
THE USE OF ARTIFICIAL INTELLIGENCE IN NEWS PRODUCTION PROCESSES

Tutut İsmi Wahidar¹, Baiqra Muradi²

Süleyman Demirel Üniversitesi^{1,2}, Universitas Riau¹

Email Koresponden: tutut.ismiwahidar@lecturer.unri.ac.id

Diterima: 16 Februari 2025

Direvisi: 27 Februari 2025

Disetujui: 25 Maret 2025

Abstrak

Perkembangan teknologi kecerdasan buatan (AI) menunjukkan transformasi signifikan dalam berbagai bidang, termasuk dalam praktik jurnalistik di era Revolusi Industri 4.0. Gelombang perkembangan AI yang meliputi Internet AI, AI berbasis data, AI generatif, dan Autonomous AI telah meningkatkan efisiensi dan efektivitas proses produksi dan distribusi berita. Namun, penerapan AI dalam dunia jurnalisme menimbulkan berbagai tantangan etis, seperti bias algoritmik, ketidaktransparanan sistem, risiko penyebaran disinformasi, serta penurunan akuntabilitas manusia. Penelitian ini mengkaji implikasi penggunaan AI dalam praktik jurnalistik dari perspektif etika, menyoroti perlunya pengawasan manusia yang kritis untuk menjaga integritas, keakuratan, dan keberimbangan berita. Hasil studi ini menunjukkan bahwa meskipun AI berpotensi meningkatkan kualitas dan efisiensi jurnalisme, penerapannya harus disertai dengan pengembangan kompetensi teknologi bagi jurnalis dan pengawasan kontinyu agar prinsip-prinsip etika jurnalistik tetap terjaga dalam proses otomatisasi berita.

Kata Kunci: AI, Jurnalisme AI, Algoritmik, Prinsip Jurnalistik

Abstract

The development of artificial intelligence (AI) technology shows a significant transformation in various fields, including journalistic practices in the era of the Fourth Industrial Revolution. The wave of AI development, which includes Internet AI, data-based AI, generative AI, and Autonomous AI, has increased the efficiency and effectiveness of news production and distribution processes. However, the application of AI in the world of journalism poses various ethical challenges, such as algorithmic bias, system opacity, the risk of misinformation dissemination, and a decrease in human accountability. This research examines the implications of AI use in journalistic practices from an ethical perspective, highlighting the need for critical human oversight to maintain the integrity, accuracy, and balance of news. The results of this study indicate that although AI has the potential to enhance the quality and efficiency of journalism, its application must be accompanied by the development of technological competencies for journalists and continuous oversight to ensure that journalistic ethical principles are maintained in the news automation process.

Keywords: AI, AI Journalism, Algorithmic, Journalistic Principles

INTRODUCTION

Technological advancements have accelerated and progressed significantly in recent decades, particularly in the field of digital communication technology, including the development of internet network infrastructure. The digital revolution, marked by the rapid growth of electronic devices and information systems, has fundamentally changed the way humans communicate. For example, learning, working, behaving, and socializing in society have all changed. This transformation is part of the Fourth Industrial Revolution. A phase where industrial development is marked by the integration of advanced technologies such as Artificial Intelligence (AI), Big Data, the Internet of Things (IoT), Virtual Reality and Augmented Reality (AR), as well as robotics into production systems in everyday life. (Shrivastava et al., 2023).

According to Thormundsson (2023), the Fourth Industrial Revolution enables real-time information exchange through interconnected networks, which significantly impacts social, economic, and cultural structures. In this context, AI has become one of the most prominent components. Although the history of the term AI was introduced in the 1950s by John McCarthy. However, it was only with the launch of ChatGPT in November 2022 that this technology gained significant visibility. With global investments exceeding USD 90 billion in 2021 and 2022(Ioscote et al., 2024).

The increasing application of AI in various fields, especially communication, has become a primary focus in scientific discourse and broader social transformation. Since AI was first introduced, there has been an extraordinary

acceleration in the field of technology. According to Lee (2019) in (Ioscote et al., 2024), there are 4 waves of AI that contribute to understanding the role of AI in the digital realm. The waves of AI are arranged in chronological order as follows: (1) Internet AI, (2) Business AI, (3) Perception AI, and (4) Autonomous AI. Each brief explanation regarding these waves is as follows:

The first wave (Internet AI), which emerged since 1998, utilizes deep learning to develop online content personalization and recommendation systems. The second wave (Business AI), which began in 2004, focuses more on improving the efficiency of business processes, such as credit assessment by banking institutions and decision support systems. The third wave (perception AI), which has been developing since 2011, uses IoT (Internet of Things) sensors to gain a deeper understanding of the physical world. Examples include software that converts speech to text, automatic translators, facial recognition technology, and increasingly natural and intuitive human-machine interactions. Meanwhile, the fourth wave (autonomous AI), which began in 2015, focuses on creating autonomous systems capable of making decisions independently without the need for continuous human intervention (Ioscote et al., 2024).

From the explanation of the AI chronology above, according to Ioscote, F., Gonçalves, A., & Quadros, C. (2024), digital journalism is at the intersection of the third and fourth waves. Starting in 2011, which felt very prominent and aligned with the innovation phase in the newsroom. Where this phase sees the emergence of advancements such as IoT sensors, voice assistants, automatic translation, and transcription systems.

From this phase, digital journalism began to show significant paradigm shifts, where the role of technology is not only as a reporting aid but also as a tool or even a partner in the process of producing news content (Ioscote et al., 2024).

The complex nature of news production, a topic explored since the early years of media theory and media sociology, remains one of the key issues in gaining a deeper understanding of the field this remains true even in the era of AI (Pleios & Tastsoglou, 2025). According to research findings by Patil M., Angadi, S., and Kumar, T. (2024), conducted across 32 different countries, journalists are utilizing AI for news gathering; two-thirds emphasize its use in media content production, and slightly more than half of the respondents highlight its role in distribution (Patil et al., 2024).

In its operational principles, the presence of artificial intelligence (AI) in the field of journalism offers convenience to journalists through its automation systems, such as in data analysis and information verification. By using artificial intelligence, certain news can be delivered to the right customer demographics at the right moment. So it can increase audience engagement, ultimately boosting the company's revenue (Faisyal & Haris, 2024). There are two types of data that can be utilized to compose quality news, namely quantitative data, such as statistics, and qualitative data which includes a series of facts or a timeline of events. The data journalism approach that uses statistics (numbers) plays an important role in helping journalists articulate issues clearly, making it easier for readers to understand the information conveyed. Currently, many mass media industries have adopted AI technology to support the

news production process. With the use of AI, particularly machine learning, journalists are able to filter and manage large amounts of data efficiently and quickly.

Artificial intelligence-powered virtual presenter technology gained global recognition following its initial introduction by Xinhua News Agency in China in 2018. The agency unveiled Qiu Hao, a digital news avatar capable of delivering information automatically in a human-like manner and operating continuously. A year later, this innovation was further expanded with the launch of Xin Xiaomeng, a female virtual presenter that added diversity to news presentation formats (IANS, 2019).

On the other hand, Turkey has also adopted similar technology through TRT Haber, which launched Fedha, a virtual presenter who can interact with viewers and deliver the latest news and information in real time (Ahlatçı, 2023). Meanwhile, Indonesia is also responding to this technological development with TV One, which in 2023 introduced an AI virtual presenter capable of broadcasting news continuously (Bergundy, 2020). The three countries, namely China (as the pioneer), Turkey, and Indonesia, illustrate the trend of AI implementation in broadcasting media aimed at enhancing efficiency, consistency, and innovation in the journalism industry. Besides Karni Ilyas, there are two other presenters who appear in the form of avatars, namely presenters Sasya and Nadira. Simultaneously with the launch of the AI-based media TVOne.ai, which is claimed to be the pioneer of AI media in Indonesia, featuring the concept of virtual presenters (Tamara, 2023). Subsequently, the introduction of the virtual presenter Bhoomi (all of whom are female)

followed, each differing visually in terms of physical appearance and voice.

The presence of AI-based virtual presenters is considered to enhance efficiency in the news production process. Tasks that previously required considerable time can now be completed more quickly and effectively. The implementation of this technology not only accelerates production but also contributes to reducing operational costs within the media industry. Additionally, the visual appeal of AI virtual presenters serves as a unique attraction, as they can be aesthetically designed to enhance the viewing experience. Even vocal elements such as intonation can be customized to sound more pleasant and communicative in the delivery of information.

The emergence of TV One's virtual presenters has had a positive impact on the mass media business, particularly in fostering engagement with Generation Z, who spend a significant amount of time on social media. From a business perspective, leveraging social media as a platform for news dissemination offers distinct advantages for media companies (Panuju, 2012).

Several studies show that ease and work efficiency can help companies (media business actors). According to Smith et al. (2023), the application of AI in journalism can reduce editorial costs by up to 30%, making news production more cost-effective (Smith et al., 2023). Research by Garcia & Lee (2023) shows that news organizations leveraging AI for personalization show a 20% increase in user engagement and a 15% increase in digital subscriptions.

From the many conveniences provided by AI, there are still issues that need to be addressed when using it. For example, issues such as algorithmic bias,

transparency, accountability, and the impact on jobs, as well as the potential of AI to combat and spread misinformation. Moreover, although AI has been applied in media practices, academic studies on it are still quite limited. It is time for technology to become part of the curriculum in journalism and communication schools, so that aspiring journalists can understand and use it critically and ethically. That is the purpose of this article. Raising the issues caused by AI journalism, which is the main problem, where AI journalism creates changes and potential ethical studies.

METHOD

Definition of Artificial Intelligence (AI) and Its Applications in the Media Industry

Artificial Intelligence is not a new field, as its development began in 1956. That summer, a group of scientists from various disciplines, such as computer science, industrial engineering, and other related fields, gathered at Dartmouth College to discuss the potential of computers to imitate or simulate human intelligence. Key figures involved in this initiative included Allen Newell, Herbert Simon, Marvin Minsky, Oliver Selfridge, and John McCarthy. Since that meeting, scientists have begun to intensively develop AI concepts and technologies, from the research stage in laboratories to real-world applications in various fields. AI is for understanding and modeling human thought processes, and designing machines to mimic human behavior (McCarthy et al., 1955).

Artificial intelligence is a transformational technology in the digital era and a business mindset that is increasingly important for companies,

especially those operating in the media sector with the growing number of digital content products and advertising opportunities (Pleios & Tastsoglou, 2025). AI is essentially an automation technology involved in selecting internet content that meets certain criteria (words, names, terms of people or places, events, etc.) set by the user (Patil et al., 2024).

AI is a technology related to artificial intelligence. The technology allows computers or machines to learn patterns in data and make decisions based on that data. AI is a branch of computer science that studies how to make machines (computers) perform tasks like and as well as humans do, and even better than humans (Kristanto, 2004).

Fundamental Principles of Journalism Ethics and Core Concepts of News Production

In journalism ethics, it is a moral and professional foundation that must be steadfastly upheld by every journalist in carrying out their journalistic duties. Quoted from Kovach and Rosenstiel (Kovach & Rosenstiel, 2007), explaining that good journalism must be based on the principles of truth, fact-checking, and loyalty to the public. The process includes information gathering, fact-checking, accurate and ethical writing, editing, and public evaluation.

In the conventional production of news in a media outlet, there are many stages. The stages of production are planning, reporting/gathering, writing/script writing, editing, production, publishing/broadcasting, and evaluation (Panuju, 2012).

If we read the stages of news production presented by Panuju (2012), we can see the technical aspects of the news creation process. If we relate this to the

principles of journalism ethics conveyed by Kovach and Rosenstiel, it will create technical production steps that are carried out by referring to journalistic ethics principles so that the results are of high quality and trusted by the public. Every stage carried out by journalists is done manually, whereas the basic stages in AI journalism have undergone significant changes. AI is capable of automating data collection, news analysis, and script writing through Natural Language Generation (NLG) technology (Liu et al., 2017; Van Dalen, 2012).

The main difference between conventional news production and AI-based production lies in the level of automation and speed of the process, as well as the data sources used. For example, in the initial planning stage, the identification and collection of data through AI can quickly detect trending topics. Next, there is the stage of news analysis and selection, which is also carried out with automated tools. AI uses algorithms to assess the feasibility and authenticity of news, not through direct interviews. The third stage is automatic news writing (NLG) from structured data without human intervention at the beginning. The fourth stage is editing and verification, which is only done by humans. In the fifth stage, which is distribution, it is again assisted by AI because it is faster and more precise. The sixth stage, which involves broadcasting or distribution, is also the same as the fifth stage. The final stage, which is evaluation, is also still carried out by AI. AI can collect and analyze audience feedback in real-time.

From the explanation above, we can see that AI-based tools have been adopted to streamline workflows in the newsroom, enabling faster information dissemination

and more efficient resource use (Jones & Brown, 2023; Smith et al., 2023). Where AI accelerates and streamlines production without eliminating the crucial role of journalists in upholding ethical principles (Kovach & Rosenstiel, 2007; Panuju, 2012).

Quoted in Rizki Apriliyanti et al. (2024), according to Biswal & Gouda, (2020), Kaplan & Haenlein (2019; Kim & Kim (2021; and Moravec et al. (2024), when news is produced automatically by computers, this is referred to as data journalism, automated journalism, algorithmic journalism, or robot journalism. According to Broussard et al. (2019), some also use the term computational journalism to describe journalism reporting with the aid of computers (Apriliyanti et al., 2024).

RESULT AND DISCUSSION

Transformative Impact of AI Journalism and Its Ethical Implications

Comparison of news production stages according to Panuju (2012), journalistic ethics principles according to Kovach and Rosenstiel (2007), and the automation approach in AI-based journalism shows a fundamental transformation in journalistic practices. This transformation not only impacts the technical aspects of production but also raises new questions in the realm of ethics. Therefore, AI journalism becomes an important arena to re-examine journalistic ethical principles, while also opening up space for new studies that highlight moral implications, responsibility, and accountability in the current era of news automation.

As we already know, the use of AI can help minimize the time required by

journalists to create news content. The efficiency and speed of news production needed and demanded by media companies can be easily achieved with the help of AI. AI can contribute to more informed and comprehensive news about facts and events (de-Lima-Santos & Ceron, 2022). The latest findings also mention that AI can enhance, but not automate, the media industry by allowing them to deliver news faster while also taking time for deeper analysis (Patil et al., 2024).

Several studies have discussed the advantages of AI that can assist journalists but its usage must still be monitored. One study mentions that AI can contribute to faster and more effective fact-checking because generating and reproducing fake news is one of the most serious problems in the news sector (Kertysova, 2018; Newman et al., 2023). Further research states that the use of AI technology is not only productive but also efficient in journalism, only if it is used under the command and responsibility of human journalists who can distinguish the significance of current events and their aspects, or differentiate between facts and commentary (Lambrou, 2024).

The digitization of media brings changes to the patterns of information production and consumption. In the news production process, several foreign media outlets and foreign news agencies have been striving to develop automated journalism practices. This is a combination of journalistic work processes carried out by humans using computational algorithms and machine learning (Thurman et al., 2019). One of the major platforms, like Google News and the New York Times uses AI to curate news feeds tailored to readers' interests (Diakopoulos, 2019).

In 2014, the Associated Press (AP) became one of the pioneers by partnering

with the startup Automated Insight to produce financial reports automatically. In the same year, the LA Times also began implementing computer algorithms to create early warning earthquake news based on data from the USGS (United States Geological Survey). Next, the Washington Post followed in 2016 by launching an AI system named Heliograf to write various articles, including brief reports on the Rio de Janeiro Olympics. In 2018, the Robottan AI Haberi project in Turkey became the first initiative in automated journalism, producing short news based on weather data, earthquakes, and exchange rates automatically from official institutions, and then disseminating them through social media. And in 2019, in Indonesia, Beritagar.id (now part of Narasi) was known as a pioneer in the use of data technology and AI in journalism, especially in data visualization and content automation based on digital analysis.

With the transformation in the application of AI in the media industry, journalism no longer relies solely on human skills, but also on the sophistication of technology at every stage of its production. A series of examples from various countries shows that automation has become a new force in shaping the face of contemporary journalism. However, this progress also brings about consequences that cannot be ignored, especially concerning moral and professional responsibilities in journalistic practice. Therefore, it is important for the world of journalism not only to utilize AI as a technical aid but also to re-examine its ethical principles to maintain the integrity of the profession amidst the rapid changes.

Review of Journalism Ethics Studies in the Use of AI

Although various media around the world have shown early success in adopting artificial intelligence technology to support news production, the presence of AI in journalism has also given rise to a number of consequences that need to be examined in depth. Its presence in assisting journalists' work is like a double-edged sword; there are positives and there are also negatives. On one hand, it brings efficiency, but on the other hand, it also presents ethical challenges that cannot be ignored. Automation in the news production process has the potential to blur editorial accountability, especially when AI systems generate content without direct human involvement. The risk of data bias, lack of algorithmic transparency, and the absence of empathy and ethical considerations in the coverage process are several crucial issues that must be critically examined.

In subsequent research, the issues of accuracy and the potential spread of misinformation are discussed. One of the most discussed issues by thinkers and researchers regarding the accuracy of using AI to assist journalists in creating news is the incompleteness (or lack of completeness) of information, agenda-setting, and news framing, as well as the increasing prevalence of fake news.

The incompleteness of the information provided by AI can significantly impact its accuracy, and subsequently, its usefulness and application in real-world scenarios. If the digitization of cultural heritage, including knowledge, art, and historical information, is not evenly distributed, there is a risk of digital dominance by Western perspectives. This can create imbalances in intercultural relations, especially if AI only accesses data that represents Western culture. The question is, have all sources of information

from various parts of the world such as media, artworks, and scientific critiques been digitized and made accessible to AI? If not yet, a great challenge awaits: re-digitizing historical archives, which could even change the way we understand human history. In composing a news frame, AI organizes information based on digital data that is already available on the internet. In this process, journalists no longer fully control the news agenda. The identity of the party determining the direction of content in the context of AIGC (Artificial Intelligence-Generated Content) is also unclear. Thus, there is a shift in roles: the decision on what issues are worth reporting, even in the internet era, AI programmers are individuals who have their own biases. All AI applications have been programmed to identify available information regarding current issues or other issues and topics that have been marked with certain words or terms (Pleios & Tastsoglou, 2025).

The presence of AI in journalistic practices raises fundamental questions regarding the accuracy and neutrality of information. The imbalance in the digitalization of global cultural heritage causes the representation of data available on the internet to tend toward a Western perspective. This creates a risk of systemic bias in AI-based news production, where non-Western narratives become marginalized or even absent. Furthermore, AI plays a role in determining the agenda and framing of news based on digital data patterns, rather than human editorial judgment, causing journalists to lose autonomy in shaping public discourse. The ambiguity of the actors behind the logic of AI systems complicates source identification, as each programmer brings certain ideological values. Therefore, the use of AI in journalism must be critically examined, not only from a technological

perspective but also from the aspects of ethics, cultural representation, and the politics of knowledge.

In another article, it is mentioned that another issue faced is the authenticity of information.

In this case, the news generated by AI is, first of all, not original news. It is news that has been copied from different sources from the same media company or other media companies. The issue of authorship (who is responsible for the content of the article and holds the copyright) and related ethical issues, as well as institutional and legal implications, are highly relevant in this context (Ballardini et al., 2019; Lambrou, 2024; Lund & Naheem, 2024; Samuelson, 2020).

In practice, this creates a situation where news is produced automatically without a directly responsible moral subject. When errors or information deviations occur, the question of who should be held responsible becomes blurred and unclear. Is it the journalist, the programmer, the technology company, or the system itself? Such an ethical void indicates that AI cannot stand alone in the practice of journalism without the presence of human oversight and accountability.

The next issue is addressed in another study, which is the ambiguity of information sources or what can be called information bias. The negative impact of artificial intelligence is information bias (Faisyal & Haris, 2024)

The main function of journalism is to obtain information from credible sources. Most journalistic work is focused on searching for and verifying sources, which forms the basis of news reliability and accuracy. Journalists play a crucial role in uncovering and addressing issues, while also emphasizing the importance of

protecting information sources to maintain news integrity. However, the use of algorithmic information from anonymous sources on the internet risks diminishing journalistic credibility. The ambiguity of the source can raise doubts about its accuracy and objectivity, especially in situations of crisis and polarization. Until now, it is still unclear whether the presence of artificial intelligence marks the end of the post-truth era or is actually part of the new condition post-2016. Moreover, the ambiguity of sources can blur the distinction between hard news and soft news, factual content and fiction, trustworthy and untrustworthy information, as well as fake news and real news. Journalists state that AI collects data from various sources but cannot assess the relative significance of each source (Lambrou, 2024).

In technical issues related to the news production process, for example, the a significant risk of violating journalistic principles. Some of the research findings mentioned that there are still many things that need to be considered when using AI as an assistant for journalists, especially regarding the ethics it raises. Some of the specific concerns mentioned in the research are as follows.

The ethical dilemma posed by plagiarism which has the potential to significantly damage the integrity of the profession (Aleessawi & Alzubi, 2024; Hunney, Jyoti & Akash, 2023). The same group of issues includes the commodification of user data (Dunnell et al., 2024; Terzis, 2024) and the reinforcement of bias (Vyas, 2022), among others. Regarding the spread of AI in news production, several issues have been identified for discussion, including information (data) included in AI-

generated content (AIGC), fairness and bias (Lee, 2024), authorship, personal data and privacy issues (Wang, 2023), the trustworthiness of AIGC (Labajová, 2023), and others (Pleios & Tastsoglou, 2025).

Regarding media ethics, unclear sources and news fabrication are significant violations of professional journalism standards. Zagorulko (2023) adds that the use of AI tools in news production demands verification and correction by humans (Zagorulko, 2023). According to Kolo, Mütterlein, and Schmid (2022), their research found that AIGC consumers consider AI-based text as true journalistic content in terms of credibility, but as fake news in terms of readability (Pleios & Tastsoglou, 2025).

AI often takes data from anonymous or unverified sources, thereby increasing the likelihood of misinformation or factual discrepancies. Moreover, algorithmic bias, which is often influenced by majority data, especially from Western contexts, creates imbalanced representation issues for non-dominant cultures and perspectives. In the context of a post-truth world, where the line between fact and opinion is increasingly blurred, the use of AI can actually exacerbate information confusion if not accompanied by critical human editorial control. Most AI outputs are the result of merging and paraphrasing existing information, which ethically and legally has the potential to cause copyright violations or breaches of originality. In professional journalistic practice, plagiarism is a serious violation that can damage the credibility of the media. Another study mentions that the lack of a critical approach is one of the issues that deserves attention..

The lack of a critical approach in news production leads to at least three

negative outcomes in professional journalism. First is the difficulty or lack of presenting balanced opinions, which is very important during a crisis period when unbiased information for the public has a significant impact on decision-making. Second refers to AI's inability to distinguish between facts and opinions so far. The third relates to its weakness in drawing conclusions from contradictory data. Furthermore, AI is also unable to distinguish between facts and opinions (Zagorulko, 2023).

The lack of a critical approach in the use of artificial intelligence (AI) for news production poses serious challenges to the integrity and quality of professional journalism. When AI is used without critical human editorial control, at least three main issues arise: the loss of opinion balance, the inability to distinguish fact from opinion, and the difficulty in reconciling contradictory data. These three aspects become increasingly crucial in writing hard news, which should be fact-based, quick, and objective, because inaccurate information can mislead the public, especially in a crisis context. Meanwhile, in the writing of soft news that emphasizes narrative and interpretation, the absence of the journalist's role as an interpreter, filter, and presenter of context causes the content to become flat, lacking empathy, and losing its human dimension. Journalism is not just the delivery of data, but also a social and ethical practice that reflects the values, perspectives, and critical considerations of the news creators. When AI replaces most of these processes, news becomes the result of flat algorithmic logic, devoid of intuition, sensitivity, and moral responsibility. Therefore, AI should be positioned as an auxiliary tool, not as a replacement for the role of journalists, especially in maintaining the quality of narratives, cultural context, and ethical bias

that are the main foundations of responsible journalistic practice.

This has also been conveyed in several studies that request media or journalists to continue overseeing the AI journalism system. For example, in the editing process or the evaluation process. Where the performance of journalists is relied upon more at that time. For example, in the perspective-taking of news writing (framing analysis). This is useful when providing critical perspectives on news that is political in nature or related to government policies. News related to social issues that involve violence against minorities. Such as the disabled, the homeless (poor), violence against women and children, and so on. These news articles demand that a journalist adopt a humanistic approach. Each news story demands journalists to provide their critical perspective. This is very interesting when reading the same news but from different news media because each journalist certainly has a different perspective on an issue that becomes news while still upholding the principle of balance.

As news readers, differing perspectives in reporting an issue become interesting to observe and serve as material for joint discussion. This will foster learning and critical thinking in society, especially among the youth. According to Renkema, perspective is related to the values of belief, knowledge, and the author's viewpoint in observing, processing, creating, and reporting an event in social interaction. This is inseparable from the essence of journalism, like a philosophy that begins with discovering the truth (Ioscote et al., 2024).

For that reason, it seems appropriate for researchers to suggest that the use of AI in the world of journalism should always be monitored. Because currently, usage without supervision will be risky. But we also cannot avoid the technological advancements that exist today. Because if

journalists work without the help of AI, it would be like going back to decades ago, which is burdensome and time-consuming. Journalists should also be equipped with the ability to operate technology as part of their job. This should also be introduced in college as a foundational course in journalism-related majors. So that journalism graduates are not overwhelmed by technology.

As stated by Pinto (2023), who emphasizes the need for journalism programs to include AI-related courses, to ensure that their graduates master AI applications such as data analysis, automated reporting, and audience engagement. Moreover, the role of AI in journalism education goes beyond mere technical skills. According to Matthews (2023), AI tools can also be used to enhance critical thinking and ethical decision-making among journalism students. Journalism schools are beginning to incorporate AI and data science into their curricula, preparing students to face the ever-evolving landscape of news production (Graves & Anderson, 2020). Singh and Roy (2024) also demonstrate that AI can support investigative journalism projects, allowing students to explore new methods in storytelling and data visualization (Rahman, 2024).

In the end, AI journalism that verifies facts by combining automated methods and human intervention becomes very important to minimize the spread of misinformation, considering that AI is not yet capable of fully guaranteeing the truth of information without human oversight (Graves, 2018). Furthermore, AI has the potential to inherit biases from its training data, so ethical guidelines must regulate the identification and management of these biases transparently to maintain balanced

reporting (Noble, 2018). Although AI can accelerate the news production process, the role of journalists as critical and ethical final decision-makers must be emphasized to maintain journalistic integrity (Posetti & Bontcheva, 2020). In addition, the protection of privacy rights and compliance with data regulations are important aspects in the use of AI that processes public data or information sources (Napoli, 2019). Finally, the new guidelines should encourage the enhancement of digital literacy and artificial intelligence among journalists so that they can deeply understand the technology and use AI with full awareness of its risks and responsibilities (Carlson & Lewis, 2020).

CONCLUSION

AI provides many opportunities in news production by delivering speed and completeness of information, but it still requires human oversight and strict ethical principles. Collaboration between

technology and ethics is crucial to maintaining the quality and public trust in the media, because AI is not a replacement for journalists, but rather a tool that must be used responsibly.

The use of AI in journalism raises ethical challenges, such as algorithmic bias, lack of transparency, misinformation risks, and potential plagiarism that can damage media credibility and the integrity of the journalism profession. Therefore, human oversight remains crucial to ensure that the editorial process aligns with responsible journalistic principles and to prevent the negative impacts of this automated technology. For that reason, an adaptive ethical framework is needed, including transparency in the use of algorithms and the protection of information sources, so that

AI journalism does not lose its critical dimension as a social institution. Another question that arises is, if the use of AI in journalism has become so massive, can journalists still be considered watchdogs and the fourth pillar of the state? This debate needs to be examined in depth because the existence of journalists as watchdogs of power and protectors of public rights remains an important aspect of democracy. Therefore, the sustainability of journalists' roles in the digital era and technological automation demands adjustments and new innovations to ensure their primary functions remain intact even as technology advances and dominates journalistic practices.

REFERENCES

- Ahlatçı, M. (2023, April 12). *AI-developed 'virtual News Anchor' Ready For Duty*. Expatguideturkey.Com.
- Apriliyanti, Rizki. , Sari, A. N. Atika. , & Noor, R. A. (2024). Kajian Literatur: Adopsi Artificial Intelligence (AI) dalam Bidang Jurnalistik. *Jurnal Ideas Publishing*, 1(10).
- Ballardini, R. M. , He, Kan., & Roos, Teemu. (2019). AI-Generated Content: Authorship and Inventorship in the Age of Artificial Intelligence. In Taina. Pihlajarinne, Juha. Vesala, & Olli. Honkkila (Eds.), *Online Distribution of Content in the EU* (pp. 117–135). Edward Elgar Publishing.
- Bergundy, R. (2020, May 28). *China Unveils The World's First 3D AI Anchor to Cover "Two Sessions."* Wwww.Thatsmags.Com.
- Carlson, M. , & Lewis, S. C. (2020). *Boundaries of Journalism: Professionalism, Practices and Participation*. (pertama). Routledge.
- de-Lima-Santos, M. F., & Ceron, W. (2022). Artificial intelligence in news media: current perceptions and future outlook. *Journalism and Media*, 3(1), 13–26.
- Diakopoulos, Nicholas. (2019). *Automating The News: How Algorithms Are Rewriting The Media* (pertama). Harvard University Press.
- Faisyal, & Haris, A. (2024). Pendampingan Penggunaan AI dalam Jurnalistik, Melalui Pendekatan Jurnalistik Verifikasi. *JURNAL ORATIO DIRECTA*, 6(2), 1204–1214.
- Garcia, M., & Lee, S. (2023). Enhancing User Engagement through AI-Based Personalization in News Media. *Jurnal Komunikasi Internasional*, 17(1), 87–103.
- Graves, Lucas. (2018). *Deciding What's True: The Rise of Political Fact-Checking in American Journalism*. (pertama). Columbia University Press.
- IANS. (2019, March 4). China's Xinhua puts world's first female AI news presenter on the job. *Business Standard*.
- Ioscote, Fabia., Gonçalves, Adriana., & Quadros, Claudia. (2024). Artificial Intelligence in Journalism: A Ten-Year Retrospective of Scientific Articles (2014–2023). *Journalism and Media*, 5, 873–891.

- Jones, M., & Brown, L. (2023). Enhancing Investigative Journalism with AI. *Investigative Reporting Quarterly*, 38(1), 56–75.
- Kertysova, L. (2018). Artificial Intelligence and disinformation: How AI changes The Way Disinformation is Produced, Disseminated, And Can Be Countered. *Security & Human Rights*, 29(1–4), 55–81.
- Kovach, B. , & Rosenstiel, T. (2007). *The elements of journalism: What newspeople should know and the public should expect* ((Rev. ed.)). Three Rivers Press.
- Kristanto, A. (2004). *Analisa Sistem Informasi*. Graha Ilmu.
- Lambrou, I. (2024). *AI and Challenges to Journalism*.
- Liu, X., Nourbakhsh, A., Li, Q., Shah, S., Martin, R., & Duprey, J. (2017). *Reuters Tracer: Toward Automated News Production Using Large Scale Social Media Data*.
- Lund, B. D. , & Naheem, K. T. (2024). Can ChatGPT Be An Author? A Study of Artificial Intelligence Authorship Policies In Top Academic Journals. *Learned Publishing*, 37(1), 13–21.
- McCarthy, J., Minsky, M., Rochester, N., & Shannon, C. (1955). *A proposal for the Dartmouth summer research project on artificial intelligence*.
- Napoli, P. M. (2019). *Social Media and the Public Interest: Media Regulation in the Disinformation Age*. Columbia University Press.
- Newman, N. , Fletcher, R. , Eddy, K. , Robertson, C. T. , & Kleis Nielsen, R. (2023). *Digital News Report* .
- Noble, S. U. (2018). *Algorithms of Oppression: How Search Engines Reinforce Racism*. NYU Press.
- Panuju, R. (2012). *Jurnalistik Televisi: Panduan Praktis Produksi Berita TV*. Prenadamedia Group.
- Patil, M. N., Angadi S., & Kumar, T. (2024). Coverage of Artificial Intelligence in Media. *International Journal For Multidisciplinary Research*, 6(1), 1–7.
- Pleios, G., & Tastsoglou, M. (2025). AI and the News: Challenges Arisen From the Adoption of AI in News Production. *Postmodernism Problems*, 15(1), 3–24.
- Posetti, J. , & Bontcheva, K. (2020). *Journalism, 'fake news' & disinformation: Handbook for Journalism Education and Training*. UNESCO Publishing.
- Rahman, M. Anisur. (2024). Kecerdasan Buatan dalam Jurnalisme: Sebuah Tinjauan Komprehensif. *Jurnal Laporan Ilmiah*, 6(1), 56–65.
- Samuelson, P. (2020). AI Authorship? *Communications of the ACM*, 63(7), 20–22.
- Shrivastava, Anurag., K. Murali Krishna., Rinawa, M. Lal., Soni, Mukesh., Ramkumar, Gowtham., & Jaiswal, Sushma. (2023). Inclusion of IoT, ML, and Blockchain Technologies in Next Generation Industry 4.0 Environment. *Materials Today: Proceedings* 80, 3471–3475.

- Smith, J., Johnson, R., & Lee, K. (2023). Artificial Intelligence in Journalism: A Comprehensive Review. *Jurnal Inovasi Media*, 45(2), 123–140.
- Tamara, M. (2023, May 2). *TVOne Perkenalkan Presenter AI Pertama di Indonesia*. DKID Media.
- Thurman, N., Lewis, Seth. C., & Kunert, J. (2019). Algorithms, Automation, and News. *Digital Journalism*, 7(8), 980–992.
- Van Dalen, A. (2012). The Algorithms Behind the Headlines. *Journalism Practice*, 6(5–6), 648–658.
- Zagorulko, D. I. (2023). CHATGPT in newsrooms: adherence of AI-generated content to journalism standards and prospects for its implementation in digital media. *Соціальна Інформатика (Social Informatics)*, 34(73), 319–325