



## Article

# A Shift Amid the Transition: Towards Smarter, More Resilient Digital Journalism in the Age of AI and Disinformation

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**Abstract:** Digital journalism is facing a growing number of challenges as the wave of digital transformation enters a new phase. The changes, both slow and sudden, are making it increasingly necessary for there to be a shift amid the transition. The surge of artificial intelligence (AI) in the journalistic world has ushered in what appears to be a new phase for digitalisation and journalism's role as a producer of factual information and knowledge in society. Current debates suggest that we are at a critical time to reinvent journalism for the new wave of digital transformation. In this stage, which recently began and which some are calling the Fourth Industrial Revolution, both professionals and academics point to the need to make journalism more resilient, so it can adapt to the changes without losing its basic essence, and more people-centred, helping to support individuals in the age of AI. This article analyses the challenges from the perspectives of both academics and professional journalists, based on their codes of ethics. The methodology used is a content analysis of 45 European ethical codes and the Delphi method, involving experts from the journalistic sector and academia. The results highlight that codes of ethics have not kept pace with these professionally and expert-led debates, as few mention new technologies such as artificial intelligence and they tend to focus more on disinformation and social engagement.

**Keywords:** digital journalism; artificial intelligence; challenges in journalism; ethics in journalism; disinformation; trust in media organisations; media's social commitment



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## 1. Introduction

Journalism is changing because it is part of society, and society is dynamic, characterised by constant shifts and transformations. In this ever-changing scenario, debates, both public and professional, help to drive dynamic processes seeking solutions to challenges and proposals that lead to a better society. Debates about journalism and its role in society at any given moment are not only positive and energising but also capable of reaching a wider audience through journalism's influence on the media context in a communication ecosystem that plays a central role in the functioning of contemporary societies online. Professional practices, both favourable and unfavourable, and technology's impact on journalism have been the two main focuses of both industry conferences and academic research as digital journalism has taken definitive shape in recent decades, bringing attention to the history of journalism on the Internet, forms of digital media, their languages, and economic challenges (Salaverría 2019). Its evolution has been a turbulent, complex journey marked by many difficulties, some advances, and numerous remaining challenges: developing robust business models that guarantee the media's sustainability, improving journalistic autonomy, combating job insecurity, restoring confidence in journalism, and recovering credibility, to name just a few. Despite its many challenges, journalism continues to evolve as it increasingly shifts to the digital formats, practices, and spaces of today (Eldridge II et al. 2021). This has been and continues to be a process of constant adaptation.

The effects of these transformations, experienced over the course of three decades, have drawn attention to the ways that journalism is understood. As the starting point for these debates, in a dichotomous distinction and based on our inherited views, we identified two ways of understanding digital journalism that coexist and compete. One is more traditional and canonical, born with the rise of modern journalism, and defends the pursuit of objectivity, while the other considers this aim to be outdated and embraces social commitment, position taking, and professional honesty. Based on this dichotomous perspective, new journalistic movements have emerged in the 20th and 21st centuries, incorporating new facets of journalism and offering fresh ways of understanding the profession and role of journalists, especially the following six: watchdog, mouthpiece for citizens, audience instructor, status quo promoter, infotainment journalist, and disseminator of objective information (Berganza et al. 2017). The world today is populated by a rich diversity of journalistic cultures (Hanitzsch et al. 2019) in a social environment characterised by political polarisation, with contexts of information disorder fuelled by pseudo-media that challenge democratic rules and social harmony (Palau-Sampio 2023), and a technological impact marked by the trail of AI.

Journalism as an institution must be reconsidered for the new scenario on the horizon. Just as the birth of the Internet marked a turning point, leading to another game-changer with the advent of the iPhone and smartphones, the surge of AI will usher in a new phase. It will be an era characterised by assistive devices that provide support for production processes, researching and developing/writing journalistic pieces, many facets of receiving and reading the news, and new areas of personalisation. Just as many-to-many communication has driven the social web and created a platform society (Van Dijck et al. 2018), where communication is ubiquitous and surveillance capitalism favours renewed strategies (Zuboff 2019), the large-scale adoption of AI will transform society as we know it, leading to a change in the journalistic ecosystem. Participation and cooperation, which have emerged strongly in this network-society scenario, will move in new directions in the near future, as will disinformation, quality information, and quality journalism as a service of public interest for better-informed societies. There is a lot we cannot predict about the future of communication and journalism, but we do know that, although journalism will maintain its basic essence, the communicative and journalistic landscape will be extremely different from the one we know today.

## 2. Contributions to the State of Affairs

As digital journalism is about more than just digital technology (Zelizer 2019), it is struggling not to be swept up in the high-tech tidal wave and to encourage critical reflection. At the same time, especially in the case of digital native media, it is responding with innovative proposals that shine in the epicentre of the communications ecosystem (López-García et al. 2023). At a time when short-term forecasts indicate that by 2026, the vast majority of online content will be synthetically generated, and when many media executives have little confidence about the prospects for journalism in 2024 (Newman 2024), it is no surprise that reflections, debates, and research on the future of digital journalism are multiplying. Journalists' epistemological activities, characterised by the production and provision of reliable information, have made journalism one of the most influential knowledge-producing institutions in society (Ekström et al. 2020). However, recent digital transformations, political and journalistic polarisation, and the rise of disinformation have eroded journalistic authority and sometimes even called it into question. The multiplication of disinformation has sparked debate about the need to reinforce mechanisms for verification in order to make journalism a shield against this problem and a creator of truthful news (Martín García and Buitrago 2023). Other debates concern the urgent need for new regulations, which the European Union has implemented through a policy that adopts two opposite approaches that coexist and compete: the stricter regulation of digital platforms and 'securitisation', which understands this problem as a threat to democracy that legitimises 'exceptional decision making' (Casero-Ripollés et al. 2023).

The regulatory framework will provide guidelines for digital media and journalism, but self-regulation and co-regulatory mechanisms that establish favourable frameworks for well-informed democratic and pluralistic societies will also play an important role. In view of AI's impact, further actions to reinforce the steps taken in recent years are urgently needed. This has led the European Union to take the initiative towards regulating this technology by approving the world's first comprehensive AI law in December 2023. The media and journalists are aware of the new territory they will have to explore, despite the fact that, compared to other sectors more advanced in AI, the media's progress reflects 'slowness', 'distrust', and 'lack of knowledge' regarding its application, especially due to financial difficulty and short-sightedness (Sánchez-García et al. 2023). Although most prospective studies on AI's impact on the media and journalism point to advantages, they also highlight dangers and warn of the need for not only training but also process control and supervision due to the emergence of new ethical challenges (Noain-Sánchez 2022; Tzachor et al. 2020). The lack of clarity in ethical guidelines may increase distrust in journalistic work while the public waits expectantly for decisions and concrete measures to be taken. In professional organisations and academic circles, the first steps have been taken to update codes of ethics and establish protocols guaranteeing the proper use of artificial intelligence tools, although the work performed so far is still incipient (Forja-Pena et al. 2024).

From an ethical perspective, the integration of new technologies in journalism poses significant challenges. Their integration and advancement alter the traditional roles of journalists and editors, offering benefits but at the same time raising concerns about credibility (Shi and Sun 2024; Gutiérrez-Caneda et al. 2023). It is therefore essential to practice a clear transparency exercise, with different formulas for identification by users, which seems to be the best answer to the conviction that prohibitions cannot be applied (Hosseini et al. 2023; Thomson et al. 2024). Therefore, it is one of the approaches included in the different guidelines that have been published for journalists in recent months.

Commitments to transparency, social responsibility, and truthfulness are helping to reinvent digital journalism (Dowling 2022) for this new phase, characterised by constant innovation to adapt to a new scenario (García-Orosa et al. 2022) shaped by advanced technology and spearheaded by AI. In this process of continuous innovation, which emerges incrementally in how journalism is produced, organised, distributed, and sustained (Carvajal et al. 2022), four areas have been particularly impacted: information and content, audience, methods and resources, and media companies (Lopezosa et al. 2023). Against this backdrop, debates about the practices, profiles, techniques, or frontiers of journalism itself, and its relationships with/influence on other communication techniques, are part of the search for renewed formats or approaches that contribute to higher-quality journalism. Academic researchers studying digital journalism in recent years have devoted a great deal of time and effort to understanding the disruptions caused by the Internet, social media, new formats, and advanced technology (Ogbebor and Carter 2021), a trend that is likely to continue in the immediate future due to the current model of university research. However, there is every indication that we will also need to devote more time and effort to issues related to ethics, media literacy, dynamics of social involvement, user tastes and needs, and understanding the behaviour of readers of journalistic pieces, among other issues. In order to meet this challenge, in a new phase of journalistic research, we must broaden our focus and deepen our analyses to better understand communication and journalistic processes (Quandt 2023), bringing more knowledge to the sector and reviving enthusiasm for the new role that digital journalism must play in democratic and pluralistic societies.

For the new wave of digitalisation, journalist profiles will also need to master digital tools and show great leadership, based on a combination of strong cultural capital and strong symbolic capital (Perreault and Tham 2023), as well as a thorough understanding of techniques that guarantee effective dialogue with audiences (Peña-Fernández et al. 2021) and with the creative communities around each media outlet. Many journalistic practices currently applied to digital media are weighed down by the old model and have not

cultivated the new territories of co-creation, with the active participation of experts and readers who are eager to be involved in joint projects. Responsible reader participation in the creation of information products increases the value of digital media and the satisfaction of co-creators (Sixto-García et al. 2020). Nevertheless, the spaces enabled for co-creation are still limited in most digital media (Sixto-García et al. 2022). Despite the multiple systems for generating metrics, the data suggest that digital journalists still have difficulty understanding the readers of their pieces.

There are multiple debates underway in the field of journalism, fuelled by professionals, media companies, social groups, and researchers. To understand the production and consumption of journalism in an ever-complex digital world, methods from different academic perspectives and disciplines must be applied (Lecheler et al. 2020). Journalism does not belong to journalists or media companies, but rather to society, of which it is part, and that is where we must seek a better understanding of the complexity of the current problems and debates, as well as the solutions that scientific research can provide. Journalism and journalism scholarship, which draw on theories from other disciplines and mostly apply social theories to make sense of journalistic practices (Maeres and Hanusch 2022), must broaden their perspective and use better sociotechnical analysis methods. By applying the sociotechnical perspective (Lewis and Westlund 2015; Schmidt and Lawrence 2020), they can shed light on the different aspects of the current challenges. All of these contributions are necessary to create a smarter, more people-centred, and more resilient journalism, one of the challenges against a complex backdrop marked by AI.

### 3. Objectives and Hypothesis

The main objective of our research is to identify and evaluate the ongoing debates and current challenges for digital journalism. Our secondary objectives are as follows:

O1. To identify the current debates and challenges of digital journalism within the codes analysed.

O2. To understand the work carried out in each field at the ethical level.

Based on these objectives, we propose two research hypotheses:

**H1.** *The codes of ethics have not kept pace with the current debates on digital journalism.*

**H2.** *The use of new technologies in newsrooms presents opportunities and challenges. However, there are insufficient guidelines and regulations to address them.*

### 4. Methodological Design

Our research involves a critical analysis of the ongoing debates and current challenges for digital journalism, exploring the problems and issues as the wave of digital transformation enters a new phase.

In this context, and to achieve our research objectives, we will apply a methodology that combines the Delphi method with experts in the field and an analysis of the content of current codes of ethics.

#### 4.1. Delphi Method

The Delphi method is a systematic procedure to achieve a consensus among a group of experts (Sourani and Sohail 2015). This methodology entails the use of software to compile results and speed up data processing. By using questionnaires and several rounds of questions, experts' individual contributions are collected and analysed, guaranteeing the anonymity of their responses to encourage an honest expression of opinions (Okoli and Pawlowski 2004).

The experts were drawn from the consultancy field and several Spanish universities, ensuring a balance of perspectives and expertise. Initially, 20 experts were contacted, of whom 16 participated (13 men and 3 women).

Between 25 March and 16 May 2023, the first round of a survey was conducted using a 29-question questionnaire, divided into five blocks: trust in digital native media, community building, digital media sustainability, participation, and social and corporate responsibility. The questionnaire included 21 open-ended questions, 6 Likert-scale questions and 2 dichotomous questions, distributed and monitored using the Welphi online platform. In this phase, the information collected was analysed to identify patterns and discrepancies, establishing guidelines for the second round.

In the second round, based on the results of the first round, the responses to the open-ended questions were reviewed and grouped. A new questionnaire was designed with 19 Likert-scale questions, allowing the experts to reassess their degree of agreement with the previous answers. This round was carried out from 22 May to 22 June 2023, also through Welphi, to validate the full consensus or disagreement among the experts.

Welphi software was used to distribute and manage the questionnaires, guaranteeing anonymity by encrypting the responses. Participants signed an informed consent form concerning the purpose of the study and the processing of their data. A pilot study was conducted to verify the platform's feasibility.

The methodology was designed and implemented by members of the research project team. The selection of the tool, testing of the questionnaires, application for authorisations from the Research Ethics Committee at the University of Navarra, monitoring of the study, and preliminary analysis of the results were carried out by María Fernanda Novoa Jaso and María del Pilar Martínez-Costa.

Based on the experts' critical opinions, we were able to define the main debates surrounding digital journalism today, as well as the primary challenges and issues for the profession now and in the future.

#### *4.2. Content Analysis*

Through the expert opinions and the literature read, we defined some of the key debates and challenges for digital journalism today: disinformation, the implications of including AI in newsrooms, automated journalism, content quality, literacy, and social commitment.

We explored the existing codes of ethics for professional journalists in Europe. To select these codes, we followed the methodology of [Díaz-Campo and Segado-Boj \(2015\)](#), choosing the national versions in the areas studied and ruling out regional, local, or media company-dependent codes of ethics. To find them, we used four databases: Accountable Journalism of the Donald W. Reynolds Journalism Institute at the University of Missouri, EthicNet of Tampere University in Finland, MediaWise Trust (PressWise), and the Ethical Codes Database of PressCouncils.eu. By consulting these code databases and performing a secondary manual check, we chose the latest version of each country's code of ethics. In total, 45 codes of ethics were selected (Appendix A).

Subsequently, we designed an analysis sheet (Table 1) that allowed each of the aforementioned debates and challenges to be analysed, quantifying their presence or absence in the codes of ethics and analysing the proposed instructions. The analysis was performed after reading each of the codes of ethics. Then, we noted the presence or absence of each debate and challenge, the manner in which it appeared when present, and the specific excerpt where the debate or challenge was addressed.

**Table 1.** Analysis sheet.

Section	Content
N°	Reference number
Country	Country to which the code belongs
Year	Year created or last updated
URL	Link to the source
Disinformation	Presence: Yes/No Extract in which it appears
Artificial Intelligence	Presence: Yes/No Extract in which it appears
Automated journalism	Presence: Yes/No Extract in which it appears
News quality	Presence: Yes/No Extract in which it appears
Media literacy	Presence: Yes/No Extract in which it appears
Social commitment	Presence: Yes/No Extract in which it appears

## 5. Results

In order to understand and assess the status of each debate and challenge facing digital journalism today, we compared the expert opinions with each issue's presence in the codes of ethics.

Based on our results, we can identify the main areas of concern and emerging trends in digital journalism, providing a comprehensive overview of the challenges and opportunities for the profession, as well as an insight into the work carried out so far through journalism's codes of ethics.

### 5.1. Disinformation

In the current context, and in the wake of COVID-19, the media's responsibility to act as a public service and shine a spotlight on today's climate of disinformation has clearly emerged. During the pandemic, 'the public's need for accurate, reliable, and relevant information increased, and with it, the media's need to deliver its best work and demonstrate its social function' (participant 9).

According to the experts, it is essential for the media to 'publish accurate, fact-based information, show respect for human dignity, and get involved in citizens' problems' (participant 12). Disinformation, manipulated information, and the correction of errors, and thus the veracity of news items, are also central topics for the codes of ethics of different countries.

Of the codes analysed, 95.56% address these questions, but only one of them directly mentions disinformation and fake news. The code of ethics in question, for the Moldovan press, stresses the danger of these phenomena, which undermine the information received by the public and democracy as a whole.

The other codes of ethics that we examined address these negative practices by focusing on manipulated information and correcting mistakes. In the first case, manipulated or distorted information is understood as a serious professional offence and must be corrected as soon as it is identified. The codes specify that all published information should be duly checked and verified, and it must have been obtained by lawful and legal means. If distorted information is detected, it must be duly reported to the media outlet or professional responsible and promptly corrected.

The codes also establish guidelines for difficult circumstances. In situations of war, conflict, or unrest, journalists must be impartial observers in order to avoid being manipulated.

Multimedia content should be handled carefully and rigorously, and it must not be manipulated, distorted, or modified to change its meaning, as this can create a false impression for the public. Altered images are only acceptable if the fact that they have been altered is clearly indicated, if there is a justification for publishing them, and if this does not affect or impact public opinion on a fact. Caricatures or cartoons in a newspaper would not fall within this category, as it is understood that they are intended to convey a light-hearted and humorous tone to the reader.

Regarding the correction of mistakes, the media, editors, and journalists are asked to correct the information promptly, making the correction as prominent as the error. Journalists are also encouraged to acknowledge mistakes and apologise for them.

### *5.2. Artificial Intelligence and Automated Journalism*

The adoption of new technologies and tools in newsrooms has highlighted the need to learn how to manage these opportunities. Artificial intelligence and automated journalism present a challenge for the sector, as the unethical use of these technologies could generate disinformation and undermine the values of the profession.

AI is a double-edged sword. When used appropriately, it can help to make journalists' everyday work easier, but it also has the potential to generate hoaxes, biased news, or fake news. It is essential for journalists to learn how to use these tools, and for the media and stakeholders to regulate or establish guidelines for their use while teaching consumers to distinguish between true and false information.

For this reason, the experts identify these issues as the main challenges for journalism today and in the near future. 'Disinformation, AI, concentration of media ownership, professional training, tech challenges, educating audiences. And, last but not least, maintaining the processes needed to create truthful content of interest to society' (participant 14).

AI is cited in three codes of ethics: the Flemish Belgian, German, and Lithuanian codes. All of them address the use of AI in different ways. The first expresses an almost regulatory point of view, indicating that these technologies should be used transparently and always stating when and why they were used. It also stipulates that the editor is ultimately responsible for the use of AI in a newsroom.

In the German code of ethics, only passing mention is made of the topic, indicating that AI-altered images must be duly identified so as not to mislead or confuse the reader, especially if these images are disseminated in a decontextualised way.

The Lithuanian code of ethics categorically states that artificially altered sound files, images, and signatures in images should not be published in order to avoid distorting public perception or the facts.

None of the codes of ethics address automated journalism and the adoption of these kinds of techniques.

### *5.3. Media Literacy*

Media literacy work is not clearly addressed in the codes of ethics. In most codes, only passing mention is made of the idea of wording the news clearly, so that readers can understand all of the information in journalistic pieces. They do not address questions such as the education or media literacy of readers or news consumers. Meanwhile, the experts do cite the need to educate audiences amid a saturated, confusing information context as a challenge for the immediate future. In addition, literacy is approached in the broadest sense of the word and through the educational prism, understanding its function as a key element of democracy, "the quality of information and the education of citizens are two key contributions in the media for the improvement of democracy" (participant 4).

### *5.4. Social Commitment*

There is clear interest in preserving the media's social commitment to the public. This is reflected in the fact that all of the codes of ethics emphasise protecting and enforcing

human rights and paying special attention to issues where journalism can make a difference (Table 2).

**Table 2.** Characteristics specially protected from discrimination.

Characteristics Specially Protected from Discrimination	
Sex	Religion
Race or nationality	Ideology
Age	Language
Social status	Culture
Sexual orientation	Mental condition
Lifestyle	Physical condition

In general, all of the codes of ethics indicate that journalists and the news they report must protect human rights, but some go into more detail. The latter address the freedom of the press as well as the right to non-discrimination on various grounds, the protection of minors, suicide prevention, the presumption of innocence, and the promotion of democracy.

Depending on the year when these codes of ethics were published or updated, they go into greater or lesser detail, and the evolution and addition of new debates and topics can be observed. Although all refer to non-discrimination against any individual on the basis of gender, nationality, race, or religion, the most up-to-date codes of ethics cover non-discrimination on the basis of sexual orientation or physical or mental condition.

Meanwhile, we observe two ways of addressing the protection of rights. Some codes of ethics refer to non-discrimination on the aforementioned grounds, while others, instead of asking journalists to avoid discrimination in general, provide more specific advice. For example, journalists are encouraged to avoid stereotypes or alluding to or emphasising topics such as nationality, gender, occupation, political affiliation, religion, or sexual orientation if these matters are not relevant to the specific context being narrated. This prevents readers from perceiving a double meaning.

The media must fulfil their public service function. This has been highlighted at important times for the news, ‘in the current context of disinformation and, to a large extent, due to the social impact of the COVID-19 pandemic, the media’s social responsibility and involvement has been clearly revealed’ (participant 9). Media and news professionals must listen to society and ‘offer a real public service’ (participant 8).

### 5.5. Quality of News Content

The quality of news content is directly related to the aforementioned debates, as it is the result of best practices and the proper use of tools and technologies available to journalists.

In our analysis, we found that six codes of ethics refer directly to content quality, namely those of France, Hungary, Iceland, the Netherlands, Slovakia, and Switzerland.

In the codes where quality is mentioned, this issue is addressed from the perspective of journalistic quality. These texts highlight journalists’ duty to use the best techniques to achieve journalism that meets the expected quality standards.

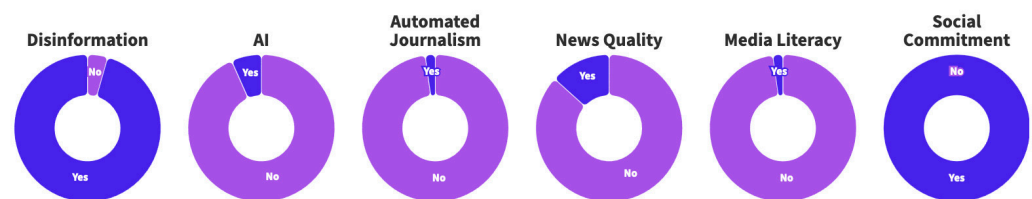
The other codes do not mention quality directly, but they do convey the idea of upholding the standards of good journalism and the need to report information that is verified and lawfully obtained.

This characteristic is understood as a demand directly related to the good work of the journalist, which in turn influences the selection of the type of information to be published and the editor who publishes it. Editors ‘are more aware of the public scrutiny to which they are subjected (. . .), which should oblige them to take the utmost care in the quality of the information and the type of professional they hire’ (participant 3). The media must build rigorous and sustainable brands committed to the values of the profession.

## 6. Discussion and Conclusions

Journalism continues to evolve towards the digital formats, practices, and spaces of today (Eldridge II et al. 2021), facing multiple challenges that must be monitored and controlled (Noain-Sánchez 2022). New technologies, currently AI, but in the past other casuistries such as digitalisation, have posed significant challenges. While artificial intelligence is a new and unknown phenomenon, there are lessons to be learned from what we already know. AI will change and transform aspects of the profession such as the roles we traditionally know, which may generate distrust in professionals or credibility concerns among the public (Shi and Sun 2024). In order to shed light on this situation, the collaboration of all the actors involved is necessary. Professionals, media, citizens, institutions and regulatory bodies must have a clear role in this issue. In addition, it will be essential to have a regulation that helps to clarify how to act in each of the possible scenarios. Ethical codes serve as a barometer of existing standards and a reflection of the new challenges and opportunities facing the profession. It is therefore essential that they are updated and responsive to new challenges in newsrooms (Forja-Pena et al. 2024; Ufarte Ruiz et al. 2021).

In this study, we identified several critical debates and challenges facing digital journalism today. We identified the debates and challenges proposed by the literature and expert opinions, and we studied both analysts' views of them and the way that these issues are addressed in the different codes of ethics in force across Europe. One of our most relevant findings is that these challenges are treated unequally and do not have the same presence in each code of ethics (Figure 1). More attention is paid to disinformation and social commitment, and less to debates related to technology, such as the introduction of artificial intelligence and automated journalism. As for the content quality, although this topic is not widely addressed, it is closely linked to the discussion on disinformation.



**Figure 1.** Presence of each debate and challenge in the codes of ethics.

The rapid evolution of digital journalism has generated a gap between the codes of ethics and the new circumstances of the profession. Although some countries have updated their codes of ethics, the majority of the texts have stagnated, failing to evolve at the same pace as the debates about the profession. In fact, only three codes (and two of them, through just a passing mention) address the adoption of new technologies like AI. None of them mention automated journalism, and only one refers directly to the concepts of disinformation and fake news, terms that are widely used in professional and social debates. We have therefore proven our first hypothesis, which suggested that the codes of ethics have not been updated in order to keep pace with debates about digital journalism today.

We have also verified our second hypothesis, namely that the adoption of new technologies in newsrooms presents both opportunities and challenges, but there are insufficient regulations and guidelines to address them. Our study confirms that these new technologies, which are already present in newsrooms, have provided journalists with a double-edged sword, combining opportunities and challenges. The opportunities include the ability to generate news more efficiently or to analyse large volumes of data. However, these advances introduce a series of ethical and practical challenges, such as managing data privacy, the integrity of information, transparency in the use of algorithms, and the preservation of copyrights for which regulations do not yet exist. Although the journalism sector is not responsible for the regulations established by governments and institutions, it

does have the ability to create ethical guidelines through codes of ethics. These texts can anticipate the future, offering guidelines to help journalists follow criteria approved by a group of communication professionals when they use these technologies. However, as seen in the results of our study, very limited work has been performed in this area, and it is only applied by three countries, and then merely in passing. This lack of self-regulation in the profession creates a gap that could lead to irresponsible and potentially harmful practices for both professionals and public opinion.

In conclusion, digital journalism continues to advance rapidly in its formats, practices, and spaces, facing a wide variety of challenges that require constant training and management. Through this study, we have identified the main debates and critical challenges in the field of digital journalism, revealing a gap between the current codes of ethics and new circumstances of the profession.

According to our findings, topics like disinformation and social commitment receive more attention in the codes of ethics, while other aspects, such as artificial intelligence, automated content, and literacy, receive limited treatment. Content quality, while not explicitly highlighted, is closely linked to the debate about disinformation.

The unequal treatment of current challenges reveals that many codes of ethics have not been updated in order to keep pace with the advances in modern digital journalism. It is essential for these documents to reflect the actual circumstances of journalism, responding to challenges and providing clear guidelines for the use of emerging technologies. Only in this way can we guarantee a professional practice that maintains its integrity and social responsibility in an ever-changing environment.

## 7. Limitations and Future Research Directions

Although this study focuses on the codes of ethics currently in effect in Europe, it does not include analyses of codes of ethics from other regions of the world or of local and regional codes, nor those of individual media outlets or media groups. This limits the global understanding of the issue and the comparability between different cultural and legal contexts, as well as the comparison of the various ways of working depending on the type of organisation that develops the code. Additionally, due to the rapid evolution of digital journalism, it is possible that the codes of ethics and professional practices have changed since the study was conducted, which could make some of its conclusions no longer fully relevant.

For future research, it would be advisable to expand the analysis to include codes of ethics and seek the opinions of experts from other regions of the world. This would allow for a more global and comparative view of how the challenges of digital journalism are addressed in different contexts.

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**Institutional Review Board Statement:** The study was approved by the Research Ethics Committee of University of Navarra (protocol code 2023.032 and date of approval 30 March 2023).

**Conflicts of Interest:** The authors declare no conflict of interest.

### Appendix A. List of Codes of Ethics

Nr.	Country	Code	Adopted/Last Revised in
1	Albania	Code of Ethics of Albanian Media	2006
2	Armenia	Code of Yerevan Press Club Member	2002
3	Austria	Code of Conduct for the Austrian Ethics Council for Public Relations 'Ethics in Digital Communication'	2016
4	Azerbaijan	Code of Professional Ethics for Journalists	2002
5	Belgium (French)	Code de déontologie journalistique	2013
6	Belgium (Dutch)	Code van de Raad voor de Journalistiek	2023
7	Bosnia and Herzegovina	Press Code of Bosnia and Herzegovina	2006
8	Bulgaria	Bulgarian Media Sign First-Ever Code of Ethics in Bulgarian Journalism	2004
9	Croatia	Croatian journalists' code of honour	2009
10	Cyprus	Journalists' Code of Practice of Cyprus	2018
11	Czech	Union of Publishers: Czech Republic Press Code of Practice	2000
12	Denmark	The Press Ethical Rules	2013
13	Estonia	The code of ethics for the Estonian press	1997
14	Finland	Council for Mass Media in Finland: Guidelines for Journalists and Annex	2014
15	France	Charte d'éthique professionnelle des journalistes	2011
16	Georgia	The Charter of Journalistic Ethics	2001
17	Germany	German Press Code	2017
18	Greece	Code of Ethics for Professional Journalists	1998
19	Hungary	Code of Ethics	2011
20	Iceland	Ethics Code of the Union of Icelandic Journalists	2023
21	Ireland	Code of Practice for Newspapers and Magazines	2008
22	Italy	Testo unico dei doveri del giornalista	2021
23	Kosovo	Press Code of Kosovo	2022
24	Latvia	Latvijas žurnālistu ētikas kodekss	1992
25	Lithuania	Code of Ethics in Providing Information to the Public of Lithuania	2016
26	Luxembourg	Code de déontologie	2004
27	Macedonia	Code of the ethics of journalists of Macedonia	2014
28	Malta	Code of Journalistic Ethics	2018
29	Moldova	Codul Deontologic al Jurnalistului din Republica Moldova	2019
30	Montenegro	Codex of Montenegrin Journalists	2002
31	Netherlands	Guidelines of the Netherlands Press Council	2015
32	Norway	Code of Ethics of the Norwegian Press	2020
33	Poland	Code of Ethics of the Association of Polish Journalists	2001
34	Portugal	Código Deontológico	2017
35	Romania	Cod Deontologic Unic	2009
36	Russia	Russian Union of Journalists: The Code of Professional Conduct of the Russian Journalist	2016
37	Serbia	Serbian Journalists' Code of Ethics	2015
38	Slovakia	The Code of Journalistic	2011
39	Slovenia	Kodeks novinarjev Slovenije	2002
40	Spain	Código Deontológico	2017
41	Sweden	Code of Ethics for Press, Radio and Television in Sweden	2006
42	Switzerland	Code of Conduct	2017
43	Turkey	Professional Principles Of The Press	1989
44	Ukraine	The Code of Professional Ethnics of Ukrainian Journalist	2002
45	United Kingdom	Code of conduct	2021

## References

- Berganza, Rosa, Eva Lavín, and Valeriano Piñeiro-Naval. 2017. Percepción de los periodistas españoles sobre su rol profesional. [La percepción de los periodistas españoles acerca de sus roles profesionales]. *Comunicar* 51: 83–92. [CrossRef]
- Carvajal, Miguel, Dámaso Mondéjar, José M. Valero-Pastor, Alicia De-Lara, José A. García-Avilés, and Félix Arias Robles. 2022. Las innovaciones periodísticas más destacadas en España (2010–2020): Características e impacto organizacional, industrial y social. *Profesional de la Información* 31: e310304. [CrossRef]
- Casero-Ripollés, Andreu, Jorge Tuñón, and Luis Bouza-García. 2023. The European approach to online disinformation: Geopolitical and regulatory dissonance. *Humanities and Social Sciences Communications* 10: 657. [CrossRef]
- Díaz-Campo, Jesús, and Francisco Segado-Boj. 2015. Journalism Ethics in a Digital Environment: How Journalistic Codes of Ethics Have Been Adapted to the Internet and ICTs in Countries around the World. *Telematics & Informatics* 32: 735–44. [CrossRef]
- Dowling, David O. 2022. Interactive documentary and the reinvention of digital journalism, 2015–2020. *Convergence* 28: 905–24. [CrossRef]
- Ekström, Mats, Seth C. Lewis, and Oscar Westlund. 2020. Epistemologies of digital journalism and the study of misinformation. *New Media & Society* 22: 205–12. [CrossRef]
- Eldridge II, Scott A., Kristy Hess, Edson C. Tandoc, Jr., and Oscar Westlund, eds. 2021. *Definitions of Digital Journalism (Studies)*. Oxford and New York: Routledge.
- Forja-Pena, Tania, Berta García-Orosa, and Xosé López-García. 2024. The Ethical Revolution: Challenges and Reflections in the Face of the Integration of Artificial Intelligence in Digital Journalism. *Communication & Society* 37: 237–54. [CrossRef]
- García-Orosa, Berta, Sara Pérez-Seijo, and Ángel Vizoso. 2022. *Emerging Practices in the Age of Automated Digital Journalism*. London: Routledge.
- Gutiérrez-Caneda, Beatriz, Jorge Vázquez-Herrero, and Xosé López-García. 2023. AI application in journalism: ChatGPT and the uses and risks of an emergent technology. *Profesional de la Información* 32: e320514. [CrossRef]
- Hanitzsch, Thomas, Folker Hanusch, Jyotika Ramaprasad, and Arnold de Beer, eds. 2019. *Worlds of Journalism. Journalistic Cultures Around the Globe*. New York: Columbia University Press.
- Hosseini, Mohammad, David B. Resnik, and Kristi Holmes. 2023. The ethics of disclosing the use of artificial intelligence tools in writing scholarly manuscripts. *Research Ethics* 19: 449–65. [CrossRef]
- Lecheler, Sophie, Yael de Haan, and Sanne Kruikemeier. 2020. Introduction to the Special Issue: Meeting the Digital Demand through a Multi-Perspective Methodological Approach. *Journalism Studies* 21: 857–62. [CrossRef]
- Lewis, Seth C., and Oscar Westlund. 2015. Actors, Actants, Audiences, and Activities in Cross-Media News Work. *Digital Journalism* 3: 19–37. [CrossRef]
- López-García, Xosé, Alba Silva-Rodríguez, and Jorge Vázquez-Herrero. 2023. Evolution, trends and future of native media: From avant-garde to the epicenter of the communications ecosystem. *Profesional de la Información* 32: e320202. [CrossRef]
- Lopezosa, Carlos, Lluís Codina, Ariadna Fernández-Planells, and Pere Freixa. 2023. Journalistic innovation: How new formats of digital journalism are perceived in the academic literature. *Journalism* 24: 821–38. [CrossRef]
- Maares, Phoebe, and Folker Hanusch. 2022. Interpretations of the journalistic field: A systematic analysis of how journalism scholarship appropriates Bourdieusian thought. *Journalism* 23: 736–54. [CrossRef]
- Martín García, Alberto, and Álex Buitrago. 2023. Percepción profesional del sector periodístico sobre el efecto de la desinformación y las fake news en el ecosistema mediático. ICONO 14. *Revista Científica de Comunicación y Tecnologías Emergentes* 21: 5. [CrossRef]
- Newman, Nic. 2024. *Journalism, Media, and Technology Trends and Predictions 2024*. Oxford: Reuters Institute/University of Oxford.
- Noain-Sánchez, Amaya. 2022. Addressing the Impact of Artificial Intelligence on Journalism: The perception of experts, journalists and academics. *Communication & Society* 35: 105–21. [CrossRef]
- Ogbebor, Binakuromo, and Cyntia Carter. 2021. Introduction: Innovations, Transitions and Transformations in Digital Journalism: Algorithmic, Symbolic, and New Forms of Journalism. *Digital Journalism* 9: 687–93. [CrossRef]
- Okoli, Chitu, and Suzanne D. Pawlowski. 2004. The Delphi method as a research tool: An example, design considerations and applications. *Information & management* 42: 15–29.
- Palau-Sampio, Dolors. 2023. Pseudo-Media Disinformation Patterns: Polarised Discourse, Clickbait and Twisted Journalistic Mimicry. *Journalism Practice* 17: 2140–58. [CrossRef]
- Peña-Fernández, Simón, Jesús Ángel Pérez-Dasilva, Koldobika Meso-Ayerdi, and Ainara Larrondo-Ureta. 2021. Participación social en los medios: El diálogo de los periodistas digitales con las audiencias. *Revista europea de innovación pública y social* 6: 16–28. Available online: <https://pub.sinergiak.org/esir/article/view/146> (accessed on 2 May 2024).
- Perreault, Gregory P., and Samuel M. Tham. 2023. Effective leadership in journalism: Field theory in how journalists evaluate newsroom leadership. *Journalism*, 1–18. [CrossRef]
- Quandt, Thorsten. 2023. Euphoria, disillusionment and fear: Twenty-five years of digital journalism (research). *Journalism* 25: 1186–203. [CrossRef]
- Salaverría, Ramón. 2019. Periodismo digital: 25 años de investigación. Artículo de revisión. *Profesional De La Información Information Professional* 28: 1–27. Available online: <https://revista.profesionaldelainformacion.com/index.php/EPI/article/view/69729> (accessed on 2 May 2024).

- Sánchez-García, Pilar, Noemí Merayo-Álvarez, Carla Calvo-Barbero, and Alba Diez-Gracia. 2023. Spanish technological development of artificial intelligence applied to journalism: Companies and tools for documentation, production and distribution of information. *Profesional de la Información* 32: e320208. [\[CrossRef\]](#)
- Schmidt, Thomas R., and Regina G. Lawrence. 2020. Engaged Journalism and News Work: A Sociotechnical Analysis of Organizational Dynamics and Professional Challenges. *Journalism Practice* 14: 518–36. [\[CrossRef\]](#)
- Shi, Yi, and Lin Sun. 2024. How Generative AI Is Transforming Journalism: Development, Application and Ethics. *Journalism and Media* 5: 582–94. [\[CrossRef\]](#)
- Sixto-García, José, Ana Isabel Rodríguez-Vázquez, and Xosé Soengas-Pérez. 2022. Co-creation in North American and European digital native media: Web, social networks and offline spaces. *Journalism* 23: 1955–74. [\[CrossRef\]](#)
- Sixto-García, José, Xosé López-García, and Carlos Toural-Bran. 2020. Oportunidades para la cocreación de contenidos en los diarios nativos digitales. *Profesional de la Información* 29: e290426. [\[CrossRef\]](#)
- Sourani, Amr, and Mu Sohail. 2015. The Delphi method: Review and use in construction management research. *International Journal of Construction Education and Research* 11: 54–76. [\[CrossRef\]](#)
- Thomson, T. J., Ryan J. Thomas, and Phoebe Matich. 2024. Generative Visual AI in News Organizations: Challenges, Opportunities, Perceptions, and Policies. *Digital Journalism*, 1–22. [\[CrossRef\]](#)
- Tzachor, Asaf, Jess Whittlestone, Lalitha Sundaram, and Sean O. Heigeartaigh. 2020. Artificial intelligence in a crisis needs ethics with urgency. *Nature Machine Intelligence* 2: 365–66. [\[CrossRef\]](#)
- Ufarte Ruiz, María Jesús, Luis Mauricio Calvo Rubio, and Francisco José Murcia Verdú. 2021. Los desafíos éticos del periodismo en la era de la inteligencia artificial. *Estudios sobre el Mensaje Periodístico* 27: 673–84. [\[CrossRef\]](#)
- Van Dijck, José, Thomas Poell, and Martijn de Waal. 2018. *The Platform Society*. New York: Oxford University Press. [\[CrossRef\]](#)
- Zelizer, Barbie. 2019. Why journalism is about more than digital technology. *Digital Journalism* 7: 343–50. [\[CrossRef\]](#)
- Zuboff, Shoshana. 2019. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs.

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