

EXAMINING THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON JOURNALISM: THE VIEWPOINT OF PROFESSIONALS, REPORTERS, AND SCHOLARS

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Abstract. In recent years, the presence of Artificial Intelligence (AI) in newsrooms and mass media has steadily grown. This increasing trend has sparked significant discussions about the negative effects it may have on journalism, particularly in terms of quality standards and ethical principles. With an exploratory approach, this research aims to analyze the implementation of AI in newsrooms, specifically examining its impact on news creation processes, media practices, and professional roles. The study seeks to highlight both the advantages and limitations of AI, while also delving into the ethical challenges that arise. To achieve this, a total of 15 in-depth interviews were conducted in two phases, in 2019 and 2021. The interviewees consisted of journalists, media professionals, academics, industry experts, and technology providers involved in AI development. The international sample included participants from the United States, the United Kingdom, Germany, and Spain. The interviewees collectively agree that AI has the potential to enhance journalists' abilities by saving time, improving the efficiency of news creation processes, and ultimately increasing productivity in the mass media industry. However, they also stress the need for a shift in mindset within the media landscape, prioritizing training on the use of these tools due to the observed lack of knowledge. Furthermore, the emergence of ethical concerns emphasizes the necessity for ongoing monitoring and oversight of AI-driven processes.

Keywords Journalism, artificial intelligence, automated journalism, algorithmic journalism, robot journalism, computational journalism, augmented journalism.

Introduction

Artificial intelligence, commonly referred to as AI, has experienced rapid growth in society, gradually making its way into the field of journalism (Newman, 2020). AI offers tools that allow tasks and routines to be codified into algorithms, generating outputs that resemble those produced by humans (Túñez-López, Toural-Bran & Cacheiro-Requeijo, 2018). As a result, the adoption of AI brings a wide range of advantages to mass media and news agencies, while simultaneously introducing changes at multiple levels: the role of journalists in text production, their potential substitution in certain activities, and interaction with the audience (Gomez-Diago, 2022).

The adoption of AI tools in journalism is driven by the necessity to increase news production and engage the audience (Papadimitriou, 2016; Graefe, 2016; DeVito, 2017).

These tools enhance journalists' capabilities, facilitating specific activities within the news production process and elevating their work to previously unattained standards (Tejedor & Vila, 2021). AI can assist in various tasks, including identifying informative trends (Steiner, 2014), gathering information (Diakopoulos, 2019), developing news recommendation systems (Helberger, 2019; Túnñez-López, Fieiras-Ceide & Vaz-Álvarez, 2021), verifying disinformation (Flores Vivar, 2019; Manfredi-Sánchez & Ufarte-Ruiz, 2020), automatically translating texts, and aiding investigative journalism (Papadimitriou, 2016; Newman, 2018; Newman, 2020). Moreover, AI can enhance journalists' efficiency by relieving them of repetitive or routine tasks (Diakopoulos, 2019). These examples exemplify the broader process of datafication that impacts society as a whole (Loosen, 2018).

However, the use of AI in journalism also sparks considerable debate and raises questions about the quality of AI-generated outputs (Manfredi-Sánchez & Ufarte-Ruiz, 2020) and the potential erosion of ethical principles and core journalistic values (Ufarte-Ruiz, Calvo-Rubio & Murcia-Verdú, 2021). Despite the numerous advantages AI offers to journalism, it is crucial to approach this phenomenon by balancing business perspectives (profitability) with human perspectives (social and perceptual) (Segarra-Saavedra, Cristòfol & Martínez-Sala, 2019). Within this framework, the article aims to contribute to the ongoing discussion surrounding the integration of AI in newsrooms, exploring different viewpoints, attitudes towards the technology, and perspectives regarding its application.

Advantages and disadvantages

According to the interviewees' perspective, AI-related tools offer greater advantages rather than disadvantages, especially when it comes to tasks that require handling extensive volumes of data.

(JM) [Algorithms] 'Read hundreds of thousands of documents or millions of images in a couple of hours, whereas journalists might spend weeks or months.'

(AH) [AI tools] 'Help us to detect checkable facts more quickly. I would say that AI tools are tools of acceleration. I cannot think of any case where the tools make any step of the process unnecessary.'

(GC) 'It is particularly suitable for those areas processing large volumes of data at high speed. And these include from the moderation team in the newsroom to the organization and management of media enterprises.'

(VB) 'Inside the documentary area, we have to face an increasing volume and variety of data, and we have got very scarce resources.'

(TV) 'We spent most of the time transcribing data and searching for information, and therefore, we had no time to carry out professional editing.'

The adoption of AI can be advantageous for both journalists and media organizations. These tools have the potential to liberate journalists from monotonous tasks and low-skilled activities. Additionally, media companies can achieve greater efficiency and reduced resource utilization, leading to enhanced competitiveness.

(MR) 'If AI can automate tasks, journalists will have time enough to develop more interesting tasks: to investigate, interview people, elaborate reports. However, they are spending time transcribing data and writing news stories one by one, instead of creating better outputs.'

(DL) 'News comes from a data set, so there is no need for the media company to have a whole newsroom working the whole day at the media offices. All the tasks can be centralised and journalists will be able to go back to the streets to search for information, interview people, or investigate.'

Perceptions held by journalists

When it comes to perceptions, experts differentiate between how journalists and individuals in the documentation field embrace the technology.

Despite journalists already utilizing AI tools, the interviewees emphasize the concerning response displayed by these professionals when questioned about the implementation of this technology in newsrooms.

The future prospects of journalism

The interviewees strongly emphasize the essential role of human journalists as irreplaceable agents who should oversee AI outputs. They highlight that AI will not render journalists redundant, but instead enable them to embark on new projects. Technology will enhance our capabilities, but as human beings, journalists possess qualities such as humor, irony, sarcasm, empathy, and emotions that AI lacks. While AI may excel at processing data, it falls short in providing explanations for its actions.

One interviewee affirms that the individuals they work with are highly qualified, comparing their work to something far more complex and different from a robotic assembly line. Another interviewee acknowledges that AI can assist people in performing their jobs more efficiently, but there are limited areas where AI will completely replace human involvement.

Table 1. Training for journalists

Is it necessary for journalists to acquire knowledge of AI principles during their university education?	What level of knowledge or expertise is expected or recommended?
(MP) 'Universities should incorporate this topic into their curricula, as journalists in newsrooms may not have the time or resources to train them later on.'	(AH) 'AI tools are essentially software tools, and journalists do not need extensive coding expertise. The skills required for effective communication

<p>(CE) 'Absolutely! Journalists should at least have a basic understanding of what algorithms are capable of, the problems they can solve, and how to integrate them into workflows. This would enable more newsrooms to report on algorithmic accountability.'</p> <p>(DC) 'Subjects related to new technologies are crucial and should be included from the beginning of the degree.'</p> <p>(PS) 'We cannot solely rely on tech experts to manage this technology. People from humanities are essential in the design process.'</p> <p>(IS) 'Education and training are essential. We should focus on the editorial role of algorithms and the social implications of decisions made by algorithms.'</p> <p>(VB) 'Introducing these technologies into degree curricula is undoubtedly crucial. This will equip young journalists with a fresh perspective on their work when they enter the media.'</p> <p>(TV) 'Technology is advancing rapidly, but education is progressing slowly. When implementing AI tools in newsrooms, it is important to consider not only journalists and individuals in the documentation field but also the end-users.'</p>	<p>are different from those needed for AI tool usage.'</p> <p>(MP) 'Not all journalists will need skills in creating automated content, personalizing content, or utilizing machine learning. Such high levels of expertise will not be necessary for all positions.'</p> <p>(MR) 'It is important for journalists to learn programming in order to comprehend the inner workings of algorithms and the criteria they follow.'</p> <p>(DL) 'Journalists do not necessarily need to learn programming, but they should have a basic understanding of the principles to effectively use these tools or collaborate with coders.'</p>
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Discussion and conclusions

This exploratory paper successfully fulfills its initial objective of examining the impact of AI in newsrooms, considering the perspectives of journalists, experts, and academics involved in AI research. The interviewees present a dual reality: on one hand, AI offers new market opportunities for media companies and increases journalists' job

satisfaction. On the other hand, AI tools elicit journalists' apprehension and fear, necessitate a change in mindset for media companies, and raise ethical concerns.

Regarding the positive aspects, AI tools enhance production and efficiency, enabling media companies to compete with social media platforms and overcome the financial crisis affecting the industry. They also improve journalists' working conditions by freeing them from mundane tasks, allowing them to focus on qualitative reporting, investigation, and gathering information. As a result, AI can facilitate the creation of high-quality journalism, potentially revitalizing the essence of the profession.

However, media professionals exhibit skepticism toward technology. Journalists' wariness stems from their limited understanding of AI, concerns about job redundancy, a perceived lack of skills, and the belief that AI tools may undermine the core principles of journalism. Nonetheless, the interviewees stress that even advanced AI tools will serve as assistants and operate under human supervision. Education and training play a critical role in fostering critical thinking and dispelling misconceptions and fears surrounding AI technologies.

The areas of content generation and personalization emerge as priorities in AI implementation. AI tools offer the potential to generate extensive news coverage across various topics, reaching a wider audience. Users may also have the ability to personalize their news agenda and select the content they wish to receive. However, concerns arise regarding the quality and diversity of content, as personalization may lead to filter bubbles and echo chambers, reinforcing users' existing beliefs. Algorithms, as editorial tools, have the potential to erode media's editorial control, introducing biases at different stages of content production. While AI tools can be employed in fact-checking to counter fake news, there is also a possibility that algorithms may contribute to the creation of filter bubbles. Thus, supervision becomes crucial, although the vast volume of AI-generated outputs makes comprehensive oversight challenging.

Transparency and accountability present significant challenges, as professionals from various fields, including programmers, information technologists, journalists, and editors, are involved in the design, implementation, and use of AI technology. Determining the delineation of responsibilities becomes a pressing issue.

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