Journalistic AI Codes of Ethics: Analyzing Academia's Contributions to their Development and Improvement

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Abstract

Journalists are expected to make an ethical use of artificial intelligence (AI) systems in their editorial work in order to maintain journalistic principles while adapting to AI. The growing academic interest in the journalistic use of AI and its ethical limits results in research of potential value for newsrooms. The first purpose of this study is to outline emerging ethical codes and guidelines on the use of AI in newsrooms developed and made public by news organizations worldwide. Secondly, it aims at systematizing proposals and recommendations from academic sources that could potentially contribute to develop new ethical codes and guidelines on the use of AI in newsrooms and to improve the existing ones. The third purpose is to assess to what extent such proposals and recommendations appear in ethical codes and guidelines. Ultimately, this allows us to find out whether academic contributions could be better exploited by media practitioners. Documents from 84 media organizations of Europe, America, and Asia, and eight major proposals or recommendations from twelve academic papers were identified and analyzed. Results show that, at present, 40 ethical codes or recommendations around the world are accessible to the public. Proposals coming from academic sources are related to accuracy and credibility, accessibility, relevant contents, diversity, transparency and accountability, data and privacy, human factor, and interdisciplinary teams. One significant finding is that the proposals have a limited presence in media organizations' ethical codes on AI and the ones with greater presence focus on the importance of the human factor, both in editorial decision-making and in the creative part of the journalistic process. Ultimately, the results highlight the need to discuss the professional-academic divide.

Keywords

Journalism, Artificial Intelligence, Ethical Codes, Ethical Guidelines, Newsrooms, Media Organizations, Academia, Recommendations, Proposals, Professional-Academic Divide.

1. Introduction

The adoption of artificial intelligence (AI) in journalism —from simple suggestions for keywords up to totally automated writing of news— is reshaping news production, distribution, and consumption, and is altering editorial

structures and routines (**Dörr; Hollnbuchner**, 2017; **Broussard**, 2015) as well as journalists' values and responsibilities (**Helberger *et al.***, 2022). In fact, the ethical dimension of the irruption of AI is one of the most important challenges for media organizations due to their social commitment and their service to democracy (**Codina *et al.***, 2024). The utilities of AI are so significant that the point is not about whether to adopt the technologies but how to harvest the power of AI transparently and equitably (**Chan-Olmsted**, 2019) because of raising concerns about bias, editorial independence, verification, data ethics, and human judgement (**Beckett; Yaseen**, 2023). In this scenario, journalists and news organizations need to adapt to AI while maintaining journalistic principles (**García-Avilés**, 2023; **Kotenidis; Veglis**, 2021; **Helberger *et al.***, 2022). Hence, some organizations like Reuters have already published reports to explain how they are working internally to balance technology and journalistic ethics (**Barrett *et al.***, 2023).

The **Unesco** (2022) —seconded by the *International Association for Media and Communication Research-IAMCR*— asserts that member states should encourage media to make an ethical use of AI systems in their editorial work. Scholars claim that media organizations should establish their own ethical guidelines (**Shi; Sun**, 2024) and autoregulatory ethic codes "before external control and guidance does so" (**Haapanen**, 2020). Accordingly, news organizations, journalists, ethics experts and researchers are gradually establishing ethical practices in the use of AI in journalism (**Beckett; Yaseen**, 2023). *The New York Times*, for instance, recently announced that they are seeking a senior editor "to lead the newsroom's efforts to ambitiously and responsibly make use of generative artificial intelligence" and shape further guidelines for how it is used in the newsroom, in collaboration with the *Standards Department* (**Talking Biz News**, 2023). However, although half of newsrooms use generative AI tools, only 20% have guidelines in place as to when and how to use them, according to the latest *WAN-IFRA* global survey amongst editors and journalists (**Roper *et al.***, 2023). Hence, the first purpose of this study is to outline emerging ethical codes and guidelines on the use of AI in newsrooms developed by news organizations around the world.

News organizations could benefit from external inputs to develop their own codes of ethics. Scholars can play a relevant role in the integration of AI into newsrooms by supplying knowledge, research, ethical guidance, and critical examination of ethical AI (**Beckett; Yaseen**, 2023; **Helberger; Diakopoulos**, 2023). With this in mind, the second purpose of this article is to systematize proposals and recommendations from academic sources that could potentially contribute to develop new ethical codes and guidelines on the use of AI in newsrooms and to improve the existing ones. Despite academia's potential, studies have shown that connections between journalists and academics are generally poor (**Baser; Martin**, 2020; **MacGregor *et al.***, 2020; **Parratt-Fernández *et al.***, 2022). Thus, the third purpose is to assess to what extent proposals and recommendations from the academy appear in ethical codes and guidelines. Ultimately, this will allow us to find out whether academic contributions could be better exploited by media practitioners.

2. Journalistic AI Ethics

Research has found that the ethical issues arising from the arrival of AI in journalism only represent 3.3% of the scientific production on AI in the field of communication (**García-Orosa *et al.***, 2023), despite the potential for development in this area being enormous (**Chaparro-Domínguez; Díaz-Campo**, 2023). The ongoing scholarly discourse on AI in journalism highlights the importance of integrating ethical principles and values into AI systems and analyzing the normative applications and impacts of AI within the field of journalism (**Broussard *et al.***, 2019; **Lin; Lewis**, 2022). It also examines how journalists, editors, technical staff, and developers inside organizations perceive them (**Helberger *et al.***, 2022). Some studies take a more theoretical approach by placing journalistic AI ethics into broader organizational and societal contexts (**Helberger *et al.***, 2022). They are aware that a normative perspective involves different actors —developers, implementers, users, law, and policymakers— with different values and interests (**Helberger; Diakopoulos**, 2023) which cannot be analyzed separately. Acknowledging the essential conversations among these actors, **Dierickx and Lindén** (2023) developed an epistemological and interdisciplinary system between journalism, data, and computer science to better integrate journalism's editorial values and ethical principles into AI technologies.

Having to embed ethical journalism principles and "human" values into AI systems for their use in newsrooms (**Dierickx; Lindén**, 2023; **Paik**, 2023) makes it challenging and time-consuming to develop and implement ethical guidelines (**Beckett; Yaseen**, 2023). **Paik** (2023) proposes a distributed responsibility model to hold both humans and algorithms, considering that normative frameworks that investigate human-to-human relationships are not sufficient in addressing human-machine relationships. Software developers need to adhere to a journalistic value base when making decisions that influence journalistic content. This entails an understanding of the evolving meanings and approaches related to key concepts (**Dierickx; Lindén**, 2023; **Dörr; Hollnbuchner**, 2017). For instance, vague and common terms such as "journalistic principles" and "news values" need to be discussed (**Haapanen**, 2020) before putting normative theories into practice. Also, certain standard ideals, such as increasing the representation of marginalized voices in a recommendation system, are not easy to implement without a proper definition of what marginalized voices are (**Helberger *et al.***, 2022). Moreover, IA tools need to be adapted

to newsrooms specific needs (**Calvo-Rubio; Rojas-Torrijos**, 2024). In addition, both internal and external forces shape the ethical practice of newsrooms (**Al-Zoubi *et al.***, 2024), each of which may use AI tools differently. Since these and many other issues are significant when formulating ethical codes or guidelines (**Dörr; Hollnbuchner**, 2017), they are worthy of discussion, as is the very effectiveness of codes. But this steps away from the purpose of our study.

Professional codes of ethics articulate general expectations for responsible practice and facilitate the understanding of issues arising around that practice (**Diakopoulos *et al.***, 2024). When it comes to journalism, they encourage ethical behavior among professionals and guarantee that ethical practices are followed in newsrooms (**Karlsson *et al.***, 2023). These documents are relevant tools in ensuring media accountability because they help assess the quality of the information that is published (**Eberwein *et al.***, 2018; **Mauri-Ríos *et al.***, 2020) and they encourage journalists to make decisions based on morality (**Lauk**, 2021). In addition to these initiatives, the *UN* recently called for IA regulation for the benefit of all (**United Nations**, 2023). **Porlezza** (2023) analyzed how the use of AI technology in journalism is currently regulated and debated within the European Union. His findings show that the *Council of Europe*'s approach seems particularly suitable because it aims at combining more general frameworks with detailed guidelines for journalism. It claims that States should

"encourage independent regulatory authorities, or news media self-regulatory bodies, to help develop guidelines and standards for responsible use and development of journalistic AI" (**Council of Europe**, 2023).

These new times require that newsrooms implement standards for how journalists will use AI, and that they are accessible in order to maintain trust with news consumers and ensure accountability (**Veiga**, 2023). The increasing amount of automated content in journalism can lead to contradictions with existing self-regulatory guidelines, thus making it necessary to re-interpret them (**Lindén *et al.***, 2019) or incorporate new norms and values concerning the use of algorithms (**Karlsson *et al.***, 2023). Some scholars emphasize the growing need for creating specific ethical codes (**Monti**, 2019; **Firmstone**, 2024; **Krausova; Moravec**, 2022) that "each individual news organization needs to build for itself" (**Kim**, 2019). The only approach to the study of ethical codes on journalistic AI was carried out by **Cools and Diakopoulos** (2023) on the *Nieman Lab*'s website. They examine a sample of newsroom guidelines that have already been published and pose suggestions for drawing up guidelines as a news organization. Our study —as noted before— aims at providing an updated list of existing ethical codes and guidelines, examining their content, and determining the extent to which they contain proposals from academic sources.

"The new times require that newsrooms implement standards for how journalists will use AI, and that they are accessible in order to maintain trust with news consumers and ensure accountability"

3. Academia's Contributions Towards Ethical Frameworks

Researchers' recommendations for developing ethical codes on journalistic AI address different aspects that sometimes overlap or apply to several phases of the journalistic process. One of the principles most highlighted by academics is *accuracy*. Journalistic AI should seek accuracy by periodically evaluating data used to train algorithmic models (**Kim**, 2019; **Kent**, 2019), verifying information, producing automated news stories without mistakes, correcting human authors' errors, and achieving more accurate recording and transcriptions of interviews and translations of foreign languages. It should also —with the help of software— enable individuals to expand on their own quotes in the news; invite recognized experts to evaluate the news story's accuracy and provide feedback; and simplify the process for users to report potential errors in news articles (**Lin; Lewis**, 2022).

"Our study aims at providing an updated list of existing AI ethical codes and guidelines, examining their content, and determining the extent to which they contain proposals from academic sources"

Studies also assert that AI can enhance *accessibility* by making news items more adaptable to a diverse range of digital platforms and interfaces. This ensures broader online reach and fosters more inclusive web design —although more accessibility to the disabled remains a critical concern (**Lin; Lewis**, 2022). Accessibility includes enhancing the *readability* of news by proposing simpler vocabulary, straightforward sentence structures, and concise explanations instead of technical terms or jargon (**Lin; Lewis**, 2022). In any case, the style of automated reports —spellings, capitalization, and general writing style— should match the rest of the content (**Kent**, 2019).

Journalistic AI also has to provide *relevant content*. That is, it must go beyond finding popular stories or trends, suggesting news to audiences, and getting clicks and likes. Instead, it should identify topics and issues which are meaningful in people's lives, keep them informed about critical aspects of public affairs without overwhelming them with unnecessary details, and encourage reflection (**Lin; Lewis**, 2022). This applies to personalization or

recommendation services too. When designing these services, the systems should not just show their users items that get the most views or the types of content that they normally consume, to the detriment of public interest information, the consideration of social diversity and inclusion, and avoidance of radicalization (**Ventura-Pocino**, 2021).

As for the principle of *diversity* — **Pierson *et al.*** (2023) call it *non-discrimination*—, AI must follow it by presenting diverse perspectives, including alternative, opposing, critical, disadvantaged, and marginalized viewpoints. This involves using a broader range of sources (**Bradshaw *et al.***, 2023; **Lin; Lewis**, 2022), considering multiple languages to promote inclusivity, diversity (**Lin; Lewis**, 2022) and representativeness, and avoiding stereotypes, sexism, racism, and similar prejudices, as well as ensuring that diversity is actively prompted (**Bradshaw *et al.***, 2023). To identify and avoid bias (**Bradshaw *et al.***, 2023) there should be a "standard set of questions that includes race, gender, income level, job position and any other characteristics that could be pertinent to a specific story" (**Kim**, 2019).

Transparency and *accountability* are also highlighted by researchers. As a general principle, both the data and their source must be transparent in two ways. Firstly, when AI is employed to create a story, there should be a disclosure (**Karlsson *et al.***, 2023) at the end containing a link (**Kent**, 2019) to additional information on how —and how much of it (**Ventura-Pocino**, 2021) was AI-generated and "identifying those responsible for developing the algorithm" (**Kim**, 2019). Secondly, users should know whether they interact with a human or an AI, such as a chatbot or a news recommender to interact with readers (**Diakopoulos**, 2019).

Responsible *management of data* and *privacy* is another principle noted in academic literature. Standards for data collection, usage and distribution have to be regularly maintained (**Kim**, 2019; **Kent**, 2019) so that the pursuit of commercial outcomes alignes with the adherence to ethical and professional principles. Data providers ought to have the legal right to send it and journalists should have the right to process and publish it (**Kent**, 2019). It is also important to "collect only necessary personal data and evaluate if it is worth giving up private and potentially competitive data about the audience to a third-party" (**Kim**, 2019) to personalize content and advertising. If this is done, when it has significant effects on individual's lives, it should only be allowed if the users consent to this (**Pierson *et al.***, 2023). Also, citizens using a mediated conversation service should have the right to decide what and how much data will be collected, what it will be used for, where it originates from and how it will be shared (**Pierson *et al.***, 2023).

Finally, **Ventura-Pocino** (2021) points out two more principles to be considered. Firstly, the *human factor*, which means that the unique human capabilities of journalists should be emphasized as tasks become increasingly automated. This entails enhancing quality

"through interactions with sources, keen observations, thorough research, contextualization, infusing a human touch, employing an engaging style, and leveraging creativity to the fullest. In addition, algorithms should be regularly examined to avoid them writing stories out of context" (**Kim**, 2019)

and news organizations should not leave editorial decision-making to algorithms without considering their potential harm (**Karlsson *et al.***, 2023). Secondly, there should be *interdisciplinary teams* trained to combine technical knowledge and the application of ethical principles, as well as to research ways in which AI can foster the principles of journalism (**Ventura-Pocino**, 2021).

Based on what has been pointed out, three research questions are posed:

RQ1: What ethical codes or guidelines on the use of AI in newsrooms have already been developed and published by media organizations around the world?

RQ2: What proposals has the academy made that could potentially contribute to develop new ethical codes on the use of AI in newsrooms and to improve the existing ones?

RQ3: To what extent do existing ethical codes and guidelines on the use of AI in newsrooms include proposals made by the academy?

4. Material and Methods

4.1. Outline of Ethical Codes and Guidelines

The first purpose of this study is to outline emerging ethical codes and guidelines developed and made public by media organizations to self-regulate the use of AI. To this end, we started from the compilation provided by **Cools and Diakopoulos** (2023), which contains twenty-one documents (*https://shorturl.at/hqHJU*). Then we did a purposed search using specialized directories, web searches, and researchers' knowledge on the subject that resulted in a convenience sample. Although these results are not generalizable, this is the most reliable way to

identify the largest amount possible, according to **Harlow and Salaverría** (2016). Following **Hagendorff** (2020),

"the decisive factor for the selection of ethical guidelines was not the depth of individual document detail, but the discernible intent of a comprehensive mapping and categorization of normative statements" about AI ethics in newsrooms (p. 102).

Nineteen codes or guidelines were identified and added to the list we started from. Hence, as of the time of writing this article, the final corpus of the analysis consists of forty documents from eighty-four media organizations, news agencies, magazines, and media groups[1] and partnerships[2] from fifteen countries of Europe, America, and Asia. The documents were downloaded, compiled, and organized in alphabetical order to be analyzed. Those written in other languages than English were translated for examination. When the guidelines on journalistic AI were located within a longer document, such as a general ethical code, it was stated. We used the titles or the names given in the documents to display them on table 1 —shown in section 5.

4.2. Identification of Proposals from Academic Sources

The second purpose of this study is to identify proposals and recommendations from academic sources that could potentially help to develop an ethical framework for journalistic AI. To that end, *Google Scholar* and *Web of Science* databases were searched for combinations of the words "AI ethics" and "artificial intelligence ethics" and "AI principles" and "artificial intelligence principles" and "AI guidelines" and "artificial intelligence guidelines" with "journalism" and "media" up to May 2024. After discarding duplicates and those that addressed the subject but did not explicitly propose indications or recommendations in one or several phases of the journalistic process, a total of twelve documents was identified.

Following a thorough reading of the documents, qualitative analysis was conducted in order to identify all the recommendations. Based on the method used by **Fjeld *et al.*** (2020) to map consensus in ethical approaches to AI principles, we agreed on the criteria to classify the recommendations. Then they were grouped in eight major proposals or categories by identifying those that were identical, equivalent, or closely related both in terms of their dictionary meanings (e.g., non-discrimination and equity) and those that were closely related in the documents themselves (e.g., accessibility and readability, transparency, and accountability). As for the variables of each category, they contain various nuances that were considered when doing the content analysis. They were summarized and simplified for display on table 2 in section 5.

4.3. Assessment of Consideration of Academic Proposals

After identifying 22 ethical variables based on the aforementioned recommendations from academic sources, qualitative content analysis was carried out. This technique has been used in previous research on ethics and journalism (**Parratt-Fernández *et al.***, 2024; **Craig *et al.***, 2017). Three possibilities were established to determine the degree of presence of each proposal in existing codes or guidelines: present, absent, and partially —for cases where the recommendation was not fully considered. Partial compliance would occur, for example, if it is recommended to have a standard set of questions that journalists can ask themselves to identify bias, but a code just states that the media outlet will guard against the dangers of bias embedded within generative tools.

The first phase of the analysis consisted of a pretest on 10% of the sample, which is a common practice in this type of research. Considering the results obtained, some variables were reformulated in order to adapt them to the object of analysis.

5. Results

5.1. Ethical Codes and Guidelines

The first purpose of the study is to outline emerging ethical codes and guidelines developed and made public by media organizations to self-regulate the use of AI. Table 1 shows the documents that were compiled in alphabetical order. Information on the organization to which they belong, the type of ownership, the name they are given and, finally, a link to access them are included.

In total, 40 documents (35 specific guides on AI and five general ethical codes) that include one or more sections related to AI) from eighty-four media organizations around the world were analyzed. Some of these organizations are integrated into international alliances or associations —such as the *NMA* (with twenty-eight members) or are partners of *Reporters Without Borders* NGO (a total of sixteen). Europe has the highest number of news organizations implementing ethical guidelines on AI, followed by North America. Putting aside international media organizations, the United States and the United Kingdom lead the list of countries where most newsrooms have codes or guidelines, with seven and five, respectively. They are followed by Canada, Germany, and Spain, with three each. As for the ownership of organizations, most of them are private companies (26).

Table 1: Guidelines and Codes of Ethics on the use of AI Developed by Media Organizations (as of May 2024) (RQ1).

Media Organization and Country of Origin	Type of Ownership[3]	Name of Document	Link
Aftonbladet (Sweden)	Private	General policy on AI	*https://www.aftonbladet.se/omaftonbladet/a/76ydy9/aftonbladets-ai-policy-sa-forhaller-vi-oss-till-den-nya-tekniken*
Agencia EFE (Spain)	Public	Artificial intelligence and automatically generated content (included in Style Book)	*https://recursos.efe.com/objetos_app/libroestilo/libroDelEstiloUrgente.pdf*
ANP Dutch News Agency (The Netherlands)	Private	Guidance: this is how the *ANP* editorial staff deals with AI	Access on request
Associated Press (United States of America)	Private	Standards around generative AI	*https://blog.ap.org/standards-around-generative-ai*
Austrian Press Association-APA (Austria)	Private	Guidelines for dealing with artificial intelligence	*https://apa.at/whitepaper/leitlinie-zum-umgang-mit-kuenstlicher-intelligenz*
Bayerischer Rundfunk (Germany)	Public	Ethics of Artificial Intelligence. Our AI ethics guidelines	*https://www.br.de/extra/ai-automation-lab-english/ai-ethics100.html*
BBC (United Kingdom)	Public	Machine learning engine principles	*https://www.bbc.co.uk/rd/publications/responsible-ai-at-the-bbc-our-machine-learning-engine-principles*
CBC (Canada)	Public	How *CBC News* will manage the challenge of AI	*https://www.cbc.ca/news/editorsblog/cbc-twitter-news-1.6873270*
CNET (United States of America)	Private	How we will use Artificial Intelligence at *CNET*	*https://www.cnet.com/ai-policy*
Council for Journalism – RVDJ (Belgium)	Other	New directive on the use of artificial intelligence in journalism	*https://www.rvdj.be/nieuws/nieuwe-richtlijn-over-het-gebruik-van-artificiele-intelligentie-de-journalistiek*
Council of Mass Media (Finland)	Other	Guidelines on the use of Algorithms in Newsrooms	*https://www.presscouncils.eu/The-Use-of-Algorithms-Artificial-Intelligence-in-Media-Outlets*
Ctxt (Spain)	Private	Decalogue against AI (included in Ethical Code)	*https://ctxt.es/es/20230501/Firmas/42992/Miguel-Mora-Monica-Andrade-Vanesa-Jimenez-inteligencia-artificial-decalogo-deontologia-codigo-etico-periodismo.htm*
De Volkskrant (The Netherlands)	Private	AI, artificial intelligence (included in *Volkskrant* Protocol)	*https://www.volkskrant.nl/kijkverder/2023/vk-protocol~v701017*
Dpa (Germany)	Other	*dpa*'s 5 AI Guidelines	*https://innovation.dpa.com/2023/04/03/kuenstliche-intelligenz-fuenf-guidelines-der-dpa*
Financial Times (United Kingdom)	Private	Letter from the editor on generative AI and the *FT*	*https://www.ft.com/content/18337836-7c5f-42bd-a57a-24cdbd06ec51*
German Journalists Association – DJV (Germany)	Other	Position paper on the use of Artificial Intelligence in journalism	*https://www.djv.de/medienpolitik/kuenstliche-intelligenz*
Heidi.News (Switzerland)	Other	Code of ethics for generative AI and synthetic content	*https://www.heidi.news/cyber/la-redaction-de-heidi-news-prend-position-sur-l-usage-des-intelligences-artificielles*
Hong Kong Free Press – HKFP (China)	Other	Artificial Intelligence tools (included in Code of Ethics)	*https://hongkongfp.com/hkfp-code-of-ethics-best-practices-standards-corrections*
Insider (United States of America)	Private	Editor's note to the newsroom on AI	*https://www.businessinsider.com/how-insider-newsroom-will-use-ai-2023-4*
JotDown (Spain)	Private	Guidelines and directives for responsible use of artificial intelligence	*https://www.jotdown.es/guias-y-directrices-para-el-uso-responsable-de-la-inteligencia-artificial*
Le Figaro (France)	Private	*Le Figaro* adopts a charter on the use of generative AI	*https://www.lefigaro.fr/medias/le-figaro-se-dote-d-une-charte-sur-l-usage-de-l-ia-generative-20231212*
Le Parisien (France)	Private	Commitment to Generative Artificial Intelligence	*https://www.cbnews.fr/medias/image-groupe-echos-parisien-s-engage-face-intelligence-artificielle-generative-76799*
Mediahuis (international)	Private	An AI framework for *Mediahuis*	*https://www.independent.ie/editorial/editorial/aiframework140623.pdf*
News Media Alliance – NMA (international)	Private	Global Principles on Artificial Intelligence	*https://www.newsmediaalliance.org/global-principles-on-artificial-intelligence-ai*
Núcleo Jornalismo (Brasil)	Private	Artificial intelligence use policy	*https://nucleo.jor.br/politica-ia*
Reporters without Frontiers and 16 organizations (international)	Other	Paris Charter on AI and Journalism	*https://rsf.org/sites/default/files/medias/file/2023/11/Paris%20Charter%20on%20AI%20and%20Journalism.pdf*
Reuters (United Kingdom)	Private	Guidance to the staff on using AI	*https://talkingbiznews.com/media-news/what-reuters-is-telling-its-journalists-about-using-artificial-intelligence*
Ringier Media Group (Switzerland)	Private	Guidelines for the use of artificial intelligence	*https://www.ringier.com/ringier-introduces-clear-guidelines-for-the-use-of-artificial-intelligence*
RTDNA (United States of America)	Private	Use of Artificial Intelligence (AI) in Journalism	*https://www.rtdna.org/use-of-ai-in-journalism*
STT -Finnish News Agency (Finland)	Private	STT's instructions for using artificial intelligence in news work	*https://stt.fi/tyylikirja/toimittajan-etiikka-ja-juridiikka/sttn-ohjeet-tekoalyn-hyodyntamiseen-uutistyossa*
Sveriges Radio (Sweden)	Public	Policy for the use of generative AI at Sveriges Radio	*https://sverigesradio.se/artikel/darfor-publicerar-sveriges-radio-en-policy-for-generativ-ai*
The Globe and Mail (Canada)	Private	Guidelines for working with AI tools	*https://www.theglobeandmail.com/canada/article-a-note-on-ai-and-the-globe-and-mail-newsroom*
The Guardian (United Kingdom)	Private	The Guardian's approach to generative AI	*https://www.theguardian.com/help/insideguardian/2023/jun/16/the-guardians-approach-to-generative-ai*
The New York Times (United States of America)	Private	Principles for Using Generative A.I. in The Times's Newsroom	*https://www.nytco.com/press/principles-for-using-generative-a%E2%80%A4i%E2%80%A4-in-the-timess-newsroom*
The Telegraph (United Kingdom)	Private	Generative Artificial Intelligence Staff Guidelines & Policy	Access on request
Thomson Reuters (Canada)	Private	Data and AI Ethics Principles	*https://www.thomsonreuters.com/en/artificial-intelligence/ai-principles.html*
USA Today (United States of America)	Private	Ethical Guidelines and Policy for Gannett Journalists Regarding AI-Generated or Assisted Content	*https://cm.timesrecordnews.com/ethical-conduct*
VG (Norway)	Private	Editorial guidelines for AI in VG	*https://www.vg.no/informasjon/redaksjonelle-avgjorelser/188*
Voxeurop (international)	Private	Artificial intelligence (included in Editorial Policy)	*https://voxeurop.eu/en/editorial-policy*
Wired (United States of America)	Private	How WIRED will use Generative AI Tools	*https://www.wired.com/about/generative-ai-policy*

The map in Figure 1 shows a general overview of the countries where there is at least one media outlet that has an ethical code adapted to AI.

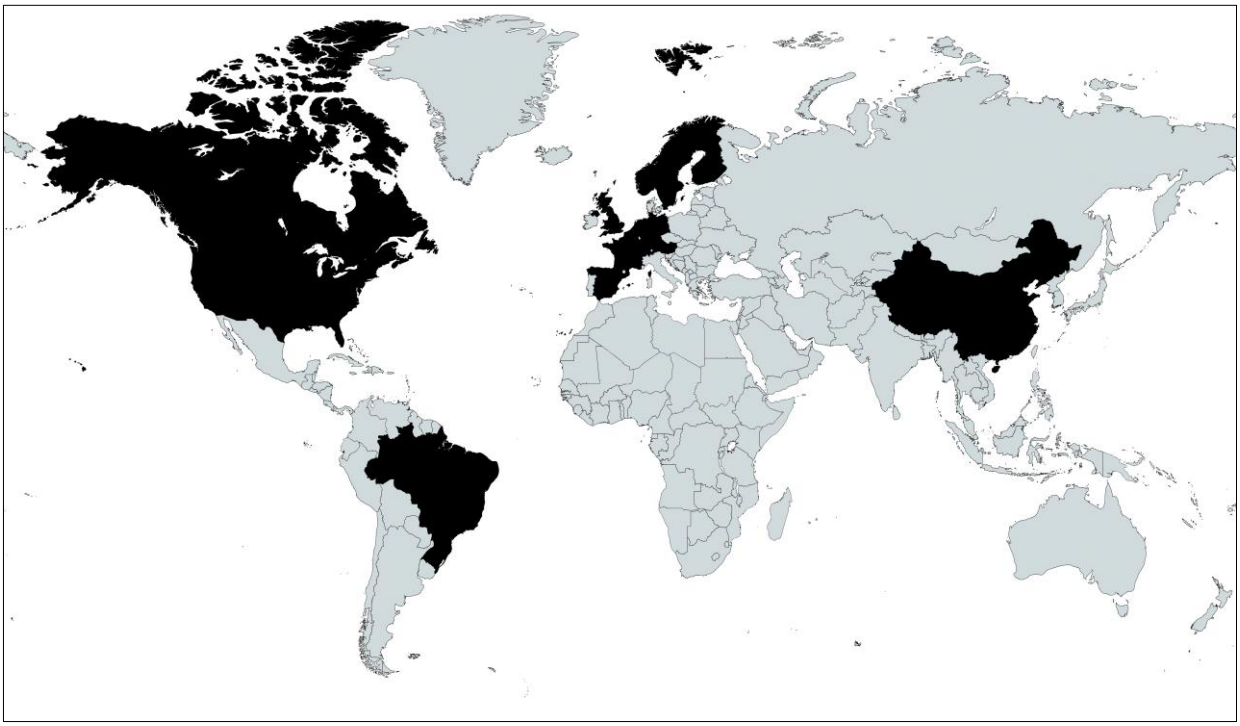

Figure 1: Countries with Media Outlets that have ethical codes adapted to AI.[4]

5.2. Contributions from Academia

The second purpose of the study is to identify proposals and recommendations from academic sources that could potentially help to develop an ethical framework for journalistic AI. We arrived at eight major proposals or categories coming from twelve academic articles published between 2019 and May 2024. Each proposal has between two and five variables, with a total of twenty-two: *follow the principle of accuracy and credibility* (three variables); *enhance accessibility* (three variables); *provide relevant contents* (two variables); *meet diversity* (two variables); *seek transparency and accountability* (two variables); *responsibly manage data and privacy* (five variables); *enhance the human factor* (three variables); and *promote interdisciplinary teams* (two variables). Repeated topics —even if it was not necessarily explained in the same words— were merged to guarantee the quality of the analysis. When writing the contents down, they would either be paraphrased or expressed in the authors' own words to reflect their genuine meaning.

Table 2: Synthesis of Academic Proposals and Recommendations for Developing and Improving Ethical Codes on the Use of AI in Newsrooms (RQ2).

Categories (proposals)	Variables	Academic Sources
Follow the principle of accuracy and credibility	Periodically evaluate data used to train algorithmic models.	**Kent** (2019); **Kim** (2019); **Calvo-Rubio and Rojas-Torrijos** (2024)
	Verify information to ensure credibility and accuracy.	**Shi and Sun** (2024); **Lin and Lewis** (2022); **Kent** (2019); **Cools and Diakopoulos** (2023)
	Let individuals expand on their own quotes in the news, invite experts to evaluate the story's accuracy and provide feedback, and simplify the process for users to report errors.	**Lin and Lewis** (2022)
Enhance accessibility	Make it adaptable to a range of platforms and interfaces.	**Lin and Lewis** (2022)
	Improve readability of news.	
	Ensure the style of automated reports matches the rest of the content.	**Kent** (2019)
Provide relevant contents	Identify topics and issues that hold significant meaning for people's lives and encourage reflection.	**Lin and Lewis** (2022)
	Personalization or recommendation services should consider public interest information.	**Ventura-Pocino** (2021)
Meet diversity	Present social diversity and diverse perspectives.	**Ventura-Pocino** (2021); **Lin and Lewis** (2022); **Bradshaw *et al.*** (2023)
	Avoid stereotypes and bias.	**Ventura-Pocino** (2021); **Kim** (2019); **Bradshaw *et al.*** (2023)
Seek transparency and accountability	Indicate when an algorithm is employed to create a story.	**Ventura-Pocino** (2021); **Kent** (2019); **Kim** (2019); **Karlsson *et al.*** (2023)
	Let users know whether they interact with a human or an AI.	**Diakopoulos** (2019)
Responsibly manage data and privacy	MC services users should have the right to decide what and how much data will be collected, what it will be used for, where it originates from, and how it will be shared.	**Pierson *et al.*** (2023)
	Data providers should have the legal right to send it and journalists you should have the right to process and publish it.	**Kent** (2019)
	Collect only necessary personal data, anonymize irrelevant information, ensure secure storage of databases.	**Ventura-Pocino** (2021); **Kim** (2019)
	Evaluate if it is worth giving up private and potentially competitive data about the audience to a third-party.	**Kim** (2019)
	If doing so, users' consent is necessary when it has significant effects on individuals' lives.	**Pierson *et al.*** (2023)
Enhance the human factor	Human factor can enhance quality.	**Ventura-Pocino** (2021); **Farid** (2023)
	Regularly examine an algorithm to avoid it writing stories out of context.	**Kim** (2019)
	Consider potential harms and implications when deferring editorial decision-making to algorithms.	**Karlsson *et al.*** (2023)
Promote interdisciplinary teams	Promote teams that combine technical knowledge and the application of ethical principles.	**Ventura-Pocino** (2021); **Farid** (2023)
	Promote teams researching on ways for AI to help foster the principles of journalism.	

5.3. Presence of Proposals from Academic Sources

The ethical recommendations on journalistic AI put forward by academia have a limited presence in media organizations' codes of ethics and ethical guides on AI (see table 3). The only category in which presence (including partial presence) exceeds absence is *enhance the human factor*. This category includes variables such as that the use of AI will not be to the detriment of journalists' work, but will enhance it, and that editorial decision-making will not be left in the hands of algorithms. For instance, *Mediahuis International Media Group* states that

"by utilizing AI to automate time-consuming tasks, the newsroom should be able to focus on areas where expertise and critical judgment truly matter. Ultimately, we seek to enhance the overall quality of our journalism for the audience"[5].

In the same vein, Dutch news agency *ANP* notes:

"In our production chain we stick to the current human>machine>human line, whereby thinking and decision making begins and ends with the human"[6].

In Spain, *CTXT* goes further by stating:

"Given the unstoppable development of artificial intelligence, and its use in the field of communication and journalism –some media outlets are already interviewing people with trained robots– and against the huge threat that AI poses to journalists' integrity, the *CTXT* team aims to establish a new ethical code to continue producing the quality journalism we stand for"[7].

Table 3: Presence of Recommendations on Journalistic AI from Academia in Media Organizations' Ethical Codes and Guidelines (number of times variables appear) (RQ3).

Categories (proposals)[8]	Presence	Partial Presence	Absence	Total
Follow the principle of accuracy and credibility	5	34	81	120
Enhance accessibility	4	3	113	120
Provide relevant contents	7	5	68	80
Meet diversity	7	12	61	80
Seek transparency and accountability	6	30	44	80
Responsibly manage data and privacy	10	7	183	200
Enhance the human factor	54	12	54	120
Promote interdisciplinary teams	6	1	73	80
Total	**99**	**104**	**677**	**880**

The category with the lowest presence in the academic recommendations is *enhance accessibility*. It includes three variables: the AI produces a responsive design, it improves the readability of the texts, and the AI-generated story has a similar style to the rest of the media's content. Regarding the first variable, the *BBC* is the only organization analyzed that totally or partially includes it in its code of ethics, as it states:

"And that our algorithms serve our audiences equally and fairly, so that the full breadth of the *BBC* is available to everyone"[9].

The second variable is not addressed by any media organization, and the third one is only considered by the North American *CNET*:

"A staff writer then reviewed, fact-checked and added subject matter expertise to *RAMP*'s [the AI developed by *CNET*] drafted content, which was trained on our own writing"[10].

Responsibly manage data and privacy is another category with little presence in the guides and ethical codes of media organizations. It includes, for example, the existence of agreements between AI providers and media organizations, on which the *Associated Press* states:

"AP has a licensing agreement with *OpenAI*, the maker of *ChatGP*T, and while *AP* staff may experiment with *ChatGPT* with caution, they do not use it to create publishable content"[11].

Neither is the anonymization of personal data and its secure storage being considered either by some media, such as the German public broadcaster *Bayerischer Rundfunk:*

"We collect as little data as possible (data avoidance) [...]. We continue to uphold high data security standards and raise awareness for the responsible storage, processing and deletion of data, especially when it concerns personal data"[12].

For its part, the *German Journalists Association - DJV* states:

"When handling personal data, the relevant data protection laws must be respected. DJV calls on media outlets to create their own value-based databases and supports open data projects led by public authorities and governmental organizations. Greater independence from commercial Big Tech providers is desirable"[13].

Another category that barely appears is *promote interdisciplinary teams*, which calls for the media to promote teams trained to combine technical expertise and ethical principles and encourage teams to develop AI that helps foster the principles of journalism.

"Over the last three months, colleagues from our editorial, creative, engineering, product, legal, commercial and partnerships teams have set up a Guardian AI working group to consider how we respond to these risks and opportunities and to draft a set of *Guardian*-wide AI principles"[14], says *The Guardian*.

In the same vein, *Bayerischer Rundfunk* states:

"We aim to recruit talent of diverse backgrounds with practical AI skills which we encourage them to deploy towards public service journalism. […] Instead of running ethics reviews after significant resources are invested, we integrate the interdisciplinary reflection with journalists, developers and management from the beginning of the development pipeline. That way, we ensure that no resources are wasted on projects that predictably do not meet these guidelines"[15].

Similarly, the category *provide relevant contents* is scarcely covered in the ethical documents analyzed. It includes two recommendations: AI should be used to search for topics that are relevant to society instead of popular trends, and the personalization service provided by an AI should not be to the detriment of information of public interest. On this, the Swedish newspaper *Aftonbladet* acknowledges that some parts of its front page allow personalization:

"The homepage of *Aftonbladet.se* is to some extent controlled by algorithms [...]. Some areas of the site are also partially customized, which means that parts of the homepage may look different to different visitors"[16].

Reporters Without Borders and 16 organizations also support the idea that AI should not undervalue relevant journalistic content:

"In media outlets, the design and use of AI systems for automatic content personalization and recommendation should be guided by journalistic ethics. Such systems should respect information integrity and promote a shared understanding of relevant facts and viewpoints. They should highlight diverse and nuanced perspectives on various topics, fostering open-mindedness and democratic dialogue"[17].

The category *follow the principle of accuracy and credibility* has an irregular presence. Some of the analyzed media partially include the variable on the verification of AI-generated content and its use in audio transcriptions or translations. But almost none of them refer to the need to periodically evaluate the data with which the AI is trained, nor do they recommend inviting experts that would evaluate the accuracy of the news. Regarding the first, the British newspaper *The Telegraph* points out:

"Assume as a starting point that any information gathered or created with an GenAI is false/inaccurate and, as always, cross-check your facts"[18].

As for the second variable, the *Austrian Press Association* explains that in its AI facial recognition program, they go to great lengths to ensure quality, since

"the stored training data are checked using the principle of dual control"[19].

In other words, a double human check. In this same vein, *Hong Kong Free Press* indicates:

"We may make use of trusted A.I. tools that have been exclusively trained on *HKFP*'s archive or may consult them for story/interview question ideas, or for assistance with coding, mathematical tasks or data crunching. Owing to the technology's aforementioned limitations, we will confirm and double-check AI-generated output"[20].

The category *meet diversity* is rarely reflected in the media's guides and ethical codes. *Promoting diversity* and *avoiding bias and stereotypes* are two recommendations that have little presence. For example, the newspaper *USA Today* states:

"Journalists must ensure that they are inclusive and diverse in their use of AI-generated content. They must ensure that the content they use reflects the diversity of their audience"[21].

Along the same lines, the U.S., and Canadian media association *News Media Alliance* highlights that

"systems should not reinforce biases or facilitate discrimination"[22].

The New York Times states:

"We should tell readers how our work was created and, if we make substantial use of generative A.I., explain how we mitigate risks, such as bias or inaccuracy, with human oversight"[23].

As for the category *seek transparency and accountability*, it appears more frequently in the guides and codes of ethics, although in most cases only partially. Regarding transparency in authorship when a story has been produced by an AI,

the Canadian public broadcaster *CBC* states:

"We will not use or present AI-generated content to audiences without full disclosure. No surprises: audiences will be made aware of any AI-generated content before they listen, view or read it"[24].

In Finland, the *Council of Mass Media* says:

"Media outlets are obligated to disclose to the public if journalistic content published by them has, to an essential extent, been generated and published automatically. The *Council* recommends that in such cases media outlets disclose the use of automation and the source of published information alongside the content"[25].

Finally, regarding the specific media organizations whose documents include most academic recommendations —the *BBC*, in the United Kingdom, and *Bayerischer Rundfunk*, in Germany—, they have one thing in common: both are publicly owned. In their case, 16 and 14 recommendations are totally or partially present, respectively, out of a total of 22. At the other end are the Norwegian newspaper *VG* and the Canadian multinational corporation *Thomson Reuters*, whose ethical codes only consider, in both cases, one of the recommendations proposed by academia.

6. Discussion and Conclusions

> A total of forty ethical codes and guidelines on the use of AI in newsrooms developed by news organizations around the world have been identified in this study

A total of forty ethical codes and guidelines on the use of AI in newsrooms developed and published by news organizations around the world has been identified in this study. Most of them were created specifically for journalistic AI and, in some cases, they appear as a section within the general codes of each media organization (RQ1). Most of the newsrooms that are already using AI are at an early stage of its implementation and have probably not yet felt the urgent need to implement their own guidelines. Nevertheless, considering that 20% of those that do use generative AI have ethical guidelines (**Roper *et al.***, 2023), it is likely that there are more codes that either have not been identified or have not been made public despite the importance of being accessible to the audience for maintaining trust and ensuring accountability (**Veiga**, 2023).

Newsrooms that have already started to develop such codes will probably have encountered some issues. Namely, having to embed ethical journalism principles and human values into AI systems (**Dierickx; Lindén**, 2023; **Paik**, 2023), contradictions with existing self-regulatory guidelines created by the increasing amount of automated content in journalism (**Lindén *et al.***, 2019), and having to adapt IA tools to newsrooms specific needs (**Calvo-Rubio; Rojas-Torrijos**, 2024). These and many other issues need to be discussed in future research.

News organizations can benefit from external inputs when developing their own codes on the use of AI in newsrooms. Media scholars can supply knowledge, research, ethical guidance, and critical examination of ethical AI (**Helberger; Diakopoulos**, 2023; **Beckett; Yaseen**, 2023). Hence, we searched for proposals coming from academic sources and we identified recommendations regarding accuracy and credibility, accessibility, relevant contents, diversity, transparency and accountability, data and privacy, human factor, and interdisciplinary teams (RQ2). The low number of articles from which these proposals come are fairly recent —the first of twelve was published in 2019—, as is to be expected considering that academic interest in journalistic AI did not begin to arise until 2015 (**Parratt-Fernández *et al.***, 2021) and its ethical implications were barely addressed until after 2021 (**García-Orosa *et al.***, 2023).

> One significant finding is that the recommendations with greater presence are those that focus on the importance of the human factor, both in editorial decision-making and in the creative part of the journalistic process

Our study also examines to what extent academic proposals appear in existing ethical codes and guidelines on the use of AI in newsrooms. One significant finding is that the recommendations with greater presence are those that focus on the importance of the human factor, both in editorial decision-making and in the creative part of the journalistic process, so that in these cases AI is merely a tool at the service of journalists (RQ3). In line with studies like that of **Beckett**'s (2019), this supports the view that there is still a widespread fear among journalists that AI will become more important in journalistic work. This would make sense, considering that the AI boom began with the popularization of *ChatGPT* not too long ago, in November 2022. People often fear the unknown. On the other hand, public media companies are precisely the ones that implement more recommendations —the British *BBC* and the German *Bayerischer Rundfunk*. This is understandable since ethical commitment to audiences is particularly relevant in this type of media. But, at the same time, it raises an important reflection: will self-regulatory mechanisms —whose importance is widely supported (**Haapanen**, 2020; **Kim**, 2019; **Council of Europe**, 2023) be able to guarantee a truly responsible use of AI within the media?

Another aspect of the results should be nuanced. The fact that many of the recommendations from academic sources

do not appear in professional codes does not necessarily imply in all cases that the medium has lax guidelines or is applying AI irrationally. There are exceptions, such as the Spanish journal *CTXT*, whose guidance is against the widespread use of AI and that is very critical of this technology. However, it meets almost none of the academic recommendations.

On another note, the generalized low presence of academic recommendations observed in the study is just another example of the professional-academic divide that has already been pointed out by some authors (**Baser; Martin**, 2020; **MacGregor *et al.***, 2020; **Parratt-Fernández *et al.***, 2022). This contrasts with the results of a survey of 105 news and media organizations from 46 countries where

> The generalized low presence of academic recommendations observed in the study is an example of the existing professional-academic divide

"90% of respondents welcomed a stronger role being played by universities in assisting with the adoption of AI in newsrooms through research, training, and collaboration" (**Beckett**, 2019).

Some even explained that the academy can play an important role in the much-needed critical examination of AI and in addressing the ethical question. This highlights the need for the scientific community to think proactively forms of knowledge transfer to ensure that research is of real use to society in general and to journalists in particular. For example, the media organizations analyzed should have access to the findings of this study and could use them to improve their codes of ethics, as could media organizations that have not developed their own codes yet.

Finally, it should be noted that transferring research conducted by scholars to professional practice may have its difficulties. The question arises as to whether media organizations would be willing to implement all the recommendations if they were aware of them. And, if there is an interest in benefiting from the contributions, whether the implementation would be feasible in all cases. For example, proposals such as *promoting interdisciplinary teams* require staff trained in the combination of technical knowledge and ethical principles. *Periodically evaluating the data with which AI is trained and inviting experts* to assess the accuracy of the news requires a capital outlay that not all organizations would be able to afford. In the case of other recommendations such as seeking transparency in authorship when a news piece has been created by an AI, not all newsrooms are willing to do so. In this respect, **Parratt-Fernández *et al.*** (2024) shows that, contrary to American newspapers like *The Wall Street Journal*, Spanish newspapers do not indicate if content has been created with AI. This reveals a general attitude of secrecy, probably for fear of readers disapproving of automated news.

In short, the growing academic interest in the journalistic use of AI and its ethical limits results in research of potential value for newsrooms wanting to develop their own ethical codes or guidelines and to improve the existing ones. However, in view of the findings of our study, it seems that a two-way communication and knowledge exchange between media practitioners and academia is desirable. Future research should probe this question further by interviewing both media professionals and academic researchers to get their first-hand insights. This would enable to find more effective ways of science communication and it would also allow a better understanding of which contexts explain the acceptance of proposals. Similarly, it would be necessary to extend the study when more newsrooms establish their own ethical codes and make them public.

> The growing academic interest in the journalistic use of AI and its ethical limits results in research of potential value for newsrooms wanting to develop or improve their own ethical codes

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Footnotes

[1] *NMA* is included. It is an international alliance comprising the following journalistic associations and news organizations: *AMI – Colombian News Media Association*; *Asociación de Medios de Información* (Spanish News Media Association); *APImprensa* (the Portuguese Press Editors and Publishers Association); *Asociación de Entidades Periodísticas Argentinas*, *Adepa*; *Association of Learned & Professional Society Publishers*; *Grupo de Diarios América*; *Associação Nacional de Jornais*, *ANJ* (*Brazilian Newspaper Association*); *Czech Publishers' Association*; *Danish Media Association*; *Digital Content Next European Newspaper Publishers' Assn*.; *European Publishers Council*; *FIPP*; *Hungarian Publishers' Association*; *Inter American Press Association*; *Korean Association of Newspapers*; *News/Media Alliance*; *News Media Association*; *News Media Canada*; *NDP Nieuwsmedia*; *News Media Europe*; *News Media Finland*; *News Publishers' Association*; *The Japan Newspaper Publishers & Editors Association*; *Professional Publishers Association*; *STM*; *TU – Swedish Media Publishers Association*; *WAN-IFRA*.

[2] *Reporters without Frontiers* and these 16 partners are included: organizations that defend journalism and the media (*Committee to Protect Journalists*, *Canadian Journalism Foundation*, *DW Akademie*, *European Journalism Centre*, *Ethical Journalism Network*, *Free Press Unlimited*, *Global Forum for Media Development*, *International Press Institute*, *Pulitzer Centre*, *Thomson Foundation*), a federation of journalists (*European Federation of Journalists*), an organization that represents public service media (*Asia-Pacific Broadcasting Union*), an ICT research center (*Collaboration on International ICT Policy in East and Southern Africa*) and investigative journalism consortia (*Global Investigative Journalism Network*, *International Consortium of Investigative Journalists and Organized Crime and Corruption Reporting Project*).

[3] Three types of ownership were established according to the self-designations of the media organizations: public, private or other. The latter category includes media that define themselves as independent self-regulatory (*RVDJ* in Belgium); self-regulatory (*Council of Mass Media* in Finland); independent (*dpa* in Germany); association (*DJV* in Germany); non-profit (*HKFP* in China); and NGO (*Reporters Without Borders*, international).

[4] International organizations and alliances are not included here.

[5] *https://www.independent.ie/editorial/editorial/aiframework140623.pdf*

[6] *ANP* provided access to the document by e-mail to the authors of the study.

[7] *https://ctxt.es/es/20230501/Firmas/42992/Miguel-Mora-Monica-Andrade-Vanesa-Jimenez-inteligencia-artificial-decalogo-deontologia-codigo-etico-periodismo.htm*

[8] In this simplified table the 22 variables analyzed (shown in table 2) are condensed into eight categories.

[9] https://www.bbc.co.uk/rd/publications/responsible-ai-at-the-bbc-our-machine-learning-engine-principles

[10] *https://www.cnet.com/ai-policy*

[11] *https://blog.ap.org/standards-around-generative-ai*

[12] *https://www.br.de/extra/ai-automation-lab-english/ai-ethics100.html*

[13] *https://www.djv.de/medienpolitik/kuenstliche-intelligenz*

[14] *https://www.theguardian.com/help/insideguardian/2023/jun/16/the-guardians-approach-to-generative-ai*

[15] *https://www.br.de/extra/ai-automation-lab-english/ai-ethics100.html*

[16] *https://www.aftonbladet.se/omaftonbladet/a/76ydy9/aftonbladets-ai-policy-sa-forhaller-vi-oss-till-den-nya-tekniken*

[17] *https://rsf.org/sites/default/files/medias/file/2023/11/Paris%20Charter%20on%20AI%20and%20Journalism.pdf*

[18] *The Telegraph* provided access to the document by e-mail to the authors of the study.

[19] *https://apa.at/whitepaper/leitlinie-zum-umgang-mit-kuenstlicher-intelligenz*

[20] *https://hongkongfp.com/hkfp-code-of-ethics-best-practices-standards-corrections*

[21] *https://cm.timesrecordnews.com/ethical-conduct*

[22] *https://www.newsmediaalliance.org/global-principles-on-artificial-intelligence-ai*

[23] *https://www.nytco.com/press/principles-for-using-generative-a%E2%80%A4i%E2%80%A4-in-the-timess-newsroom*

[24] *https://www.cbc.ca/news/editorsblog/cbc-twitter-news-1.6873270*

[25] *https://www.presscouncils.eu/The-Use-of-Algorithms-Artificial-Intelligence-in-Media-Outlets*