



Robot Journalism in the Age of Artificial Intelligence: The Future of the Media Profession between Innovation and Employment Opportunities

Assia Boutahra^{1*}

¹ University of skikda, a.boutahra@univ-skikda.dz

<https://orcid.org/0009-0002-7322-5094>

Received: 06/07/2026

Accepted: 30/09/2026

Published: 30/09/2026

Doi: 10.53284/2120-013-003-009

Abstract:

This study discusses the role of artificial intelligence in robot journalism within modern media functions and examines whether this technology can replace journalists and manage and renew the major media organisations' activities, such as news production and broadcasting, especially with the rapid development of artificial intelligence and its numerous applications. Using an analytical approach, presenting the theoretical framework and key concepts of the topic, and a forward-looking discussion of the future of media performance and the employment prospects of journalists, the study concluded that despite the effectiveness of intelligent applications in media, it is difficult to assert that they can completely replace journalists in all activities, particularly those that require responsibility and human sensitivity. Therefore, it recommended that researchers invest in these applications without relying on them entirely.

Keywords: Artificial Intelligence; Robot Journalism; Media Profession; Innovation; Employment Opportunities.

* Corresponding author



1. INTRODUCTION

Technological development in communication has brought a revolution through the Internet, satellites, digital technology, computers, and all innovations of artificial intelligence. These developments have created a new reality and shaped modern media concepts and mechanisms, leading to a different communication landscape. The latter combines visual, audio, and printed media, rapidly delivers content to groups and individuals, and creates mutual interaction. In some cases, these technologies may perform important roles instead of humans.

Evidently, artificial intelligence technologies have introduced an advanced concept to media known as robot journalism, which may lead to significant transformations to the structure and operation of media institutions. Robot journalism may represent a unique approach to newsgathering and writing using artificial intelligence technologies, with minimal reliance on human effort. This may lead to radical changes in the concept of journalism, its characteristics, mechanisms, and social impacts. Moreover, artificial intelligence simulates human behaviour by transforming it into computer programs that can make decisions and find solutions to potential problems based on the information provided by the computer.

Recent reports indicate that artificial intelligence threatens nearly 300 human professions, including management, law, marketing, and content creation. In other words, AI applications such as robots may replace individuals in these jobs. This means that these technologies are increasingly competing with journalists, news presenters, and correspondents in performing media-related tasks. For example, ChatGPT can provide information on a given topic, and virtual journalists can deliver news from home using augmented reality technology, creating the impression that they are reporting directly from the scene through their mobile phones. AI technologies can also be used to explain the developments of a war through 3D images and visualisations. These innovations have become the focus of media institutions because they reduce effort and save time, raising questions about the future of journalists within their media organisations.

This analytical study raises a number of questions about the journalism profession under the development of robot journalism and artificial intelligence tools:

- What is robot journalism as an advanced technological field of media? What are the characteristics that have led to its widespread use in press and media organisations?
- What are the media-related implications of robot journalism for the credibility of news and the dissemination of its content?
- What is the impact of digital journalism on media institutions in the future and on employment opportunities for journalists? Is it an opportunity for innovation or a threat to journalists' jobs in the age of artificial intelligence?

The current study seeks to achieve the following objectives:



- To develop a theoretical framework for robot journalism based on scientific studies that can explain the challenges and impacts of artificial intelligence on both the media and communication.
- To identify the new artificial intelligence practices in journalism and analyse the nature of the media activities that AI systems can perform.
- To discuss the impact of robot journalism and artificial intelligence on media institutions, considering both the prospects for technological advancement and the future of human involvement, particularly the employment of journalists within these organisations.

To answer the research questions and achieve the study objectives, a descriptive-analytical method was employed, including a review of previous studies and a critical theoretical analysis of the rapid developments in this field. This analysis takes into account the changing economic foundations of media institutions and seeks to explain the relationship between artificial intelligence and human capabilities by the new opportunities AI technologies provide for the creation of journalistic content and their suitability to audience preferences. Furthermore, the study examines the effects of artificial intelligence software on journalism and newsroom operations, as well as how these technologies can be effectively integrated into journalistic practice.

2. Definition and Origins of Robot Journalism

2.1. Definition of Robot Journalism

The literature indicates that the past two decades have witnessed a huge increase in automation activities and the use of “robots,” whether in scientific research or in attracting public attention to a versatile and limitless field. This period has been accompanied by remarkable developments in robotics technology, ranging from simple to more sophisticated systems, including robots used to insert integrated circuit slides onto printed circuit boards.

The word “robot” dates back to 1921, when it appeared in the satirical play of the Czech writer Karel Čapek. In his play, robots were portrayed as human-like machines that work tirelessly and eventually turn against creativity, seeking to destroy the human race. Isaac Asimov, a science fiction writer and chemistry professor at Boston University, was the first to use the term “robotics” in his short story entitled *Liar!* in 1942. He formulated the Three Laws of Robotics that govern the design and operation of robots (Murray, 1994, p. 39):

- A robot must not injure a human being.
- A robot must obey the humans’ orders, except when they conflict with the law.
- A robot must protect itself as long as such protection does not conflict with what was already mentioned.

2.2. The Origins of Robot Journalism

Modern robots have evolved through their sensory responses. In 1962, Heinrich Ernst developed a robot with sensing capabilities that enabled it to stack blocks. This system was the



first that could interact with an unstructured environment (human and computer). The project was carried out at the Massachusetts Institute of Technology (MIT) in the United States.

Robot journalism, which is created by computer software, is associated with the automation of news production in media organisations. This development has raised significant concerns, including the possibility of replacing journalists with artificial intelligence technologies. Although automated journalism technology is still in its early stages, the literature indicates that the first news story generated with the assistance of algorithms was written more than forty years ago at Bell University in the United States. During the last decade, algorithms have been used to produce news from structured data without human intervention.

Algorithms have influenced journalism because they can generate thousands of news stories on a topic while committing fewer errors than human journalists. This development has raised questions about whether algorithms will gradually eliminate the role of journalists. Recently, interest in the use of algorithms in journalism and media has grown considerably. With advances in this field and the availability of big data, the methods used to search for, analyse, and distribute journalistic information have changed significantly. It is evident that algorithms will transform the processes of information gathering, analysis, distribution, and writing, from traditional practices to new forms. Consequently, important questions have emerged about the technical, cultural, economic, and ethical dimensions of journalism and media work in light of ongoing technological transformations (Neil, Konstantin, 2017, p. 1).

Robot journalism can be viewed as a process that combines algorithms, data, and knowledge from the social sciences to fulfil the journalism accountability function. Some studies suggest that robot journalism is primarily based on two familiar approaches in journalistic practice: the first is computer-assisted reporting, while the second involves social science tools to enhance journalism accuracy.

Robot journalism can be defined as the automated collection, classification, and writing of information in the form of news and reports, with no human intervention during the processes of news gathering and editing. Over the past decade, several companies, including Arria, Applied Semantics, Automated Insights, and Narrative Science, have been developing Natural Language Generation (NLG) technology. This technology refers to the automatic creation of texts in digital environments using computer software. NLG first appeared in the 1950s as part of efforts in machine translation and later expanded to include other applications, such as the automation of routine tasks within media organisations (Caswell, Dörr, 2017, p. 2).

2.3. The Development of Robot Journalism

The early applications of Natural Language Generation (NLG) technology in automated journalism were limited to relatively short texts and specific domains. Nevertheless, they were remarkable in quantity and quality, demonstrating that automatically generated texts could hardly be distinguished from those written by journalists. Furthermore, the number of documents produced was far greater than what could be achieved through manual editing. As a result,



automated news writing expanded and integrated into the publishing processes of several news organisations, including the Associated Press and the Los Angeles Times. Despite this success, there is broad agreement that NLG technology for automating journalistic writing remains confined to simple descriptions based on structured data. The most notable examples are routine sports and financial news reports (Caswell, Dörr, 2017, p. 3).

In 2015, robot journalism expanded further when a Swedish multimedia company that owned 19 newspapers launched the first journalistic robot. Its primary task was to generate weather reports automatically. This initiative sparked debate among Swedish journalists, which centred on whether this technological development threatens human journalists, whether robot journalists would replace human reporters, the consequences of robotic journalists, the quality of the news reports they produce, whether automated journalism would assist journalists or render them obsolete, and why technological advancement might harm journalists through job displacement (Aljazairi, 2016, p. 35).

In 2016, The Washington Post began experimenting with algorithmic journalism during the United States presidential primary elections. Initially, the project was an internal effort aimed at automatically generating news through a continuous stream of information. A journalistic robot was employed to achieve three objectives: responding to triggers based on time and data changes, producing various types of news, and generating outputs distributed across multiple channels. Accordingly, the robot updated information, announced election race outcomes, reported poll closures in specific states, and generated updates whenever a designated period passed without significant changes. It also automatically published continuous one-way updates on Twitter (Severin, 2000, p. 63).

After its experimental phase, The Washington Post further developed algorithms for internal use in journalism. The robot generated short, multi-sentence updates that appeared automatically on Twitter feeds. The newspaper employed this technology during the 2016 Rio de Janeiro Olympic Games, providing real-time reports on competition results. During its initial deployment, the newspaper produced approximately 850 news stories using the robot, including 500 election-related reports that received around 500,000 views on Twitter. Journalistic sources indicate that during the 2012 U.S. presidential election, the newspaper published only 15% of the content volume that it later generated through robotic journalism in 2016.

The most notable example of algorithmic journalism in the Arab world is the Egyptian website Sarmady, an entertainment and arts portal that answers audience inquiries. It relied on a robot that enabled users to access broadcasting schedules for more than 100 television programs across approximately 30 Arab television channels, thereby facilitating television viewing. The group also launched an intelligent application featuring automatic responses that provided schedules for more than 60 television series and 100 programs broadcast on 30 channels during Ramadan, ensuring that viewers would not miss their preferred content. However, no attempts to



implement robot journalism in news production were identified, nor were Arab experiences in this field observed. This situation highlights the need for Arab media organisations to take initiatives and enter this field with clear objectives and strategies.

Automation has firmly established itself in many international news organisations and some national media institutions. Algorithms can produce thousands of news stories without human intervention. They perform a variety of journalistic functions, including information gathering, classification, editing, and publication. Their applications have extended to sports and financial news coverage.

In this field, competition among international news agencies has become evident. Reuters, the Associated Press, and Agence France-Presse (AFP) have all adopted algorithms to produce thousands of news stories annually through robotic journalism technologies. Interest in robot journalism has also spread to smaller organisations. For example, the Norwegian News Agency (NTB) began generating reports on football matches across the Norwegian league system, covering 20,000 matches annually using data supplied by the Norwegian Football Federation.

Despite the ambiguity of robot journalism, the role of algorithms has become visible. Specific forms of news production have been divided into components that can be automated. The rapid development and evident investment in algorithmic journalism are identified. For instance, Narrative Science and Automated Insights produce millions of news stories based on structured data from financial markets and sports news coverage. Their clients include the ten largest television networks in the United States, Forbes magazine, and the Associated Press.

Moreover, programming computers to generate news stories has become feasible in specific domains. These stories are virtually indistinguishable from those written by human journalists. Efforts continue to develop more intelligent algorithms capable of performing additional journalistic tasks. Studies indicate that Facebook employed journalists to train its algorithms in selecting news stories likely to attract public interest. Furthermore, journalistic reports suggest that China has developed a robot capable not only of producing news reports but also of writing articles and analytical pieces in different fields.

3. Robot Journalism and Media Performance

3.1. Robot Journalism and the Future of Journalists

Although the fundamental principles established by Isaac Asimov emphasised that the development of robots should not cause harm to human beings, transformations in this field threaten the future of journalists, as media institutions may replace them with robotic systems.

Bernard Marr argues that robots and big data constitute a powerful combination that may challenge many professions, including journalism and media. Structured and unstructured big data, as well as rapidly generated data such as conversations, emails, social media, videos, photographs, and the information stored on mobile phones, threaten not only less-skilled tasks in journalistic and media production but also the work of journalists and media specialists. He also emphasises that the present technological revolution will affect our lives. He compares the current



period to the Industrial Revolution, when machines generated enormous gains in productivity. However, the difference between the two eras is that workers displaced from agriculture during the Industrial Revolution were offered opportunities in factories. In contrast, today's robots may take over jobs without providing a comparable level of new employment opportunities (Boukhenfer, Boulgroun, 2023, p. 56) Bas du formulaire

Technical devices and software have always been fundamental factors driving the development of communication, including journalism and media. Technological transformations have compelled journalists to develop their skills to adapt to the new environment. For example, photocopiers, telephones, scanners, the Internet, mobile phones, e-mail, and digital devices (cameras and audio recorders) have facilitated journalistic and media work and enhanced content production, leading audiences to expect higher quality media outputs in both form and content.

Technology affects the entire media process. Although some journalists may lose their jobs, opportunities for adaptation to the new environment remain available. The Washington Post indicates that automation and robot journalism do not imply abandoning journalists; rather, it aims to assist them in producing higher-quality journalism. Experts show that robots have enabled journalists to cover events effectively by saving time in corporate earnings reports, financial news, and sports coverage. According to journalistic sources, the goal is to free journalists from routine tasks, allowing them to focus on other responsibilities that may require greater attention. Likewise, Francisco Marconi, Strategic Manager at the Associated Press, noted that errors in automated financial news coverage declined significantly, while the volume of coverage increased tenfold after the agency adopted robot journalism. This development provides journalists with more time to focus on tasks that robots may not be able to perform (Amrou Mohamed, 2020, p. 87).

Carl-Gustav Linden, in his study "Algorithms in Journalism and the Future of News Work," argues that algorithms help in certain areas that represent relatively simple models of news production. However, complex forms of journalism are difficult to automate due to the high degree of uncertainty in existing rules in algorithms. Moreover, data constitutes the foundation of robot journalism. News algorithms cannot function without structured data and processes for selecting, evaluating, standardising, and organising such data. Ultimately, these processes depend on decisions made by journalists.

As technology advances and generates significant transformations, relationships among academic disciplines also change. In the age of interdisciplinarity, no field of knowledge can remain isolated from others. Consequently, journalism and media education institutions are required to develop academic programs that integrate technology into both theoretical and practical ways to prepare media professionals capable of combining technology with different branches of journalism and communication. Experiences that have integrated computing capabilities, programming skills, and human creativity have produced remarkable journalistic



achievements, including the publication of the WikiLeaks documents, the Iraq War Logs, and the Panama Papers.

Some scholars argue that algorithms present data and ideas for discussion. Therefore, they should be viewed as complementary tools rather than substitutes for journalists. These tools mainly perform data searches based on audience interests. Although computational or algorithmic journalism suggests that machines perform journalistic tasks independently, such work is the result of collaboration between computer scientists and journalists. In the future, new tools will be developed to help journalists discover new stories.

Other studies suggest that algorithms will encourage journalists to think about their human capabilities, such as emotional and social intelligence, curiosity, originality, humility, empathy, and the ability to become better listeners, collaborators, and lifelong learners. According to this perspective, journalists often define their profession by the tasks they perform rather than through the skills and knowledge required to accomplish those tasks.

Kim Daewon and Kim Seongcheol confirm that journalists can be divided into three categories based on their attitudes toward robot journalism (Badawi, 2021, p. 36).

The first category believes that robots will not replace journalists because they have critical limitations regarding journalistic roles. They will never be capable of understanding subtle nuances or reading between the lines, both of which are essential in identifying the elements of news stories. Furthermore, robots cannot take responsibility for the content they produce because it requires ethical autonomy, which robots do not possess. Consequently, robots will remain confined to limited tasks, such as providing factual information and gathering data from specific databases. In short, this category is not concerned about their situation due to robot journalism; rather, they fear that journalism itself may be harmed by errors generated by robots that are incapable of performing the full journalistic functions.

The second category takes a hostile stance toward robot journalism. Its members resist its implementation and regard it as a competitor. They reject robot journalism as it may damage the quality of journalism. This group is sceptical of claims that robot journalism will enable journalists to produce more analytical stories. According to its supporters, robot journalism will not provide media organisations with new resources. Consequently, they firmly oppose the introduction of robots into journalistic work.

The third category views robot journalism positively while acknowledging its limitations. Supporters of this perspective state that robot journalism contributes to more refined news stories and in-depth reporting, while giving journalists additional time to focus on important tasks that robots cannot perform. Nevertheless, some of them exhibit a degree of resistance due to concerns about the threat to journalists' positions in media institutions. Once convinced that such threats are nonexistent, they tend to become more accepting of the new technology.

Modern technology has introduced profound transformations in journalism since the emergence of the internet. In some cases, these changes have led to the disappearance of major



newspapers at both international and regional levels, because they failed to adapt to the new environment. As a result, many journalists lost their jobs. Today, journalists are required to align their knowledge and skills with new journalistic concepts and practices, including robot journalism, to remain relevant. Technology is developed to achieve specific objectives, making a return to the past neither realistic nor desirable. Given the vast opportunities technology provides to enhance journalistic performance, journalists must focus not on preserving the past but on preparing for the future. As technology continues to evolve and generate new transformations, adaptation and continuous learning will remain essential for professional survival and success.

3.2 Media Functions and Artificial Intelligence: Threat or Integration?

Creating a machine that operates similarly to the human brain, a form of intelligence capable of calculation, reasoning, and even artistic creation, dates back many decades. Nevertheless, recent years have witnessed unprecedented advances in artificial intelligence (AI), transforming what was impossible into a tangible reality. Today, algorithms can perform tasks that surpass human creativity. As a result, AI has become a source of concern for many leaders and professionals because it competes with humans in various occupations.

In the media sector, the creative revolution brought about by AI has generated both fascination and apprehension. It has raised questions about whether 56% of existing jobs could eventually be automated. The rapid global growth of robotics has demonstrated remarkable capacities for innovation and autonomous operation, reducing the need for human intervention in numerous tasks. In digital media, several functions can already be performed by AI-powered technologies. For example, AI news presenters have been introduced in some international and Arab media organisations. The graphic designer Abel Guzman stated: “I think I have only two choices: either I learn without interruption, or I will become obsolete and miss the train.” He emphasised that retraining is not always easy, especially in a sector characterised by rapid transformation and competition from younger generations (Hassan Imane, 2020, p. 242).

Fernando Broncano, Professor of Philosophy at the Carlos III University of Madrid, argues that photography, cinema, and printing have always been accompanied by fears that technology would replace journalists. He added that fearing machines and assuming that humans possess an essence entirely distinct from them is misguided. He contends that humans themselves are partly “machines,” shaped by their biological nature as well as by their technological environment and tools. In this view, life itself represents the greatest example of creativity.

From this perspective, traditional media, including journalism, must adapt to new technologies. Newsrooms in newspapers and television organisations require AI tools to improve performance and save effort on routine tasks. For instance, the Canadian Press has developed an AI-based system to accelerate translation, while the Agence France-Presse (AFP) has implemented systems to detect manipulated images. These examples illustrate how AI can complement rather than replace journalistic work.



Despite these benefits, concerns persist among media professionals that AI may eliminate certain jobs. Such concerns are legitimate, as some occupations are likely to be transformed or reduced through automation. However, the displacement of workers may not occur as dramatically as some pessimistic predictions suggest. Instead, they may be directed toward tasks where human abilities surpass AI. Regardless of technological advancements, humans remain central to the media industry, while intelligent systems function as supporting tools in the communication process.

Consequently, AI applications have reshaped media practices in digital environments. They have transformed both content production and storytelling methods to align with the characteristics of digital platforms. At the same time, they have altered how audiences interact with digital media content.

Experts predict that AI will enhance human effectiveness, although it may challenge human autonomy and capacities. While some believe that the increase use of AI will improve people's lives in the coming years, others express concerns about its potential risks, particularly after reports released by Open AI of ChatGPT, discussing the possibility that this model could control itself without human supervision, largely warned about its risks (Amine , 2018, p. 48).

Over the past two decades, AI has developed in many sectors, including digital media, to improve performance and accelerate and diversify content production. As the internet has evolved, three interconnected digital components have become fundamental to high-quality journalism in the twenty-first century: algorithms, artificial intelligence, and big data. These technologies create data-driven newsrooms capable of producing accurate, timely, and comprehensive coverage.

In the next decade, the use of intelligent technologies in journalism is expected to increase substantially. AI systems designed to interact intelligently with individuals and their environments will operate autonomously, performing tasks such as automated journalism, robotic reporting, and AI-assisted photography. These developments are viewed as a threat to journalism and digital media because automated writing and reporting systems may diminish the role of journalists, particularly within media organisations seeking to reduce operational costs.

Conversely, many researchers regard AI as offering opportunities for journalists and media leaders to reorganise their practices. By integrating these technologies into newsrooms, media organisations can achieve greater efficiency, improve productivity, and enhance the quality of journalistic outputs. Moreover, the use of big data analytics has transformed news reporting by enabling journalists to identify patterns, trends, and developments within broader social contexts. Algorithms and news tools can provide audiences with comprehensive interpretations of current events.

3.3 Robot Journalism: Professional and Ethical Dimensions

Technology has always been a fundamental factor influencing media and journalism throughout their historical evolution. Journalism, its modes of production and distribution, and the



transformations it has undergone have been significantly shaped by technological advancements in their various forms and across different periods. With the integration of algorithms into news production, distribution, and consumption, notable changes have emerged in the editorial structures of media organisations and in traditional journalistic routines.

Alongside technological and social developments, the values and responsibilities associated with journalism and journalists have changed accordingly. Advances in Natural Language Generation (NLG), a field in computational linguistics, have enabled the automatic production of several texts from digitally structured data. These transformations have generated professional and ethical challenges in data collection, the originality and objectivity of algorithms, transparency, methods of data use, potential misuse, and the values and logic embedded within programming codes. In addition, algorithmic accountability has become a major ethical concern, particularly in news reporting (Al-Dibsi , 2022, p. 63).

According to Dorr Konstantin and Katharina Hollnbuchner, the ethical dimension of robot journalism can be examined through ethical theories, including deontology, utilitarianism, and virtue ethics. Their analysis seeks to identify the transformations and potential challenges facing journalistic ethics in the era of algorithmic journalism. Their study revealed new ethical issues and shifts in responsibility for news production, affecting both journalistic practice and journalism research. These issues relate to objectivity, transparency, power relations, and both implicit and explicit values. The researchers confirm that the rise of algorithms capable of shaping social reality, the gradual delegation of moral agency to technological systems, the institutionalisation of algorithms, and the perception of robots as creative agents generate professional and ethical concerns in journalism. Their study defines these challenges within overlapping domains, including digital media ethics, cyber ethics, and journalism ethics (Robot Journalism: Professional and Ethical Challenges Facing the Journalism of the Future, October 2018, pp. 2-3).

The results of the study highlight a substantial transformation in responsibility for news production. With the emergence of robot journalism, the journalist is no longer the primary moral agent in the news production process. Instead, responsibility is shared among various actors, both journalistic and non-journalistic, including algorithms, data collectors, natural language generation systems, software developers, service providers, media organisations, and other stakeholders. Consequently, the journalist's role as an ethical agent has diminished relative to the growing influence of institutions and media systems. Moreover, as non-journalistic actors gain access to natural language generation technologies, they can reach audiences, creating additional ethical challenges. This development necessitates the formulation of ethical principles that can guide non-journalistic actors involved in content creation. Likewise, media organisations are required to develop and adopt ethical codes of conduct for algorithmic journalism.

Additional challenges arise from organisational hierarchies in media institutions. The role of editorial departments has been reduced due to the technical nature of algorithmic journalism and



the involvement of external service providers. Ethical concerns also emerge regarding biases in data collection and processing, raising legal and regulatory questions. Besides, the relationship between journalists and programmers during news production is an area for future research, as understanding this relationship contributes to the power structures governing algorithmic journalism. Although empirical studies indicate that audiences often struggle to distinguish between content produced by humans and that generated by machines, examining the audience's role within the ethical framework remains necessary. Nevertheless, audiences may not constitute the most appropriate level at which ethical responsibility can be assigned, given their limited ability to identify whether content has been produced by journalists or automated systems (Faical Kamel , 2021, p. 89).

Sina Al-Djazaeri claims that the fundamental idea behind robot journalism is to free journalists from routine tasks, such as generating corporate earnings reports. Journalists remain responsible for identifying and evaluating the sources from which automated systems collect data. This oversight is essential to prevent robots from incorporating irrelevant, inaccurate, or unreliable sources into the news production process.

Consequently, technological debates provide an important foundation for analysing the future challenges facing journalism research at the intersection of big data and media production. Examples include the transformation of journalistic roles before, during, and after content production, as well as the ethical and legal challenges associated with news creation. These challenges involve issues of accuracy, balance, fact-checking, source verification, and accountability. They also raise questions about the new intermediaries in journalism as dependence on data-driven technologies continues to expand.

Since news production remains a profit-oriented activity, publishers naturally seek to reduce operational costs while simultaneously delivering news services that satisfy audience demands. Several studies indicate that the market for algorithmic journalism is still relatively small. Nevertheless, technology providers continue to exert considerable pressure on traditional media organisations to integrate automated journalism into their institutional structures. From their perspective, natural language generation systems are less expensive than employing journalists. Thus, automated journalism can increase profitability while enabling the production of content in multiple languages, allowing media organisations to reach larger audiences.

4. CONCLUSION

Artificial Intelligence (AI) journalism represents a new media revolution that has introduced advanced technologies, impacting journalism and media. As media organisations accelerate their digitalisation and adopt AI technologies, software, and applications to improve media operations, their chances of remaining competitive in the landscape increase. Hence, the future of journalism is characterised by a collaborative relationship between journalists and intelligent machines, ensuring high-quality media content. AI systems cannot replace the human intelligence that



created and developed them; rather, they are designed to support human capabilities. However, AI applications have reshaped media practices in digital environments, introducing new features for content production, audience engagement, and innovation while simultaneously creating challenges for the future of journalism and media professions.

In light of these developments, media organisations must modernise their structures, working methods, and operational mechanisms to adapt to technological change, particularly the rapid advancement of AI. They should seek to exploit these technologies strategically to improve efficiency, productivity, and competitiveness. Furthermore, AI poses challenges to technical aspects of journalism, including graphic design, video editing, and the production of journalistic stories. Consequently, journalists must develop their skills and learn how to integrate AI tools into their professional practices. This highlights the importance of investing in training programs that equip journalists with the knowledge and competencies required to use AI effectively and responsibly. At the same time, there is a growing need to raise awareness of the influence of algorithms on daily life, as increasing reliance on algorithmic systems may gradually reduce individuals' independent thinking and decision-making capacities.

Journalists must also remain vigilant regarding the ability of AI systems to generate misleading information and synthetic images. While AI can be utilised as a valuable tool for fact-checking, its outputs should always be subject to human oversight and professional scrutiny. Although many news organisations have begun integrating AI into newsroom operations, the technology is still evolving and continues to learn from the data on which it is trained. Since the effectiveness and reliability of AI systems depend on the quality of the data used to develop them, media institutions must ensure that appropriate training models and ethical standards are established. Ultimately, media organisations should embrace technological innovation while simultaneously educating journalists about both the possibilities and limitations of AI, recognising that artificial intelligence remains a product of human intelligence and should serve as a tool that supports, rather than replaces, human judgment and creativity.

5. Bibliography List :

1. Books:

- Al-Dibsi , A. (2022). Digital Media and the Challenges of Artificial Intelligence. Amman: Dar Al-Massira for Publication and Distribution.
- Aljazairi, S. (2016). Robot journalism threat or an opportunity. Aljazeera centre for studies. Qatar.
- Caswell, Dörr, D. (2017). Automated journalism 2.0. Zurich Open Repository and Archive.
- Faical Kamel , N.-D. (2021). The Reality of Artificial Intelligence in Media Production. In Studies on Artificial Intelligence and Digital Humanities. Dar Qadi for Publication and Distribution.



-
- Murray, R. (1994). Mathematical Introduction to Robotic Manipulation. USA. University of California.
 - Neil, Konstantin, T. (2017). When reporters get hands-on with robot-writing professionals consider Automated journalism capabilities and consequences. Digital Journalism.
 - Severin , W. (2000). Communication Theories, Origins Methods, and Uses in the Mass Media (Vol. 5th). edAddison Wesley Longman. New York.

2. Journal article:

- Hassan Imane, M. (2020). Employing Artificial Intelligence in Media Work. Journal of Media Studies.
- Amine , O. (2018). Journalism Welcomes the Robot and Dispenses with Humans. Al-Diplomacy Journal.
- Amrou Mohamed, M. (2020). Employing Artificial Intelligence Applications in Media Content Production and Their Relationship to Its Credibility among the Egyptian Public. Journal of Media Research.
- Badawi , J. (2021). Mechanisms for the Application and Production of Robot Journalism in Egypt in Light of the Use of Artificial Intelligence Tools: A Case Study of the Cairo News Website. Egyptian Journal of Media Research.
- Boukhenfer, Boulgroun , S. (2023). Artificial Intelligence and Robot Journalism: The Human–Machine Duality. A Critical Review of New Practices in Digital Media(2).
- Robot Journalism: Professional and Ethical Challenges Facing the Journalism of the Future. (October 2018).