

The use of QR codes to fuel transmedia strategy in the ecosystem of audiovisual media groups

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Abstract

The QR code (from the English *quick response code*) is a type of two-dimensional bar code that, when scanned, directs you to an internet site. Audiovisual groups, as part of their hybrid strategies and digitization actions, incorporate it into their television programs to provide them with interactivity and improve participation and engagement with their viewers. In this article, a radiography of the audiovisual ecosystem in Spain is created to show the use of this technology in linear television broadcasts and its impact. The methodology used for this is mixed: semi-structured in-depth interviews (with heads of these strategies from the 3 audiovisual and multimedia groups in Spain) and an analysis of its use in 150 news programs to find out the functions and themes for which it is used, and the frequency of QR codes used in television broadcasts. The results of this work are illuminating since, despite detecting very different degrees of use in each channel, high interest and actions to implement them are detected by all of them, both in the news and in other programs. As the most relevant conclusion, we observe that audiovisual groups create a digital ecosystem to generate a transfer of viewers between television born before the Internet and its new digital media, generating a great impact of digitization in the transformation of the media.

Keywords

QR codes; Audiences; Television; Media; News; Internet; Prosumers; Interaction; Viewers; Transmedia; Technologies.

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1. Introduction: QR codes and media

1.1. The QR code

A quick response (QR) code is a type of two-dimensional bar code consisting of a matrix of dots whose appearance is easily identified by its square shape and the three squares located in the upper and lower right-hand corners. Although several types of QR codes have been developed –such as the Micro QR code, a mini version for small spaces, or the rectangular rMQR code for narrow spaces– QR Code models 1 and 2 are the most popular ones, and we see them on a daily basis. These are the types of QR codes on which this paper focuses.



The QR code was created in 1994 by the Japanese corporation *Denso Wave*, a manufacturer of automotive components, as a solution for its need to expand the information storage capacity and improve the reading speed of traditional barcodes (*QRcode.com*, s.f.). These benefits, coupled with the fact that the corporation did not exercise its right to charge for the patent, have helped its use to spread worldwide.

There are four key dates related to mainstreaming the use of QR codes and their proliferation: 2000, 2002, 2012, and 2020. The first, 2000, is the year they were approved as an international standard (*ISO/IEC18004*) with open source and free use. In 2002, cell phones began to include a QR code reading function, making them easier for the public to use. In 2012, they received the international *Good design award* from the *Japan Institute of Design Promotion* for their ease of use and versatility. Starting in 2020, coronavirus and the low-contact economy succeeded in popularizing them through their use, for example, in the digitalization of restaurant menus (**Delgado**, 2020). This popularization was reflected in the fact that the percentage of internet users who used QR/*Bidi* codes on smartphones or tablets increased by 50% over 2 years (from 53.2% in 2019 versus 77.7% in 2021) (*AIMC*, 2022).

Generating a QR code is a very simple process, right at the fingertips of anyone with a computer, cell phone, or tablet. In the *Chrome* browser, for example, the user simply goes to the page that they want to share and right-clicks to access the “Create QR Code” option for the page. They can then choose to copy the QR code link, click to download it, or scan it with another device’s camera (*Google Chrome*, s.f.). Once created, anyone with a camera can scan it and access the page in question. This ease of creation has also been a key element in the spread of its use.

There is another variant of the QR code called the *Bidi* code. This has been the property of *Movistar* since 2008, but unlike the QR code, it is private and not free (**Estrella-Ramón; Segovia-López**, 2016). As a result, its use is much more restricted, and it is more frequently used for commercial purposes; this indicates that it will have less chance of surviving in the long term, whereas the QR code will prevail.

1.2. The QR code in Spain

In Spain, one of the QR code’s earliest public appearances was in 2012 when the Minister of *Finance and Public Administrations*, Cristóbal Montoro, delivered the *General State Budget* through a QR code. This allowed the full content of the budget to be downloaded directly from the *Ministry of Finance’s* web portal using a smartphone, which in those days was cutting edge. “QR code” [“código QR”] was a trending topic on *Twitter* that day. In previous years, budgets had been delivered on a flash drive, accompanied by a CD-ROM and the classic *Yellow Book* [*Libro Amarillo*] summary of the public accounts (*Ministry of Finance and Public Function*, 2012).

Since that date, the evolution of this technology’s use in Spain has accelerated exponentially, from 35.2% in 2013 to 77.7% in 2021, as can be seen in Figure 1. From these numbers, it is clear that this technology is present in a wide variety of activities today. At a personal level, it can be seen in a wide range of printouts, brochures, identification cards, and products for personal use, etc. At the commercial level, it is an indispensable tool in tasks such as logistics, services, manufacturing, and sales. Among the trends predicted to be key in digital business in 2022, *IAB Spain* (2022) mentions the rise of the QR code, and positions it as a tool through which the user can take an interest in a particular product and obtain more information about it, or even share it on the spot.

The hospitality sector has been a major driver of QR code use: The main activity carried out with QR codes is viewing a menu at a bar/restaurant (55.8%). This is followed by accessing extensive information about something (27.8%) and downloading a coupon (27.4%). Other less frequent uses are connecting to a Wi-Fi network (22.3%) and accessing an event (18%) (*IAB Spain*, 2021).

1.3. The QR code in the media in Spain

The Internet has revolutionized the way we access the media. Reading the electronic edition only of a newspaper is already at 55.3%, listening to online radio is at 30.6%, and watching television online is at 42.1%. It is no longer surprising to see figures such as 34% having watched television networks’ prerecorded broadcasts online in the last 30 days and 36.2% having watched their live broadcasts (*AIMC*, 2022).

An evolution in the media has taken place in parallel to –and owing to– this technological evolution in recent years; this has helped to elucidate the common direction of these codes, as well as their impact on digitization and transformation. Not only the media but also journalistic brands have worked hard and agilely adapted to survive and grow in a highly competitive digital environment by reacting quickly to changes in their environments and keep pace with the digital transition. This is even more true of the traditional Internet media, on which this paper focuses, which have managed

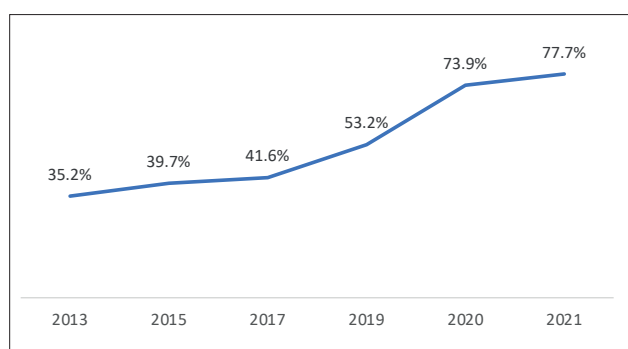


Figure 1. The evolution of QR technology in Spain (2013-2021).
Source: *AIMC* (2022)

to carve out a very respectable niche for themselves among the purely digital native media that were designed for the online environment (Negredo-Bruna; Kaufmann-Argueta, 2021).

In a ranking of the weekly reach of both types of media outlets (digital natives and the main traditional media online), the online version of the traditional media outlet *El País* takes first place with 18% (use in the last week), whereas the digital native *OKdiario.es* lands in second with 13%. The media outlets that are included in this study occupy very interesting positions: *Antena 3* online appears in third place with 13%, *Telecinco* online in 14th, and *RTVE* online in 15th position with 8% (Vara-Miguel *et al.*, 2022). These positions show that their efforts to adapt to the digital world are paying off.

This convergence makes it possible to unite two concepts thus far opposed: the physical world –traditional media’s base– and the digital world –the Internet and social networks– with the meeting point between the two being the cell phone terminal. This symbiosis between both worlds –the only choice available– has occurred naturally out of the necessity to adapt to the convergent audience, as a consequence of both the evolution of media consumption and transmedia content (Scolari, 2014) and that of mobile device consumption, a world located in that third environment as described as early as 1999 (Echeverría, 1999).

The news media have always been of a transmedia character, enabling consumer participation in their programs either through mail in the past or through digital media such as social networks today. Therefore, it can be said that QR codes are an ideal ally, allowing content to be expanded upon and delved into in a way characteristic of the transmedia principles of Jenkins (2009).

Applied to the news media, this promotes deeper levels of audience engagement and loyalty. For example, content is developed from a transmedia script, where all links are set up so that all the fragments have a cognitive relationship while remaining complementary and not repetitive (Grandal-Ayala, 2017). This can also be understood through the concept of migration cues of Ruppel (2006), who proposes the use of visible signals within a text that lead to content on other channels. These are defined as narrative paths that are marked by an author so that they can be located by a user through different activation patterns. These cues are not only the means by which narrative is composed but also the blueprint by which an ideal reader becomes a consumer of texts.

In journalism and the new media ecosystem (Canavilhas, 2013), these technologies break through to create a fluid medium (Bauman, 2007) and a culture of convergence that blurs the boundaries between media, encouraging physical media to offer their content in various forms and mediums so that the viewer can interact with them (Jenkins, 2006). This convergence allows the media to strengthen consumer loyalty, boost their participation and sense of belonging to a community, and even achieve content immersion (Parra-Valcarce; Edo-Bolós; Marcos-Recio, 2017).

The use of QR codes on television indicates that its consumption is intermingled with the use of second screens. For example, Weimann-Saks, Ariel y Elishar-Malka (2019) conclude that television viewers of major sporting events (such as the *World Cup*) prefer to watch or comment on them together via *WhatsApp*, without physical presence being necessary. Along the same lines, there is other research linking the viewing of series on television with impulse purchasing on second screens (Vázquez *et al.*, 2020). However, this second screen phenomenon is a complex process that depends on variables such as the viewer’s affinity with the programs, their motivations, or interpersonal interaction (Guo, 2019). There are also specific applications on cell phones designed for certain television programs that enhance the interactivity and social experience if the genre is appropriate (Vanattenhoven; Geerts, 2017).

Traditional journalistic genres are in the midst of a metamorphosis, and the change has not yet become ingrained, whereas the media seek a recipe for success through journalistic innovation (Costa-Sánchez *et al.*, 2019). One of the keys to this metamorphosis lies in the palm of our hand –the cell phone– which is notable for being a second screen used while watching television: 60% of users habitually use them simultaneously. They use it for chatting (77%), social networks (71%), and email (69%), while 53% of them use it to check news (*IAB Spain*, 2021). Second screens encourage television viewers to engage in transmedia consumption according to their interests: entertainment or searching for information (Albarello, 2016). To update Sella (cited by Jenkins, 2006), a person with a television is condemned to isolation, but a person with a television and a cell phone has access to a world without limits and belongs to a community.

Table 1. List of programs analyzed

Channel	Audiovisual media group	Program name	Broadcast schedule	Screen share and average audience in June (Barlovento Comunicación, 2022)
<i>La 1</i>	RTVE	<i>Telediario 2 [News Bulletin 2]</i> <i>Telediario Fin de Semana [Weekend News Bulletin]</i>	Monday-Friday at 9 p.m. Saturday-Sunday at 9 p.m.	9.7% 1,041,000
<i>Antena 3</i>	Atresmedia	<i>A3 Noticias 2 [A3 News 2]</i> <i>A3 Noticias Fin de Semana [A3 Weekend News]</i>	Monday-Friday at 9 p.m. Saturday-Sunday at 9 p.m.	20.7% 2,158,000
<i>Telecinco</i>	Mediaset	<i>Informativos Telecinco Noche [Telecinco Nightly News]</i> <i>Informativos Telecinco Fin de Semana Noche [Telecinco Weekend Nightly News]</i>	Monday-Friday at 9 p.m. Saturday-Sunday at 9 p.m.	11.5% 1,203,000

The quantitative component of the methodology consisted of the collection and analysis of appearances of QR codes in the 150 episodes of the singled-out news programs over 50 consecutive days (from May 23 to July 11, 2022). During this period, a total of 50 broadcasts of the aforementioned news programs on each channel were recorded. The following variables were collected for each appearance (Figure 2):

- the date of program broadcast;
- QR code appearances;
- the text that accompanied the QR code; and
- the type of segment in which it was located.



Figure 2. Use of QR codes in news programs from May 23, 2022, on *Antena 3*. Source: Screenshot of the *Antena 3* broadcast. The caption reads “THE RELATIONSHIP BETWEEN FATHER AND SON”.

For the classification of QR codes by segment, we rely on the following thematic organization of **Gómez-Rubio, López-Vidales y Vicente-Torrico (2018)**:

- society and culture (the Royal House, celebrities, curiosities);
- economy (consumer issues, consumer price index [CPI], unemployment);
- events (crimes and fires, for example);
- international (the EU, events outside Spain and, mainly, the war in Ukraine);
- politics (national political issues, elections);
- sports (sports issues);
- meteorology (weather-related issues or incidents with serious consequences such as heat waves or overflowing rivers, etc.); and
- health (this final segment being added to the aforementioned classification since, after the Covid-19 pandemic, it gained enough prominence to be considered a segment on its own, independent of society and culture).

In addition, both sports and meteorology have programs independent from the news, although when a news item is sufficiently important, it becomes part of the news program.

This coding according to the categories above was initially carried out by one of the authors. Another researcher then recoded the sample. The intercoder agreement ratio using the **Holsti (1969)** method was 0.99 (where 1 indicates total agreement). These data were processed using *Excel* program, and using dynamic tables, summaries were prepared to respond to the objectives set out above.

The semistructured interviews were conducted with the top heads of digital strategy of the three television networks analyzed. The questions asked were aimed at understanding why this technology was incorporated into their programs, how long they had been in use, the results obtained in terms of website traffic, for what type of content they worked best, whether they foresaw their being used for a long time, and whether any specific audience interacted with them more than others. The name and position of the experts interviewed, along with the date and manner of data collection, are presented in Table 2.

Table 2. Semistructured interviews with heads of the three audiovisual groups in Spain

Person and position	Date	Type
Sandra Vicente, deputy director of digital content at <i>Mediaset</i>	06/15/2022	Email and instant messaging
Mónica Prado, editor-in-chief of the digital department of <i>Antena 3 Noticias (Atresmedia)</i>	06/20/2022	Email and instant messaging
Estefanía De Antonio García, director of digital news content at <i>RTVE</i>	07/17/2022	Email and instant messaging

The rationale behind this second method is the need to find answers to explain the data that might be identified using the first method.

4. Results

4.1. Number of QR codes from linear broadcasts by television news program

As a general result, we obtained very disparate data on the use of QR codes on the television networks studied. Very regular and frequent use was detected on the *Atresmedia* group’s channel, *Antena 3*, but their use was less frequent on *La 1* and almost nonexistent on *Telecinco*.

On *Antena 3*, out of the 50 episodes studied, this format was used in more than 90%, as 46 episodes that broadcast them were found. In addition, the number of QR codes broadcast in each episode was high, with an average of three QR codes per broadcast. The other two networks studied used this format more sparingly. Only 10% of episodes of the news programs on *La 1* and 4% of those on *Telecinco* used them in the period analyzed. In addition to these modest data, the frequency was low: *La 1* had an average of 1.4 per episode, and *Telecinco* only had 1.

In terms of periodicity, several patterns can be observed, perhaps due to the frequency of this format's use. On *Antena 3*, QR codes were broadcast on 46 of the 50 days observed, leaving only 4 dates without appearances: Monday, May 30; Friday, June 3; Sunday, July 3; and Saturday, July 9. On *La 1*, they were broadcast on only 5 dates: Sunday, June 19; Tuesday, June 28; Sunday, July 3; Thursday, July 7; and Monday, July 11. *Telecinco* had only two days with appearances, which occurred on successive days (Wednesday, June 25, and Thursday, June 26), whereas on the other dates, no QR codes were presented. All of these overall data are summarized in Table 3.

Audiovisual groups create a digital ecosystem to transfer viewership between traditional television and their new digital media

Table 3. Overall results: Episodes of news programs with QR codes and the average number of QR codes per episode of a news program

Network	Numbers of episodes of news programs with QR codes	QR codes presented	Average QR codes per episode of a news program
<i>Antena 3</i>	46	142	3
<i>La 1</i>	5	7	1.4
<i>Tele5</i>	2	2	1

4.2. Topics promoted using QR codes in linear television broadcasting

With respect to the analysis of the topics that QR codes were used for, the results varied according to the network. Table 4 shows the details of how each channel used QR codes for the different topics, both in absolute figures and in relation to the total.

Table 4. Topics promoted with QR codes in linear television broadcasting: number of QR codes and as a percentage for each network

Topic	QR codes on <i>Antena 3</i>		QR codes on <i>La 1</i>		QR codes on <i>Telecinco</i>	
	N	%	N	%	N	%
Society and culture	9	6%	1	14%	-	-
Economy	33	23%	1	14%	-	-
Events	25	18%	-	-	-	-
International	21	15%	3	43%	2	100%
Politics	25	18%	1	14%	-	-
Sports	5	4%	-	-	-	-
Meteorology	8	6%	1	14%	-	-
Health	16	11%	-	-	-	-
TOTAL	142	100%	7	100%	2	100%

The data obtained were disparate: In the case of *Antena 3*, QR codes were used in all the topic areas included in the classification, whereas on *La 1*, they were used in five, and *Telecinco* focused on only one.

Although QR codes were used in all topic areas by the *Antena 3* channel, some were used more than others. Four topics accounted for 3 out of 4 appearances: economy almost 1 out of 4 (23%), followed by events and politics (18% each), and international (15%). In fifth place came healthcare, which accounted for 1 out of 10 (11%). Less frequently, they were related to society and culture, meteorology, and sports.

Regarding their use in relation to the economy, on several occasions they were used in news about the increase in the price of electricity with texts such as: "Tips to understand your bill" ["*Claves para entender la factura*"], "Tips to lower your electricity bill" ["*Claves bajada factura de la luz*"], and "How to know the real price" ["*Así puedes saber el precio real*"]. In the news pieces about the increase in gasoline prices, on three occasions on different days, a QR code was provided with the text "Find the cheapest gas station" ["*Busca la gasolinera más barata*"] or "Cheap gas station finder" ["*Buscador gasolineras baratas*"]. During the *Ryanair* strike, they provided help with "How can you find out if your flight has been cancelled?" ["*¿Cómo saber si han cancelado su vuelo?*"] and "Claims for cancelled flights" ["*Reclamaciones vuelo cancelado*"]. With regard to news items about Spaniards' economic situation, the codes were used to expand upon content with texts such as "The cheapest supermarket" ["*Supermercado más barato*"], "How will we feel the VAT decrease?" ["*¿cómo vamos a notar la rebaja del IVA?*"], "What help has been approved?" ["*¿Qué ayudas se aprueban?*"], "All of the measures" ["*Todas las medidas*"], "When and how to benefit" ["*Cuándo y cómo beneficiarse*"], "Tricks to save" ["*Trucos ahorro*"], "Requirements for accessing aid" ["*Requisitos para acceder a las ayudas*"], "The data that warn of the recession" ["*Los datos que avisan de la recesión*"], and "The sectors with the highest salaries" ["*Los sectores con sueldo más alto*"], among others.

When they were used in the politics segment, it was to provide further information or images ("The complete interview" [with Aznar] ["*La entrevista completa*" (a Aznar)], "New images of border jumping" ["*Nuevas imágenes del salto a la*"]

valla”], or “The details of the event” [“*Los detalles del acto*”]), and on four occasions they were used to access parliamentary election polls in Andalusia and also to know the details of the results. On other occasions, they were used to provide the viewer with key information about a certain topic, such as the debate on the state of the nation or the transgender law.

QR codes on television represent a transmedia strategy to increase the online audience of audiovisual groups

Health was a single-issue segment where appearances dealt with advice, information, and current events related to Covid-19 such as “Symptoms of the ‘Centaurus’” [“*Los síntomas de la ‘Centaurus’*”], “Interview: parents of the vaccine” [“*Entrevista: Padres de la vacuna*”], or “Such is the silent COVID wave” [“*Así es la ola COVID Silenciosa*”]. Monkeypox was also referred to on occasion, for example, “Guidelines to prevent monkeypox” [“*Pautas contra la viruela del mono*”].

They were always used in the meteorology segment in the context of the heat wave suffered during those dates, with forecasts on its duration, the hottest times, and advice on how to mitigate its effects with text such as “Where will it be hottest?” [“*¿Dónde hará más calor?*”] or “How long will the heat wave last?” [“*¿Cuánto durará la ola de calor?*”].

The QR codes used by *La 1* were related to five different topics. They were concentrated under the international topic (43%), and then the other four equally (14%). Within the international topic, they were used during the *NATO* summit in Madrid to launch live images (“*NATO Summit. Live on RTVE.es*” [“*Cumbre OTAN. En directo en RTVE.es*”]), and to provide “The key points of the summit” [“*Las claves de la cumbre*”] and “The complete interview” [“*La entrevista al completo*”] (Javier Solana), whereas under the national topic, they were used to report on the state of the reservoirs (“Reservoirs on *RTVE.es*” [“*Embalses en RTVE.es*”]) and to offer media coverage of *San Fermín* (“The 10 cameras” [“*Las 10 cámaras*”]). This network’s use of QR codes was focused on redirecting the viewer to consume its resources or visit an expansion upon its audiovisual content rather than to expand upon specific information or help the citizen as *Antena 3* did.

The two QR codes found on *Telecinco* were broadcast in the international segment (100%), and both times to expand information about the war between Ukraine and Russia. They used it so infrequently that no further information could be obtained from their analysis except that they centered around two consecutive days, May 25 and 26.

4.3. Interviews with the heads of the digital strategy of the analyzed networks

Tables 5 and 6 below summarize the answers provided by the sample. Table 5 presents the rationale behind the use of QR codes on television networks and their reasoning.

Table 5. Rationale behind television business groups’ use of QR codes in Spain

Person and position	Date when QR codes were first used in news content	Current topic that prompted its use	Functions of QR codes
Sandra Vicente, deputy director of digital content, <i>Mediaset</i>	March 2022	War in Ukraine	Opportunity to migrate the audience from television to the digital universe, encouraging participation in interactive actions (surveys and special activities, among others).
Mónica Prado, editor-in-chief of the digital department of <i>Antena 3 Noticias (Atresmedia)</i>	November 2020	Covid-19 pandemic	It is a very useful tool for all that reference information that naturally complements TV content in its digital version. The objective is to reach viewers/users with comprehensive information, covered in depth.
Estefanía De Antonio García, director of digital news content at <i>RTVE</i>	November 2020	Covid-19 pandemic	It is a way to connect our analog audience to our digital content to give added value, and it allows us to drive traffic to our platform. The function of the QR code is to offer value-added content.

The three networks concurred that the use of QR codes in television content on a regular basis is driven by an important current event: the war in Ukraine (on *Mediaset*) or the pandemic (on *Atresmedia* and *RTVE*). Sandra Vicente, at *Mediaset*, recognizes that previously QR codes were used regularly on their entertainment programs

“mainly for interactive content, such as audience voting to make decisions on the programs”;

however, with the military conflict between Ukraine and Russia, they decided to improve the audience’s access to information regarding how to help Ukraine and offer the viewer constantly updated access to the latest news on the conflict.

In the case of *Atresmedia*, Mónica Prado explains that

“as a result of the new situation caused by the pandemic, in which QR codes became a tool commonly used by the public (for example, in restaurants and bars), *Antena 3 News* decided to also incorporate them into its television broadcast to provide viewers with more comprehensive information that they could consult” .

The themes most commonly associated with QR codes on television are related to Economics, Events, Politics, and International News

In turn, Estefanía De Antonio explains that, at *RTVE*, they began “to implement the use of QR codes in the 2020/2021 season, initially focusing on the morning news magazine *La Hora de La 1* to provide value-added content”.

Table 6. The effects of QR codes on traditional television on digital content

Person and position	Percentage increase in digital content promoted with QR codes on linear television	Will they continue with the digital strategy of using QR codes in linear broadcasting?	Content most likely to be promoted with QR codes
Sandra Vicente, deputy director of digital content, <i>Mediaset</i>	In interactive actions in primetime entertainment programs, access to the URL through a QR code can account for up to 50% of that URL's total traffic. In current actions, the data are more limited, reaching around 10% of total traffic.	Yes. Viewers are already used to accessing QR codes whenever they are interested in further information or actively participating in an initiative, so it seems that QR codes are here to stay.	Surveys, special actions, and content that complements that provided on television.
Mónica Prado, editor-in-chief of the digital department of <i>Antena 3 Noticias (Atresmedia)</i>	It is an indicator that is highly dependent on current events and fluctuates depending on the day and the news. It is always a very positive influx of users and visits to the <i>Antena 3 News</i> website.	Yes. The QR code is perfectly integrated into the routines of all editions of <i>Antena 3 Noticias</i> news items, as well as in other current affairs programs.	The most common in our case have to do with news from the society, national, international, and economy sectors. As long as it serves to provide extra information to that offered on television.
Estefanía De Antonio García, director of digital news content at <i>RTVE</i>	We have had difficulties in measuring cumulative audience. In real time, we have noticed an increase of between 50% and 200%.	“I think so”. Because the use of QR codes has become popular in the last two years in the wake of the pandemic. I do believe that QR codes can lose their value in the sense that the audience does not understand it as a call to action, but understands it as just another label and does not interact.	Those that provide added value: questions and answers about public service issues, access to data on current affairs, and up-to-the-minute monitoring of news events.

Although this is the confidential and internal data of television companies, all the heads of the digital departments recognized that, when a QR code is placed in the traditional television broadcast, digital content increases “very positively” (*Antena 3, Atresmedia*), “an increase of between 50% and 200% is seen” (in *La 1, RTVE*), or “10% in current affairs programs” (*Telecinco, Mediaset*). However, the three heads claimed that this result depends on the type of QR code. *Mediaset* pointed out that QR codes in entertainment programs outperform web addresses promoted in linear broadcasting (Table 6).

As for the future use of this strategy, *Mediaset, Atresmedia, and RTVE* said that they will continue to use QR presentation in broadcasting. However, *RTVE* was not decisive in asserting that, in the future, it would be possible that viewers would get used to QR codes and no longer interact and that, therefore, “the goal is for each program to invite them to use this code”.

5. Discussion and conclusions

The adoption of QR codes in television broadcasts to increase their online audience demonstrates the impact of digitalization and how the interest in growing in new markets has transformed traditional media.

This snapshot of the audiovisual ecosystem in Spain showing how QR codes are being used in linear television broadcasts highlights a very clear fact: Its implementation as part of a hybrid strategy is very heterogeneous—in terms of not only the frequency with which it is used but also the use to which it is put. Including *La 1* and *Telecinco* in the discussion of results is somewhat difficult owing to the low levels of QR codes found, in contrast to the high volume found on *Antena 3*. Upon reviewing the results from the interviews with their heads, the three media groups concurred that the QR code strategy meets the objective of migrating viewers from linear television to their digital content; the disparate quantitative results are due to the various strategies used with this format.

In *Antena 3's* news, QR codes were fully integrated into their programs, and they were used very frequently and in a variety of ways; however, on the other two channels, they were not used to the same extent. *La 1's* use of them in its news programs was quite reserved, focusing on specific segments, whereas *Telecinco* only used them on two occasions, which seemed more like a trial than a strategy that they had implemented. This suggests that this format is not fully developed when, in two of the three cases, it did not have a significant impact, nor was a strategy detected. This means that almost all the conclusions about the way and manner in which they are used were drawn from the network *Antena 3's* use of this device. Although an analysis of the interviews with the heads of the three networks showed that all of them have taking QR codes into account and are working to include them as an additional resource, only *Antena 3* showed through its broadcasts that they are already in use and not a future plan.

“The interest in growing in new markets has transformed traditional media through transmedia strategies such as QR codes”

Major events that have affected the world (the pandemic and the war in Ukraine) have promoted the use of QR codes as a strategy for large audiovisual media groups. With the pandemic, the use of this technology in society was boosted (Figure 1), and television networks began to implement them from then on (Table 4). Yet, with the war in Ukraine, the three networks made prominent use of QR codes related to this category (Table 4; the average media presence for the topic of the war in Ukraine was 52.6% on the three networks: 100% on *Telecinco*, 43% on *La 1*, and 15% on *Antena 3*).

“All of the digital area managers acknowledge that digital visits to their websites increase when a QR code is displayed during traditional television broadcasts”

In any case, the three audiovisual groups recognized the value of attracting viewers from traditional television to their new digital media. Programs broadcast on television maintain audiences in the millions (Table 1), and audiovisual groups take advantage of this massive viewership to migrate users to the Internet and improve their transmedia strategy. The implementation of QR codes after their increased use during the pandemic is aimed at facilitating this leap from traditional broadcasting to new mediums and enhancing their audiovisual and business ecosystem.

Regarding this hybrid strategy's impact on online audiences, the results were not conclusive either. Although networks convert television viewers into website users with these codes, it seems that there are still no reliable resources or systems to measure their real audience, which makes it difficult to measure their success. Audience data for linear programs showed web traffic data ranging from 10%, 50%, and up to 200% depending on the topic, but no specific pattern of success was detected, either by topic or by date of broadcast.

6. References

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