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# Can artificial intelligence replace journalists? A theoretical approach

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In the digital age, journalism is facing significant transformations due to the impact of artificial intelligence, a technology that optimizes processes, but also poses ethical and technical dilemmas. This study addresses whether AI can replace journalists or whether it should be considered as a complementary tool that enhances their capabilities. The problem lies in the increasing automation of journalistic tasks and its impact on the quality, ethics and professional identity of the sector. The research justifies its relevance due to the need to understand the scope and limitations of this technology to guarantee ethical and contextualized journalism. The methodology adopted is qualitative and based on documentary analysis. Academic studies, technical reports, and case studies were reviewed to evaluate the use of AI in newsrooms, highlighting its capabilities in automation, personalization, and data analysis, along with its ethical and operational limitations. Among the main results, it is identified that artificial intelligence is effective for tasks such as automated news generation and massive data analysis, but its inability to perform critical analysis and ethical decisions limits it as a complete substitute for the journalist. Likewise, their dependence on trained data perpetuates biases that can compromise the credibility of information. This study highlights that artificial intelligence should be conceived as a support for the journalist, enhancing creativity and analytical depth without compromising the essential values of the profession. It also underscores the importance of a synergistic collaboration between technology and journalists, including regulation and training to take advantage of it ethically and effectively.

## KEYWORDS

artificial intelligence, journalism, journalistic ethics, content automation, media industry, communication industry

## 1 Introduction

Digital transformation has caused rapid and significant changes in the media industry, generating content saturation and alterations in consumption patterns (Londoño-Proaña, 2022). Audiences have migrated from traditional media to digital platforms, which has led to the sale or merger of several media outlets (Londoño-Proaña, 2021). In addition, the constant entry of new competitors has intensified competition in the sector. Traditional business models have evolved towards diversified strategies that include websites, mobile applications, and social networks, while new content formats such as videos, podcasts, blogs, and infographics, among others, have been developed (Londoño-Proaña, 2021).

In this context of digital transformation, journalism not only faces technical challenges, but also ethical and social dilemmas that redefine its essence as a profession (Dörr, 2023). The immediacy and accessibility to large volumes of information have raised the expectations of

audiences, who demand more personalized, relevant and verified content. At the same time, the convergence of media and the expansion of digital platforms have opened up unprecedented opportunities for interaction between journalists and the public, but they have also accentuated issues such as job insecurity, reliance on algorithmic metrics, and the threat of disinformation (Ruggeiro et al., 2022).

Journalism is facing profound transformations driven by technological advances and changes in audience consumption habits (Deuze and Witschge, 2018; Wang and Liang, 2024). Digitalization and global connectivity have redefined traditional communication channels, giving rise to new dynamics in the production, distribution, and access to news content (Gao, 2023). At the same time, phenomena such as information overload, disinformation and polarization on digital platforms put at risk the fulfillment of the ethical and social foundations of journalism. In this scenario, media outlets are forced to adapt quickly to remain relevant, ensuring not only the veracity of their content, but also their ability to connect emotionally and culturally with their audiences (Moran and Shaikh, 2022).

Journalism, as a pillar of democratic societies (Bai, 2023), has always had as its central axis the search for truth, the critical analysis of events, and the construction of stories that allow people to understand their environment. However, the speed with which the digital ecosystem evolves poses challenges for journalistic practice (Franklin, 2014).

It is in this scenario that artificial intelligence has begun to play an increasingly relevant role. Its impact extends to multiple areas of journalism, from automated content generation to predictive analysis of information trends (Veluru, 2022). This phenomenon raises questions about creativity and authorship in a profession historically associated with human ethical and narrative values.

AI is also transforming the relationship between journalists and technologies, streamlining repetitive tasks and personalizing content for more segmented audiences. However, this integration is not without its challenges (Ali and Hassoun, 2019).

In the midst of these dynamics, contemporary journalism seeks to balance its informative mission with the demands of an ever-evolving media environment. It is at this point that a fundamental question arises: How can artificial intelligence be integrated into journalism in a way that preserves ethical values and professional rigor, while avoiding compromising the critical role of the journalist?

In this context, the aim of this article is to analyze whether artificial intelligence has the potential to replace journalists, considering its technical capabilities, its limitations in critical, ethical and contextual analysis, and its possible complementary role in the journalistic field.

This study adopts a qualitative approach based on documentary analysis, reviewing academic literature, specialized reports and case studies on the use of artificial intelligence in journalism. The methodology allows us to explore the capacities, conflicts and limitations of AI in journalistic tasks, with an emphasis on critical aspects such as ethics, contextual analysis and human creativity. The methodology focuses on identifying patterns and contrasting perspectives to respond to the debate on whether AI can replace journalists or act as a complementary tool.

## 2 Artificial intelligence and journalism

Artificial intelligence is defined as the field of study within computer science that develops systems capable of performing tasks

that normally require human intelligence, such as pattern recognition, logical reasoning, decision-making, and autonomous learning (Broussard et al., 2019; Spector and Ma, 2019). This discipline combines elements of mathematics, statistics, data science, and neuroscience to create models that simulate human cognitive processes.

The advancement of artificial intelligence (AI) in industrial processes has been a central axis in research, generating impacts that transcend the economic sphere and also reach social dimensions. Today, AI is not only an area of academic research, but also a technology that participates in multiple sectors, from medicine to the automotive industry, journalism and the media (West and Allen, 2018).

In the context of journalism, AI encompasses technologies such as Machine Learning, Natural Language Processing (NLP), and generative algorithms (Ioscote et al., 2024). These tools allow you to automate processes such as news generation, analysis of large volumes of data, and personalization of content according to the interests of audiences. For example, machine learning facilitates predictive analytics to identify informational trends, while natural language processing helps structure complex data into understandable narratives (Hermann, 2022). In addition, generative algorithms, such as GPT-3 and GPT-4, have proven to be capable of producing journalistic texts with remarkable levels of coherence and fluency, although not without ethical and technical limitations (Fernández-Barrero et al., 2024). At the same time, content personalization has improved the user experience, by offering news tailored to their interests, which strengthens the relationship between media and their audiences.

The impact of AI on journalism is not limited to the automation of tasks. Their integration has triggered a change in newsroom dynamics, freeing journalists from repetitive tasks and allowing them to focus on analytical and creative tasks (Marconi, 2020).

## 3 Materials and methods

### 3.1 Study design

This study adopts a qualitative approach based on documentary and critical analysis. This approach allows us to explore the influence of artificial intelligence on journalism from a comprehensive perspective, evaluating its technical capabilities, limitations, conflicts and its impact on professional dynamics. The methodology focuses on identifying patterns and reflecting on the ethical, social and technological challenges posed by the adoption of AI in this area. By integrating different perspectives, this approach contributes to a deeper understanding of the phenomenon (Bryman, 2016), enriching the debate on whether this technology has the potential to replace journalists or whether its role should be conceived as that of a complementary tool.

### 3.2 Data source

Secondary sources were used to ensure a broad and up-to-date view of the implementation of AI in journalism. These sources include academic literature, technical reports, and case studies. In terms of the academic literature, peer-reviewed articles addressing the development and impact of AI in the media were selected. Technical reports, such

as those published by the Reuters Institute for the Study of Journalism, provide up-to-date data on the perception and use of AI in newsrooms. Likewise, case studies were analyzed that illustrate how tools such as ChatGPT, Wordsmith, and DALL-E have been integrated into news production and distribution processes, highlighting both the operational benefits and limitations in information quality (Center for News, Technology, and Innovation, 2024).

### 3.3 Data collection

Data collection was carried out through a systematic search in academic databases such as Scopus, Web of Science and Google Scholar. To ensure the relevance of the analysis, publications from 2018 to 2025 were included that addressed the application of AI in journalism and explored its ethical, technical and practical implications. Literature in English and Spanish was prioritized with the aim of reflecting both global and regional perspectives. This methodological process combined the systematic review of secondary sources with a critical analysis, allowing to identify patterns and evaluate the ethical and operational implications of the use of AI.

### 3.4 Ethical considerations

The analysis was carried out based on open sources or accessible through institutional licenses, ensuring transparency and integrity in the interpretation of the data. Objective criteria were followed to avoid bias, and recognition of all sources used was ensured, preventing any misappropriation of ideas.

## 4 Analysis and discussion

The social and professional acceptance of artificial intelligence in journalism is not uniform at the global level, but varies significantly according to the cultural, political and technological context of each region. Below are some trends observed in Europe, Asia and the Americas, which provide insight into how these technologies are perceived and adopted based on their specific uses and the regulatory and institutional frameworks surrounding them.

The development of artificial intelligence applications in journalism, especially in newsroom environments, has shown significant advances in recent years. Between 2021 and 2024, there was a 22% increase in the number of professionals familiar with artificial intelligence (Newman et al., 2024). In 2021, only 30% of people acknowledged having knowledge about this technology (Newman et al., 2021), in 2022, it rose 40% (Newman et al., 2022), in 2023 it was to 45% of journalists (Newman et al., 2023), and finally, the figure rose to 52% in 2024 (Newman et al., 2024, p. 202). In 2021, about 5% of content in certain media outlets was produced using AI, reflecting an early stage of its incorporation into news-making processes (Newman et al., 2024).

In Europe, the adoption of artificial intelligence in journalism shows varying levels of acceptance, marked by strong caution (Newman et al., 2024). Countries such as Germany and the United Kingdom have low approval rates for the use of AI in content creation without human supervision, with figures ranging from 10 to

15% (Newman et al., 2024). This attitude can be attributed to the negative perception that the media have projected on AI, as well as ethical and regulatory concerns around transparency and the impact on the quality of news. However, the Nordic countries, such as Finland and Norway, stand out for their openness, with comfort levels above 40% in the use of AI tools to automate routine tasks such as transcription and summarization generation (Newman et al., 2024).

On the other hand, in the Asian continent, the acceptance of AI in the journalistic field is significantly higher. Japan and South Korea, recognized for their technological leadership, have approval rates of more than 50% for the use of AI in content personalization and automated news generation. In India, despite having more limited internet penetration, young people show a favorable attitude towards these technologies, with acceptance levels exceeding 60% (Newman et al., 2024). This enthusiasm may be related to the rapid growth of digitalization in the region and the perception of AI as a tool to improve efficiency in media.

On the other hand, in America, attitudes towards AI in journalism are heterogeneous. In the United States, acceptance varies by application: while 45–50% of respondents consider AI useful for tasks such as personalization and data analysis, only 20% support its use for content creation without human supervision, reflecting distrust in its accuracy and ethics (Newman et al., 2024). In contrast, Latin America shows greater receptivity, with countries such as Brazil and Mexico reaching acceptance rates of 55% (Newman et al., 2024). This interest may be motivated by the need for the media to optimize costs and generate content efficiently, adapting to the demands of their audiences.

### 4.1 AI capabilities in journalism

Artificial intelligence has demonstrated its potential to transform various areas of journalism, optimizing processes that previously depended exclusively on human work (Londoño Proaña, 2024). In the following analysis, they are divided into the subtitles: news gathering, news production and news presentation.

#### 4.1.1 News gathering

News gathering has undergone a profound transformation with the incorporation of artificial intelligence, which makes it possible to identify, monitor and verify information more quickly and accurately in an increasingly dynamic information environment.

Artificial intelligence (AI) has optimized newsgathering in newsrooms. One of the cases is the use of artificial intelligence in the newsroom of the Reuters Agency (Redacción, 2018). AI-based tools, such as News Tracer and Lynx Insight, make it possible to monitor large volumes of information in real time, identifying emerging trends, relevant news events, and patterns of social behavior before they become widely known stories (Redacción, 2018). These technologies analyze data streams from social networks, open databases, and official sources, using natural language processing (NLP) algorithms to filter and classify useful information.

Another case is Dataphyte, a Nigerian platform specializing in data journalism, which integrates artificial intelligence tools to optimize the collection and analysis of large volumes of information from various sources, including government policies, economic, health, and educational data (Dataphyte, 2025). Through the use of

natural language processing and machine learning technologies, the platform transforms complex datasets into accessible and understandable formats, making it easier to identify patterns and trends relevant to the development of news content (Dataphyte, 2025). This automated processing capability allows journalists to more agilely detect emerging issues and conduct deeper investigations, thus improving both efficiency and accuracy in the newsgathering phase (Dataphyte, 2025).

#### 4.1.2 News production

Artificial intelligence in news production has facilitated the automation of newsrooms, the analysis of large volumes of information and the generation of more accessible and accurate narratives.

Recent studies highlight that, while initially automation in newsrooms was limited to algorithms designed for specific tasks, the evolution towards more complex applications has allowed artificial intelligence to emulate traditionally human functions, such as article writing (Moran and Shaikh, 2022).

One of the processes that AI is capable of creating news automatically, especially in contexts where the fast and accurate presentation of human structured data is required, optimizing production and leaving journalists free to dedicate themselves to more complex articles (Nasser and Abu-Naser, 2024).

Tools such as Wordsmith and Heliograf allow for the automatic generation of content, especially in areas such as finance, sports, and weather events (Gutiérrez-Caneda et al., 2023; Lopezosa et al., 2023). This technology streamlines news production, reducing costs and freeing journalists from repetitive tasks to focus on more creative and analytical activities (Calvo-Rubio and Ufarte-Ruiz, 2020). The Los Angeles Times' implementation of Quakebot for earthquake coverage and the Associated Press' automated financial reporting projects are concrete examples of how AI is redefining newsroom routines (Ayerdi et al., 2023). In addition, it has been shown that the personalization of editing processes, through advanced algorithms, significantly improves the accuracy and efficiency of published news (Abarca and Arroyo, 2024).

Another case of automation occurs at RTVE in Spain. The incorporation of artificial intelligence in RTVE, Spain's main public media outlet, is supported by collaborations with university research centres (Terol, 2023). A prominent example is the use of Narrativa. AI for the automation of sports and electoral news, managing to generate structured content with great precision and aligned with the editorial guidelines of the medium (Terol, 2023). This technology facilitates the efficient and rapid coverage of events, optimizing resources that can be allocated to more strategic and analytical tasks (Verma, 2024).

Another type of journalism that benefits from artificial intelligence is data journalism, as it requires high-volume analysis. AI provides tools that allow journalists to process and synthesize massive information in seconds and makes complex topics more accessible (Türksoy, 2022). Advances in NLP have been particularly relevant, as they allow accessible and understandable reports to be generated from complex databases (Calvo-Rubio and Ufarte-Ruiz, 2020). These types of applications have been key in investigative journalism projects, such as the analysis of documents leaked in large volumes, contributing to transparency and accountability in the public sphere. These tools combine social media data analysis and algorithmic verification to identify emerging news with high reliability,

significantly reducing the time needed to validate relevant sources and news (Ayerdi et al., 2023). These capabilities not only optimize work in newsrooms, but also strengthen the credibility of news in a saturated media environment.

Data storytelling requires thorough collection, cleansing, and analysis, tasks that AI can efficiently automate (Weber et al., 2018). Machine learning tools make it possible to identify hidden patterns in complex databases, while advanced algorithms generate interactive visualizations such as graphs and maps (Lim, 2023). Not only does this improve the accuracy of data-driven storytelling, but it also amplifies its impact by making it more accessible and understandable to audiences. AI strengthens the practice of data journalism in a saturated information environment (Banafi, 2024).

#### 4.1.3 News presentation

News presentation has evolved with the incorporation of artificial intelligence, which makes it possible to adapt news content to the individual preferences of audiences and optimize its distribution in highly competitive digital environments.

By analysing user behavior patterns, tools such as Chartbeat and Parse.ly optimise in real time the selection and arrangement of the most relevant news for each audience (Retegui and Focás, 2024). In addition to collecting and processing data on audiences, artificial intelligence tools offer journalists topic suggestions based on audience preferences, as well as examples of titles and keywords that optimize the connection with readers' interests (Retegui and Focás, 2024).

AI-powered content personalization has enabled publishers to improve the user experience and increase their interaction with digital platforms. Systems such as those developed by Chartbeat and Parse.ly not only analyze readers' behavior patterns, but also predict future interests, resulting in highly segmented and effective content delivery (Kristensen and Hartley, 2023). In Ibero-American countries, innovative initiatives have been implemented that integrate AI to personalize the offer of content on social networks and web platforms, adjusting to the cultural and linguistic preferences of local audiences (Apablaza-Campos and Tinjacá, 2024). This capability not only improves user loyalty, but also allows publishers to compete in saturated markets by delivering more relevant and timely information.

AI makes it possible to adjust the user experience in real time, offering personalized recommendations and optimizing interaction with journalistic platforms (Salgado Reyes, 2023). Artificial intelligence is revolutionizing content personalization in journalism, allowing news organizations to use advanced algorithms to identify consumption habits and create experiences tailored to individual preferences. Tüñez-López et al. (2021) mentions that these tools not only optimize the relationship with audiences, but also open up new possibilities to transform the business model towards more interactive and personalized products.

### 4.2 Limitations of AI

One of the main problems with AI is its dependence on the data used for its training, which is often imbued with historical or contextual biases (Al-Zoubi et al., 2024). AI algorithms, by replicating patterns present in their databases, can generate inaccurate results or perpetuate prejudices, affecting the quality of content (Shin et al.,



2022; Nasser and Abu-Naser, 2024). This is particularly problematic in contexts where critical analysis and contextualization are required, inherently human skills that AI cannot emulate (Broussard et al., 2019).

In addition, research indicates that the lack of transparency in algorithmic models hinders the effective supervision of the content generated (Calvo-Rubio and Ufarte-Ruiz, 2020). This black box effect generates uncertainty regarding the reliability of information, as users and professionals cannot understand how decisions are made in automated systems (Dijkstra et al., 2024). AI has made it easier to create disinformation using advanced technologies such as deepfakes. Generative algorithms can create counterfeit images, videos, and texts that are difficult to detect, exacerbating the problem of misinformation in an already saturated media ecosystem (Akhtar et al., 2023). This not only affects the credibility of the media, but also weakens the public's trust in legitimate information, as even authentic content can be discredited as manipulated (Helmus, 2022). Examples such as the use of deepfakes in political disinformation campaigns demonstrate how AI can be exploited to influence elections, generate social tensions, or manipulate public perceptions (Battista, 2024). This capacity raises critical ethical questions about the regulation of these technologies and the responsibility of the actors involved in their development (Terol, 2023).

Automation promises quick and efficient solutions, but it also raises questions about the loss of intrinsically human elements, such as ethical judgment, empathy, and cultural context, which have been important in the construction of journalistic narratives (Sančanić and Penjišević, 2022).

AI-powered automation is transforming working practices in journalism, but it also raises concerns about the displacement of professionals. Some authors warn that, although AI makes it possible to optimize processes and increase efficiency, it threatens traditional roles in the newsroom, especially those related to the generation of routine news (Londoño Proaña, 2024). This forces journalists to adapt to more technical or specialized roles, leaving aside narrative and analytical skills that are fundamental for investigative journalism.

In addition, audiences, while valuing the technical quality of automated texts, tend to prefer those created by humans due to their ability to empathize and contextualize facts in a deeper way (Biswal and Gouda, 2020).

On the other hand, it should be noted that this transition is not always accompanied by adequate training, which generates a skills gap in the sector (Canavilhas, 2022; Peña-Fernández et al., 2023). Although AI has the potential to complement human activities, its implementation without supervision or training can lead to errors in the interpretation of data or in the production of relevant content.

The integration of AI in journalism also faces ethical challenges, such as the lack of clear control mechanisms to ensure that the content generated is truthful and respects principles of impartiality (Dierickx et al., 2024). The absence of specific ethical standards for AI in the media exacerbates the risk of its misuse, either through negligence or malicious intent (Gutiérrez-Caneda et al., 2023). On the other hand, current regulations do not always encompass the complexities associated with emerging technologies. Although regulatory frameworks have been proposed, their implementation at the global level is fragmented and lacks harmonization, allowing legal gaps to be exploited (Terol, 2023).

One of the main limitations of AI in journalism is its inability to fully guarantee the quality and veracity of the content generated (Lopezosa et al., 2024). While AI is effective at automating processes and personalizing news experiences, its use in tasks such as fact-checking and contextual analysis still relies significantly on human oversight. The authors highlight that AI can make critical mistakes when interpreting data, especially in complex situations that require in-depth knowledge of the historical, social, or cultural context (Leiser, 2022). In addition, the lack of transparency in the algorithms that employ these technologies poses an ethical challenge, as it makes it difficult to identify biases or errors that could compromise information neutrality (Lopezosa et al., 2023).

The excessive use of automated technology can reduce journalists' autonomy, displacing their role as guarantors of editorial responsibility (Al-Zoubi et al., 2024). These limitations underscore the need to establish clear ethical and regulatory standards that ensure that AI is used as a complementary tool and not as a substitute for the core values of journalism.

### 4.3 Conflicts

One of the critical issues in news production is intellectual property. The growing adoption of artificial intelligence (AI) in journalistic production processes has generated substantial debates around intellectual property, particularly regarding the use of copyrighted content in the training of language models. A paradigmatic case in this context is the lawsuit filed by *The New York Times* against OpenAI and Microsoft in December 2023 (Brittain, 2025). The journalistic organization maintains that millions of its articles were used without its consent to feed systems such as ChatGPT, which, according to its argument, constitutes a direct violation of its copyright (Grynbaum and Mac, 2023). The New York Times points out that these practices not only replicate textual material almost identically, but also compromise the economic viability of the media by reproducing their content without due compensation or acknowledgment of authorship (Grynbaum and Mac, 2023). This scenario underscores the urgent need to establish legal frameworks that regulate the use of protected materials in the training of AI models, ensuring both technological innovation and the protection of the rights of content creators.

On the other hand, the adoption of artificial intelligence (AI) tools in journalistic organizations is closely conditioned by the ownership structure of the media and the strategic interests of their owners. A significant example of this dynamic is the case of the *Los Angeles Times*, acquired in 2018 by businessman Patrick Soon-Shiong. In December 2024, Soon-Shiong announced the implementation of an AI-based tool called *bias meter*, which aims to assess the political bias of published articles and provide readers with automatically generated alternative perspectives (Herzlich, 2024). This initiative reflects how the editorial and political objectives of owners can influence the use and orientation of emerging technologies within the media ecosystem.

The increasing use of artificial intelligence in the personalization of news presentation, motivated mainly by commercial interests, poses significant challenges to the quality of public debate. Various studies have pointed out that this extreme personalization limits the exposure of users to divergent perspectives, which is essential for the exercise of

deliberation in democratic societies (Zuiderveen Borgesius et al., 2016). By prioritizing content that reinforces users' previous beliefs and preferences, recommendation algorithms contribute to the formation of *information bubbles* and *echo chambers* that, far from promoting information pluralism, accentuate political polarization (Helberger, 2019). In this context, while artificial intelligence optimizes the connection between media and audiences, its application without corrective mechanisms can weaken the role of journalism as a facilitator of civic dialogue and the critical exchange of ideas.

#### 4.4 How journalism should work in the age of AI

After what has been analyzed in the previous sections, it is suggested that the way in which AI should be worked is complementarity, and avoiding possible threats.

The relationship between artificial intelligence and journalists should be conceived as a synergy where technology amplifies human capabilities without replacing them (Túñez-López et al., 2021). AI frees journalists from operational tasks such as data collection and organization, allowing them to focus on building deep narratives and making ethical decisions (Túñez-López et al., 2021).

AI excels at automating repetitive tasks, such as generating news based on structured data, transcribing interviews, and classifying large volumes of information (Londoño Proañó, 2024). These features allow journalists to focus on more analytical and creative activities.

In addition, in investigative journalism projects, machine learning algorithms make it possible to analyze large data sets and find hidden patterns that would otherwise go unnoticed (Fridman et al., 2023). Collaboration between journalists and AI in data journalism not only streamlines analysis processes, but also amplifies the ability of professionals to address complex issues more accurately (Canavilhas, 2022).

AI also makes it possible to personalize the user experience by analyzing content consumption patterns and adjusting to the individual interests of audiences. AI tools optimize the distribution of news in real time, which increases user loyalty and improves their interaction with digital platforms (Apablaza-Campos and Tinjacá, 2024). However, journalists are still essential to ensure that personalization does not compromise the diversity and depth of information, preventing algorithms from prioritizing only high-performing or highly segmented content.

Understandably, AI can execute tasks quickly and accurately, but ethical decision-making and contextual interpretation remain uniquely human domains. Journalists act as guarantors of the integrity and credibility of content, especially in situations where narratives can have a significant social impact. This complementary interaction allows AI to focus on technical optimization, while journalists maintain editorial control and ethical accountability (Monti, 2019).

The incorporation of AI in journalism requires constant training of professionals so that they can make the most of these tools (Ali and Hassoun, 2019). The need to integrate technical knowledge into the journalistic field, fostering a new generation of professionals capable of handling advanced technologies without losing sight of the fundamental values of journalism (Lopezosa et al., 2024). This

symbiosis not only increases the competitiveness of the media, but also strengthens the public's trust in information.

On the other hand, the way to avoid the possible threats that AI represents for journalism is to mitigate the effects. It is essential to implement human oversight mechanisms that ensure the veracity, ethical rigor, and contextualization of AI-generated or AI-assisted content (Gutiérrez-Caneda et al., 2024). It is essential to develop regulatory frameworks that protect intellectual property and promote algorithmic transparency, especially in the collection, production, and personalization of news (Helberger, 2019).

Another key strategy is to strengthen media literacy for both journalists and audiences, empowering professionals to use AI as a complementary tool, and users to recognize automated or manipulated content. Only through a combination of ethical oversight, effective regulation and continuous training will it be possible to integrate AI into journalism in a way that enhances its core values and contributes to a pluralistic and democratic information ecosystem.

## 5 Conclusion

Artificial intelligence (AI) has proven to be a key tool in the modernization of journalism, allowing routine processes to be optimized, large volumes of data to be analyzed, and content to be personalized for audiences. These capabilities have contributed significantly to the operational efficiency and competitiveness of the media in a digitalized environment. However, AI does not replace the essence of the journalist as a narrator, analyst and interpreter. Tasks that require critical analysis, interpretation of complex socio-cultural contexts, and ethical decision-making remain uniquely human, highlighting the importance of close collaboration between journalists and technologies. This synergistic model can redefine journalism as a more efficient and innovative practice, but without compromising its core values. In this sense, it is proposed that AI should be seen as a complementary tool that enhances journalistic work without replacing its human essence.

The integration of AI in journalism faces technical, ethical and operational limitations. Reliance on trained data can perpetuate historical biases and produce results that affect information quality. The lack of transparency in algorithms makes supervision difficult and generates distrust in the veracity of the content generated. In addition, the malicious use of technologies such as deepfakes exacerbates disinformation problems, compromising the credibility of the media. The lack of technical training in newsrooms and the fragmentation in the regulation of these technologies also represent important barriers to their responsible implementation.

The adoption of AI in newsrooms requires not only technical adjustments, but also a cultural change within newsrooms, encouraging greater training and reflection on the ethical values that should guide its use in today's media ecosystem (Peña-Fernández et al., 2023).

The future of AI journalism requires deeper research in several areas. It is essential to develop advanced generative models that are capable of interpreting cultural and social contexts, improving the quality of automated content. Likewise, the integration of technologies such as blockchain could strengthen the transparency and traceability of information, fundamental elements in combating disinformation

(Nasser and Abu-Naser, 2024). It is also crucial to design training programs that allow journalists to use these tools ethically and efficiently, preserving diversity and depth of information, and enhancing human skills without compromising the fundamental values of journalism.

Finally, future studies should explore the creation of global regulatory standards that ensure the responsible use of AI in the media, fostering a balanced interaction between technological innovation and journalistic principles.

## Author contributions

CL-P: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Writing – original draft, Writing – review & editing. JB: Data curation, Methodology, Supervision, Writing – original draft, Writing – review & editing.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Generative AI statement

The author(s) declare that Gen AI was used in the creation of this manuscript. Artificial intelligence (AI) was used as a tool for the search of relevant academic articles, optimizing the selection of current and reliable sources. In addition, AI was used to improve the writing of the text, ensuring accuracy in language and clarity in the presentation of ideas.

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