleunes, Amy (2020). "Universities issue hiring freezes in response to Covid-19". *Science*, 26 March.
https://www.the-scientist.com/news-opinion/universities-issue-hiring-freezes-in-response-to-covid-19-67334

Smith, Chris; **Watchorn, Deirdre** (2020). "The pandemic is making it harder for researchers but women are hit the hardest. 4 findings from 80 countries". *Impact of social sciences blog*, 17 September.
https://blogs.lse.ac.uk/impactofsocialsciences/2020/09/17/the-pandemic-is-making-it-harder-for-researchers-but-women-are-hit-the-hardest-4-findings-from-80-countries

Watchorn, Deirdre; **Heckendorf, Esther**; **Smith, Chris** (2020). *Locked down, burned out: Publishing in a pandemic: The impact of COVID on academic authors*. Berlin, Germany: De Gruyter.
https://blog.degruyter.com/wp-content/uploads/2020/12/Locked-Down-Burned-Out-Publishing-in-a-pandemic_Dec-2020.pdf

Watermeyer, Richard P.; **Crick, Tom**; **Knight, Cathryn**; **Goodall, Janet** (2020). "COVID-19 and digital disruption in UK universities: afflictions and affordances of emergency online migration". *Higher education*, n. 81, pp. 623-641.
https://doi.org/10.1007/s10734-020-00561-y

Watermeyer, Richard P.; **Shankar, Kalpana**; **Crick, Tom**; **Knight, Cathryn**; **McGaughey, Fiona**; **Hardman**; **Joanna**; **Suri, Venkata-Ratnadeep**; **Chung, Roger Y-N.**; **Phelan, Dean** (2021). "'Pandemia': A reckoning of UK universities' corporate response to COVID-19 and its academic fallout". *British journal of sociology of education*, v. 42, n. 5-6, pp. 651-666.
https://doi.org/10.1080/01425692.2021.1937058

Williams, Tom (2022). "Remote working 'led to missed collaborations and groupthink'". *Times higher education*, August 23.
https://www.timeshighereducation.com/news/remote-working-led-missed-collaborations-and-groupthink

Woolston, Chris (2020). "Pandemic darkens postdocs' work and career hopes". *Nature*, v. 585, n. 7824, pp. 309-312.
https://doi.org/10.1038/d41586-020-02548-2

Woolston, Chris (2021a). "The state of science salaries/Stagnating salaries present hurdles to career satisfaction". *Nature*, n. 599, pp. 519-521.
https://doi.org/10.1038/d41586-021-03041-0

Woolston, Chris (2021b). "Scientists count the career costs of COVID". *Nature*, n. 599 (7884), pp. 331-334.
https://doi.org/10.1038/d41586-021-03040-1

Woolston, Chris (2021c). "'Keep your options open': postdocs offer advice on academic-research careers". *Nature, Career news*, 25 May.
https://doi.org/10.1038/d41586-021-01437-6

Woolston, Chris (2021d). "How burnout and imposter syndrome blight scientific careers". *Nature*, n. 599, pp. 703-705.
https://doi.org/10.1038/d41586-021-03042-z

Yan, Wudan (2020). "Early-career scientists at critical career junctures brace for impact of COVID-19". *Science magazine*, April 7.
https://doi.org/10.1126/science.caredit.abc1291

Evolution of the public problem of depopulation in Spain: longitudinal analysis of the media agenda

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Abstract

According to the sociology of public problems, the construction, visibility, and stabilization of a public problem require the mobilization of collectives of citizens interested in the issue, which act as an active entity in demanding actions and policies. One such issue is the depopulation of rural areas in Spain, which has shifted from a geographically localized problem to a matter of state policy. This article investigates the influence of framing in this process, analyzing a corpus of 5,980 headlines from newspapers in the Aragon, Castile-La Mancha, and Castile and Leon regions of Spain as well as from two national media outlets, corresponding to the period 2012–2021. Through the application of statistical analyses of lexical frequency in stages, the most significant terms in the evolution of the media's coverage of the issue have been identified, which has made it possible to observe the appearance and displacement of concepts and their relationship to the most important milestones of social and political mobilization. In addition, its power to stir up sentiment in socio-political discourse has been explored. The consolidation of depopulation as a stable element in the Spanish media agenda, going beyond the regional sphere and having a presence dissociated from specific events through time, in contrast to what occurred some years ago, stands out. Finding a media-friendly frame -empty Spain [*España vacía*] and emptied Spain [*España vaciada*]- may have been a key element in this.

Keywords

Media agenda; Depopulation; Public sphere; Public problem; Discourse analysis; Emptied Spain; Empty Spain; Text mining; Press headline; Newspapers; Framing.

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1. Introduction[1]

The 1960s saw a migratory phenomenon in Spain that has been commonly called the "rural exodus" ["*éxodo rural*"] (**Collantes**; **Pinilla**, 2019; **Pinilla**; **Sáez**, 2021) and that led, on the one hand, to a population displacement toward the large cities and the coast, and on the other hand, to a gradual aging of the population in rural areas owing to the lack of generational renewal. These shifts, although not too different from those experienced in other European countries (**Collantes**; **Pinilla**, 2019), have had more extreme demographic effects in Spain because, in comparison, the total population is low and highly concentrated (**Gutiérrez** *et al*., 2020); this has led to a large area of the territory suffering the effects of depopulation (**Cerdà**, 2016).

The first citizen movements claiming that there was an inequality regarding public services inherent to these demographic imbalances sprang up in Teruel in 1999. However, until 2019, with the demonstration known as the "revolt of emptied Spain" ["*revuelta de la España vaciada*"], the demands and discontent of affected groups had not converged, turning a geographically localized social problem into a public problem for all citizens and even into a state policy (**Sáez-Pérez**, 2021). It is evident that depopulation has caused obstacles that should be understood as a common challenge. Some studies point to the existence of persistent myths and stereotypical representations that could have operated as limits or barriers to this (**Del-Molino**, 2016; **Moyano-Estrada**, 2020). However, that is currently a shared reference as evidenced by its incorporation into the barometer of the Sociological Research Center (*CIS*, 2019), where the population was specifically asked whether they had heard of the demographic challenge (24.2% responded affirmatively) and of depopulation (82.4%). In both cases, 85.6% and 88.5% of respondents, respectively, considered this to be a fairly serious or very serious problem. More significant is that, the following year, "Emptied Spain, depopulation" ["*La España vaciada, la despoblación*"] (*CIS*, 2020) appeared as an unsolicited response regarding the country's main problems for a segment of the population, going from being cited by 0.1% to 0.6% in February 2022 (*CIS*, 2022). These data also confirm that this problem is identified with a frame that has prevailed over others in public opinion.

1.1. State of affairs

This study is part of a broader body of research that asks to what extent the mobilized audiences' adaptation to media logics (**Cefaï**, 2016) has acted as a catalyzing factor that explains the growing importance of depopulation, not only as an agenda item (**Campo-Vidal**, 2021) but also as it has emerged as a public issue. After decades of disparate action, the influence of cross-regional citizen activism, recent institutional measures, and the greater involvement of the population have paved the way for it to become a collective concern. This study is based on the paradigm of mediatization (**Scolari**; **Rodríguez-Amat**, 2018), understood as a long-term macro-process whereby social phenomena of all kinds are interdependent on media institutions and technological mediations (**Jansson**, 2017); hence, the understanding and analysis of sociocultural, political, and economic processes require the incorporation of the communicative dimension. As part of the pragmatic theories (**Dewey**, 2004), the approach to public problems (**Cefaï**, 2016; **Gusfield**, 2014; **Peñamarín**, 2017) argues that, although social problems may exist, they will not become matters of collective interest in the public arena until the stakeholders manage to arouse interest and label the issue as a phenomenon that requires solutions and the intervention of public institutions to resolve the problem (**Guerrero-Bernal** *et al*., 2018). This involves obtaining media attention, managing to make the problem an agenda item, broadening the base of the stakeholders involved and committed to it, and connecting the different public arenas –economic, political, academic, and activist– through the intermediation of the media arena (**Alcácer-Guirao**; **Fouce**, 2020; **Peñamarín**, 2020). During recent decades, this has been the work of the stakeholders involved in the fight against depopulation and the welfare of the affected areas (**Sáez-Pérez**; **Ayuda**; **Pinilla**, 2016).

From this perspective, depopulation is not merely a demographic and geographical process; it is also a sociocultural and political one, in which cultures and self-identities are shaped (**Bryant**; **Paniagua**; **Kyzos**, 2011) and specific affective configurations intervene (**Álvarez-Muguruza**, 2021; **Paniagua**, 2019), and which is connected to metaphors and myths inscribed in the collective memory (**Del-Molino**, 2016) and in cultural productions (**Martínez-Puche** *et al.*, 2022; **Paniagua,** 2018). In research about this phenomenon, the incorporation of the mediatization dimension is therefore unavoidable, given that the media are intrinsic to the shaping and functioning of institutions and social practices and that the experience of depopulation cannot be isolated from the expectations that people set on places and that are shaped by the common imaginaries that they propagate, as explained by the communication geography perspective (**Adams** *et al*., 2017; **Adams**; **Jansson**, 2012; **Andersson**; **Jansson**, 2010; **Brantner**; **Rodríguez-Amat**; **Belinskaya**, 2021; **Jansson**; **Lindell**, 2018).

Academic interest in depopulation has mainly come from sociology, geography, and economic science, with limited attention from communication studies (**Galletero-Campos**; **Saiz-Echezarreta**, 2022). Internationally, scientific output on the presence of this issue in the media is scarce, with only a few case studies in the United States (**Dando**, 2009), Sweden (**Eriksson**, 2008), and Germany (**Christmann,** 2016). Another paper examines local government communication on demographic change, also in Sweden and Germany (**Syssner**; **Sieber**, 2020). In Spain, one can only find a single qualitative study about the media's treatment of this issue prior to the emergence of the media's interest in it (**Sanz-Hernández**, 2016) and another focused on the perspective of journalism professionals in rural areas (**De-Sola-Pueyo**, 2021).

Among others, one way to explore the connection between depopulation and mediatization processes is to understand how this public problem has been included in the media agenda (**McCombs**, 2004), when it is incorporated as an issue that meets newsworthiness criteria, what volume of coverage it receives, and what predominant frames are used for its treatment in the media (**Goffman**, 2006 [1975]). This article analyzes the first level of the agenda (importance given) and makes a preliminary approach to the second level, considering the prevalence of certain ways of naming or categorizing the problem through framing. The longitudinal analysis provides access to an archive of the configuration process and the evolution of this public problem, as well as the long-term capacity for influence and success of the communities mobilized around this issue.

1.2. Objectives

This article analyzes a corpus of headlines. Its study as the main and synthetic component of the journalistic message is based on the fact that, according to quantitative epistemological assumptions, it

> "not only can the headline serve as an index by attracting attention to a particular item, but it may also serve as an index in terms of influencing the interpretation of a story" (**Tannenbaum,** 1953, p. 189).

In addition, it acts as a sign of the editorial position of the media outlet; hence, given its importance, it often

> "is the responsibility not of the journalist who is the author of the text, but of the editor-in-chief or even the director of the media outlet" ["*no queda a cargo del periodista autor del texto sino de su redactor jefe o incluso del director del medio*"] (**Francescutti,** 2009, p. 243).

The content of a headline and its semantic and connotative aspects construct social moods as they are repeated over time.

In a broad sense, the analysis of media coverage makes it possible to identify milestones in the evolution of the problem –understood as a sign of the significance of initiatives, conflicts, and moments of opportunity– and discover the emergence and organization of the most relevant stakeholders, both historical (public administrations, political parties) and that may have emerged in a specific way (citizen groups, platforms).

2. Material and methods

2.1. Sample

In this study, we focused on newspapers that come from autonomous communities in which the provinces with the lowest population density are located: Soria, Teruel, and Cuenca, with 8.61, 9.08, and 11.40 inhabitants/km^2, respectively[2]. For each autonomous community, the regional newspaper with the highest circulation according to *OJD* and the provincial newspaper published in each province indicated were chosen, viz. *El Norte de Castilla* and *Diario de Soria* in Castile and Leon and *Heraldo de Aragón* and *Diario de Teruel* in Aragon. Since no regional newspapers are published in Castile-La Mancha, four newspapers were chosen: *Nueva Alcarria*, *Lanza* and the editions of the *Tribuna* group, *La Tribuna de Albacete*, and *La Tribuna de Cuenca* in Castile-La Mancha. The first two are the benchmark newspapers in their provinces, Guadalajara and Ciudad Real, whereas the other two have been the only newspapers published in Albacete and Cuenca since 2013, which makes a complete analysis of the entire period possible.

In addition, two national newspapers were chosen with the aim of obtaining comparative results: *El País*, as a benchmark newspaper, and a digital native, *elDiario.es*, which reports on the current affairs of the regions studied in specific sections, making a total of nine media outlets.

Once the selection was made, the *My News* exploration tool was used to compile all the journalistic pieces in print and digital editions that contained any of the following keywords in the headline or subheading: "depopulation" ["*despoblación*"] as well as its derivative "depopulated" in its feminine and masculine forms ["*despoblado/a*"], "empty Spain" ["*España vacía*"], "emptied Spain" ["*España vaciada*"], or "demographic challenge" ["*reto demográfico*"]. The use of these keywords corresponds to the monitoring of the issue in the media, the prevalence of these terms when referring to the phenomenon of depopulation, and the aim of comparing the evolution of the framing. Thus, between 2003 and 2021, 9,271 headlines that matched the search criteria were found. However, because the same headline could appear several times owing to the presence of different keywords, the texts were cleaned and formatted using the open-source tool *Open Refine*, eliminating redundancies. In addition, owing to the disparity in the dates for the collections available in the database, we worked with two subsets of data. The first subset includes the media outlets *El País*, *El Norte de Castilla*, *Heraldo de Aragón*, and *Lanza*, whose data were accessible for the period from 1 January 2003 to 31 December 2011 (498 pieces), whereas the second subset of data covers 2012–2021, the period for which the output from the nine selected media outlets has been collected. This leads to a final sample of 5,980 unique headlines. On the basis of the analysis of the evolution of production over these 10 years, as discussed in the "Results" section, three time frames have been established for the analysis of texts, with the aim of detecting similarities or differences between the most frequently used words.

2.2. Preparation and analysis of texts

The texts associated with the unique headlines collected were preprocessed using *MATLAB 2021a* data processing software (**Bednarek**; **Carr**, 2021). First, each headline was broken down into words, removing punctuation marks and spaces. In addition, a dictionary of Castilian Spanish words lacking meaning ("stop words," such as conjunctions or articles) was used to eliminate them from the corpus, although some prepositions and prepositional locutions –such as "against" ["*contra*"], "facing" ["*frente a*"], and "for" ["*por*" and "*para*"]– have been kept owing to their relevance to the configuration of discursive frames (**Bugueño-Miranda**; **Sita-Farias**, 2011). Likewise, all capitalized words were placed in lower case, and a nearest-neighbor clustering algorithm (**Ishii** *et al*., 2006) has been applied with the aim of grouping all words with similar morphological and orthographic variants under the same term.

Once the sample was preprocessed, different statistical analyses were carried out to highlight the nature of the discourse (**Touri**; **Koteyko**, 2015) and its distribution over time. First, to analyze the relative frequency of the headlines in each time frame, histograms were calculated for each media outlet by year of study, for each subset, and for each corpus. In the same way, the word frequencies of each stage have been obtained to understand the thematic orientation of the text considered, and the statistics corresponding to the log likelihood G^2 were estimated to compare the terminological differences among different corpora (**Rayson**; **Garside**, 2000). Thus, this measurement enabled the extraction of the words that are significantly more frequent in one stage than in others so that, the higher the G^2 statistic, the more significant the difference in word frequency between two corpora. In this sense, values higher than 10.83 would be equivalent to a statistical significance of $p < 0.001$ with a confidence of 99.9%.

Finally, to explore the semantic context of the corpora, we considered the co-occurrences of words, that is, the tendency of two or more words to appear in association with each other in a text, either consecutively or in proximity to each other, calculating concurrence as long as the two co-occurring elements did not exceed the total size of each headline. In addition, the shared information for each frequent word and its co-occurrence has been evaluated, obtaining the degree of association between lexical and grammatical words. This relationship between co-occurrences and degree of association has been represented through graphs to make visualization easier (**Rifón**, 2020). In them, the greater the thickness of the line connecting two terms, the greater the degree of association between them.

3. Analysis and results

3.1. Volume of production and hegemonic frames of meaning

The production of news in the period 2003–2011 in the four newspapers available in the database (n = 498 pieces) confirms that, for years, depopulation failed to capture the interest of the media, either at national level or in the affected territories, with the exception of *El Norte de Castilla*, where it was a substantial element of the editorial line. Indeed, this newspaper from Castile and Leon accounts for 85% of the news published during these years. In this autonomous community, in 2010 the regional government approved the Agenda for the Population of Castile and Leon 2010-2020 [*Agenda para la población de Castilla y León 2010-2020*], one of the first tools for action on this issue.

Considering the whole corpus between 2012 and 2021 (n = 5,980), Figure 1 indicates an increase in attention starting in 2013, confirming that depopulation started to appear in the journalistic agenda in the three regions. This growth was much more accentuated between 2016 and 2019 in nearly all the media, including national media, although *El País* incorporated coverage on the subject later. Once again, *El Norte de Castilla* stood out above the other media outlets, but the media from Aragon were also showing more interest. For the media from Castilla-La Mancha, on the other hand, this subject did not appear in the keyword framework until 2018. The increase in new items in *Heraldo de Aragón* in 2017 is significant. That year, the *Chair on Depopulation and Creativity* of the *University of Zaragoza* was created, as mentioned in several news items. The upward progression shows a turning point in 2019, coinciding with the massive demonstration in Madrid, when depopulation entered fully into the electoral political discourse (**López-Ruiz**, 2021) and an upsurge occurred in journalistic attention to this issue that, despite the decline in 2020 with the outbreak of the pandemic and the consequent change in the focus of interest, restarted in 2021 at levels higher than those recorded before the citizen mobilization. In that year, the newspaper from Aragon stood out, with a higher production than the other regional newspapers and *Diario.es*, showing a clear publishing initiative around the subject.

By extracting the 55 most repeated lemmatized terms in the corpus as a whole, it was observed that the hegemonic discursive frame shows depopulation as something that must be fought against or combatted, or that must be stopped. What stood out were the verbs of action that are characteristic of the development of a public problem –"asks" ["*pide*"], "claims" ["*reclama*"], and "proposes" ["*propone*"]– and the mention of public policy tools: "measures" ["*medidas*"], "laws" ["*leyes*"], "funds" ["*fondos*"], "plan" ["plan"], "strategy" ["*estrategia*"], "funding" ["*financiación*"], "pact" ["*pacto*"], and "project" ["*proyecto*"]. Another semantic field that emerged is the toponyms related to the affected areas such

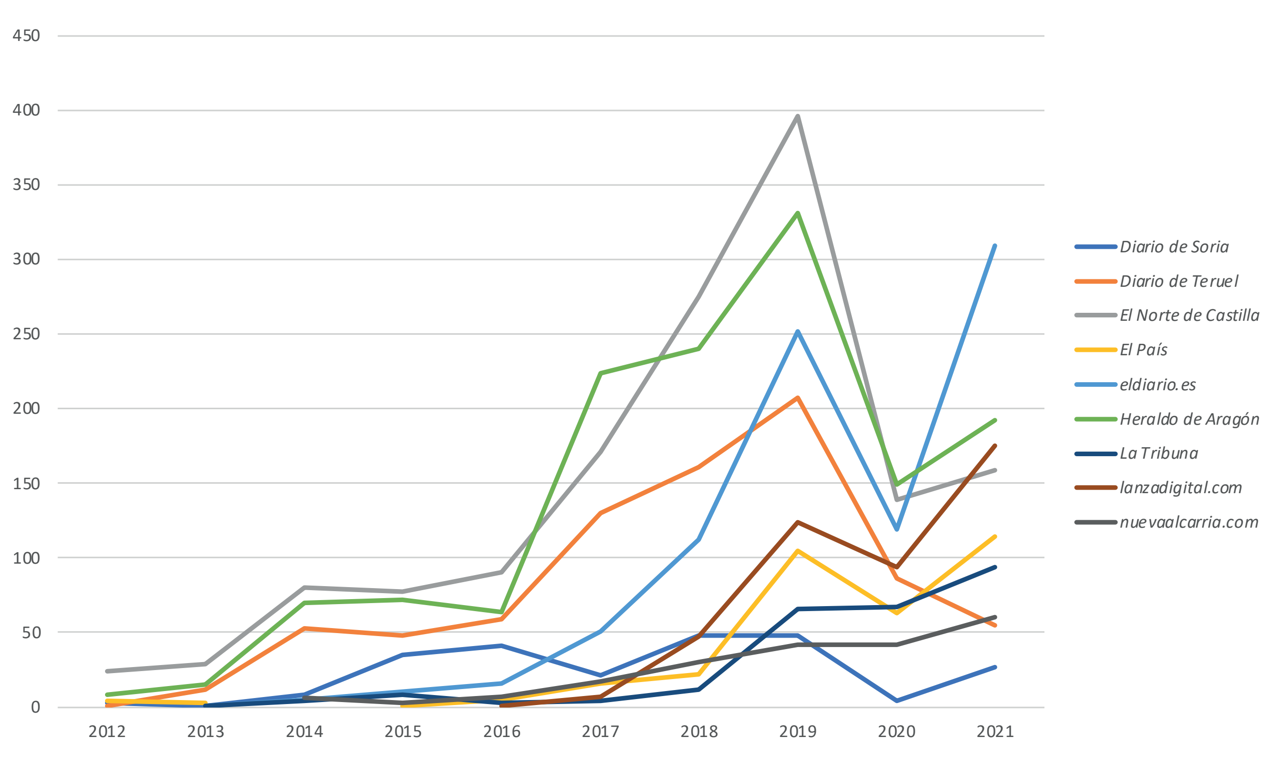

Figure 1. Annual variation in the number of pieces per media outlet, 2012-2021 (n = 5,980)

as Teruel, Aragon, Soria, Cuenca, Castile-La Mancha, and Castile and Leon, but also related to other abstract spaces such as "rural" and "village" ["*pueblo*"]. In this group, Teruel and Soria appear more than the rest of the terms because they are found in the names of the political parties *Teruel Existe* and *Soria Ya.* As for the institutional stakeholders, the role of "provincial councils" ["*diputaciones*"], "regional government" ["*Junta*"] (used to define the autonomous government in the two Castiles), and, to a lesser extent, "Congress" ["*el Congreso*"] and the "Senate" ["*Senado*"] are important. The word "Government" ["Gobierno"] is one of the most commonly used words because it is versatile.

3.2. Discursive shifts

To observe the emergence, stabilization, or modification of the terms and frames, as well as to identify the events that have set the agenda in the 10 years studied, we have defined three time intervals in the sample, which guide the statistical analyses for the comparison of the corpora.

3.2.1. January 2012 to 5 April 2016

The appearance of the first headline reviewing the book *Empty Spain* [*La España vacía*] by **Del-Molino** (2016), a moment that represents a significant discursive change by introducing a syntagm that was not used until then, was established as the end point of the first period. There are a number of terms that identify this first stage in a significant way, relative to the rest of the corpus (April 2016 to December 2021).

The political parties ("PSOE," "UPyD," and "PAR") are more prominent than in later stages, as they would be displaced by new stakeholders and platforms. Their appearance is consistent with a time of political discussion that coincides, on the one hand, with the work that led to the creation of a specific submission to the *Senate* (2015) and, on the other, with the negotiation for European funds for 2014-2020. Of note are the provinces of Soria, Teruel, and Cuenca, leading the way in articulating complaints together ("unity" [*unidad*]). The years

Table 1. Keyword corpus (1 January 2021 to 5 April 2016 versus 6 April 2016 to 31 December 2021)

Term	Frequency	Keyness (log likelihood G^2)
PSOE	67	69,660
Senate [*Senado*]	36	63,126
Soria	56	56,215
Cuenca	39	53,240
Funds [*fondos*]	50	51,348
Presentation [*ponencia*]	10	46,346
Depopulation [*despoblación*]	545	41,983
UPyD	8	37,074
Entrepreneurs [*empresarios*]	16	33,124
Teruel	73	32,922
Stop [*frenar*]	48	26,870
Suárez	7	26,617
Employer [*patronal*]	12	24,836
PAR	12	19,807
Employers [*patronales*]	6	19,220
EU	29	18,933
Unity [*unidad*]	10	18,517

when affected territories connected were 2013 and 2014, to be exact, during which the word "lobby" was used for the first time (23 July 2013), and other autonomous communities (Asturias, Extremadura, and Galicia) were mentioned. The prevailing expression was "to stop" ["*frenar*"] depopulation, calling for the adoption of a common position before European bodies, in the *Senate*, etc., rising above the autonomous and provincial fragmentation.

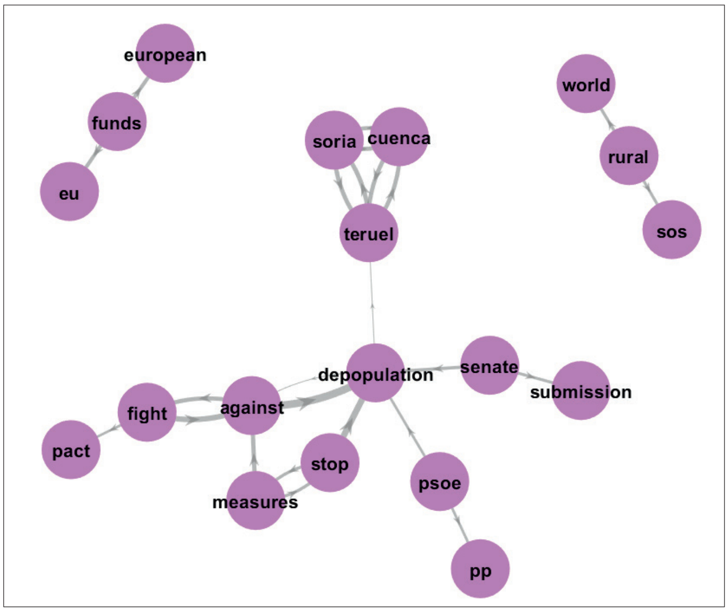

Figure 2. Graph of co-occurrences, sample 1 from January 2012 to 6 April 2016 (n = 637)

Another salient feature is the emergence of another stakeholder, viz. employers and entrepreneurs, who would later lose visibility to the detriment of social organizations and institutional spokespeople. The explanation for this lies in the creation in 2016 of one of the first interprovincial networks, the Network of Sparsely Populated Areas in Southern Europe [*Red de Áreas Escasamente Pobladas del Sur de Europa*], founded by business organizations from Cuenca, Soria, and Teruel to promote fiscal and legislative measures for depopulated areas. The link between these three territories can also be seen in the graph of co-occurrences (Figure 2), which visualizes the topics surrounding depopulation: the national pact with specific measures requested by six autonomous communities, the submission presented to the *Senate*, and the political parties. This was a volatile period for this phenomenon, characterized by vindictive speeches (**Sanz-Hernández**, 2016), in the context of autonomic elections and attracting attention in Europe. The isolated cluster –SOS Rural World [*SOS Mundo Rural*]– corresponds to an association from Aragon with this name.

3.2.2. 6 April 2016 to February 2020

The publication of the book by **Del-Molino** (2016) implies, especially in emotional and affective terms, that the affected areas identified with a feeling of belonging to another country, another Spain. It thus introduces a new meaning to an issue that has since achieved the recognition of populations not directly affected by the problem. This second time interval runs from that moment until the outbreak of the Covid pandemic, a breakdown in all matters on the public agenda.

The graph of co-occurrences shows that, while maintaining some associations that were already common in the previous period, a grouping of terms around "empty Spain" ["*España vacía*"] and "emptied Spain" ["*España vaciada*"] emerged. The "revolt" ["*revuelta*"] is worthy of mention, being observed to be associated with "repopulation" ["*repoblación*"]. Also noteworthy is the addition of the adjective "concrete" ["*concretas*"] to the word "measures" ["*medidas*"] in a call to action. Both co-occurrences reflect a problem-solving discourse. The construction "rural environment" ["*medio rural*"] also appears, which implies a more global perspective as opposed to other frames (for example, "village" ["*pueblo*"]) that limit the problem to specific territories. Specifically, it is in keeping with a perspective that overcame viewpoints that, for years, had led to an identification of the rural with the agrarian legacy of the Democratic Transition in Spain. This perspective, on which public policies had been based, would have ignored the development possibilities in these areas, where the population has been making a living for decades from activities outside of the primary sector (**Collantes**, 2020).

Table 2 presents the terms that emerged with respect to the previous period and also those that, significantly, appear at this stage but that do not appear later.

Table 2. Comparison of the corpora

Keyword corpus (6 April 2016 to 1 February 2020 *versus* 1 January 2012 to 6 April 2016)			**Keyword corpus (6 April 2016 to 1 February 2020 *versus* 1 March 2020 to 31 December 2021)**		
Term	**Frequency**	**Keyness (log likelihood G^2)**	**Term**	**Frequency**	**Keyness (log likelihood G^2)**
Spain [*España*]	709	151,333	Depopulation [*despoblación*]	2,699	75,387
Emptied [*vaciada*]	420	128,424	Rajoy	40	32,934
Empty [*vacía*]	181	55,104	Demonstration [*manifestación*]	48	23,221
Cs	68	20,660	Herrera	28	23,050
Revolt [*revuelta*]	64	19,443	World [*mundo*]	45	21,125

The new terms are those indicated in Figure 3, and to this we add the media attention paid to *Ciudadanos* (*Cs*), which in March 2018 promoted the creation of a law for depopulation reversal in the *Congress* that would define the affected areas and establish measures. However, only this party voted in favor of the proposal. Regarding the words that appear in this time frame but not the subsequent corpus, it is evident how the pre-eminence of political parties that was apparent in previous years was supplanted by governmental spokespeople, among whom Mariano Rajoy, President of the Government and notable for creating the role of *Government Commissioner for the Demographic Challenge*, and Juan Vicente Herrera, President of the Regional Government of Castile and Leon until 2019, stand out. The most common word is "depopulation" ["*despoblación*"], which loses prominence from 2019 onward, as the terms "empty Spain" ["*España Vacía*"] and, to a greater extent, "emptied Spain" ["*España Vaciada*"] gradually become established as central concepts in the coverage.

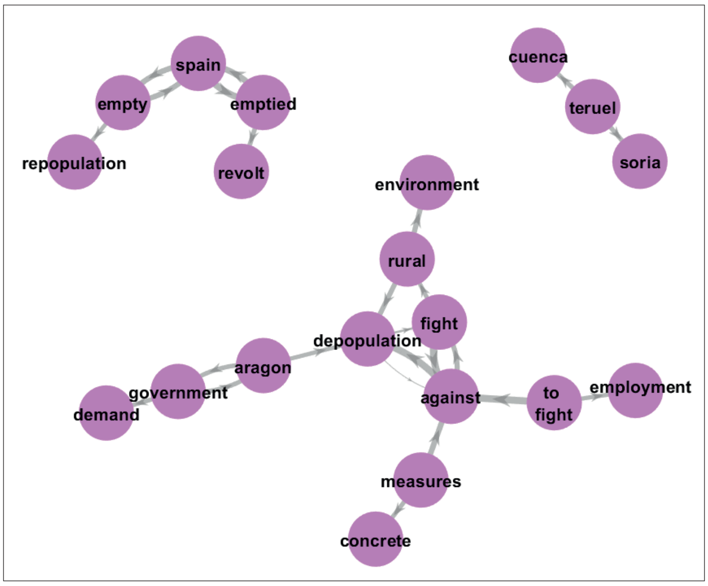

Figure 3. Graph of co-occurrences, sample 7 from April 2016 to 28 February 2020 (n = 3,641)

3.2.3. March 2020 to December 2021

The final time interval starts with the outbreak of the pandemic and extends until December 2021. The significant words from this stage are grouped into three main frames:

- as expected, mentions of the pandemic and the Commission for the Social and Economic Reconstruction of Spain appeared after Covid-19 ("pandemic" ["*pandemia*"], "coronavirus", "covid", "reconstruction" ["*reconstrucción*"]);
- we identified another milestone, the approval of a specific law in Castile-La Mancha, Law 2/2021, on May 7, for Economic, Social, and Tax Measures against Depopulation and for the Development of the Rural Environment, placing this autonomous community center stage ("law" ["*ley*"], "Castile-La Mancha" ["*Castilla-La Mancha*"], "Castiles" ["*Castillas*"], "Page"); and
- an organized civil society ("platforms" ["*plataformas*"]) prevailed and became more coordinated after the citizen mobilization in 2019, as evidenced by the celebration of subsequent anniversaries.

Table 3. Keyword corpus (6 April 2016 to 1 February 2020 *versus* 1 March 2020 to 31 December 2021)

Term	Frequency	Keyness (log likelihood G^2)
Spain [*España*]	628	160,505
Law [*ley*]	123	154,053
Emptied [*vaciada*]	389	112,582
Castile-La Mancha [*Castilla-La Mancha*]	102	78,336
Pandemic [*pandemia*]	15	35,730
Coronavirus	13	30,965
Empty [*vacía*]	147	30,308
Covid	12	28,582
Reconstruction [*reconstrucción*]	12	28,582
Eurocaja	10	23,817
Pioneering [pionera]	12	22,256
Castiles [*Castillas*]	9	21,435
Regional	46	20,592
Facing [*frente*]	84	20,442
Platforms [*plataformas*]	27	20,440
Page	22	19,902
Risk [*riesgo*]	34	19,715

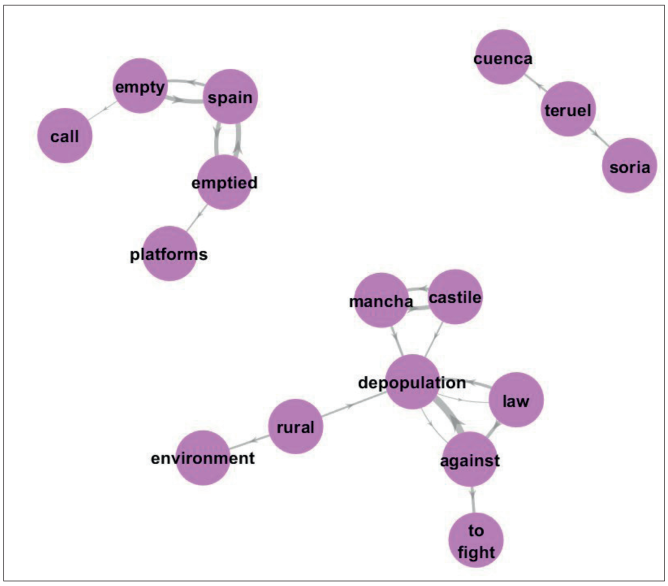

Figure 4. Graph of co-occurrences, sample 1 March 2020 to 31 December 2021 (n = 1,702)

In the final two years, there was an increase in the use of the term "emptied Spain" ["*España vaciada*"], a concept used by demonstration organizers to reaffirm that they are passive subjects of a phenomenon that is not natural but rather provoked, and therefore, there are people responsible. From that moment on, the concept was personified in the media, finding in this label a way to bring together the affected groups that made it easier to communicate their demands. The economy of journalistic language and the significant density of the expression made it easier for journalists to settle on two words that brought together many meanings. Thus, while "empty Spain" ["*España vacía*"] was used to define a geographical area or to designate the leaders of the affected autonomous communities, "emptied Spain" ["*España vaciada*"] took on a civic nature and a spirit of protest that served to identify both an organized collective and the population of these areas. Since 2019, diverse organizations have begun to form coordinating networks in each autonomous region of Emptied Spain, which reaffirms the prevalence of this syntagm.

The graph of co-occurrences (Figure 4) shows an association of the word "empty" ["*vacía*"] with "call" ["*llamada*"], the latter being used in the headlines in two senses: as a wake-up call and as someone being called to do something.

3.3. Regional versus national comparison

Although there are patterns common to the entire sample, some specific characteristics of the media in each region can be identified, whether owing to the events surrounding or the development of specific public policies, the adoption of specific frames, or the differences in the map of local and regional stakeholders. In the case of Castile-La Mancha, in addition to the importance of the law (G^2 = 247,985), called "pioneering" ["*pionera*"] (G^2 = 17,798) by the Government of Castile-La Mancha, "water" ["*agua*"] (G^2 = 29,949) was a central issue, as it has been a historical demand of the territory, which has called for a reassessment of the Tajo–Segura aqueduct. The media rely on institutional sources, as their headlines reflected; however, in addition to government representatives, the presence of rural women's organizations, *Amfar* (G^2 = 26,261) and *Afammer* (G^2 = 17,999), is a singular element.

In the media in Aragon, the provincial councils (*Provincial Council of Zaragoza* [DPZ], G^2 = 37,113; *Provincial Council of Teruel* [DPT], G^2 = 26,252, and *Provincial Council of Huesca* [DPH], G^2 = 26,252) have greater visibility, and the historical prominence of the Province of Teruel is also apparent through the mention of the association and, later, the political party *Teruel Existe* (G^2 = 48,358). The words showing the greatest contrast also include the demonyms "*aragoneses*" [people from Aragon] and "*turolenses*" [natives of Teruel], which can be understood as a strengthening of the identity of the territory that is not observed in other regional coverage. Finally, of note is the incorporation of a term from the academic field, "Celtiberian Mountains" ["*Serranía Celtibérica*"] (G^2 = 18,719), which was proposed by researcher Francisco Burillo from the *University of Zaragoza* and became established with the creation of the *Institute for Research and Rural Development of the Celtiberian Mountains* in 2012 (**Burillo-Cuadrado**; **Rubio-Terrado**; **Burillo-Mozota**, 2019).

The coverage of Castile and Leon during the period studied did not present any noteworthy milestones and was the least distinct from the rest of the group. Only the importance of Soria (G^2 = 47,145), the epicenter of activism in the autonomous community, stands out.

The comparison of the corpus of national media with regional media reveals significant differences in the use of the terms "empty Spain" ["*España vacía*"] and "emptied Spain" ["*España vaciada*"], more markedly so in *El País*, where the former is more common (G^2 = 371,573), suggesting a more objective treatment. In this sense, it is also statistically significant that the term "depopulation" ["*despoblación*"] appears less frequently in the national media and that they do not use the lexical construction "against depopulation" ["*contra la despoblación*"] as often, which could be indicative of less interest in the active pursuit of measures or strategies for action on the part of those territories that are not directly affected. Among the terms characteristic of these media outlets, the word "village" ["*pueblo*"] (G^2 = 60,767) stands out as a way to activate a symbolic location in the imaginary; the rhetoric of "risk" ["*riesgo*"] (G^2 = 29,636), evoking the possibility of exclusion from a community; and the idea of "filling" ["*llenar*"] (G^2 = 18,926), forming a space that is understood as "in need" ["*necesitado de*"].

4. Discussion and conclusions

The evolution of media attention to the phenomenon of depopulation confirms its recent establishment as a contemporary public problem. After its emergence, the type of coverage has now changed and no longer follows a cyclical pattern based on fundraising periods, demographic updates, or electoral periods, as was the case until 2016 (**Sanz-Hernández**, 2016); rather, it has established itself as a perennial issue in the media agenda that remains of interest after the pandemic.

As shown by coverage and academic research (**Sáez-Pérez**; **Ayuda**; **Pinilla**, 2016), during the first decades of the century, there were not only local community movements but also some national proposals to address this reality, although they did not achieve the impact that public policies and citizen activism have had after the "revolt of emptied Spain" ["*revuelta de la España vaciada*"], which managed to strengthen that discursive frame. While the concept of "demographic challenge" ["*reto demográfico*"] has not yet taken hold in the media, it is confirmed that the change in frame –the shift from "depopulation" ["*despoblación*"] to "empty Spain" ["*España vacía*"] and then to "emptied Spain" ["*España vaciada*"]– does seem to have acted as a driver to, on the one hand, connect those affected by the problem and, on the other, encourage engagement from the population at large. In the media, this facilitated the condensing of a complex issue into a concept that allowed for the creation of imaginaries and the forming of a political subject, two dimensions that are in keeping with journalistic production methods.

This study shows that communication is a dimension that should be considered in the analysis of demographic processes, usually observed from an economic or geographic perspective.

This first quantitative survey does not address the symbolic construction of the discourse and does not allow us to conclude whether there is a consistent narrative for a malleable concept that, as **Sanz-Hernández** (2016, p. 111) indicates, is sometimes shown as a “cause/consequence of” [“*causa/consecuencia de*”] and sometimes as an “opportunity or threat to” [“*oportunidad o amenaza para*”], but fundamentally is built on, negative connotations (**De-Sola-Pueyo**, 2021). However, it lays the groundwork for future research that will delve deeper into the way in which the media interpret the different conflicting visions of depopulation, observing whether they portray it as a homogeneous or diverse phenomenon –taking an objective approach or taking into account the subjectivity of the affected areas– or whether they identify it with the processes of the urban environment, among other things.

Although it has been proven that the media have incorporated depopulation as an agenda item, it will be necessary to study whether this is a passing trend or whether it will remain steady over time as one more element of editorial lines. In this sense, it may be linked to other issues related to sustainability, such as climate change, or to concerns such as the demographic evolution resulting from the declining birth rate, among other things. Whatever the case, this problem requires reflection on the work performed and the media’s responsibility when it comes to the demographic challenge. In their coverage, they need to strike a balance between giving a voice to the protagonists involved from a local perspective and promoting the consideration of what the loss of places means (for everyone) at a cultural, ecological, and emotional level. This implies, especially for the national media, avoiding an objective view and the homogenization of the phenomenon under a single label, and instead paying attention to the different political agendas, organizational networks, modes of participation, and particular cultures in each territory.

In the future, the issue of the influence of mediatization on the emergence of depopulation as a public problem will help to elucidate to what extent the strengthening of new discursive frames such as those detected in the analysis has activated a public capable of investigating and experimenting to find solutions to the challenge that depopulation poses for Spain as a whole.

5. Notes

1. The notion of a “public problem” is understood from the pragmatist perspective of John Dewey, who adopts the postulates of **Gusfield** (2014) and the French school of authors such as **Cefaï** (2016). This theoretical approach holds that the existence of a public problem requires the existence of a public mobilized around the phenomenon who are capable of investigating, experiencing, and articulating their discomfort about the problem to produce and demand changes in the situation.

2. Data calculated on the basis of the number of inhabitants on 1 January 2021 in the municipal census of the *National Institute of Statistics* and the geographical size registered in the *National Geographic Institute*.

6. References

Adams, Paul C.; **Cupples, Julie**; **Glynn, Kevin**; **Jansson, André**; **Moores, Shaun** (eds.) (2017). *Communications /Media/ Geographies.* New York. Routledge. ISBN: 978 1 1388 24 34 8

Adams, Paul C.; **Jansson, André** (2012). “Communication geography: A bridge between disciplines”. *Communication theory*, v. 22, n. 3, pp. 299-318.
https://doi.org/10.1111/j.1468-2885.2012.01406.x

Alcácer-Guirao, Rafael; **Fouce, Héctor** (2020). “Emociones tóxicas en la nueva esfera pública: controversias mediáticas y discurso del odio”. *Revista mediterránea de comunicación*, v. 11, n. 2, pp. 123-135.
https://www.doi.org/10.14198/MEDCOM2020.11.2.18

Álvarez-Muguruza, Iraide (2021). “Indagaciones encarnadas sobre el deseo de irse de las mujeres rurales jóvenes”. *Journal of development studies*, v. 10, n. 1, pp. 288-308.
https://doi.org/10.26754/ojs_ried/ijds.561

Andersson, Magnus; **Jansson, André** (2010). “Rural media spaces: Communication geography on new terrain”. *Culture unbound*, v. 2, n. 2, pp. 121-130.
https://doi.org/10.3384/cu.2000.1525.1028121

Bednarek, Monica; **Carr, Georgia** (2021). “Computer-assisted digital text analysis for journalism and communications research: introducing corpus linguistic techniques that do not require programming”. *Media international Australia*, v. 181, n. 1, pp. 131-151.
https://doi.org/10.1177/1329878X20947124

Brantner, Cornelia; **Rodríguez-Amat, Joan-Ramon**; **Belinskaya, Yulia** (2021). "Structures of the public sphere: Contested spaces as assembled interfaces". *Media and communication*, v. 9, n. 3, pp. 16-27.
https://doi.org/10.17645/mac.v9i3.3932

Bryant, Raymond L.; **Paniagua, Ángel**; **Kizos, Thanasis** (2011). "Conceptualising 'shadow landscape' in political ecology and rural studies". *Land use policy*, v. 28, n. 3, pp. 460-471.
https://doi.org/10.1016/j.landusepol.2010.09.005

Bugueño-Miranda, Félix-Valentín; **Sita-Farias, Virginia** (2011). "Sobre las palabras y su clasificación según su contenido. Los problemas para el lexicógrafo". *Revista de filología*, n. 29, pp. 9-19.
https://riull.ull.es/xmlui/bitstream/handle/915/13532/RF_29_%282011%29_01.pdf

Burillo-Cuadrado; **María-Pilar**; **Rubio-Terrado, Pascual**; **Burillo-Mozota, Francisco** (2019). "Strategies facing the depopulation of the Serranía Celtibérica within the framework of the European cohesion policy 2021-2027". *Economía agraria y recursos naturales*, v. 19, n. 1, pp. 83-97.
https://doi.org/10.7201/earn.2019.01.05

Campo-Vidal, Manuel (2021). *Estudio de percepción de los avances realizados en la España despoblada desde el 31 de marzo de 2019*. Next Education-Fundación AXA.
https://documentacion.fundacionmapfre.org/documentacion/publico/es/bib/175221.do

Cefaï, Daniel (2016). "Publics, problèmes publics, arènes publiques… Que nous apprend le pragmatisme?". *Questions de communication*, n. 30, pp. 25-64.
https://doi.org/10.4000/questionsdecommunication.10704

Cerdà, Paco (2017). *Los últimos. Voces de la Laponia española.* Logroño: Pepitas de calabaza. ISBN: 978 84 15862 76 5

Christmann, Gabriela B. (2016). "Analysing changes in discursive constructions of rural areas in the context of demographic change. Towards counterpoints in the dominant discourse on 'dying villages'". *Comparative population studies*, v. 41, n. 3-4, pp. 359-378.
https://doi.org/10.12765/CPoS-2017-03

CIS (2019). *Barómetro de febrero 2019*. *Estudio 3240.*
https://www.cis.es/cis/opencm/ES/1_encuestas/estudios/ver.jsp?estudio=14444

CIS (2020). *Barómetro de septiembre 2020*. *Estudio 3292.*
https://www.cis.es/cis/opencm/ES/1_encuestas/estudios/ver.jsp?estudio=14519

CIS (2022). *Barómetro de febrero 2022*. *Estudio 3351.*
https://www.cis.es/cis/opencm/ES/1_encuestas/estudios/ver.jsp?estudio=14611

Collantes, Fernando (2020). "Tarde, mal y… ¿quizá nunca? La democracia española ante la cuestión rural". *Panorama social*, n. 31, pp. 15-32.
https://www.funcas.es/wp-content/uploads/2020/09/Fernando-Collantes.pdf

Collantes, Fernando; **Pinilla, Vicente** (2019). *¿Lugares que no importan? La despoblación de la España rural desde 1900 hasta el presente.* Prensas de la Universidad de Zaragoza. ISBN: 978 84 17873 82 0

Dando, Christina E. (2009). "Deathscapes, topocide, domicide. The Plains in contemporary print media". *Geography and geology faculty publications*, n. 22.
https://digitalcommons.unomaha.edu/geoggeolfacpub/22

Del-Molino, Sergio (2016). *La España vacía. Viaje por un país que nunca fue*. Madrid: Turner Publicaciones. ISBN: 978 84 16354 14 6

De-Sola-Pueyo, Javier (2021). "Informar sobre la despoblación desde la mirada de los periodistas rurales". *Estudios sobre el mensaje periodístico*, v. 27, n. 3, pp. 825-832.
https://doi.org/10.5209/esmp.70958

Dewey, John (2004 [1927]). *La opinión pública y sus problemas*. Madrid: Morata. ISBN: 978 84 71124 88 3

Eriksson, Madeleine (2008). "(Re)producing a 'peripheral' region –Northern Sweden in the news". *Geografiska annaler*, v. 90, n. 4, pp. 369-388.
https://doi.org/10.1111/j.1468-0467.2008.00299.x

Francescutti, Luis-Pablo (2009). "El tiempo de los titulares. Un análisis verbal de la titulación en la prensa española durante el período 1980/2005". *Estudios sobre el mensaje periodístico*, v. 15, n. 1, pp. 243-259.
https://revistas.ucm.es/index.php/ESMP/article/view/ESMP0909110243A

Galletero-Campos, Belén; **Saiz-Echezarreta, Vanesa** (2022). “Despoblación y comunicación: propuestas para abordar un objeto de estudio emergente”. *Doxa comunicación*, n. 35, pp. 39-57.
https://doi.org/10.31921/doxacom.n35a1507

Goffman, Erving (2006 [1975]). *Frame analysis. Los marcos de la experiencia*. Madrid: Centro de Investigaciones Sociológicas. ISBN: 978 84 74764 11 6

Guerrero-Bernal, Juan-Carlos; **Márquez-Murrieta, Alicia**; **Nardacchione, Gabriel**; **Pereyra, Sebastián** (2018). *Problemas públicos: controversias y aportes contemporáneos.* México: Instituto Mora. ISBN: 978 60 79475 92 5

Gusfield, Joseph (2014). *La cultura de los problemas públicos. El mito del conductor alcoholizado versus la sociedad inocente.* Buenos Aires: Siglo XXI. ISBN: 978 987 629 361 7

Gutiérrez, Eduardo; **Moral-Benito, Enrique**; **Oto-Peralías, Daniel**; **Ramos, Roberto** (2021). *The spatial distribution of population in Spain: an anomaly in European perspective* (WP ECON 21.13). *Banco de España*.
http://www.upo.es/serv/bib/wps/econ2113.pdf

Ishii, Naohiro; **Murai, Tsuyoshi**; **Yamada, Takahiro**; **Bao, Yuongguang** (2006). “Classification by weighting, similarity and kNN”. *Lecture notes in computer science*, v. 4224, pp. 57-64.
https://doi.org/10.1007/11875581_7

Jansson, André (2017). “Critical communication geography. Space, recognition, and dialectic of mediatization”. In: Adams, Paul C.; Cupples, Julie; Glynn, Kevin; Jansson, André; Moores, Shaun. *Communications / Media / Geographies.* New York. Routledge, pp. 107-143. ISBN: 978 1 138824 34 8

Jansson, André; **Lindell, Johan** (2018). “Media studies for a mediatized world: Rethinking media and social space”. *Media and communication*, v. 6, n. 2.
https://doi.org/10.17645/mac.v6i2.1495

López-Ruiz, María-del-Carmen (2021). “El discurso de los políticos en torno al fenómeno de la despoblación en España a través de los medios de comunicación españoles y anglófonos. ¿Traducción paralela o comparable?”. En: Fernández-Ulloa, Teresa; Soler-Gallo, Miguel (eds.). *Discursos al margen: voces olvidadas en la lengua. La literatura y el cine en español e italiano*. Palermo: University Press Palermo, pp. 25-54. ISBN: 978 88 55092 40 1

Martínez-Puche, Antonio; **Martínez-Puche, Salvador**; **García-Delgado, Francisco-Javier**; **Amat-Montesinos, Xavier** (2022). “La representación del éxodo rural en el cine español (1900-2020): evolución, causas y consecuencias territoriales”. *Investigaciones geográficas*, n. 77, pp. 79-101.
https://doi.org/10.14198/INGEO.19337

McCombs, Maxwell (2004). *Setting the agenda. The mass media and public opinion*. Cambridge: Polity Press. ISBN: 978 07 45623 12 2

Moyano-Estrada, Eduardo (2020). “Discursos, certezas y algunos mitos sobre la despoblación rural en España”. *Panorama social*, n. 31, pp. 33-45.
https://www.funcas.es/wp-content/uploads/2020/09/Panorama-Social-31-digital-2.pdf

Paniagua, Ángel (2018). “Literary geographies of contemporary rural depopulation”. *Annals of geographical studies*, v. 1, n. 1, pp. 11-22.
https://www.sryahwapublications.com/annals-of-geographical-studies/pdf/v1-i1/2.pdf

Paniagua, Ángel (2019). “Encounters in the valley: love and emotions in microprocesses of gentrification in depopulated rural areas”. *GeoJournal*, n. 84, pp. 471-481.
https://doi.org/10.1007/s10708-018-9870-7

Peñamarín, Cristina (2017). “Mediación y mediatización de la comunicación pública. Una perspectiva pragmática”. En: Álvarez-Peralta, Miguel; Fernández-Vázquez, Guillermo; Mazolli, Lella (eds.). *La mediación fragmentaria. Mediatización y controversia en la nueva esfera pública*. Tenerife: Sociedad Latina de Comunicación Social, pp. 11-36. ISBN: 978 84 16458 85 1
https://doi.org/10.4185/cac132

Peñamarín, Cristina (2020). “Fronteras afectivas de la esfera pública y semiótica pragmática”. *Cuadernos de información y comunicación*, v. 25, pp. 61-75.
https://doi.org/10.5209/ciyc.69968

Pinilla, Vicente; **Sáez, Luis-Antonio** (2021). “La despoblación rural en España: características, causas e implicaciones para las políticas públicas”. *Presupuesto y gasto público*, n. 102, pp. 75-92.
https://www.ief.es/docs/destacados/publicaciones/revistas/pgp/102.pdf#page=75

Rayson, Paul; **Garside, Roger** (2000). "Comparing corpora using frequency profiling". In: *Proceedings of the workshop on comparing corpora*.
https://doi.org/10.3115/1117729.1117730

Rifón, Antonio (2020). "Progresión temática y cohesión textual a través de grafos de coocurrencias". *Círculo de lingüística aplicada a la comunicación*, n. 82, pp. 193-208.
https://doi.org/10.5209/clac.68972

Sáez-Pérez, Luis-Antonio (2021). "Análisis de la estrategia nacional frente a la despoblación en el reto demográfico en España". *Ager: revista de estudios sobre despoblación y desarrollo rural*, n. 33, pp. 7-34.
https://doi.org/10.4422/ager.2021.18

Sáez-Pérez, Luis-Antonio; **Ayuda, María-Isabel**; **Pinilla, Vicente** (2016). "Pasividad autonómica y activismo local frente a la despoblación en España: el caso de Aragón analizado desde la economía política". *Ager: revista de estudios sobre despoblación y desarrollo rural*, n. 21, pp. 11-41.
https://doi.org/10.4422/ager.2016.04

Sanz-Hernández, M. Alexia (2016). "Discursos en torno a la despoblación en Teruel desde la prensa escrita". *Ager: revista de estudios sobre despoblación y desarrollo rural*, n. 20, pp. 105-137.
https://doi.org/10.4422/ager.2016.01

Scolari, Carlos A.; **Rodríguez-Amat, Joan-Ramon** (2018). "A Latin American approach to mediatization: Specificities and contributions to a global discussion about how the media shape contemporary societies". *Communication theory*, v. 28, n. 2, pp. 131-154.
https://doi.org/10.1093/ct/qtx004

Senado (2015). "Ponencia de estudio para la adopción de medidas en relación con la despoblación rural en España, constituida en el seno de la Comisión de Entidades Locales"*. Boletín oficial de las Cortes Generales. Senado*, n. 505, 17 abril, pp. 33-66.
http://sspa-network.eu/wp-content/uploads/BOCG_D_10_505_3392.pdf

Syssner, Josefina; **Sieber, Conrad** (2020). "Local governments and the communication of demographic decline in Sweden and Germany: who, what and why?" *Ager: revista de estudios sobre despoblación y desarrollo rural*, n. 29, pp. 79-105.
https://doi.org/10.4422/ager.2020.01

Tannenbaum, Percy-Hyman (1953). "The effect of headlines on the interpretation of news stories". *Journalism bulletin*, v. 30, n. 2, 189-197.
https://doi.org/10.1177/107769905303000206

Touri, Maria; **Koteyko, Nelya** (2015). "Using corpus linguistic software in the extraction of news frames: towards a dynamic process of frame analysis in journalistic texts". *International journal of social research methodology*, v. 18, n. 6, pp. 601-616.
https://doi.org/10.1080/13645579.2014.929878

Galileo, a data platform for viewing news on social networks

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Abstract

This article aims to introduce *Galileo*, a platform for extracting and organizing news media data on social networks. *Galileo* integrates publications made on the main social networks used in the information ecosystem, namely *Facebook*, *Twitter*, and *Instagram*. Currently, the system includes 97 media outlets from nine countries: Brazil, Chile, Germany, Japan, Mexico, South Korea, Spain, United Kingdom, and United States. *Galileo* uses a *Twitter* API and the service *Crowd-Tangle* to download *Facebook* and *Instagram* posts. This data is stored in a local database and can be accessed through a user-friendly interface, which allows for the analysis of different characteristics of the posts, such as their text, source popularity, and temporal dimension. *Galileo* is a tool for researchers interested in understanding news cycles and analyzing news content on social networks.

Keywords

News; Visualisation; Data science; Textual data; Journalism; Social media; Social networks; Platforms; *Twitter*; *Facebook*; *Instagram*; *Galileo.*

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1. Introduction

Watts (2016; 2017) highlights the importance of computational social sciences (CSC) in investigating complex phenomena based on vast volumes of data. Every day, the media generate huge amounts of data that reflect the political, economic, and cultural activities of the societies into which they are integrated. For this reason, analyzing the large volume of textual data produced daily by the media is important to understand the biases and biased framing that can harm democracies (**Watts**; **Rothschild**; **Mobius**, 2021).

Within journalism studies, most of the textual analyses conducted for quantitative academic research are obtained through manual quantitative content analyses. Despite the technological revolution and the new digital ecosystem, automatic text coding, especially for complex measurements and latent content, is a relatively new field (**Hamborg**; **Donnay**; **Gipp**, 2019). Enthusiasts and critics alike have developed different arguments to underscore the advantages and disadvantages of automatic text analysis. Some have argued that automatic methods are very promising, fast, and objective (**Pereira** *et al.*, 2015); in contrast, others emphasize that, for example, the analysis of news framing requires a semantic context and intertextual clues beyond the news (**Baden**, 2018). These latter aspects still seem to be very unwieldy for artificial intelligence.

However, overall, various studies agree that the enormous quantity of existing information requires tools that make the expeditious collection, processing, and analysis of information possible (**Grimmer**; **Stewart**, 2013; **Lewis**; **Zamith**; **Hermida**, 2013; **Matthes**; **Kohring**, 2008; **Trilling**; **Jonkman**, 2018; **Van-Atteveldt**; **Peng**, 2018).

Developments in monitoring interactions in information ecosystems are varied and are very efficiently used, for example, for digital marketing purposes. However, it is still difficult for communication professionals and analysts to compile what the media are saying about a topic on social networks and/or on the web in a comprehensive, organized, and efficient way (**Cárcamo-Ulloa** *et al.*, 2017). Normally, obtaining data requires specific developments or scripts to extract the data, depending on the objectives of the analysis (**Zhang**; **Boons**; **Batista-Navarro**, 2019)

Galileo is a platform developed within the framework of the *ANID-COVID 0172* project "Analysis and automatic monitoring of the role of journalism and the media on their different platforms during the phases of the health crisis caused by COVID19 in nine countries in America, Europe and Asia" ["*Análisis y monitoreo automático del rol del periodismo y los medios en sus diferentes plataformas durante las fases de la crisis sanitaria provocada por el COVID19 en nueve países de América, Europa y Asia*"]. This initiative was funded by the *National Agency for Research and Development* of the *Government of Chile*. It should be noted that the *ANID-COVID 0172* project includes communication and journalism researchers from nine countries: Brazil, Chile, Germany, Japan, Mexico, South Korea, Spain, United Kingdom and United States.

The main objective of the *ANID-COVID* project is to design and implement strategies for analyzing and monitoring the media attention cycles on traditional platforms and social networks during the coverage of COVID-19 and evaluate the role that journalism plays in the communication of health crises. In this context, *Galileo* is not limited only to information about the health crisis; rather it includes all the news production that a media group published on social networks from the beginning of the pandemic (January 2020) onwards.
http://www.galileo-jrp.org

This platform grew out of the need to create a tool that allows communication researchers to access the content that media outlets post on their social media accounts, especially considering that platforms such as *Twitter* or *Facebook* account for a large part of news readership (**Salazar**, 2019; **Newman** *et al*., 2021).

As a source of data extraction, media outlets' social networks vary from their websites. In this regard, it is important to note that:

- The amount of textual data collected may change depending on the organizational culture of the press teams or the definition of publishing business[1] considering that the media may not dump all their journalistic content on social networks; however, we can assume with some certainty that they will post the most relevant material.
- News texts on social networks are obviously more concise than the extended news articles the media publish in web or traditional forms. Informative posts on social networks are more similar to journalistic "leads." However, they must also capture at least the basic questions of "what happened," "where," and "when" the events narrated occurred. These traditional structures are indispensable when composing a news item and are answered at the beginning of any informative text.

1.1. Interest in textual data

On social networks, an enormous amount of information circulates, and it does so in compact formats that are consumed by users. The post is the maximization of the summary of information that effective informative journalism has always pursued, and at the same time, it is a new discursive genre that the media display their social networks (**Cárdenas-Neira**, 2016; **Raimondo-Anselmino**; **Sambrana**; **Cardoso**, 2017). **Ojo** and **Heravi** (2018) aimed to analyze patterns and typologies of successful news narratives that could guide the future of data journalism. **Newman**, **Dutton**, and **Blank** (2019) went so far as to propose that the expansion of the news scene into social networks would allow –as online information increases and individuals habitually connect to the Internet– the emergence of a "fifth power" based on the activities of networked individuals who obtain and disseminate information. On the other hand, in concordance with the filter bubble concept proposed by **Pariser** (2011), it is understood that *Facebook*'s algorithm, for example, is less likely to provide individuals with media posts that run contrary to the users' attitudes (**Levy**, 2021); therefore, the social network algorithms, by limiting exposure to said contrary news items, increase polarization. All this has led us to think that the news that circulates on social networks would be a research topic of particular interest.

> Analyzing the large volume of textual data produced daily by the media is important to understand the biases and biased framing that can harm democracies

Galileo focuses on textual data rather than on user interactions. It is a tool that allows you to manage considerable volumes of textual corpora to carry out manual content analysis, as well as apply automatic language processing techniques for topic modeling, word embedding, and entity analysis (sources and actors).

The *Galileo* platform seeks to facilitate data exploration by testing textual data analysis models to better understand of information ecosystems on social networks. Data science can provide tools for understanding journalism and the media (**Hamborg**; **Donnay**; **Gipp**, 2019). The central challenge for data science applied to the analysis of press reports is then to develop techniques that improve the evaluation of the quality of news in a world that is characterized by growing informational entropy (**Cardon**, 2018).

There are relevant studies in the computerized analysis of great volumes of data on the web and in the media. Thus, computerized techniques have made it possible, for example, to recognize a series of biases on the web, in general (**Baeza-Yates**, 2018), and around political figures that appear in the press, in particular (**Sáez-Trumper**; **Castillo**; **Lalmas**, 2013). Recently, progress has even been made toward the identification of subtle patterns that determine biases in journalistic framing (**Morstatter** *et al*., 2018). As explained by **Schmitz-Weiss** *et al.* (2017), technology has eliminated the barriers to journalistic activity, making it possible to study and analyze information generated by the news itself.

Advances in computational linguistics and automatic language processing can be applied to textual data from news items. Today we are trying to improve the detection of fake news (**Zhou** *et al*., 2019) and the quality of information (**Romanou** *et al.*, 2020). With this in mind, with the textual data extracted and organized by the *Galileo* platform, both traditional content analysis and automated processing can be conducted.

In the literature, we found studies that identified 37 Chilean media outlets within the media corpora (**Vernier**; **Cárcamo-Ulloa**; **Scheihing-García**, 2017). **Jiang** *et al*. (2017), for their part, compare the attitudes of the British media toward climate change over a period of 10 years. The research corpus of this latest work was composed of 11,720 newspaper articles collected between 2007 and 2016 from four UK newspapers (*The Guardian*, *The Times*, *The Telegraph*, and *The Independent*). This work jointly addresses: sentiment analysis and latent Dirichlet allocation (LDA) to identify topics (**Blei**; **Ng**; **Jordan**, 2003). In particular, topic analysis is a fairly widespread strategy when handling large volumes of textual data from the press (**Li** *et al.*, 2020).

1.2. Some tools to access world news

There are good tools for accessing news corpora and studying media content. As examples, we will highlight three platforms.

- *Media Cloud* is a platform for analyzing mass media and has three fundamental tools: *Explorer*, *Topic Mapper*, and *Source Manager*. *Media Cloud* includes a database of sources from more than 100 countries around the world.
  https://mediacloud.org
- *Newsmap* is a very effective tool for tracking the current news topics in each country. *Newsmap* is an app that visually reflects the ever-changing landscape of *Google News*. The information is displayed in the form of treemaps that proportionally represent the most relevant topics from each country.
  https://newsmap-js.herokuapp.com

On the other hand, there are also paid tools that have been developed for digital marketing to analyze and manage the brands' work on social networks and that can also be used to track social media. Perhaps the best known are *Hootsuite*, *Buffer*, and *Fanpage Karma*.

From the standpoint of research in journalistic content analysis, we can consider some elements of interest that could be of value for academic teams:

- Focus: The platform allows access to informative content organized over time.
- Media coverage and different countries: It tracks relevant and diverse media from different countries to facilitate comparative studies.
- Accessibility: Free or registered or paid.
- Adaptability of enquiries: It allows the researcher to search for keywords and/or exact expressions configured –as unique or aggregated– with inclusion and exclusion criteria (Boolean operators, for example).
- Adaptability of visualizations: It allows the researcher to configure composition, relationship, comparison, and distribution graphs.
- Download of malleable corpus: You have the possibility to download a file with the textual contents and links related to the information.

Figure 1. *Newsmap* visualization interface

Table 1. Some comparable features

Factor	*Galileo*	*Media Cloud*	*Newsmap*
Focus	Social media networks/download of query data	Media on the web/download of query data	*Google News* (visualizations by country)
Coverage	9 countries	100+ countries	100+ countries
Accessibility	Upon request	Registered	Open access
Adaptability of queries	Boolean-based aggregate construction	Boolean-based aggregate construction	Predefined by each country's circumstances
Adaptability for visualizations	Multiple user-configurable visualizations	Those defined by the platform	Treemaps
Corpus download	Download in CSV or JSON file	Download in CSV file	Not available
Cost	No cost	No cost	No cost

2. *Galileo*: an option centered on social media journalism

To date, *Galileo* allows the integration of mined data from *Facebook*, *Instagram*, and *Twitter* APIs from 97 media outlets from nine countries (listed in the annex).
http://www.galileo-jrp.org

One could think of it as an IT infrastructure similar to those used by digital marketing services that seek to track brand accounts on social networks, capturing their content and their interactions. However, its main purpose is to aid in the search for patterns in the textual data of news media that circulate on social networks. *Galileo* is thus understood as a tool for extracting and filtering news from social networks.

In terms of information management, *Galileo* can be defined as a unified data management platform (UDMP). In other words, it is a centralized IT system that works with large amounts of structured data (frequencies and values) and unstructured data (texts) from diverse sources (*Facebook*, *Instagram*, and *Twitter*) to collect, integrate, manage, and visualize them.

2.1. IT architecture

One of the problems faced by platforms that collect a variety of information (textual corpora, values, and images, among others) is the flexibility required for their subsequent use. If the information is stored in fields structured as SQL databases, the end user will have the same restrictions that the programmer set when devising the classifications. Particularly, when working with textual data, excessive structuring will limit the researchers' possibilities for queries. *Galileo* aims to use a flexible NoSQL structure that uses *Elastic Stack*, a suite of open-source software products (*Apache 2.0* License) that allow the user to securely intake data from any source and format and then productively execute searches, analyses, and visualizations in real time or offline, as needed.
https://www.elastic.co

The *Galileo* crawler connects to the *CrowdTangle*[2] API to extract data from *Facebook* and *Instagram* or, in the case of *Twitter* posts, directly to this social network's API.

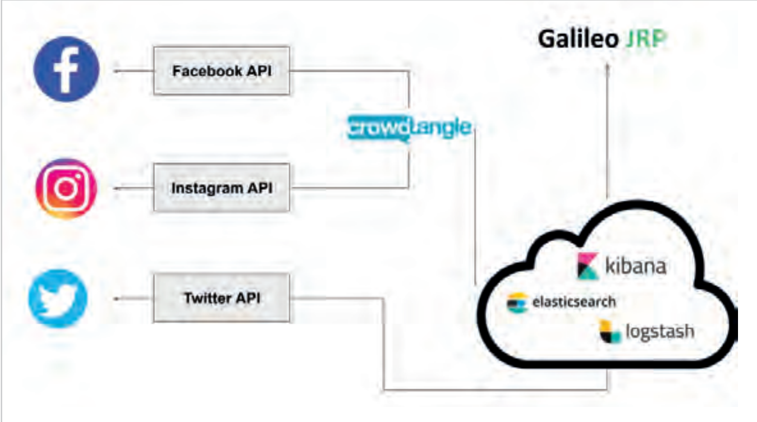

Figure 2. *Galileo* IT Architecture

A stack is a combination of tools, applications, and services that are used to create a web or mobile application. *Elastic Stack* (*ELK Stack*) comprises tools such as *Elasticsearch*, *Logstash*, and *Kibana* that offer particularly flexible functionalities for working with poorly structured or unstructured data such as press releases and social media posts. The malleability of *Elastic Stack* lies in having a NoSQL database (previously unstructured), which builds indexes from a set of data. An index contains mappings to various types of data, serving as a space for organizing information. Thus, *Galileo* is a kind of catch-all that stores the different types of data, but in organizational structure that does not confine them, precisely so that the users/researchers' consultations or queries are efficient, productive, and nearly unrestricted.

After collecting the data, *Galileo*'s greatest benefit is the ability to execute queries and provide data –which are not structured a priori– in a manageable way to perform content or discursive analysis. During these operations, the *Elastic Stack* suite offers three technically very efficient tools:

- *Elasticsearch*, or the core component of the *Elastic Stack*, is an open, distributed analytics and analysis engine for all types of data, including textual, numeric, geospatial, structured, and unstructured data, known for its simple *REST* APIs, distributed nature, speed, and scalability.
- *Logstash* is a free and open server-side data-processing pipeline that allows data to be taken in from a multitude of sources, transformed, and then stored and indexed in *Elasticsearch*.
- *Kibana* is a free and open front-end or interface application that is located on *Elastic Stack,* and it provides search capabilities on the data indexed in *Elasticsearch*, information visualization options, and the creation of dashboards with these visualizations.

Last but not least, it is possible to export the corpora of data built from the queries. *Elastic ELK* allows you to export data as CSV files that can then be easily read as spreadsheets or other tools that allow the development of automated analyses, such as *Jupyter*, *R Project*, and *spaCy* (**Guo** *et al.*, 2022). The use of this combination of components (ELK) as a tool suite has resulted in multiple adaptations. This is how we found applications for capacity control in massive venues (**Cecchet** *et al.*, 2020), process optimization in high-performance computing (**Underwood**, 2017), and organization of textual data from media (**Cárcamo-Ulloa** *et al.*, 2017).

2.2. Possibilities for research in journalism

Today, *Galileo* provides and makes more than 10 million news posts available to research communities. In this context, *Galileo* offers opportunities to carry out research with great volumes of textual data from media, identify patterns, and compare journalistic cultures (**Mellado** *et al.*, 2021a).

The data mined and available so far correspond to the posts made on *Facebook* (3,794,460), *Twitter* (6,474,089), and *Instagram* (369,960) between January 1, 2020, and December 31, 2021. In parallel, the crawler behind *Galileo* continues to mine data daily from the social media accounts of the media outlets integrated into the project (see list in Annex 1).

Table 2. Media followed by each country

Country	No. of media outlets	Language	Type of media				Average posts daily		
			Radio	TV	Press	Online	*Twitter*	*Facebook*	*Instagram*
Chile	10	Spanish	2	4	2	2	1,310.67	985.77	133.38
Spain	16	Spanish	4	4	4	4	1,838.53	1,014.89	55.66
Mexico	12	Spanish	3	2	5	2	1,369.27	842.13	38.45
United States	11	English	2	4	3	2	863.78	600.73	93.79
United Kingdom	15	English	4	4	4	3	1,417.09	698.25	42.36
Brazil	8	Portuguese	2	2	2	2	765.47	397.99	96.85
South Korea	8	Korean	2	2	2	2	333.71	223.61	5.79
Japan	9	Japanese	2	3	2	2	591.39	172.93	5.80
Germany	8	German	2	2	3	1	378.70	261.59	34.69

As we can see in Table 2, *Twitter* is the social network of choice for circulating daily news for the major media outlets of the nine countries participating in the project. However, the number of posts made on *Facebook* is substantial principally in Spanish-speaking countries. *Instagram* ranks third, far behind the other two social networks. Likewise, variations in the use of social networks between different countries can be observed, which reinforces the idea that journalistic cultures use different social network in different ways (**Mellado**; **Hermida**, 2021). For example, in Spain, the most intensive use is on *Facebook*, whereas in the other eight countries, the most frequent use continues to be on *Twitter*, which has traditionally been dominated by the political elite and opinion makers in each country. In communication studies, studies with *Twitter* have long been favored (**Arcila-Calderón**; **Barredo-Ibáñez**; **Castro**, 2017; **Hermida**, 2010). In addition to this network traditionally being used for news items of interest, this is probably due to the development of applications or plugins that have simplified accessing the *Twitter* API and downloading groups of texts associated with popular hashtags (#).

Table 3. Records available by country and social network

Country	*Twitter*		*Facebook*		*Instagram*		Total	%
	Posts	%	Posts	%	Posts	%		
Chile	956,786	15%	719,609	19%	97,371	27%	1,773,766	17%
Spain	1,342,124	21%	740,869	20%	40,633	11%	2,123,626	20%
Mexico	999,570	15%	614,753	16%	28,072	8%	1,642,395	15%
United States	630,556	10%	438,535	12%	68,470	19%	1,137,561	11%
United Kingdom	1,034,479	16%	509,722	13%	30,925	9%	1,575,126	15%
Brazil	558,794	9%	290,533	8%	70,701	19%	920,028	9%
South Korea	243,609	4%	163,235	4%	4,228	1%	411,072	4%
Japan	431,717	7%	126,242	3%	4,235	1%	562,194	5%
Germany	276,454	4%	190,962	5%	25,325	7%	492,741	5%
Total	6,474,089	100%	3,794,460	100%	369,960	100%	10,638,509	100%

In general terms, *Galileo* contains 10,638,509 media posts (see Table 3), with the ecosystem of Spain accounting for 20% of the dataset, followed by Chile with 17%, Mexico and the United Kingdom with 15% (each), the United States with 11%, and Brazil with 9%.

2.3. Operation

Galileo allows to create queries from keywords (See Figure 3). You can define the query [1] by (a) a set of keywords, (b) “exact expressions,” or (c) combination with Boolean operators [AND, OR, NOT].

Figure 3. Keyword-based data search and filtering

La plataforma también permite determinar la fecha de entrada y salida de datos para la consulta [2] y permite elegir la periodicidad de las barras del histograma para visualizar la distribución en el tiempo de los datos consultados en forma diaria, semanal o mensual [3].

The platform also allows the user to determine the date of data input and output for the query [2] and to choose the frequency distribution of the histogram bars to visualize the distribution of the requested data over time on a daily, weekly, or monthly basis [3].

The data resulting from the query managed by the *Elasticsearch* engine can be organized and downloaded for further content analysis. To do this, it is necessary to organize the data, which otherwise maintain their formatting in JSON [4], before downloading it.

When sorting, saving, and downloading the data (see Figure 4), the user has several options and must choose an index (*Facebook*, *Twitter*, or *Instagram*) or a sub-index (each social network or each country) [1], selecting the fields they want to download (date, country, media, message, and url) [2].

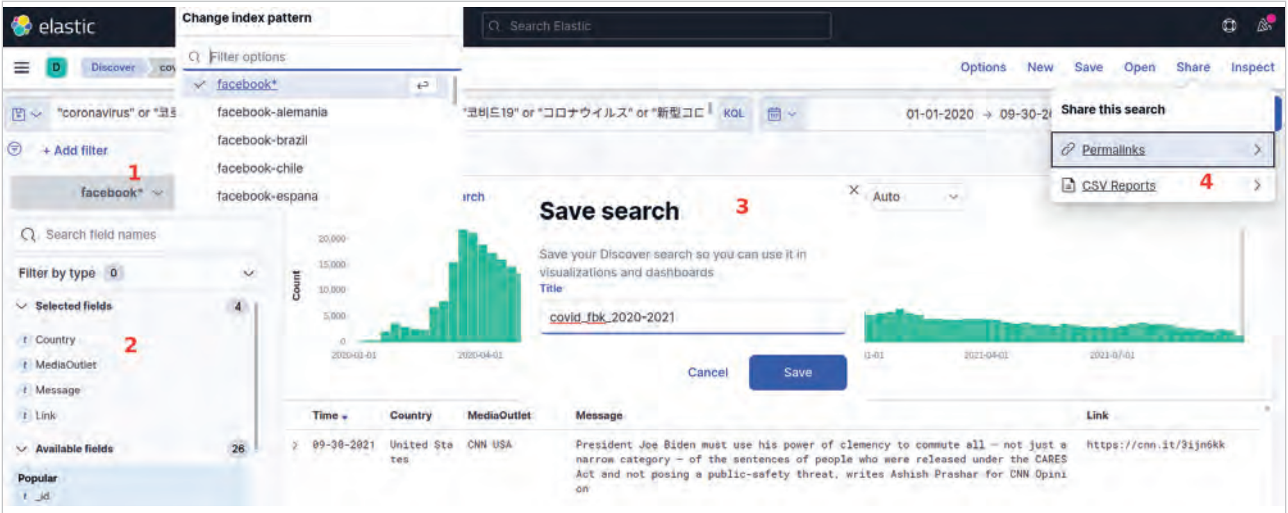

Figure 4. Sort, save, and download data in *Galileo*

The fields are different depending on the social network, but in all cases, the key fields that make up the post can be defined: name of the media outlet, texts, and URL to go to the message at its source.

Table 4. Post fields

Type of post	Downloadable fields
Facebook	Message, text of the headline (link) that leads to the news, name of the media outlet, date, country, URL for the original post, and followers at the time of posting
Instagram	Description (message), image text, name of media outlet, date, country, URL of the original post, and followers at the time of posting
Twitter	Message, name of media outlet, date, country, URL of the original post, and followers at the time of publication

Once the data output is ordered, as required, the results of the query must be saved [3] and the corpus must be downloaded in CSV format [4], in which each column is separated by a semicolon (;).

Note that the above figures display the default visualization of histograms. Figure 5 shows how the *Kibana* visualization builder allows for the easy configuration of different types of graphs. After defining the query period [1], the panel on the right [2] allows the user to choose the social network upon which the desired visualization will be run and [3] define the X and Y axes of the graph and its variables. An information popup that allows you to understand the values in detail, in this case for each country, is displayed when the cursor hovers over the graph [4]. If a multilingual query is performed [5], the graph will be redrawn [6] by simply clicking "refresh."

3. Three possibilities for the exploration of topics with *Galileo*

To demonstrate the potential of the *Galileo* platform, in this section, we will describe an analysis of the number of appearances of a set of keywords related to the term "climate change" in the press over the last 2 years[3].

3.1. The climate change scenario

In *Galileo,* a query about the presence of exact expressions linked to climate change was carried out in six languages:

- Spanish: "cambio climático" or "calentamiento global".
- English: "climate change" or "global warming".
- Portuguese: "aquecimento global" or "alterações climáticas".
- Japanese: "地球温暖化" or "気候変動".
- Korean: "지구 온난화" or "기후 변화".
- German: "globale Erwärmung" or "Klimawandel".

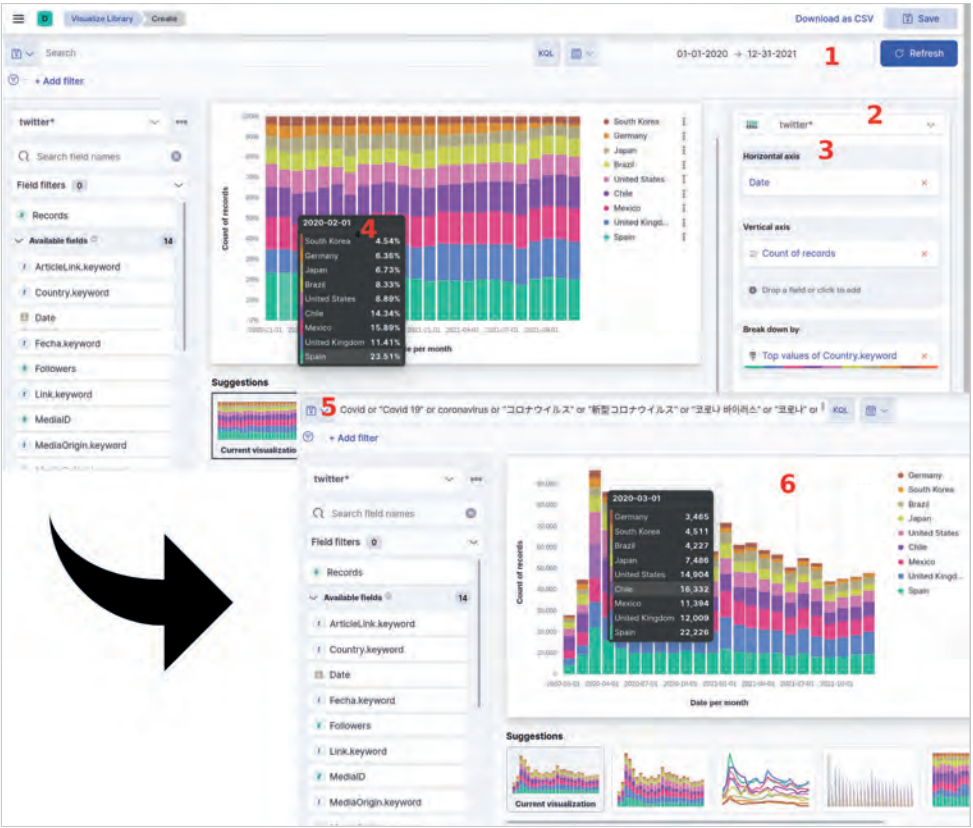

Figure 5. Visualizing data with *Kibana*

Table 5. Climate change data extraction

Countries	*Twitter*	*Facebook*	*Instagram*	Total
United Kingdom	5,145	2,035	596	7,776
United States	3,781	2,834	663	7,278
Chile	1,767	2,275	645	4,687
Spain	2,252	1,815	311	4,378
Mexico	1,523	1,536	127	3,186
Germany	961	870	616	2,447
Japan	770	308	51	1,129
Brazil	210	243	96	549
South Korea	12	13	5	30
Total	**16,421**	**11,929**	**3,110**	**31,460**

The result allows for the extraction of more than 31,460 posts for analysis. Anglo-Saxon countries mostly frequently refer to climate change, followed by Chile, Spain, and Mexico. For Germany, Japan, and South Korea, mentions drop considerably, and better results could certainly be found by refining queries country by country incorporating alternative keywords or linguistic variations that local specialists could suggest.

4. Conclusions

The enormous amount of textual data that circulates daily on social networks provides a great opportunity to carry out research in communication and journalism (**Arcila-Calderón**; **Barredo-Ibáñez**; **Castro**, 2017). Media outlets have moved their content to these platforms to maintain or improve the circulation of their news, opening up new research opportunities to understand information ecosystems. This type of research requires appropriate methodologies and tools to obtain and process such information (**Hamborg**; **Donnay**; **Gipp**, 2019). *Galileo* makes it possible to facilitate the processes of obtaining textual datasets from news media circulating on social networks. These corpora can be analyzed on the basis of automatic processing of language such as tokenization and lemmatization, among other techniques. Datasets are compatible with environments such as *Jupyter*, *R Project*, and *spaCy*, among others.

The experimental test of the platform was successful, and from January 2020 to December 2021, difficulties in accessing sources of information (social networks of media outlets) were not reported, supporting research done on news data science, such as the work of **Mellado** *et al*. (2021a; 2021b).

Researchers interested in using *Galileo* can follow news cycles in nine countries and examine relevant topics and the presence of specific entities. Obviously, a limited number of media were tracked, but we have taken care to focus on a relevant set for each country. *Galileo* can also be useful for NGOs or public services that monitor how issues or causes are presented in the mass media.

> *Galileo* provides and makes more than 10 million news posts available to research communities. Offers opportunities to carry out research with great volumes of textual data from media, identify patterns, and compare journalistic cultures

For content creators, *Galileo* can serve as a tool for understanding which narratives and/or narrative formats dominate a topic, allowing them to reverse engineer, in a way, the information development process or, as **Ojo** and **Heravi** (2018) proposed, analyze patterns and typologies of successful informative narratives.

Galileo's architecture is simple and robust. The user can connect directly to the *Twitter* API and indirectly to *Facebook* and *Instagram* through the *CrowdTangle* API. *Galileo* is offered as a tool that allows for the installation and configuration of a platform for tracking open, public social network accounts (it does not track personal profiles) and a resource for obtaining social media corpora from media outlets to study relevant phenomena such as polarization (**Levy**, 2021), fake news (**Cárcamo-Ulloa** *et al*., 2021), and confirmation bias (**Ling**, 2020).

5. Demonstrations and limitations

As a demonstration, the research team provides the username "invitado_epi" and the password "pass_epi", which will allow you to openly test *Galileo*[4], running queries and obtaining corpora according to your interests. Likewise, an invitation to request academic access and join the *Galileo* user community is available.

The creation of a user community will –going forward– extend *Galileo*'s capabilities to incorporate new social media information ecosystems and facilitate data mining for research. That is, new countries can be incorporated (beyond the nine countries currently tracked) and the number of media tracked in each country can be increased, generating potential databases for multiple research topics in communication and journalism.

Regarding its limitations, we can frankly say that (a) the tool still requires development to offer an automatic solution for requesting the incorporation of new media and other countries, (b) *Galileo* does not scrape content from the original media websites and, thereby, limits the working corpora to posts as a unit of analysis, and (c) although *Galileo* is able to contain the transcribed texts of the social media posts, it does not directly store the associated images. All of these limitations are challenges for future development.

6. Notes

1. For example, there are media groups such as *EMOL.com* from Chile that, from 2019 onwards, adopted the policy of publishing little news on social networks, favoring reader subscription on its website.

2. *CrowdTangle Team (2020). CrowdTangle. Facebook*, *Menlo Park*, *California*, *United States*.

3. We share the data from this extraction as open data for the academic community's use in communication sciences at: *https://github.com/luiscarcamo/cc_9c_2Y*

4. Access available at: *http://www.galileo-jrp.org*
You can also fill out the form available at: *https://forms.gle/VgJ1BAyuga1nTn4v5*
to join the research community.

7. References

Arcila-Calderón, Carlos; **Barredo-Ibáñez, Daniel**; **Castro, Cosette** (2017). *Analítica y visualización de datos en Twitter*. Barcelona: Colección Comunicación. Editorial UOC. ISBN: 978 84 9116 960 4

Baden, Christian (2018). "Reconstructing frames from intertextual news discourse: A semantic network approach to news framing analysis". In: D'Angelo, Paul (ed.). *Doing news framing analysis II: Empirical and theoretical perspectives*. New York: Routledge, pp. 3-26. ISBN: 978 1 315642239

Baeza-Yates, Ricardo (2018). "Bias on the web". *Communications of the ACM*, v. 61, n. 6, pp. 54-61.
https://doi.org/10.1145/3209581

Blei, David M.; **Ng, Andrew Y.**; **Jordan, Michael I.** (2003). "Latent Dirichlet allocation". *Journal of machine learning research*, v. 3, pp. 993-1022.
https://dl.acm.org/doi/10.5555/944919.944937

Cárcamo-Ulloa, Luis; **Cárdenas-Neira, Camila**; **Sáez-Trumper, Diego**; **Toural-Bran, Carlos** (2021). "*Fake news* en Chile y España: ¿Cómo los medios nos hablan de noticias falsas?". *Journal of Iberian and Latin American research*, v. 26, n. 3, pp. 320-337.
https://doi.org/10.1080/13260219.2020.1909849

Cárcamo-Ulloa, Luis; **Vernier, Matthieu**; **Scheihing-García, Eliana**; **Aravena, Matías**; **Pérez, Javier** (2017). "*Sophia* una herramienta para la construcción y análisis de casos noticiosos en la enseñanza del periodismo". *Nuevas ideas en informática educativa*, v. 13, pp. 667-672. ISBN: 978 956 19 1043 0
http://www.tise.cl/volumen13/TISE2017/96.pdf

Cárdenas-Neira, Camila (2016). "Representación online del movimiento estudiantil chileno: Reapropiación de noticias en *Facebook*". *Estudios filológicos* n. 58, pp. 25-49.
https://doi.org/10.4067/S0071-17132016000200002

Cardon, Dominique (2018). *Con qué sueñan los algoritmos: Nuestras vidas en los tiempos de los big data*. Madrid: Dado Ediciones. ISBN: 978 849 450 728 1

Cecchet, Emmanuel; **Acharya, Amrita**; **Molom-Ochir, Tergel**; **Trivedi, Amee**; **Shenoy, Prashant** (2020). "*WiFiMon*: a mobility analytics platform for building occupancy monitoring and contact tracing using wifi sensing: poster abstract". In: *Proceedings of the 18th conference on embedded networked sensor systems*, *SenSys'20*, pp. 792-793.
https://doi.org/10.1145/3384419.3430598

Grimmer, Justin; **Stewart, Brandon M.** (2013). "Text as data: The promise and pitfalls of automatic content analysis methods for political texts". *Political analysis*, v. 21, n. 3, pp. 267-297.
https://doi.org/10.1093/pan%2Fmps028

Guo, Lei; **Su, Chao**; **Paik, Sejin**; **Bhatia, Vibhu**; **Prasad-Akavoor, Vidya**; **Gao, Ge**; **Betke, Margrit**; **Wijaya, Derry** (2022). "Proposing an open-sourced tool for computational framing analysis of multilingual data". *Digital journalism*, first online.
https://doi.org/10.1080/21670811.2022.2031241

Hamborg, Felix; **Donnay, Karsten**; **Gipp, Bela** (2019). "Automated identification of media bias in news articles: an interdisciplinary literature review". *International journal on digital libraries*, n. 20, pp. 391-415.
https://doi.org/10.1007/s00799-018-0261-y

Hermida, Alfred (2010). "Twittering the news. The emergence of ambient journalism". *Journalism practice*, v. 4, n. 3, pp. 297-308.
https://doi.org/10.1080/17512781003640703

Jiang, Ye; **Song, Xingyi, Harrison, Jackie**; **Quegan, Shaun**; **Maynard, Diana** (2017). "Comparing attitudes to climate change in the media using sentiment analysis based on latent Dirichlet allocation". In: *Proceedings of the 2017 EMNLP workshop: Natural language processing meets journalism*, pp. 25-30.
https://doi.org/10.18653/v1/W17-4205

Levy, Ro'ee (2021). "Social media, news consumption, and polarization: evidence from a field experiment". *American economic review*, v. 111, n. 3, pp. 831-870.
https://doi.org/10.1257/aer.20191777

Lewis, Seth C.; **Zamith, Rodrigo**; **Hermida, Alfred** (2013). "Content analysis in an era of big data: a hybrid approach to computational and manual methods". *Journal of broadcasting & electronic media*, v. 57, n. 1, pp. 34-52.
https://doi.org/10.1080/08838151.2012.761702

Li, Yue; **Nair, Pratheeksha**; **Wen, Zhi**; **Chafi, Imane**; **Okhmatovskaia, Anya**; **Powell, Guido**; **Shen, Yannan**; **Buckeridge, David** (2020). "Global surveillance of Covid-19 by mining news media using a multi-source dynamic embedded topic model". In: *Proceedings of the 11th ACM international conference on bioinformatics, computational biology and health informatics*, *BCB'20*, n. 34.
https://doi.org/10.1145/3388440.3412418

Ling, Rich (2020) "Confirmation bias in the era of mobile news consumption: the social and psychological dimensions". *Digital journalism*, v. 8, n. 5, pp. 596-604.
https://doi.org/10.1080/21670811.2020.1766987

Matthes, Jörg; **Kohring, Mathias** (2008). "The content analysis of media frames: Toward improving reliability and validity". *Journal of communication*, v. 58, n. 2, pp. 258-279.
https://doi.org/10.1111/j.1460-2466.2008.00384.x

Mellado, Claudia; **Cárcamo-Ulloa, Luis**; **Alfaro, Amaranta**; **Inai, Darla**; **Isbej, José** (2021a). "Fuentes informativas en tiempos de Covid-19: Cómo los medios en Chile narraron la pandemia a través de sus redes sociales". *Profesional de la información*, v. 30. n. 4, e300421.
https://doi.org/10.3145/epi.2021.jul.21

Mellado, Claudia; **Hallin, Daniel**; **Cárcamo-Ulloa, Luis**; **Alfaro, Rodrigo**; **Jackson, Daniel**; **Humanes, María-Luisa**; **Márquez-Ramírez, Mireya**; **Mick, Jacques**; **Mothes, Cornelia**; **Lin, Christi-I-Hsuan**; **Lee, Misook**; **Alfaro, Amaranta**; **Isbej, José**; **Ramos, Andrés** (2021b). "Sourcing pandemic news: A cross-national computational analysis of mainstream media coverage of Covid-19 on *Facebook*, *Twitter*, and *Instagram*". *Digital journalism*, v. 9, n. 9, pp. 1261-1285.
https://doi.org/10.1080/21670811.2021.1942114

Mellado, Claudia; **Hermida, Alfred** (2021). "The promoter, celebrity, and joker roles in journalists' social media performance". *Social media + society*, v. 7, n. 1.
https://doi.org/10.1177/2056305121990643

Morstatter, Fred; **Wu, Liang**; **Yavanoglu, Uraz**; **Corman, Stephen R.**; **Liu, Huan** (2018). "Identifying framing bias in online news". *ACM Transactions on social computing*, v. 1, n. 2.
https://doi.org/10.1145/3204948

Newman, Nic; **Dutton, William H.**; **Blank, Grant** (2012). "Social media in the changing ecology of news: the fourth and fifth estates in Britain". *International journal of internet science*, v. 7, n. 1, pp. 6-22.
https://www.ijis.net/ijis7_1/ijis7_1_newman_et_al.pdf

Newman, Nic; **Fletcher, Richard**; **Schulz, Anne**; **Andi, Singe**; **Robertson, Craig T.**; **Nielsen, Rasmus-Kleis** (2021). *Digital news report 2021.* Reuters Institute for the Study of Journalism.
https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2021-06/Digital_News_Report_2021_FINAL.pdf

Ojo, Adegboyega; **Heravi, Bahareh** (2018). "Patterns in award winning data storytelling. Story types, enabling tools and competences". *Digital journalism*, v. 6, n. 6, pp. 693-718.
https://doi.org/10.1080/21670811.2017.1403291

Pariser, Ely (2011). *The filter bubble: How the new personalized web is changing what we read and how we think.* Penguin. ISBN: 978 0 143121237

Pereira, Moisés; **Cardeal-Pádua, Flavio-Luis**; **Machado-Pereira, Adriano-César**; **Silva, Giani-David**; **Benevenuto-de-Souza, Fabricio** (2015). "Multimodal sentiment analysis for automatic estimation of polarity tension of TV news in TV newscasts videos". In: *Proceedings of the 21st Brazilian symposium on multimedia and the web*, *WebMedia'15*, pp. 157-160.
https://doi.org/10.1145/2820426.2820461

Raimondo-Anselmino, Natalia; **Sambrana, Alejandro**; **Cardoso, Ana-Laura** (2017). "Medios tradicionales y redes sociales en internet: un análisis de los posteos compartidos por los diarios argentinos *Clarín* y *La Nación* en *Facebook* (2010-2015)". *Astrolabio*, n. 19, pp. 32-68.
https://revistas.unc.edu.ar/index.php/astrolabio/article/view/17787

Romanou, Angelika; **Smeros, Panayiotis**; **Castillo, Carlos**; **Aberer, Karl** (2020). "*Scilens* news platform: A system for real-time evaluation of news articles". In: *Proceedings of the VLDB endowment*, v. 13, n. 12, pp. 2969-2972.
https://doi.org/10.14778/3415478.3415521

Sáez-Trumper, Diego; **Castillo, Carlos**; **Lalmas, Mounia** (2013). "Social media news communities: gatekeeping, coverage, and statement bias". In: *Proceedings of the 22nd ACM international conference on information & knowledge management*, pp. 1679-1684.
https://doi.org/10.1145/2505515.2505623

Salazar, Diego (2019). *No hemos entendido nada: Qué ocurre cuando dejamos el futuro de la prensa a merced de un algoritmo*. Editorial Debate. ISBN: 978 84 17636258

Schmitz-Weiss, Amy; **De-Macedo-Higgins-Joyce, Vanessa**; **Saldaña, Magdalena**; **Calmon-Alves, Rosental** (2017). "Latin American investigative journalism education: Learning practices, learning gaps". *Journalism & mass communication educator*, v. 72, n. 3, pp. 334-348.
https://doi.org/10.1177/1077695817711611

Trilling, Damian; **Jonkman, Jeroen G. F.** (2018). "Scaling up content analysis". *Communication methods and measures*, v. 12, n. 2-3, pp. 158-174.
https://doi.org/10.1080/19312458.2018.1447655

Underwood, Richard (2017). "Building bridges: The system administration tools and techniques used to deploy bridges". In: *Proceedings of the practice and experience in advanced research computing 2017 on sustainability, success and impact*, *PEARC17*, article n. 5.
https://doi.org/10.1145/3093338.3093339

Van-Atteveldt, Wouter; **Peng, Tai-Quan** (2018). "When communication meets computation: Opportunities, challenges, and pitfalls in computational communication science". *Communication methods and measures*, v. 12, n. 2-3, pp. 81-92.
https://doi.org/10.1080/19312458.2018.1458084

Vernier, Mathieu; **Cárcamo-Ulloa, Luis**; **Scheihing-García, Eliana** (2017). "Diagnóstico de la estrategia editorial de medios informativos chilenos en *Twitter* mediante un clasificador de noticias automatizado". *Revista austral de ciencias sociales*, n. 30, pp. 183-201.
https://doi.org/10.4206/rev.austral.cienc.soc.2016.n30-09

Watts, Duncan J. (2016). "Computational social science: Exciting progress and future challenges". In: *Proceedings of the 22nd ACM SIGKDD international conference on knowledge discovery and data mining, KDD'16*, p. 419.
https://doi.org/10.1145/2939672.2945366

Watts, Duncan J. (2017). "Should social science be more solution-oriented?". *Nature human behaviour*, v. 1, artículo n. 15.
https://doi.org/10.1038/s41562-016-0015

Watts, Duncan J.; **Rothschild, David M.**; **Mobius, Markus** (2021). "Measuring the news and its impact on democracy". In: Scheufele, Dietram (ed.). *Proceedings of the National Academy of Sciences*, v. 118, n. 15.
https://doi.org/10.1073/pnas.1912443118

Zhang, Hao; **Boons, Frank**; **Batista-Navarro, Riza** (2019). "Whose story is it anyway? Automatic extraction of accounts from news articles". *Information processing & management*, v. 56, n. 5, pp. 1837-1848.
https://doi.org/10.1016/j.ipm.2019.02.012

Zhou, Xinyi; **Zafarani, Reza**; **Shu, Kai**; **Liu, Huan** (2019). "*Fake news*: fundamental theories, detection strategies and challenges". In: *Proceedings of the 12th ACM international conference on web search and data mining, WSDM '19*, pp. 836-837.
https://doi.org/10.1145/3289600.3291382

8. Annex

				Data mining		
Country (number of media outlets)	**Average**	**Type of media**	**Language**	***Twitter***	***Facebook***	***Instagram***
South Korea 8	*KBS*	TV	Korean	Yes	Yes	Yes
	JTBC	TV	Korean	Yes	Yes	Yes
	CBS South Korea	Radio	Korean	Yes	Yes	No
	TBS Radio	Radio	Korean	Yes	Yes	Yes
	Chosun	Print	Korean	Yes	Yes	Yes
	Hankyoreh	Print	Korean	Yes	Yes	No
	Dailian	Online	Korean	Yes	Yes	Yes
	OhMyNews	Online	Korean	Yes	Yes	Yes
Japan 9	*NHK*	TV	Japanese	Yes	Yes	Yes
	TV Asahi	TV	Japanese	Yes	Yes	Yes
	Nihon TV	TV	Japanese	Yes	Yes	Yes
	NHK radio	Radio	Japanese	Yes	Yes	Yes
	Bunka Housou	Radio	Japanese	Yes	Yes	No
	The Yomiuri Shinbum	Print	Japanese	Yes	Yes	Yes
	The Asahi Shinbum	Print	Japanese	Yes	Yes	Yes
	Huffpost Japan	Online	Japanese	Yes	Yes	Yes
	Buzzfeed Japan	Online	Japanese	Yes	Yes	Yes
Chile 10	*Mega*	TV	Spanish	Yes	Yes	Yes
	TVN	TV	Spanish	Yes	Yes	Yes
	Canal 13	TV	Spanish	Yes	Yes	Yes
	CNN Chile	TV	Spanish	Yes	Yes	Yes
	Biobio.cl	Radio	Spanish	Yes	Yes	Yes
	Emol.com	Online	Spanish	Yes	Yes	Yes
	Elmostrador.cl	Online	Spanish	Yes	Yes	Yes
	Cooperativa	Radio	Spanish	Yes	Yes	Yes
	La Tercera	Print	Spanish	Yes	Yes	Yes
	Las Últimas Noticias	Print	Spanish	Yes	Yes	Yes
México 12	*Televisa*	TV	Spanish	Yes	Yes	Yes
	Canal Once	TV	Spanish	Yes	Yes	No
	Radio Fórmula	Radio	Spanish	Yes	Yes	Yes
	Aristegui Noticias	Radio	Spanish	Yes	Yes	Yes
	Instituto Mexicano de la Radio	Radio	Spanish	Yes	Yes	No
	La Jornada	Print	Spanish	Yes	Yes	Yes
	Reforma	Print	Spanish	Yes	Yes	Yes
	El Financiero	Print	Spanish	Yes	Yes	Yes
	La Prensa	Print	Spanish	Yes	Yes	Yes
	Animal Político	Online	Spanish	Yes	Yes	Yes
	El Universal Online México	Print	Spanish	Yes	Yes	Yes
	UnoTV	Online	Spanish	Yes	Yes	Yes

Brazil 8	*Record*	TV	Portuguese	Yes	Yes	Yes
	CBN	Radio	Portuguese	Yes	Yes	Yes
	Band	Radio	Portuguese	Yes	Yes	Yes
	Folha de S. Paulo	Print	Portuguese	Yes	Yes	Yes
	O Globo	TV	Portuguese	Yes	Yes	Yes
	O Estado de S. Paulo	Print	Portuguese	Yes	Yes	Yes
	R7	Online	Portuguese	Yes	Yes	Yes
	G1	Online	Portuguese	Yes	Yes	No
United States 11	*NBC*	TV	English	Yes	Yes	Yes
	CNN USA	TV	English	Yes	Yes	Yes
	KABC	TV	English	Yes	Yes	Yes
	NPR	Radio	English	Yes	Yes	Yes
	CBS US	Radio	English	Yes	Yes	Yes
	New York Times	Print	English	Yes	Yes	Yes
	USA Today	Print	English	Yes	Yes	Yes
	Los Angeles Times	Print	English	Yes	Yes	Yes
	Buzzfeed US	Online	English	Yes	Yes	Yes
	Fox US	TV	English	Yes	Yes	Yes
	Huffington Post US	Online	English	Yes	Yes	Yes
Spain 16	*Telecinco*	TV	Spanish	Yes	Yes	Yes
	Antena 3	TV	Spanish	Yes	Yes	Yes
	La Sexta	TV	Spanish	Yes	Yes	Yes
	TVE	TV	Spanish	Yes	Yes	Yes
	SER	Radio	Spanish	Yes	Yes	Yes
	COPE	Radio	Spanish	Yes	Yes	Yes
	Onda Cero	Radio	Spanish	Yes	Yes	Yes
	Radio Nacional de España	Radio	Spanish	Yes	Yes	Yes
	El Pais	Print	Spanish	Yes	Yes	Yes
	La Vanguardia	Print	Spanish	Yes	Yes	Yes
	El Mundo	Print	Spanish	Yes	Yes	Yes
	ABC Spain	Print	Spanish	Yes	Yes	Yes
	El Confidencial	Online	Spanish	Yes	Yes	Yes
	OK Diario	Online	Spanish	Yes	Yes	Yes
	Eldiario.es	Online	Spanish	Yes	Yes	Yes
	Huffpost ES	Online	Spanish	Yes	Yes	Yes
Germany 8	*ARD*	TV	German	Yes	Yes	Yes
	RTL	TV	German	Yes	Yes	Yes
	Deutschland-funk	Radio	German	Yes	Yes	Yes
	Klasssík Radio	Radio	German	Yes	Yes	Yes
	BILD	Print	German	Yes	Yes	Yes
	Frankfurter Allgemeine Zeitung	Print	German	Yes	Yes	Yes
	Süddeutsche Zeitung	Print	German	Yes	Yes	Yes
	Spiegel Online	Print	German	Yes	Yes	Yes
United King-dom 15	*BBC News*	TV	English	Yes	Yes	Yes
	Channel 4 News	TV	English	Yes	Yes	Yes
	Sky News	TV	English	Yes	Yes	Yes
	ITV News	TV	English	Yes	Yes	Yes
	BBC Radio 4	Radio	English	Yes	Yes	No
	BBC Radio 2	Radio	English	Yes	Yes	Yes
	TalkSport	Radio	English	Yes	Yes	Yes
	ClasSíc FM	Radio	English	Yes	Yes	Yes
	The Daily Telegraph	Print	English	Yes	Yes	Yes
	The Guardian	Print	English	Yes	Yes	Yes
	The Daily Mirror	Print	English	Yes	Yes	Yes
	The Sun	Print	English	Yes	Yes	Yes
	Mail online	Online	English	Yes	Yes	Yes
	Huffpost UK	Online	English	Yes	Yes	Yes
	Buzzfeed UK	Online	English	Yes	Yes	Yes

SCImago Graphica: a new tool for exploring and visually communicating data

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Abstract

Despite the increasing number of data visualization authoring systems in recent years, it remains a challenge to simultaneously achieve high expressive power and ease of use in a single tool. In this paper we present *SCImago Graphica*, a no-code tool which allows the creation of complex visualizations by simple drag-and-drop interactions. Users bind the data variables to the different encoding channels, and specify the settings of each binding, from which the tool generates the interactive graphical display. Due to its efficiency of use, *SCImago Graphica* is not only suitable for visually communicating data, but also for exploratory data analysis. We evaluate the expressiveness and ease of use of *SCImago Graphica* through various examples of chart construction and a catalog of visualizations. The results show that *SCImago Graphica* makes it possible to create a wide variety of data visualizations quickly and easily.

Keywords

SCImago Graphica; Data visualization; Information visualization; Data communication; Data exploration; Authoring systems; No-code tools; Complex visualizations; Drag-and-drop interactions; Interactive graphs; Chart construction; Chart building; Authoring tools; Visual data communication; Exploratory analysis; Grammar-based tools; Visual mapping; Data rendering; Computer graphics; Interactive applications.

1. Introduction

In the age of big data, data visualization tools are essential to explore, understand and make sense of data. The most widely used tools for visualizing data are spreadsheet applications. In these applications the user selects the data set to be displayed, chooses which type of chart to use from a gallery, and then customize some basic aspects of the chart's appearance. Although it is a very easy-to-use interactive model, it is not without its problems. The main drawback is that it is not possible to create charts other than those in the chart gallery, which are often basic. To that, it is necessary to add that sometimes these applications include chart types that are widely considered bad practices in data visualization, such as 3D charts.

A different way of visualizing data is through textual programming, which offers authors complete control over the visual appearance and interactive behaviour of the chart, but in addition to requiring programming skills, creating a chart demands a large amount of time and effort.

It is common to describe the visualization authoring systems along two opposing dimensions: its expressiveness and its ease of use (sometimes called accessibility) (**Bostock**; **Heer**, 2009; **Qin** *et al.*, 2020). Expressiveness refers to the flexibility of customization and variety of visual outputs that can be created, while ease of use refers to its ease of learning and efficiency of use. Therefore, as we have seen, spreadsheet software and textual programming of visualizations would represent the two opposite extremes: a system that is easy to use but not very expressive, versus one that is very expressive but hard to use.

Over the last few years, a plethora of visualization systems (web apps, desktop applications, programming toolkits...) have emerged, occupying different spaces in the expressiveness/ease-of-use continuum. In this paper we present *SCImago Graphica*, a professional visualization authoring tool that aims to combine a high level of expressiveness with an ease-of-use interface. In addition, *SCImago Graphica* has been designed to enable both visual communication of data, as well as exploratory analysis.

2. Related work

Spreadsheets are not the only chart typology tools. Recently, modern visualization web apps have emerged that allow you to create charts with very little effort (just upload or paste the data, select a chart type, and customize it). *Datawrapper*[1] is a very popular tool among media, with which it is possible to create and publish online aesthetic and responsive charts and maps in just a few steps. Another noteworthy tool is *RAWGraphs* (**Mauri** *et al.*, 2017), which offers a wide gallery of visualizations, some quite sophisticated. However, as these are template-based systems, their expressiveness is limited to the chart templates in their catalogue.

Chart typologies are a restrictive and oversimplified way of thinking about graphics and graphing software, which is why **Wilkinson** (1999) proposes his famous *Grammar of Graphics* (*GoG*), a mathematical theory of statistical and scientific graphics. Wilkinson's *GoG* describes the fundamental principles underlying the composition of any graphic and the correct coordination of its components. The impact of *GoG* on data visualization software is undisputed, having inspired most advanced visualization systems.

Based on Wilkinson's *GoG*, **Wickham** (2010) proposes a layered grammar of graphics and its open-source implementation *ggplot2*, a popular package for the statistical language *R*. Implementations of low-level grammars such as *ggplot2*, but also *Protovis* (**Bostock**; **Heer**, 2009), *D3* (**Bostock**; **Ogievetsky**; **Heer**, 2010) or *Vega* (**Satyanarayan** *et al.*, 2016), have revolutionized the creation of statistical graphics using code, reducing the time and effort required without sacrificing expressiveness. More recently, high-level grammars such as *Vega-Lite* (**Satyanarayan** *et al.*, 2017) or *ECharts* (**Li** *et al.*, 2018) have been proposed, simplifying the specification of charts by being less verbose, but inevitably at the expense of some expressiveness. While all these grammar implementations have made the creation of interactive visualizations more accessible to professionals beyond engineering, specifying visualizations via imperative or declarative programming is clearly more intricate and tedious than doing so via an interactive tool.

Tableau (formerly *Polaris*) (**Stolte**; **Tang**; **Hanrahan**, 2002) is an interactive visualization authoring tool, inspired directly by Wilkinson's *GoG*, which has been a great commercial success. To create a chart in *Tableau*, the user only needs to bind the data attributes to be displayed with the visual encodings to be used (color, size, position…) by drag and drop. *Lyra* (**Satyanarayan**; **Heer**, 2014) (**Zong** *et al.*, 2020) is a tool built on top of *Vega* that, like *Tableau*, uses drag and drop to map data with visual properties. While *Tableau* is more oriented to exploratory analysis, *Lyra* offers more control over the design of the charts.

Other recent no-code visualization tools, such as *iVisDesigner* (**Ren**; **Höllerer**; **Yuan**, 2014), *Charticulator* (**Ren**; **Lee**; **Brehmer**, 2019) or *Data Illustrator* (**Liu** *et al.*, 2018), use interaction techniques analogous to the vector design tools, achieving expressive power comparable to programming-based systems. These tools are conceived for designing visualizations, providing the author with greater flexibility and control over the layout or marks of the chart; but their learning curve and interactive complexity do not make them suitable for data exploration.

The concept behind *SCImago Graphica* is closer to grammar-based tools, like *Tableau*, than to vector data-design tools, but with important differences in order to achieve greater expressiveness without sacrificing efficiency and ease of use.

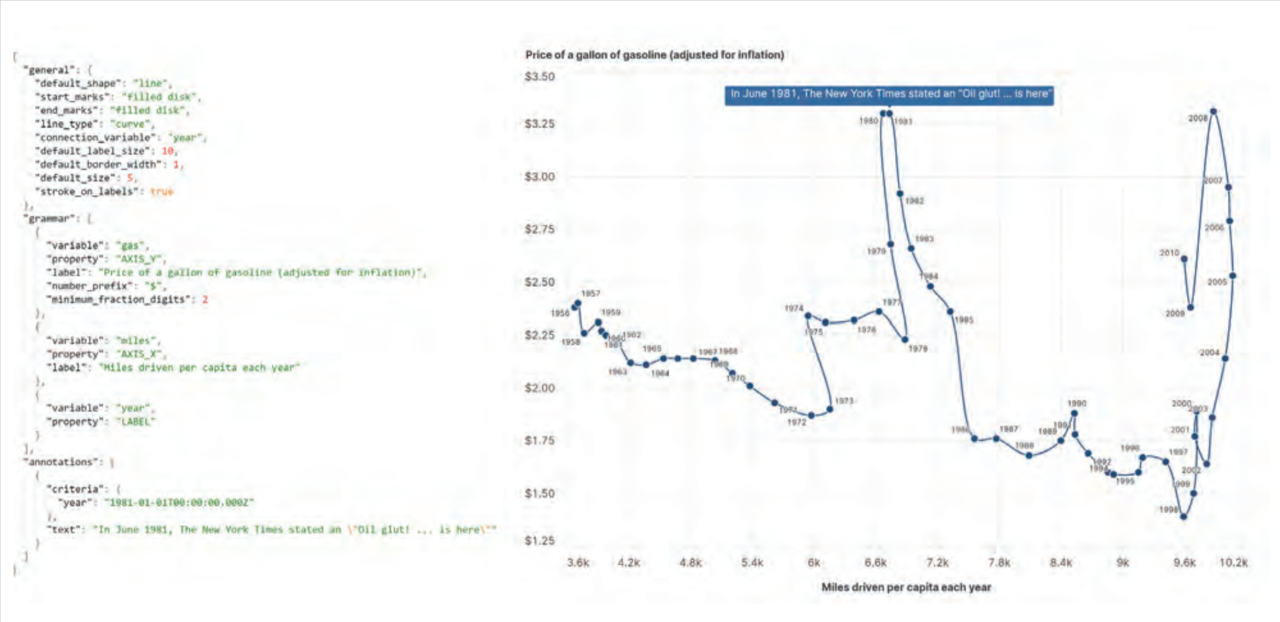


Figure 1. Grammar specification of a connected scatter plot in *SCImago Graphica*

3. Design

In this section we describe the fundamental components of *SCImago Graphica.*

3.1. Data source

> *SCImago Graphica* can be downloaded from:
> ***https://graphica.app***

Regardless of the format of the data source (CSV, *Excel* file...), as in other grammar-based tools like *Tableau*, data must be organized as *Tidy Data* (**Wickham**, 2014). In this way of organizing data, each variable must have its own column, each row represents an observation, and each cell must contain a single value. In addition, the type of each variable (number, string, date-time, or country) must be specified with the data source. The country variable type enables the creation of data maps using the name or ISO code of each country (more granular geographic types will be added in the future).

One of the main differences between *SCImago Graphica* and other grammar-based tools is that it can work with network data as input. In network data, one subset of the data describes the nodes and their attributes, and another subset describes the relationships or links between nodes and their attributes. Although *SCImago Graphica* uses its own CSV-based format for network data, the desktop application includes parsers for the most common formats: *GML* (*Graph Modelling Language*), *GraphML* and *GEXF* (*Graph Exchange XML Format*).

3.2. Grammar specification

In *SCImago Graphica*, the grammatical specification of each chart employs a JSON representation. Each definition has three sections: General, Grammar and Annotations (see Figure 1). It is not mandatory to define all of them in every chart, only the needed ones.

In the General section all overall properties of the chart are defined, such as the type of mark (see Table 1), the margins, the color palette, the form of edges in the case of graphs (see Figure 2), among many other options.

The Grammar section is where data variables are mapped to encoding properties. This mapping is defined as an array of objects (where the order matters), each of which binds an encoding property to a variable. Each variable-property binding object can also include specific settings on how the mapping between them should be done: aggregation function, scale, sorting, interactive filters, etc.

The Grammar section is not only used to encode data variables through visual encoding channels in the sense of Bertin's retinal variables (**Bertin**, 1983), such as position, size, color, opacity (alpha) and shapes. It is also used to encode variables by means of labels or tooltips: to define filtering rules; or to specify which categorical variables dictate the different symbols to be displayed, or how these symbols should be subdivided.

Finally, the Annotations section is used to define textual annotations attached to all those symbols in the chart that match the specified criteria.

The grammar specification in *SCImago Graphica* has certain similarities to *Vega-Lite*'s unit plots specification (**Satyanarayan** *et al.*, 2017), as both are simple and readable. The most notable difference is that in *SCImago Graphica* more

Table 1. Types of marks that can be defined in *SCImago Graphica* by property "default_shape"

	"none"	
	"filled disk"	
	"disk"	
	"bar"	
	"line"	The "line_type" property allows the values "none", "curve" and "orthogonal".
	"area"	The "line_type" property allows the values "none" and "curve".
	"filled rectangle"	
	"geo"	
	"circle"	The "circle_chart_type" property allows the values "pie", "rose" and "radar".

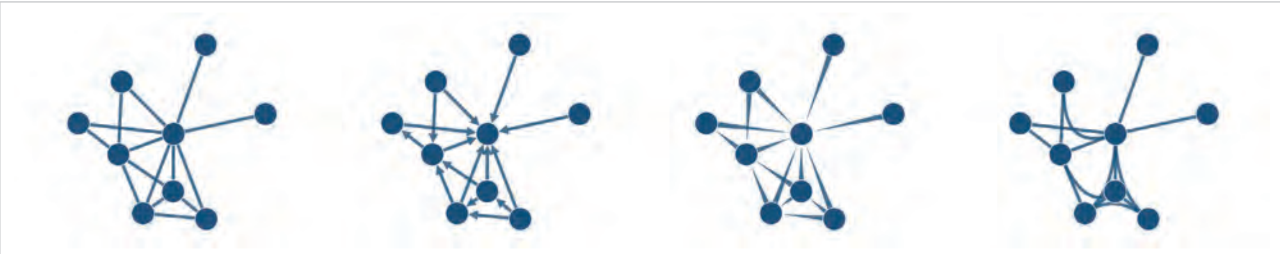


Figure 2. Different types of edges defined by the "edge_form" property. From left to right: line, arrow, tapered and bundling, the last one based on the work of **Wallinger** *et al.* (2022).

than one data variable can be bound to the same encoding channel.

3.3. Visualization generation engine

The generation engine is the core of *SCImago Graphica*, the component that, from a data source and a JSON grammar specification, renders an interactive and responsive visualization. It is written from scratch in JavaScript, allowing it to run in the browser, on the server and even as part of a standalone desktop application (see 3.4). By default, the output is drawn using SVG (*Scalable Vector Graphics*), but it can also display interactive charts on *Canvas/WebGL* in combination with the *PixiJS* library[2].

The first task that the generation engine handles is the grammar check. For example, it checks the compatibility between the type of data variables and the encoding channels used, or if an encoding channel has been bound to more variables than it supports.

The engine also performs all data transformation tasks (aggregations, data binning, filtering...) as well as statistical computations derived from the grammar specification, such as clustering –using an algorithm based on **Clauset**, **Newman** and **Moore** (2004)–, regression analysis, or network metrics and statistical measures calculation.

Another key task of the generation engine is the computation of the chart layout, which depends on multiple factors. First, it is conditioned by the type of mark chosen; dots and bars, for example, are not visually positioned and arranged in the same way. Second, it is determined by the combination of variables that have been bound to positional visual properties (X-axis, Y-axis and small multiples). As can be seen from the examples in the Figure 3, *SCImago Graphica* shows great flexibility in how these combinations can be done. But there is a third factor that conditions the position of each symbol on the chart: the layout algorithm chosen. The default algorithm simply aligns the symbols in successive rows, and the "Avoid overlap" algorithm moves the symbols iteratively until none of them overlaps with the others. But it is when working with network data that the range of options increases considerably (Figure 4):

- Force Directed, based on **Fruchterman** and **Reingold** (1991);
- Force Directed+Distances, a variation of the Force Directed algorithm that in addition uses the shortest path distance between nodes in computing the forces of repulsion between them;
- Kamada and Kawai's algorithm for undirected graphs (**Kamada**; **Kawai**, 1989);
- *LinLog*, an algorithm that uses the energy model of **Noack** (2007), which is particularly useful for depicting clustering

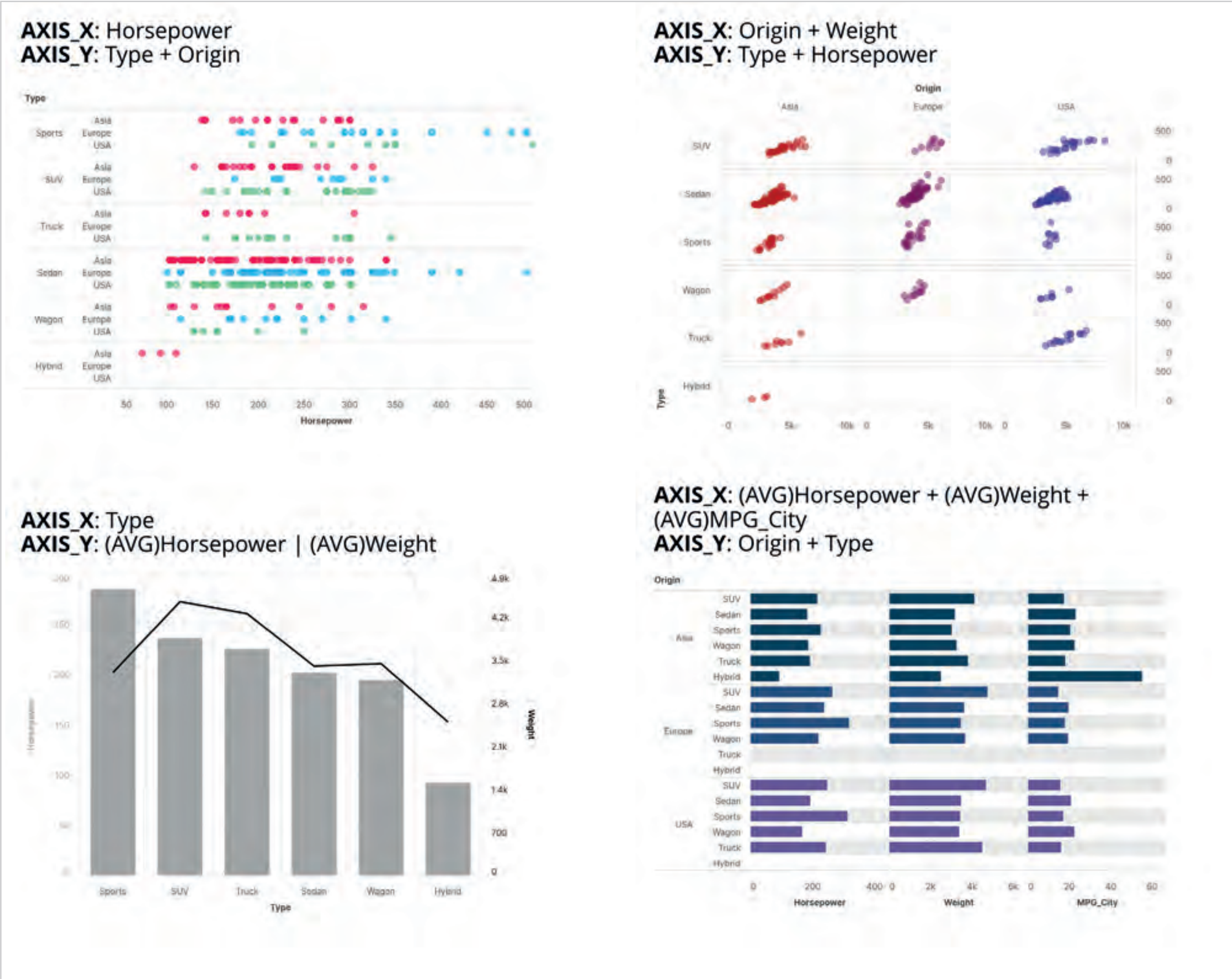


Figure 3. Examples of layouts as a result of using different combinations of variables and positional properties

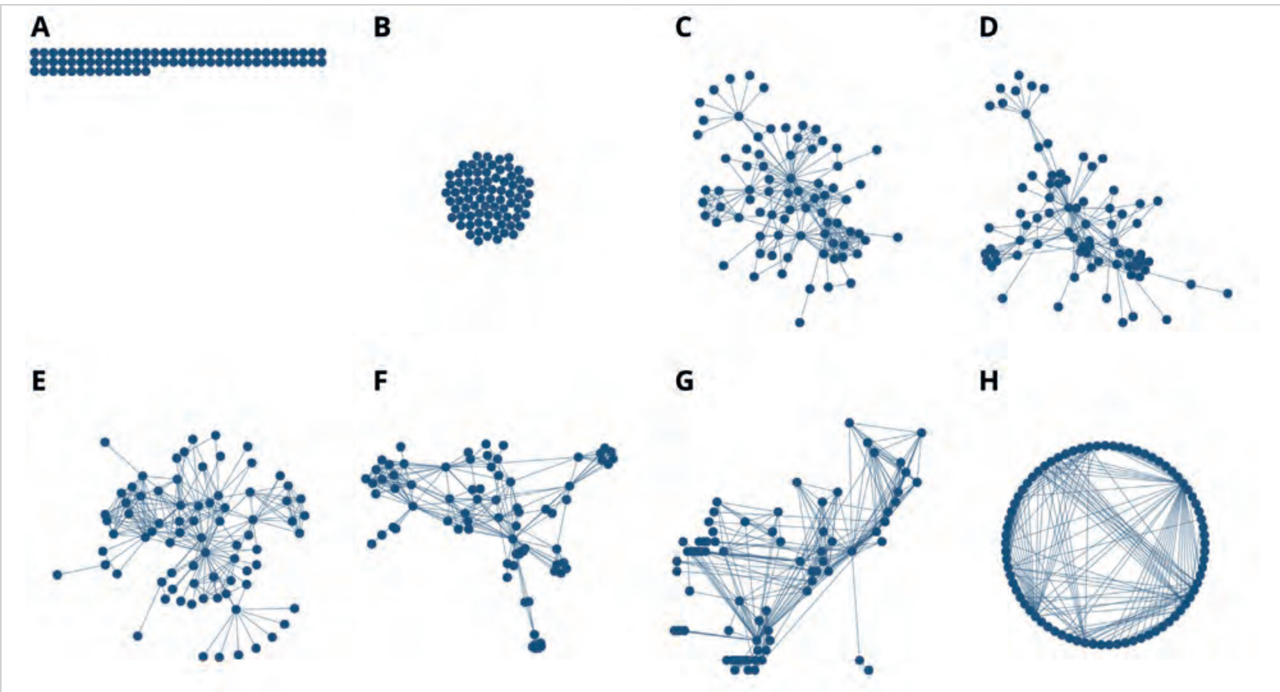


Figure 4. Main layout algorithms in *SCImago Graphica*: A) Default. B) Avoid Overlapping. C) Force Directed. D) Force Directed+Distances. E) Kamada and Kawai. F) LinLog. G) Dagre Top-Down. H) Circular.

relationships through the positions and distances between nodes (**Noack**, 2009);
- *Dagre Top-Down* and *Dagre Left-Right*, that are hierarchical layout algorithms[3]; and
- *Circular*, a simple algorithm that places the nodes of a graph on a circle.

Layout algorithms can be combined with fixed positions, connecting the X or Y position to a quantitative axis, as shown in Figure 5.

The generated visualizations, in addition to being responsive –dynamically adapting to the available width and height–, can be interactive. Interactions that can be specified in *SCImago Graphica* include tooltips, zoom and panning, hyperlinks, highlighting when hovering, and interactive filtering.

3.4. User interface

To make data exploration and visualization simple and effortless with *SCImago Graphica*, a standalone desktop application was built. The *Electron* framework[4] was used, which allowed the fast development of a cross-platform application (*Windows*, *MacOS* and *Linux*) using JavaScript, HTML, and CSS.

As **Grammel**, **Tory** and **Storey** (2010) note, one of the common barriers in the data visualization process is the choice of which data variables answer the goals and questions that the user is trying to address. For this reason, after loading the dataset, a small chart with the distribution of each variable is displayed in the header of each column of the data table (Figure 6), helping the user to become familiar with the data.

The application enables the creation of multiple visualizations from the same data source, organized in tabs (Figure 7.1).

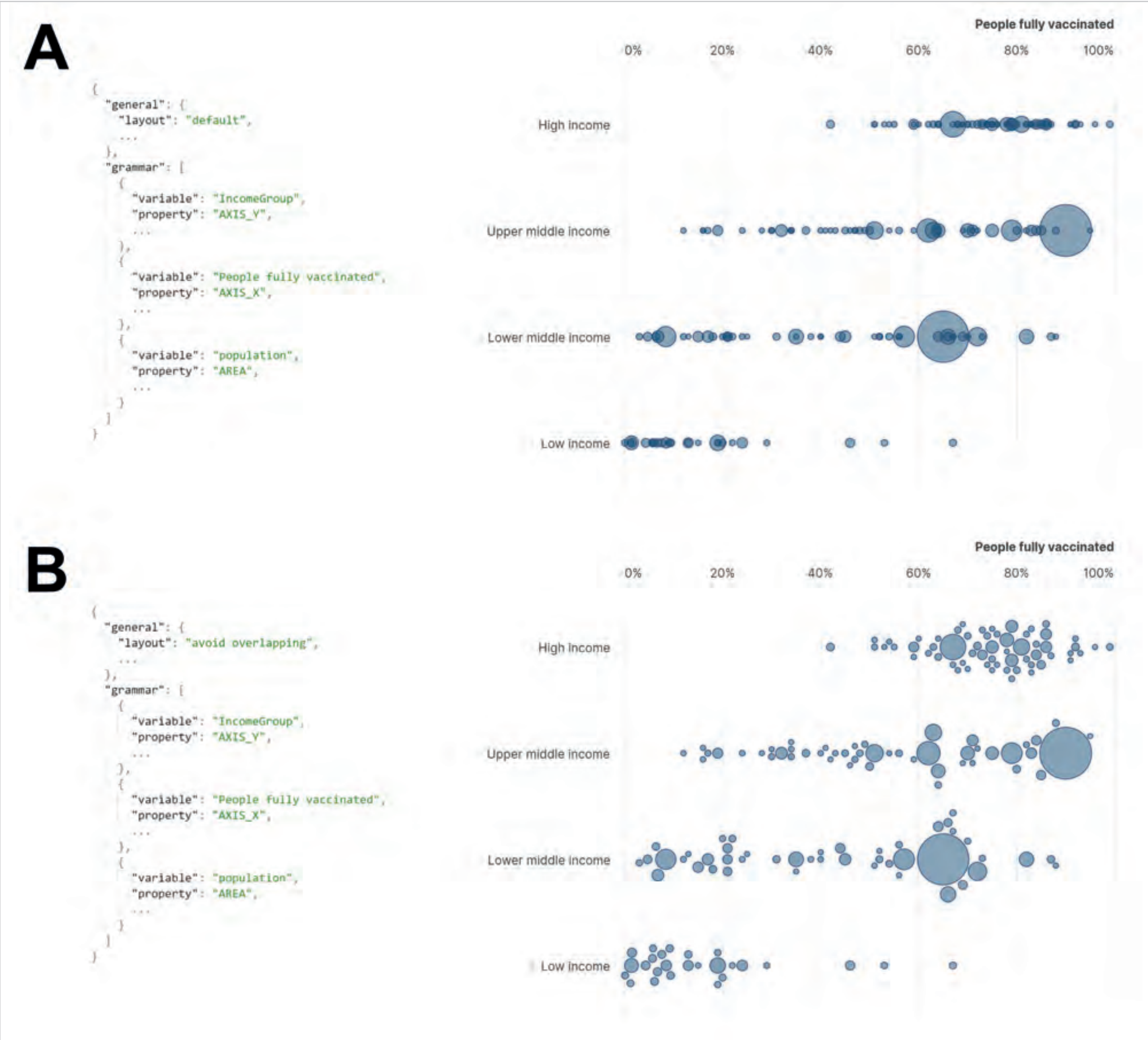
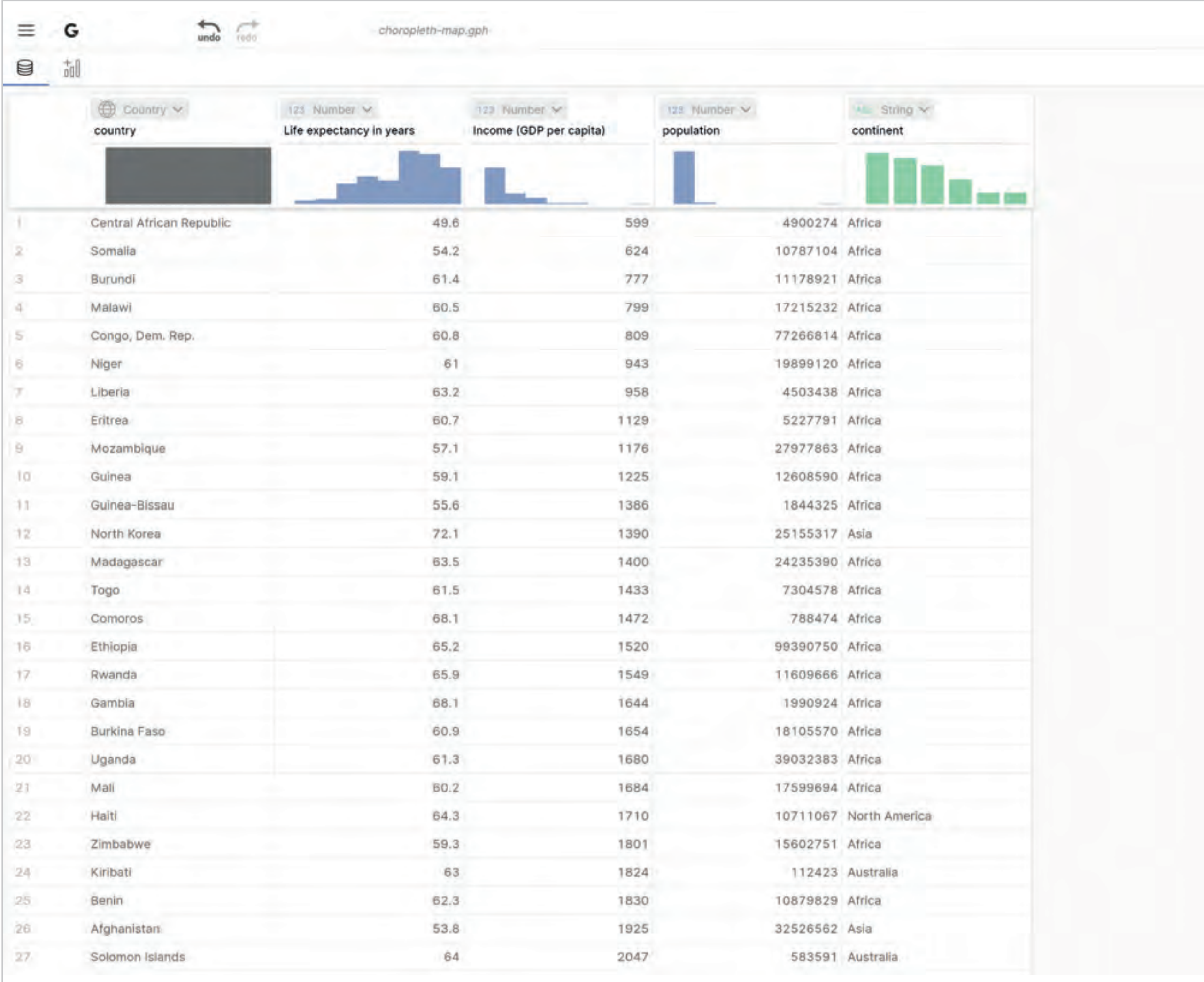


Figure 5. A) Example of layout by positional properties. B) Example of layout by positional properties combined with overlap avoiding algorithm. The Y position of each symbol is given by the categorical variable "IncomeGroup" and by the layout algorithm application, whereas X position is exclusively given by the quantitative variable "People fully vaccinated".



	country	Life expectancy in years	Income (GDP per capita)	population	continent
1	Central African Republic	49.6	599	4900274	Africa
2	Somalia	54.2	624	10787104	Africa
3	Burundi	61.4	777	11178921	Africa
4	Malawi	60.5	799	17215232	Africa
5	Congo, Dem. Rep.	60.8	809	77266814	Africa
6	Niger	61	943	19899120	Africa
7	Liberia	63.2	958	4503438	Africa
8	Eritrea	60.7	1129	5227791	Africa
9	Mozambique	57.1	1176	27977863	Africa
10	Guinea	59.1	1225	12608590	Africa
11	Guinea-Bissau	55.6	1386	1844325	Africa
12	North Korea	72.1	1390	25155317	Asia
13	Madagascar	63.5	1400	24235390	Africa
14	Togo	61.5	1433	7304578	Africa
15	Comoros	68.1	1472	788474	Africa
16	Ethiopia	65.2	1520	99390750	Africa
17	Rwanda	65.9	1549	11609666	Africa
18	Gambia	68.1	1644	1990924	Africa
19	Burkina Faso	60.9	1654	18105570	Africa
20	Uganda	61.3	1680	39032383	Africa
21	Mali	60.2	1684	17599694	Africa
22	Haiti	64.3	1710	10711067	North America
23	Zimbabwe	59.3	1801	15602751	Africa
24	Kiribati	63	1824	112423	Australia
25	Benin	62.3	1830	10879829	Africa
26	Afghanistan	53.8	1925	32526562	Asia
27	Solomon Islands	64	2047	583591	Australia

Figure 6. Initial screen of *SCImago Graphica* after loading the data

The interactive model for composing a chart is similar to other grammar-based tools: the user binds data variables (Figure 7.2) to encoding shelves (Figure 7.3) by drag-and-drop. By clicking on the variables dropped on each shelf, specific properties (aggregation function, format, legend visibility, etc.) can be modified. The visualization is displayed in the central area (Figure 7.4), in which the user can add annotations, edit titles, or resize the chart in an interactive way. Lastly, the right sidebar (Figure 7.5) allows the user to define all the general properties of the visualization.

The designed interface not only supports quick design and composition of charts, but also exploration and understanding of the data. The user can easily bind variables to coding channels, switch variables from one coding shelf to another, or undo and redo actions.

All charts created with the application can be exported to PNG, SVG or to the HTML+JavaScript code needed to be published online as an interactive and responsive data visualization. The generated code, in addition to the required libraries and styles, includes the JSON grammar specification of the chart.

4. Evaluation

As stated in the objectives of this work, our proposed tool seeks to achieve both a high degree of expressiveness and ease of use, qualities that are evaluated below.

4.1. Ease of use

Although it may seem that the most objective way to compare the ease of use of a visualization authoring tool with the others is through a comparative study, the reality is that it has serious limitations (**Ren** *et al.*, 2018). Visualization authoring tools are complex systems, differing in their design philosophy, interaction models, underlying technology, features supported or target audience. By comparing completion times or counting interactions, for example, conclusions can only be drawn in relation to the specific task evaluated, but never about the overall usability of the tools.

For this reason, in this paper we have opted to analyze some of the key differences of *SCImago Graphica* with regard

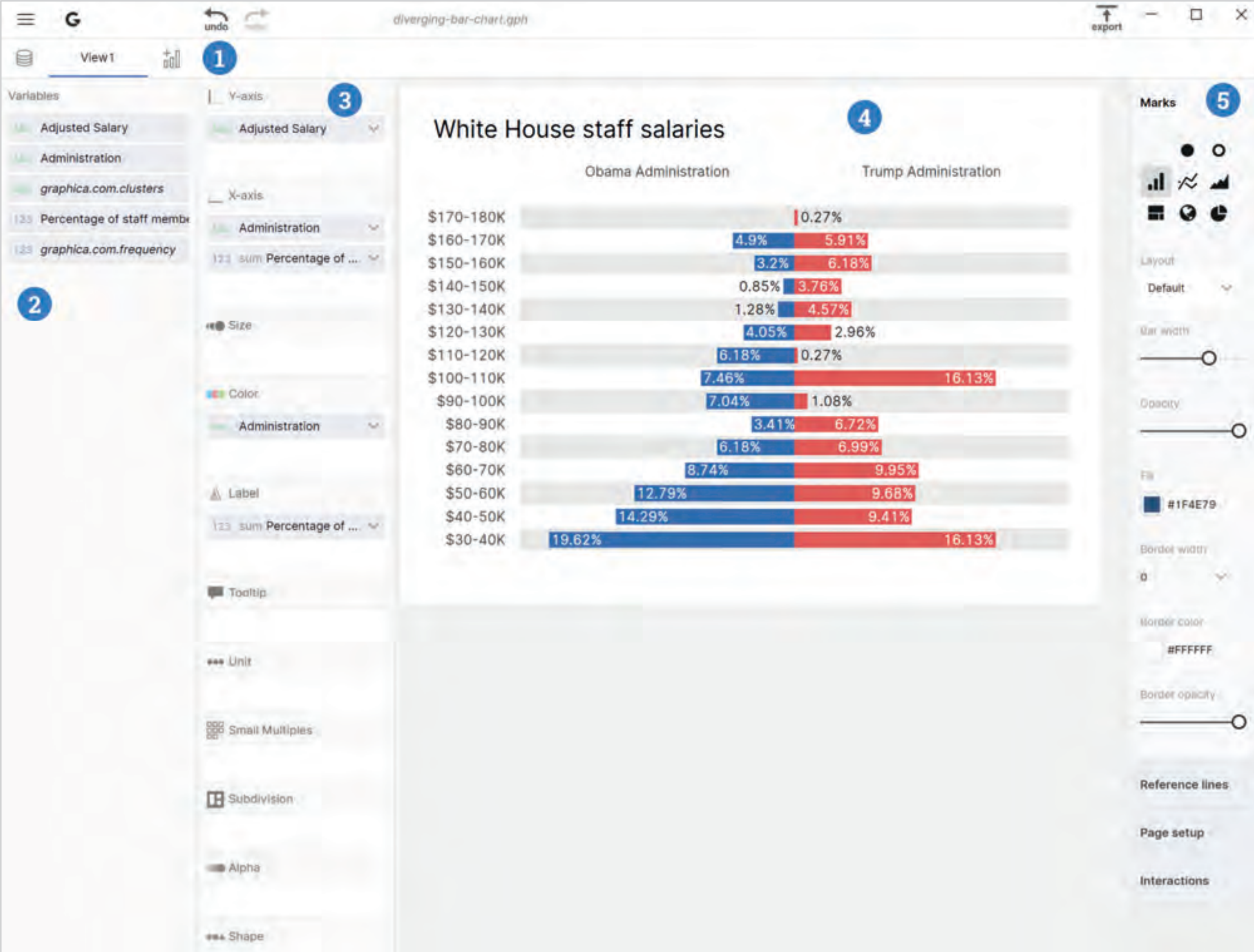


Figure 7. *SCImago Graphica* interface for data visualization by visual mapping

to the other tools, through a series of examples. This evaluation should be seen as a first approach to understand the fundamental characteristics of the tool and its underlying complexity.

The following examples in Figure 8 are discussed below:

A) Histograms

To analyze the distribution of a quantitative variable, one of the most used charts are histograms. To create a histogram in *SCImago Graphica*, a user only has to perform three actions: select 'bar' as the mark type, bind the quantitative variable to the X-axis, and bind the variable "graphica.com.frequency" to the Y-axis. This last variable is calculated by the application, which refers to the count or number of occurrences. In this example the user does not need to specify that a data binning should be performed, nor what should be the bin width, as these operations are automatically performed by the tool.

B) Small multiple

In small multiple displays, data are presented in the form of small charts of the same type that share the same scale. This way of breaking down the data display facilitates quick visual comparisons among categories or time periods. Despite its benefits, grammar-based tools usually require the user to select a categorical variable for the rows, and another one for the columns, variables that may not exist in the dataset, and therefore must be created expressly to achieve the desired layout. In *SCImago Graphica*, by contrast, it is enough to drop a categorical or date variable on the "Small Multiple" shelf, and the tool will subdivide the available space to fit the different small charts. This simple way of splitting the data displays is particularly useful for exploratory data analysis.

C) Parallel coordinate

Parallel coordinate plots are of huge value for multivariate data analysis because of their ability to reveal correlations, similarities, or anomalies in the data. For this reason, it is surprising that in the most popular data visualization tools there is no simple way to create them. In the case of *SCImago Graphica*, it is only needed to bind as many variables as desired to visualize to the same axis (X-axis or Y-axis) and to select the line as the type of mark.

Although the examples analyzed do not allow an overall assessment of the usability of *SCImago Graphica*, they do pro-

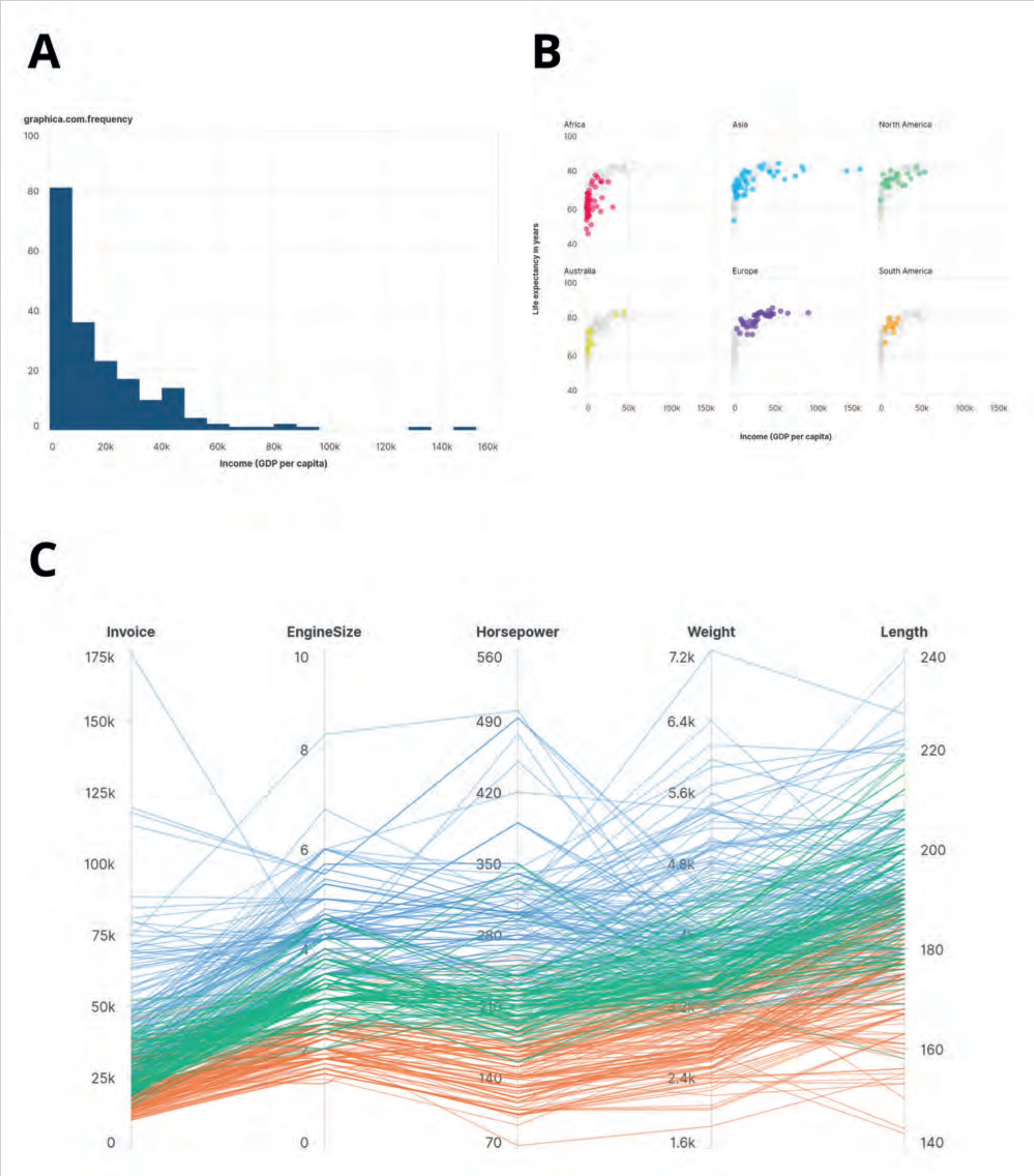


Figure 8. A) Histogram. B) Small multiple. C) Parallel coordinate

vide insight into how the tool tries to anticipate the user's intention and reduce the number of actions required.

4.2. Expressiveness

The scope of possible design configurations that a grammar-based allows cannot be captured through user studies, so **Ren** *et al.* (2018) recommend, as a way of evaluating the expressiveness of visualization tools, providing a gallery of varied examples of charts created with them. As the same authors point out, one of the benefits of providing these galleries is that they can serve as a means of comparing expressiveness between different tools.

We provide a *Data Viz Catalog* in progress, which can be accessed online[5]. The examples in the online catalog are classified by function (comparisons, distribution, correlation, part-to-whole, evolution, map and network), which makes it easier to find those that enable the desired type of analysis. As can be seen (Figure 9), the examples include from basic

Figure 9. Data Viz Catalog

and frequent chart types, such as bar charts, to more complex ones, such as contiguous cartograms. Given that *SCImago Graphica* is a grammar-based tool, not a template-based tool, the examples in the catalog represent only a small fraction of all its combinatorial possibilities.

As our Data Viz Catalog show, although *SCImago Graphica* does not reach the level of expressiveness of low-level programming grammars, it is more expressive in several respects than other interactive grammar-based tools. Its capacity to visualize network data, or the flexibility of its layouts, are some of its most outstanding points.

5. Discussion and future work

We have presented a novel data visualization authoring tool, which can be used for both visual data communication and exploratory analysis. The expressive power of the tool has been demonstrated through a catalog of data visualizations, while its ease of use has been inspected through several examples of chart building. Obviously, the usability of the tool requires further inquiry. Although the revised examples illustrate the tool's capability to create advanced charts with few interactions, both user studies and analysis of usage in real-world scenarios will be necessary to further understand other usability attributes.

While drag-and-drop visual mapping enables to create data visualizations easily and efficiently, it can be a barrier for novice users (**Grammel**; **Tory**; **Storey**, 2010). The solution in these cases may be the integration of a chart recommendation feature. 'Show me' (**Mackinlay**; **Hanrahan**; **Stolte**, 2007) suggests chart types compatible with the variables the user selects to display. *Keshif* (**Yalçın**; **Elmqvist**; **Bederson**, 2018) automatically generates exploration-oriented dashboards with the least user effort. *Voyager* (**Wongsuphasawat** *et al.*, 2015), on the other hand, is a faceted browsing system of recommended charts chosen on the basis of perceptual and statistical measures.

We believe that an important function that should also be addressed by these chart recommendation systems is to shorten the learning curve of grammar-based tools. Therefore, the future recommendation system to be integrated in *SCImago Graphica* will not only be designed to simplify the creation of charts for novices, but also to help them learn how to reach these solutions through visual mapping.

6. Notes

1. *https://github.com/datawrapper/datawrapper*
2. *https://pixijs.com*
3. *https://github.com/dagrejs/dagre*
4. *https://www.electronjs.org*
5. *https://graphica.app/catalogue*

7. References

Bertin, Jacques (1983). *Semiology of graphics*. Madison, Wisconsin: The University of Wisconsin Press. Translated by W. J. Berg. ISBN: 978 0 299090609

Bostock, Michael; **Heer, Jeffrey** (2009). "Protovis: A graphical toolkit for visualization". *IEEE Transactions on visualization and computer graphics* (Proc. InfoVis), 2009.
https://doi.org/10.1109/TVCG.2009.174

Bostock, Michael; **Ogievetsky, Vadim**; **Heer, Jeffrey** (2010). "D3: Data-driven documents". *IEEE Transactions on visualization and computer graphics*, v. 17, n. 12, December 2011.
http://vis.stanford.edu/papers/d3

Clauset, Aaron; **Newman, Mark E. J.**; **Moore, Cristopher** (2004). "Finding community structure in very large networks". *Physical review E*, v. 70, 066111.
https://journals.aps.org/pre/abstract/10.1103/PhysRevE.70.066111

Fruchterman, Thomas M. J.; **Reingold, Edward M.** (1991). "Graph drawing by force-directed placement". *Software - practice & experience*, v. 21, n. 11, pp. 1129-1164.
https://doi.org/10.1002/spe.4380211102

Grammel, Lars; **Tory, Melanie**; **Storey, Margaret-Anne** (2010). "How information visualization novices construct visualizations". *IEEE Transactions on visualization and computer graphics*, v. 16, n. 6, pp. 943-952.
https://doi.org/10.1109/TVCG.2010.164

Kamada, Tomihisa; **Kawai, Satoru** (1989). "An algorithm for drawing general undirected graphs". *Information processing letters*, v. 31, n. 1, pp. 7-15.
https://doi.org/10.1016/0020-0190(89)90102-6

Li, Deqing; **Mei, Honghui**; **Shen, Yi**; **Su, Shuang**; **Zhang, Wenli**; **Wang, Junting**; **Zu, Ming**; **Chen, Wei** (2018). "ECharts: A declarative framework for rapid construction of web-based visualization". *Visual informatics 2*, pp. 136-146.
https://doi.org/10.1016/j.visinf.2018.04.011

Liu, Zhicheng; **Thompson, John**; **Wilson, Alan**; **Dontcheva, Mira**; **Delorey, James**; **Grigg, Sam**; **Kerr, Bernard**; **Stasko, John** (2018). "Data Illustrator: Augmenting vector design tools with lazy data binding for expressive visualization authoring". *CHI 2018*, April 21-26, Montréal, QC, Canada.
https://doi.org/10.1145/3173574.3173697

Mackinlay, Jock D.; **Hanrahan, Pat**; **Stolte, Chris** (2007). "Show me: Automatic presentation for visual analysis". *IEEE Transactions on visualization and computer graphics*, v. 13, n. 6.
https://doi.org/10.1109/TVCG.2007.70594

Mauri, Michele; **Elli, Tommaso**; **Caviglia, Giorgio**; **Uboldi, Giorgio**; **Azzi, Matteo** (2017). "RAWGraphs: A visualisation platform to create open outputs". *CHItaly'17*. September 18-20, Cagliari, Italy.
https://doi.org/10.1145/3125571.3125585

McNeill, Graham; **Hale, Scott A.** (2019). "Viz-Blocks: Building visualizations and documents in the browser". *EuroVis 2019* - Short papers. The Eurographics Association.
https://diglib.eg.org/handle/10.2312/evs20191177

Noack, Andreas (2007). "Energy models for graph clustering". *Journal of graph algorithms and applications*, v. 11, n. 2, pp. 453-480.
https://doi.org/10.7155/jgaa.00154

Noack, Andreas (2009). "Modularity clustering is force-directed layout". *Physical review E*, n. 79, 026102.
https://doi.org/10.1103/PhysRevE.79.026102

Qin, Xuedi; **Luo, Yuyu**; **Tang, Nan**; **Li, Guoliang** (2020). "Making data visualization more efficient and effective: a survey". *The VLDB Journal*, v. 29, pp. 93-117.
https://doi.org/10.1007/s00778-019-00588-3

Ren, Donghao; **Höllerer, Tobias**; **Yuan, Xiaoru** (2014). "iVisDesigner: Expressive interactive design of information visualizations". *IEEE Transactions on visualization and computer graphics*, v. 20, n. 12, pp. 2092-2101.
https://doi.org/10.1109/TVCG.2014.2346291

Ren, Donghao; **Lee, Bongshin**; **Brehmer, Matthew** (2019). "Charticulator: Interactive Construction of Bespoke Chart Layouts. *IEEE Transactions on visualization and computer graphics* (InfoVis 2), v. 25, n. 1.

Ren, Donghao; **Lee, Bongshin**; **Brehmer, Matthew**; **Riche, Nathalie-Henry** (2018). "Reflecting on the evaluation of visu-

alization authoring systems: Position paper”. *IEEE Evaluation and beyond - Methodological approaches for visualization (BELIV)*, pp. 86-92.
https://doi.org/10.1109/BELIV.2018.8634297

Satyanarayan, Arvind; **Heer, Jeffrey** (2014). “Lyra: An interactive visualization design environment”. *Computer graphics forum*, v. 33, pp. 351-360. Wiley Online Library.
https://doi.org/10.1111/cgf.12391

Satyanarayan, Arvind; **Moritz, Dominik**; **Wongsuphasawat, Kanit**; **Heer, Jeffrey** (2017). “Vega-Lite: A grammar of interactive graphics”. *IEEE Transactions on visualization and computer graphics* (Proc. IEEE InfoVis).
https://doi.org/10.1109/tvcg.2016.2599030

Satyanarayan, Arvind; **Russell, Ryan**; **Hoffswell, Jane**; **Heer, J.** (2016). “Reactive Vega: A streaming dataflow architecture for declarative interactive visualization”. *IEEE Trans. visualization & computer graphics* (Proc. InfoVis).
http://vis.csail.mit.edu/pubs/reactive-vega.pdf

Stolte, Chris; **Tang, Diane**; **Hanrahan, Pat** (2002). “Polaris: A system for query, analysis, and visualization of multidimensional relational databases”. *IEEE Transactions on visualization and computer graphics*, v. 8, n. 1, pp. 52-65.
https://doi.org/10.1109/2945.981851

Wallinger, Markus; **Archambault, Daniel**; **Auber, David**; **Nöllenburg, Martin**; **Peltonen, Jaakko** (2022). “Edge-path bundling: A less ambiguous edge bundling approach”. *IEEE Transactions on visualization and computer graphics*, pp. 313-323, v. 28, n. 1.
https://doi.org/10.1109/TVCG.2021.3114795

Wickham, Hadley (2010). “A layered grammar of graphics”. *Journal of computational and graphical statistics*, v. 19, n. 1, pp. 3-28.
https://doi.org/10.1198/jcgs.2009.07098

Wickham, Hadley (2014). “Tidy data”. *Journal of statistical software*, v. 59, n. 10.
https://doi.org/10.18637/jss.v059.i10

Wilkinson, Leland (1999). *The grammar of graphics*. New York: Springer. ISBN: 978 0 387245447

Wongsuphasawat, Kanit; **Moritz, Dominik**; **Anand, Anushka**; **Mackinlay, Jock**; **Howe, Bill**; **Heer, Jeffrey** (2015). “Voyager: Exploratory analysis via faceted browsing of visualization recommendations”. *IEEE Transactions on visualization and computer graphics*, v. 22, n. 1, pp. 649-658.
https://doi.org/10.1109/TVCG.2015.2467191

Yalçın, Mehmet-Adil; **Elmqvist, Niklas**; **Bederson, Benjamin B.** (2018). “Keshif: Rapid and expressive tabular data exploration for novices. *IEEE Transactions on visualization and computer graphics*, v. 24, n. 8, pp. 2339-2352.
http://users.umiacs.umd.edu/~elm/projects/keshif/keshif.pdf

Zong, Jonathan; **Barnwal, Dhiraj**; **Neogy, Rupayan**; **Satyanarayan, Arvind** (2020). “Lyra 2: Designing interactive visualizations by demonstration”. *IEEE Transactions on visualization and computer graphics*, v. 27, n. 2, pp. 304-314.
https://doi.org/10.1109/TVCG.2020.3030367

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> **Apellido, Nombre**; **Apellido2, Nombre2** (año). *Título del recurso (sin fecha de la consulta).*
> *Dirección url iniciada en nueva línea sin barra y sin punto finales*

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