Research Journal in Advanced Humanities

RJAH

https://doi.org/10.58256/15nsvr60

Open Access

Check for updates

RESEARCH ARTICLE **Section:** *Culture, Media & Film*

Artificial intelligence and media fact-checking in Jordan: Digital practices, challenges, and information credibility

Salam Hajjeh[1], Yousef Abuabdoun[2], Sultan Mousa Fahad Alanazi[3], Barakat Alzyoud[1], Renad Issa[1] & Belal Khasawneh[4]

[1]Digital Media Department (Electronic), Faculty of Arts and Humanities, Applied Science Private University, Jordan

[2]Jordan News Agency (Petra)

[3]Taibah University, Al-Madinah Al-Munawwarah, Saudi Arabia

[4]Digital Media Department, Liwa University, Abu Dhabi, United Arab Emirates

*Correspondence: S_hajjeh@asu.edu.jo

ABSTRACT

The study aimed to explore the use of artificial intelligence tools in verifying published information by fact-checking media observatories and visual media in Jordan (current situation and challenges). The research adopted a descriptive-analytical approach and was conducted on a purposive sample of 150 journalists and specialists in Jordanian media institutions, including those working in visual media, social media platforms, and blogs. The study utilized a questionnaire as the primary data collection tool, and its validity and reliability were verified. The results showed that image and video analysis tools were the most commonly used (35%), followed by natural language processing tools (25%). Social media platforms emerged as the most relied-upon source for verification (40%). The main challenges identified were the lack of technical infrastructure (35%) and insufficient trained competencies (30%). The most common verification methods included comparing images with reliable data (30%). Based on the findings, the study recommended enhancing technical infrastructure, providing comprehensive training programs for journalists, supporting scientific research to develop artificial intelligence algorithms compatible with the Arabic language, enacting legislation to ensure ethical use of artificial intelligence, and promoting international cooperation to improve local skills.

KEYWORDS: Artificial intelligence tools, fact-checking media observatories, visual media, challenges.

Research Journal in Advanced Humanities

Volume 7, Issue 4, 2026

ISSN: 2708-5945 (Print)

ISSN: 2708-5953 (Online)

ARTICLE HISTORY

Submitted **27 August 2026**

Accepted: **14 October 2026**

Published: 08 **November 2026**

HOW TO CITE

Hajjeh, S., Abuabdoun, . Y., Mousa Fahad Alanazi , S., Alzyoud, B., Issa, . R., & khasawneh, B. (2026). Artificial Intelligence and Media Fact-Checking in Jordan: Digital Practices, Challenges, and Information Credibility. *Research Journal in Advanced Humanities*, *7*(4). https://doi.org/10.58256/15nsvr60

Published in Nairobi, Kenya by Royallite Global, an imprint of Royallite Publishers Limited

© 2026 The Author(s). This is an open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. Introduction

The massive expansion of internet and social media use has fundamentally changed how media content is produced and disseminated. This expansion has been accompanied by an unprecedented flow of information, making it easy to spread false and misleading news, whether through edited texts, images, or videos. The challenge is no longer just the speed of content dissemination, but also its accuracy and credibility, especially in a media environment that increasingly relies on unconventional platforms and unreliable sources (Abdel Razek, 2022). Studies of Arab and Jordanian media have also examined how news outlets and political leaders represent events in their coverage, headlines, speeches, and interviews, and how content circulates on social media (Abu Rumman & Haider, 2023; Haider, 2019a, 2019b; Haider & Al-Abbas, 2022; Haider & Hussein, 2020).

In this context, the urgent need to develop effective information verification mechanisms has emerged, especially given the growing erosion of trust in traditional media. Artificial intelligence has helped create new opportunities to address this challenge through tools and techniques used to analyze content, detect misinformation, and compare news with reliable sources quickly and efficiently (Bingaman et al., 2021).

Globally, major media organizations such as The New York Times, Reuters, and The Associated Press have begun integrating artificial intelligence into their journalistic workflows, not only for content production but also for fact-checking and analyzing related data. These organizations utilize intelligent systems based on machine learning and natural language processing to detect inconsistencies and analyze patterns of fake news (Zafrullah et al., 2024). This has contributed to reducing costs and improving content quality, delivery, and accuracy (Bilal et al., 2024). The same event can also be framed differently by different agencies and channels, which makes comparison across sources a central part of verification (Al-Salman & Haider, 2021; Haider, 2019a; Smadi et al., 2022).

In the Jordanian context, the use of artificial intelligence tools for fact-checking is still in its early stages, both within broadcast media outlets and specialized fact-checking observatories. These entities face numerous technical and institutional challenges, most notably weak digital infrastructure, a shortage of specialized expertise, and limited awareness of the importance of these tools in newsrooms. This matters all the more because platforms such as Facebook and WhatsApp have become part of Jordanians' everyday communication (Darwish et al., 2025).

Hence, the importance of this research stems from the fact that it seeks to study the reality of the use of artificial intelligence tools in verifying information in visual media and media verification observatories in Jordan, and to analyze the challenges that hinder their use, with the aim of providing practical recommendations that contribute to enhancing media credibility and combating misinformation.

Recent years have witnessed a significant expansion in the use of artificial intelligence tools in the media sector, particularly in verifying news and information circulating on digital platforms. This is especially important in Jordan given the increasing spread of fake and misleading news on platforms like TikTok and X, which increases the need for verification tools capable of handling the massive amount of visual and written content quickly and accurately (Abdaljaleel et al., 2024). Although Jordanian media verification observatories such as "Fatabyyano" have developed advanced tools like TrendCheck.AI and AI-powered verification channels (Tipline), traditional visual media institutions still struggle to systematically adopt these tools within their editorial workflow (Fatabyyano, 2025; Meedan, 2023).

Despite regional initiatives to localize and develop AI-powered verification tools, such as the Arab Network for Fact Checkers (AFCN) project in collaboration with Full Fact and with support from the Google News Initiative, studies indicate that the use of these tools in Arab newsrooms generally remains uneven, and their adoption in Jordanian newsrooms is relatively limited (Harb, 2024). A key challenge in the local context is the skills gap among journalists. A field study showed that most journalists know basic tools for verifying images and videos but lack advanced knowledge of AI, and the actual level of use was described as weak (Al-Zoubi & Ahmad, 2024).

The weakness of internal policies that regulate the use of artificial intelligence within media institutions leads to a state of confusion in employing these tools, in addition to the limited technical infrastructure that hinders their institutional integration (ENPress, 2024). This challenge increases with the pressure resulting from the rapid spread of misleading content in Jordan, especially with the low levels of digital media literacy among

the public, which was confirmed by international reports such as the assessment of the Jordanian information system (Internews, 2024).

The recommendations of studies and reports indicate the need to develop clear policies for the use of artificial intelligence in newsrooms to ensure responsible use, and to enhance institutional training for journalists on global tools such as InVID/WeVerify, in addition to investing in Arabic-language verification tools (Poynter/IFCN, 2024; UNESCO, 2024). UNESCO reports also called for raising the digital media literacy of influencers and the public as the first line of defense against misinformation (The Guardian, 2024).

Despite these efforts, a research gap exists due to the scarcity of studies that systematically measure the degree of integration of artificial intelligence tools within Jordanian television newsrooms and link it to practical outcomes such as verification speed and accuracy. Furthermore, studies connecting ongoing institutional training and responsible use policies with improved verification quality in the Jordanian context remain limited. Therefore, a field study focusing on the actual use of these tools, the challenges they face, and their suitability to the specificities of the Jordanian media environment is needed. The following research questions arise from this problem:

RQ1. How do journalists and fact-checking specialists in Jordan use AI tools to verify news, and which tools, sources, and methods do they rely on?

RQ2. What challenges and difficulties do Jordanian media outlets and journalists face when using AI to verify information?

Accordingly, the study sets out to identify the AI tools used in media verification in Jordan and their impact, the sources journalists rely on to verify news, the ways news is verified in visual media using AI, the challenges media outlets face in using AI for verification, the methods journalists use to ensure news accuracy, and the difficulties they encounter when using AI technologies for this purpose. The study is significant on two levels. Theoretically, it adds to knowledge about the uses of AI in fact-checking, identifies knowledge gaps concerning AI tools in the Jordanian context, and opens the way for further research on how modern technology affects Arabic media content. Practically, it offers Jordanian media organizations recommendations for adopting AI tools in news verification, helps journalists appreciate the role of AI in the quality and accuracy of their work, and can guide decision-makers and regulators in developing policies that take local challenges, such as linguistic bias and limited technical resources, into account.

2. Literature Review

2.1 Artificial Intelligence Tools

Artificial intelligence (AI) is a cornerstone of modern technological development. It relies on using machines to reduce human effort, focusing on human-like behaviors in learning and values (Cui & Wu, 2021). Therefore, AI has become an essential element in many fields, such as security, health, business, agriculture, and energy. Furthermore, it contributes to creative tasks like writing scripts, producing articles, and developing intellectual scenarios, which enhances AI's role in the media industry and the production of television programs in innovative and more efficient ways (Brennen et al., 2022).

Artificial intelligence is defined as the ability of digital devices and computers to perform specific tasks that mimic human behavior. This includes executing processes based on reasoning, learning from past experiences, or performing other tasks that require precise and specialized operations (Luttrell et al., 2020).

2.2 AI Tools and Techniques for Verification

Artificial intelligence encompasses a range of technical tools specifically designed for information verification. Large language models (LLMs) aid in text analysis and in recognizing patterns of misinformation (Agunlejika, 2025). Metadata provenance tools trace the origin of images and videos from characteristics such as creation date, geographic location, and device type (Solopova, 2025). Deepfake detection systems, which rely on deep neural networks such as CNNs and Transformers, have exceeded 98% accuracy in some experimental models (Thing, 2025).

2.3 Media and Artificial Intelligence Technologies

Artificial intelligence tools have radically reshaped journalistic and media practices. The tools contributing to the field of journalism have become more influential and widespread, leading to a gradual shift towards routine tasks being accomplished in creative ways that rely on automation and intelligent guidance. This shift has greatly contributed to increasing productivity and saving time, especially in areas such as the media market and news production (Al-Dalo et al., 2022).

This relies on the use of advanced technologies such as intelligent software and journalistic robots, which contribute to improving workflow and providing translated texts and ready-made reports. This reduces reader inquiries and increases the accuracy of the content provided. Artificial intelligence has become pivotal in improving the quality of journalistic work by accelerating editing and publishing processes and enhancing quality standards. This shift has led to the emergence of the concept of "automated journalism," which relies on automating many processes while maintaining a focus on delivering high-quality and professional content (Abdel Aziz et al., 2022). In translation and subtitling specifically, cloud-based platforms have been evaluated against traditional workflows for producing translated audiovisual content (Haider et al., 2025).

Artificial intelligence systems are used in three main areas of the news production chain (Owsley & Greenwood, 2024). The first is research and verification of published news, which involves converting text into data, monitoring events as they happen, translating foreign news sources, gathering relevant social media posts, and searching various sources and reports for accurate information, with AI tools supporting the verification of published news. The second is article writing, which includes verifying the accuracy of news, reviewing editorial corrections, and tailoring articles to diverse topics in order to produce accurate and varied media content. The third is publishing and distribution, in which news is analyzed, media materials are prioritized by importance and categorized by topic, and the target audience for each news item is identified to ensure effective reach.

2.4 Journalists and Social Media Platforms in News Content Production

Social media platforms have provided journalists with significant advantages that have contributed to improving news content production and facilitating the processes of news gathering, editing, and dissemination. These platforms have enhanced journalists' professional performance by developing the news function through the use of modern methods for collecting and analyzing journalistic material. They have also provided more accurate and comprehensive journalistic content thanks to the integration of multiple publishing elements within a framework of professional and ethical standards (Al-Zahrani, 2022).

These changes have contributed to reshaping the role of the journalist to encompass multiple roles, as the journalist has become both a content producer and a publisher and influencer. This is achieved through strategies for leveraging journalistic content in line with the requirements of the evolving digital environment (Nader et al., 2024).

On these platforms, the verification work of journalists involves two main tasks: reviewing published news content from both trusted and untrusted platforms, and analyzing fake news, evaluating its sources, and determining whether news content is suitable for sharing on social media, either for redistribution as a news source or for reposting on the outlet's own platforms.

2.5 Challenges of Using AI Tools in Disseminating Information

Artificial intelligence tools are advanced tools used in analyzing data and drawing conclusions, such as converting audio, images, and text into organized information. Artificial intelligence is characterized by its ability to arrange data accurately, which contributes to producing large amounts of information and reports. This type of technology has also become a reliable source in multiple fields, as it contributes to organizing information effectively and presenting it in a way that serves various disciplines (Abu Hammam et al., 2024).

AI has also made fabricated content easier to produce, and several techniques pose particular challenges for verification. Deepfake video technology has made video forgery easier and removed the need for complex technical skills; it relies on AI applications and specialized websites to alter facial features, movements, and gestures, and such videos can easily deceive the public, making it difficult to distinguish real from fake content. Image and video manipulation tools such as Reface allow users to swap facial features in videos and GIFs, while MyHeritage brings images of deceased relatives to life and the Chinese app Zao is used to create deepfake

content in which users merge their faces with those of famous figures.

Voice cloning technology uses advanced AI techniques to mimic voices and create voices identical to the original for use in various applications. Smartphone voice manipulation apps, such as Celebrity Voice, Voicer Famous AI Voice Changer, and Celebrity Voice Cloning, let users change their voices to imitate celebrities and are widely used to personalize calls or notifications. Deepfake images are highly realistic but artificial pictures, and platforms such as Snapchat make effects like face swapping easy to apply. Generated text, finally, is produced by language models from user input, given through voice or text commands, without direct human intervention.

Modern technological solutions are effective tools for maintaining information security in the digital environment, contributing to combating threats such as data forgery and the spread of fake content. Among these tools is the detection technology, which relies on specialized techniques and software to identify fake videos by using technical indicators and placing appropriate warnings on forged images or videos, thus helping to determine their authenticity (Subakti, 2024). Another tool is the source verification technology, which relies on tracing the original source of digital images or videos. This technology depends on analyzing the metadata of the content, such as creation date, geographic location, and recording devices used. These tools provide accurate information about the origin of files, which helps reduce the risk of forgery and ensures the protection of digital rights. These technologies are used effectively to counter digital threats and ensure the integrity of information (Haddad, 2023).

2.6 Theoretical Framework: Digital Transformation Theory

This study is based on digital transformation theory as the most suitable theoretical framework for analyzing the research topic. The importance of this theory lies in its ability to explain the radical transformations occurring in the communication process due to rapid technological advancements. The communication process is characterized by its interactive and dynamic nature, involving the interplay between various systems and elements, thus achieving integration and harmony within a multidimensional media environment (Rabie, 2022). Digital transformation theory is one of the few theories that focuses on analyzing the complex relationship between traditional and new media, explaining the methods of their integration and interaction in light of the digital transformations that have altered the global media landscape. From this perspective, this theory acquires particular importance for understanding the dynamics of change in media systems and their role in reshaping communication and information transfer patterns in the digital age (Ramadan, 2020).

This theoretical framework is based on the premise that media evolution is a continuous process, with new media emerging and different media integrating to form an interconnected system. According to Fleerackers et al. (2022), the development of any media is linked to the development of its surrounding media, leading to increasing convergence between traditional and modern media.

Digital transformations are directly linked to the concept of media convergence, which involves removing traditional barriers between different media outlets. This has had a significant impact on professional practice and methods of producing journalistic content. This convergence has contributed to the emergence of new concepts, such as "cross-media production," which reflects the integration and overlap between different media platforms. In general, media convergence represents the interconnectedness of traditional and modern media, accompanied by technological and digital advancements, along with notable changes in professional and institutional spheres (Abdel Fattah, 2017).

The theory of digital transformation rests on six fundamental principles identified by Fleerackers et al. (2022). The first, co-evolution and coexistence, holds that traditional and modern media evolve simultaneously without conflict. The second, transformation, refers to the gradual and radical changes through which traditional media take on new forms that respond to the demands of the digital age. The third, diffusion, involves the transfer of distinctive features between media, creating an interconnected media environment. The fourth, survival, reflects the ability of traditional and digital media to maintain their role in a dynamic media environment. The fifth, opportunity and need, expresses the necessity of adopting digital technology and communication innovations in response to the requirements of the times. The sixth, adoption, describes the initial delay by some media institutions in adopting technology, followed by widespread adoption once its importance is recognized. The theory developed by Roger Fidler, known as "mediamorphosis," offers a framework for analyzing the

profound transformations taking place in the media. Fidler argues that these transformations are not random but rather the product of complex interactions combining technological innovations, basic human needs, and professional and social pressures. According to this model, all forms of communication are connected to a comprehensive system of human communication, making media interconnected and inseparable from one another.

The model indicates that digital media did not emerge suddenly or independently of traditional media, but rather evolved gradually, building upon and simultaneously influencing and reshaping them. This dynamic interaction reflects the nature of new media (Mohamed et al., 2024).

The convergence and integration of different media outlets is a result of each media's individual transformation, coinciding with the emergence of new media that are reshaping the media landscape. These transformations have directly impacted the role of print newspapers, which can no longer rely solely on their traditional print editions in light of the growing influence of digital media. This change has compelled print newspapers to adopt new methods to adapt to the evolving media environment, leading to a drive for integration with digital platforms.

2.6.1 Integrating Artificial Intelligence into Newsrooms as an Extension of Transformation

According to the same model, the use of artificial intelligence in fact-checking reflects one aspect of the institutional transformation adopted by media organizations. Traditional newsrooms are no longer self-contained entities but have become reliant on advanced technologies that require a high degree of organizational and technical adaptation.

Through this integration, new forms of journalism have emerged, combining traditional and digital features, known as "electronic journalism," "digital journalism," or "integrated journalism." This model reflects a radical shift in the media industry, where the boundaries between media outlets have become blurred and overlapping to meet the evolving needs of the audience (Abdul Latif, 2020).

When traditional media outlets face external pressures or the emergence of new communication innovations, they tend to restructure and reorganize themselves automatically to adapt to these rapid changes. This response is part of their operational dynamics; like other systems, media outlets address external challenges by adopting adaptive strategies that help them keep pace with the ongoing developments in the changing media environment. This adaptive approach contributes to their ability to survive and thrive in an increasingly competitive and constantly evolving market (Afifi, 2022).

2.6.2 Applying the Theory to the Research Topic

In the context of this study, digital transformation theory provides a theoretical framework for analyzing the changes that have occurred in information verification mechanisms within media institutions as a result of adopting artificial intelligence tools. These tools contribute to reshaping media workflows, from news monitoring and content analysis to more accurate and faster production and distribution.

This theory also helps explain how media verification observatories in Jordan are responding to increasing digital pressures and adopting technologies such as deepfake detection, metadata analysis, and language models as part of an institutional shift towards full digitalization in the face of misinformation.

2.6.3 Reflecting Theoretical Principles on the Reality of Media Verification

Applied to media verification, these principles take the following forms. Coexistence appears in the use of traditional verification tools, such as editorial review, alongside new tools such as artificial intelligence. Transformation is reflected in a shift in news production, which now relies on algorithms and intelligent data mining, and diffusion in the widespread use of technologies such as deepfake detection in verification observatories. Survival is manifested in the efforts of traditional media outlets to ensure their continued existence through continuous modernization, while opportunity and need appear in the use of AI tools as a direct response to misinformation. Adoption is evident in the disparity between Jordanian media outlets and international institutions in taking up these tools.

2.7 Previous Studies

Khalouf's study (2024) aimed to demonstrate the advantages and disadvantages of artificial intelligence from the perspective of employees in Palestinian media institutions, while highlighting the nature of the challenges posed by legal professionals in communication and technology experts in these institutions. The study adopted the descriptive analytical approach, and the study sample consisted of (191) individuals working in various media institutions with different ownership and funding models, representing media, artistic, and technical specializations. The study, which was conducted in the occupied Palestinian territories (the West Bank and Gaza Strip), showed that (40%) of the respondents believed that all those involved in the media industry (journalists, directors of departments related to media outlets, editors, managing editors, and directors of media institutions, etc.) need extensive training in artificial intelligence. The study relied on an auditory scale, and the results showed that more than 40% of the respondents were still hesitant to deal with the technology rather than employ it. The results showed that there was a category of respondents (only about 25%) who believed that artificial intelligence could simulate human intelligence and play a real role in running operations within journalistic work and that it could indeed replace the human being in media editing, while the remainder (only 12.5%) did not see artificial intelligence technologies as completely replacing the human element.

The study by Abu Hammam et al. (2024) aimed to identify the extent of interest of media institutions in employing artificial intelligence in the media content industry, the importance of employing artificial intelligence in the media content industry, in addition to the motives for using artificial intelligence in media institutions from the point of view of media experts. This study belongs to descriptive research, and the study is based on the field survey method. The questionnaire was used as a tool to collect data from the respondents in a systematic way to reach the results. The study was applied to a purposive sample of 100 individuals from academics, researchers and practitioners in the field of Jordanian media. The research concluded with the most prominent results: The use of artificial intelligence in the media content industry in Jordanian media institutions is of great importance, reaching 80.4% from the point of view of Jordanian media experts. Jordanian media experts find that Jordanian media institutions have not paid enough attention to the use of artificial intelligence technologies, as their interest has decreased by 55.9%. Media experts in Jordan are aware of the positives resulting from the use of artificial intelligence technologies in the media content industry, and the positives of saving time and effort ranked first at 89.2%.

The study by Al-Ghabari and Othman (2023) aimed to identify the changes brought about by artificial intelligence technologies in the work of digital media. These changes have altered the patterns of message use and consumption, contributing to the emergence of new axes within the outputs of the Fourth Industrial Revolution. These axes have benefited media institutions, such as cloud computing, data analytics, augmented reality, and the use of robots to perform media tasks, as well as the move towards a new virtual media (Metaverse). The researcher used a descriptive approach to study the phenomenon and also employed the unified theory of the acceptance and use of information technology. The study arrived at a set of results and future scenarios: the optimistic scenario, the stability scenario, and the pessimistic scenario. The results indicated that the future of digital media will favor institutions working with robots and smart programs to improve content quality, increase work efficiency, and boost revenues and profits. The study also suggested that current media institutions must adapt to the new reality by changing their current strategies and transitioning to the smart world. Furthermore, the study found an increase in the automation of newspapers and a global shift towards digital publishing, while maintaining television as a smart viewing medium. The study recommended changing the approach to dealing with current media problems by adapting to the new global situation and finding ways to address them. To coexist with it, and to prepare the infrastructure of all institutions to rely on innovative technological solutions based on digital data analysis tools and to train human resources on them, given that whoever possesses modern media technology is able to control the peoples of the world.

Haddad's study (2023) aimed to identify the extent of the use of artificial intelligence technologies in Jordanian press institutions and its impact on the professional practice of journalists, the readiness of Jordanian press institutions to employ artificial intelligence technologies, the skills and requirements required for them, the areas of employing these technologies in Jordanian press institutions, and the challenges facing the future of journalism. This study is considered a descriptive study, and it used the methods of survey studies and mutual relationships, and its data were collected using the survey newspaper tool, by applying it to (300)

individual journalists who are members of the Jordanian Press Association, using the convenience sample method during the period from 7/31/2022 AD to 9/1/2022 AD. The study reached several conclusions, the most important of which are: that most journalists believe that Jordanian media institutions are somewhat ready to employ artificial intelligence technologies, at a rate of 64%, and the most important areas of employing these technologies, from the point of view of the respondents, were in "collecting and editing journalistic material," at a rate of 62%. The study showed that "weak familiarity with the keys of algorithms" was one of the most important difficulties facing the employment of artificial intelligence technologies, and that the most prominent positive effects resulting from employing artificial intelligence technologies are that they work to "increase the speed in producing journalistic content." The journalists saw that the nature of the relationship between artificial intelligence and the work of Jordanian journalists is complementary, based on journalists employing technologies in a way that serves the profession of journalism.

The study by Bingaman et al. (2021) aimed to examine how textual and visual elements influence participants' attitudes toward emerging artificial intelligence (AI) technologies. It found that participants exposed to a social progress framework were more supportive of AI development and funding than those exposed to a media framework portraying personal robots or virtual assistants as threats to humanity. The study's findings indicated that visual impact alone has a limited effect on participants' opinions and perceptions, but its effect can be amplified by interacting with a textual framework accompanying images or videos, especially if respondents lack sufficient understanding of image interpretation and context. Thus, the study demonstrated the conditional nature of the potential impact of the frame used.

A study by Brennen et al. (2022) illustrated how the media amplifies expectations regarding the use of artificial intelligence (AI). The study concluded that while the press is interested in the idea of AI's ability to learn or adapt to new experiences or technological stimuli, and that AI is an important tool for media work, the notion that AI will replace humans has been widely dismissed as a "myth." The study also addressed the "technological" tendency—the belief that technology is always the solution, according to the prevailing narrative—but argued that this "technological" perspective obscures the fact that many problems require technological solutions, and their impact on humans is undeniable. This is especially true given that AI systems are dual-use technologies, offering both benefits and significant ethical, technological, and cultural concerns.

The study by Luttrell et al. (2020) aimed to explore the use of artificial intelligence (AI) applications in supporting future educational and professional endeavors in the field of media, and the implications thereof. AI technologies, as new tools, have necessitated a re-examination of communication theories and classical principles of media practice. The study highlighted the importance of media literacy in the field of AI, and the need to leverage this technology in a practical and ethical manner. It also emphasized the necessity of comprehensively developing the theoretical and practical content of AI applications within curricula across areas such as ethics, journalism, data design, marketing, public relations, and other fields related to media and communication arts. Related Jordanian research has also assessed how accurately AI tools handle Arabic content and how professionals and university students come to trust, adopt, and learn from them (Al-Salman & Haider, 2024; Haider, 2026a, 2026b). The studies reviewed above document growing interest in AI among Arab media institutions, together with recurring problems of training and infrastructure. None of them, however, examines how AI tools are used specifically for verifying information in Jordanian visual media and fact-checking observatories, which is the focus of the present study.

3. Methodology

3.1 Research Design

This research adopted the descriptive-analytical approach as the most suitable for the nature of the study, which aims to reveal the reality of using artificial intelligence (AI) technologies in fact-checking at media fact-checking centers and visual media outlets in Jordan, and to analyze this reality to uncover the associated challenges. The choice of this approach is justified because it allows for a precise description of the phenomenon through the collection of quantitative and qualitative data related to AI tools and their application methods, followed by analysis to derive scientific indicators that help answer the research questions and achieve its objectives. The descriptive-analytical approach also allows for the integration of description and analysis, as it does not merely present the phenomenon as it is, but rather seeks to interpret it and link it to the factors influencing it. To achieve

this, a questionnaire based on a five-point Likert scale was used as the primary data collection tool from the sample, in addition to utilizing previous studies to compare results and enhance the validity of the analysis. Thus, the approach provides a comprehensive scientific framework that helps present an accurate quantitative and qualitative picture of the reality of media fact-checking in light of AI technologies, while highlighting the gaps and challenges facing media institutions in the Jordanian context.

3.2 Research Sample

A purposive sample of 150 individuals was selected, comprising journalists and media professionals, as well as fact-checking specialists. This selection was based on their direct experience relevant to the study and their ability to provide accurate data reflecting the use of artificial intelligence tools in media verification. Several criteria were considered in selecting the sample, most importantly: that the participant be actively involved in journalistic work, whether in traditional or digital media outlets; that they have a role in news production or review; or that they possess practical experience in media verification. Furthermore, the sample was diversified to include professionals from various Jordanian governorates, aiming for a more comprehensive understanding of the phenomenon. The study relied on a specially designed electronic questionnaire as the primary data collection tool, which was distributed to the target participants to facilitate access and ensure the speed and accuracy of data collection.

3.3 Areas of Study

The study focused on journalists working in visual media, on social media platforms, and in blogs.

3.4 Study Instrument and Its Validity

The questionnaire was designed to include a set of topics related to the use of artificial intelligence in media verification, by referring to previous studies. The questionnaire was tested for validity by presenting it to a group of specialists in the field of media and journalism, and the validity rate reached (90%), which reflects the instrument's compatibility with the study's objectives.

3.5 Instrument Reliability

The questionnaire's reliability was measured by repeat administration to a small sample of 10% of the total sample after 15 days. The reliability rate was 88%, indicating the instrument's consistency in data collection.

3.6 Data Collection Procedures

The questionnaire was distributed electronically to journalists via email and social media platforms. Its questions covered various topics to measure the extent of AI adoption in media verification processes, and the collected data were analyzed using statistical software.

3.7 Data Analysis

The data were analyzed descriptively. Frequencies, percentages, arithmetic means, and standard deviations were calculated for each item, and each mean was classified as high, moderate, or low, as reported in Tables 1–6.

3.8 Ethical Considerations

Participation in the study was voluntary, and respondents were informed of its purpose before completing the questionnaire. [Authors to add: the body that approved the study, the approval number and date, or the institutional permission obtained.]

4. Results

Table 1. *Artificial Intelligence Tools Used in Media Verification Processes in Jordan*

Artificial Intelligence Tool	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Image and video analysis tools	52	35%	3.85	0.92	High
Natural language processing tools	37	25%	3.40	1.05	Moderate
Machine learning algorithms	30	20%	3.10	1.15	Moderate

Artificial Intelligence Tool	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Automated search tools	22	15%	2.85	1.20	Moderate
Deepfake detection technologies	9	5%	2.10	1.30	Low

It is evident that image and video analysis tools are the most used at 35% with a high arithmetic mean of (3.85), reflecting the media's need to deal with visual and audio materials, as fake videos and images have become one of the most prominent challenges in the field of media. Natural text processing tools came in second place at 25% with a medium arithmetic mean of (3.40), indicating their major role in analyzing long texts and detecting errors. As for machine learning algorithms, despite their importance in predicting and detecting fake news, their use remains relatively limited due to cost and technical complexity. Deepfake detection techniques represent the lowest percentage (5%) with a low arithmetic mean of (2.10), indicating their weak use despite their great importance in confronting the spread of fake content.

Table 2. *The Main Sources Relied Upon by Journalists for News Verification*

Source	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Social media platforms	60	40%	3.90	0.95	High
News agencies	38	25%	3.50	1.00	Moderate
Eyewitnesses	22	15%	3.00	1.10	Moderate
Citizen journalists	15	10%	2.80	1.15	Moderate
Official websites	15	10%	2.70	1.20	Moderate

The results reflect a significant reliance on social media as a source of verification, at 40%, with a high mean score of 3.90. This is attributed to the rapid spread of news on these platforms and their easy accessibility. However, excessive reliance on these platforms may expose journalists to misinformation if verification tools are not used correctly. News agencies still hold an important position at 25%, with a moderate mean score of 3.50, highlighting their traditional role as a reliable source. Eyewitnesses and citizen journalists represent non-traditional sources at similar percentages (15% and 10%), with moderate mean scores of 3.00 and 2.80, respectively, indicating the increasing use of the public in providing information, especially during breaking news events.

Table 3. *Methods of News Verification in Visual Media Using Artificial Intelligence*

Method	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Comparing images with reliable data sources	45	30%	3.80	0.90	High
Audio and video analysis	37	25%	3.50	1.05	Moderate
Reviewing related texts	30	20%	3.20	1.10	Moderate
Source tracking	22	15%	3.00	1.15	Moderate
Using automated detection programs	16	10%	2.70	1.25	Moderate

The results indicate that comparing images to reliable data is the most common method, at 30% with a high mean score of 3.80, reflecting the importance of this approach in dealing with visual content. Audio and video analysis represents 25% with a moderate mean score of 3.50, which is logical given the increasing use of fake videos in news. Other methods, such as text review and source tracing, have lower percentages (20% and 15%), with moderate mean scores of 3.20 and 3.00 respectively. This suggests that reliance on automated tools needs strengthening, especially since automated detection software is used only minimally (10%) with a moderate mean score of 2.70, which necessitates investment in automated fake news detection technologies.

Table 4. *Challenges Facing Media Organizations in Using Artificial Intelligence for Information Verification*

Challenge	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Lack of technical infrastructure	52	35%	3.85	0.88	High
Shortage of trained competencies	45	30%	3.70	0.95	High
Linguistic bias	30	20%	3.20	1.05	Moderate

Challenge	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Lack of supportive legislation	15	10%	2.90	1.10	Moderate
Cost of tools	8	5%	2.50	1.20	Low

The highest percentage of challenges relates to a lack of technological infrastructure (35%), with a high mean score of 3.85, reflecting the need to develop modern equipment and technologies to support artificial intelligence. A shortage of trained personnel (30%), with a high mean score of 3.70, indicates that many journalists lack the necessary skills to use these tools effectively. Linguistic bias emerges as an obstacle (20%), with a moderate mean score of 3.20, which is expected given the limited support for Arabic in AI technologies. The lack of legislation and the cost of tools represent fewer challenges, but they still have an impact on the local media landscape.

Table 5. *Methods and Approaches Used by Journalists to Ensure News Accuracy*

Method	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Direct verification from the source	60	40%	3.95	0.90	High
Reliance on artificial intelligence tools	45	30%	3.60	0.95	High
Reviewing reliable sources	30	20%	3.20	1.05	Moderate
Consulting specialized experts	15	10%	2.85	1.10	Moderate

The reliance on direct source verification at 40%, with a high mean score of 3.95, reflects traditional trust in direct sources. In contrast, the reliance on artificial intelligence tools at 30%, with a high mean score of 3.60, indicates a gradual shift towards the use of technology. Reviewing reliable sources comes in third place at 20%, with a moderate mean score of 3.20, which is expected given that many news stories rely on verification from multiple sources. Consulting experts at only 10%, with a moderate mean score of 2.85, reflects a limited reliance on external analysis, which may compromise objectivity in some cases.

Table 6. *Difficulties Facing Journalists When Using Artificial Intelligence Technologies for Verification*

Difficulty	Frequency	Percentage (%)	Mean	Standard Deviation	Degree
Lack of training on AI tools	60	40%	3.95	0.85	High
Complexity of using software programs	45	30%	3.50	0.95	Moderate
Lack of technical support	30	20%	3.10	1.05	Moderate
Limited budget	15	10%	2.80	1.15	Moderate

The lack of training on the tools is the most prominent difficulty, at 40% with a high mean score of 3.95, reflecting the need for intensive training programs for journalists. The complexity of using the software, at 30% with a moderate mean score of 3.50, reflects the difficulty of implementing artificial intelligence given the lack of simplified interfaces and tools. The lack of technical support is an obstacle, at 20% with a moderate mean score of 3.10, indicating the need for specialized technical teams to support journalists. Limited budgets, at 10% with a moderate mean score of 2.80, indicate that many media organizations suffer from a lack of financial resources, which limits their ability to invest in advanced technology.

5. Discussion

The results show that AI is already part of verification work in Jordanian media, but mainly in its more accessible forms. Image and video analysis tools (35%) and natural language processing tools (25%) were used most, whereas deepfake detection was used least (5%; M = 2.10), even though deepfakes are among the forms of fabricated content discussed in Section 2.5. This pattern is consistent with Haddad (2023), whose respondents considered Jordanian press institutions only somewhat ready to employ AI technologies (64%), and with Al-Zoubi and Ahmad (2024), who found that most journalists know basic tools for verifying images and videos but lack advanced knowledge of AI.

Social media platforms were the most common source for verification (40%; M = 3.90), ahead of news agencies (25%; M = 3.50). Relying on the platforms where misleading content circulates carries an obvious risk.

Studies of Arab and international news coverage have shown that the same event can be framed differently from one outlet or agency to another (Al-Salman & Haider, 2021; Haider, 2019a; Smadi et al., 2022), which makes cross-checking across several sources essential. Even systematic, computer-assisted analysis of such coverage reduces but does not remove interpretive bias (Haider, 2019c), so automated tools are best treated as an aid to editorial judgement rather than a substitute for it. Direct verification with the source remained the most common way of ensuring accuracy (40%; M = 3.95), while consulting experts was rare (10%; M = 2.85).

The main obstacles concerned infrastructure and people. Lack of technical infrastructure (35%) and a shortage of trained staff (30%) led the challenges, and lack of training (40%) led the difficulties. These results echo Khalouf (2024), in whose study 40% of Palestinian media workers saw a need for extensive AI training, Abu Hammam et al. (2024), whose experts judged that Jordanian media institutions had not paid enough attention to AI, and Harb (2024), who described the adoption of AI in Arab newsrooms as uneven. Studies of how Jordanian professionals and students adopt AI tools in other fields have similarly examined questions of training and trust (Haider, 2026a, 2026b).

Linguistic bias was reported by 20% of participants (M = 3.20). This is consistent with the limited support for Arabic in current AI technologies and with Jordanian research that has assessed the accuracy of machine translation and AI tools in rendering Arabic texts, such as research titles, into English (Al-Salman & Haider, 2024). Arabic poses a further difficulty because much audiovisual content circulates in vernacular dialects, and recasting it in Modern Standard Arabic can soften or alter what was actually said, as research on intralingual subtitling has shown (Haider & Hussein, 2022).

Read through digital transformation theory, the findings describe an adoption process that is still incomplete. Traditional verification, such as contacting sources directly, coexists with AI-assisted methods, in line with the principle of co-evolution and coexistence, while the limited use of advanced tools and the shortage of training correspond to the delayed adoption that the theory describes for some media institutions.

6. Conclusion and Recommendations

This study examined how journalists and fact-checking specialists in Jordan use AI tools to verify information and what challenges they face. Image and video analysis tools were the most widely used, social media platforms were the most common verification source, and direct verification with sources remained the main way of ensuring accuracy. Weak technical infrastructure, a shortage of trained staff, and lack of training were the main obstacles, while advanced tools such as deepfake detection were rarely used. AI is therefore present in Jordanian verification practice, but its use is still limited and not yet built into institutional workflows.

Based on the findings, the study offers several recommendations. Media organizations should increase investment in updating the technical infrastructure for AI applications, including computer systems, modern software, and data servers, and should design comprehensive training programs that equip journalists to use AI tools in verification, with emphasis on image, video, and text analysis. Scientific research should be encouraged to develop AI algorithms that can handle the linguistic and cultural challenges of Arabic content, and automated verification programs, such as deepfake detection tools and image and video comparison software, should be adopted more widely. Laws and regulations are also needed to ensure the ethical use of AI in media institutions while protecting intellectual property rights and privacy.

In addition, AI concepts and applications should be integrated into journalism and media curricula so that future journalists acquire the necessary skills early in their education, building on university students' existing use of AI tools as language tutors (Haider, 2026a). Cooperation between media organizations and independent fact-checking centers should be strengthened to enhance the credibility of published news, and partnerships with international media organizations that use AI in verification would allow Jordanian outlets to benefit from their experience. Finally, future research should examine the impact of AI tools on media credibility and explore further challenges, such as algorithmic bias.

The study has several limitations. The purposive sample of 150 journalists and specialists does not allow the results to be generalized to all Jordanian media professionals. The data are self-reported and were collected with a single questionnaire, so they reflect participants' perceptions rather than direct observation of verification practice. The analysis was also descriptive. Future studies could combine surveys with newsroom observation or interviews and test the relationships among the variables inferentially.

References

Abdaljaleel, M., Obeidat, R., Al-Tammemi, A. B., & Alzoubi, K. H. (2024). TikTok content on measles-rubella vaccine in Jordan: A cross-sectional study. *BMC Public Health, 24*(1), 112–123. https://doi.org/10.1186/s12889-024-19909-7

Abdel Aziz, O., Ibrahim, R., & Marwa, M. (2022). *The social impact of employing artificial intelligence technologies in traditional and modern media*. Egyptian Journal of Media Research, 2(80), 1901–1954. https://ejsc.journals.ekb.eg/article_268174.html

Abdel Fattah, F. A. (2017). *Media convergence and news production*. Cairo: Al-Arabi Publishing and Distribution.

Abdel Razek, M. (2022). *Artificial intelligence technologies in media: Reality and future developments*. Egyptian Journal of Media Research, 2022(81), 1–74. https://ejsc.journals.ekb.eg/article_272038.html

Abu Hammam, K., Shantawi, B., & Al-Momani, A. (2024). *The implications of employing artificial intelligence technologies in media content production from the perspective of Jordanian media experts*. Scientific Journal of Women, Media and Society Research, 2(1), 312–337. https://search.mandumah.com/Record/1478878

Abu Rumman, R., & Haider, A. S. (2023). A corpus-assisted critical discourse analysis of Jordan's 2011 protest movement in Jordanian newspapers. *Online Journal of Communication and Media Technologies, 13*(1), e202306. https://doi.org/10.30935/ojcmt/12856

Agunlejika, T. (2025). AI-driven fact-checking in journalism: Enhancing information veracity and combating misinformation: A systematic review. SSRN. https://doi.org/10.2139/ssrn.5122225

Al-Dalo, J., Abu Hashish, Y., & Ismail, A. (2022). *Media experts' attitudes toward employing artificial intelligence technologies in Palestinian journalism: A field study*. Al-Resalah Journal for Human Sciences Research and Studies, 7(3), 53–90. https://search.mandumah.com/Record/1274663

Al-Ghabari, M., & Othman, B. (2023). *The role of artificial intelligence technologies in developing digital media: A future perspective*. Arab Journal of Media and Communication Research, 43(43), 619–653.

Al-Salman, S., & Haider, A. S. (2021). The representation of Covid-19 and China in Reuters' and Xinhua's headlines. *Search (Malaysia), 13*(1), 93–110.

Al-Salman, S., & Haider, A. S. (2024). Assessing the accuracy of MT and AI tools in translating humanities or social sciences Arabic research titles into English: Evidence from Google Translate, Gemini, and ChatGPT. *International Journal of Data and Network Science, 8*(4), 2483–2498. https://doi.org/10.5267/j.ijdns.2024.5.009

Al-Zahrani, A. A. (2022). *Arab journalists' adoption of artificial intelligence applications in media institutions*. Algerian Journal of Media and Public Opinion Research, 5(1), 15–39. https://asjp.cerist.dz/en/article/198452

Al-Zoubi, O. A., & Ahmad, N. (2024). Contemporary tasks for Jordanian journalists in the era of artificial intelligence. *Arab Media & Society, 37*(2), 65–78. https://www.arabmediasociety.com/contemporary-tasks-for-jordanian-journalists-in-the-era-of-artificial-intelligence/

Bilal, M., Zhang, Y., Cai, S., Akram, U., & Halibas, A. (2024). Artificial intelligence is the magic wand making customer-centric a reality! An investigation into the relationship between consumer purchase intention and consumer engagement through affective attachment. Journal of Retailing and Consumer Services, 77, 103674. https://doi.org/10.1016/j.jretconser.2023.103674

Bingaman, J., Brewer, P. R., Paintsil, A., & Wilson, D. C. (2021). "Siri, show me scary images of AI": Effects of text-based frames and visuals on support for artificial intelligence. Science Communication, 43(3), 388–401. https://doi.org/10.1177/1075547021990428

Brennen, J. S., Howard, P. N., & Nielsen, R. K. (2022). What to expect when you're expecting robots: Futures, expectations, and pseudo-artificial general intelligence in UK news. Journalism, 23(1), 22–38. https://doi.org/10.1177/1464884919861211

Cui, D., & Wu, F. (2021). The influence of media use on public perceptions of artificial intelligence in China: Evidence from an online survey. Information Development, 37(1), 45–57. https://doi.org/10.1177/0266666920912265

Darwish, N., Darwish, T., & Haider, A. S. (2025). Family relations in the age of social media: How Jordanians view the influence of Facebook and WhatsApp. *Research Journal in Advanced Humanities, 6*(3). https://doi.org/10.58256/dg4wwm95

ENPress Publisher. (2024, November 4). Future of Jordanian traditional media in light of AI: A qualitative study. *Journal of International Politics and Development, 2*(3), 101–120. https://systems.enpress-publisher.com/index.php/jipd/article/viewFile/7469/4427

Fatabyyano. (2025). IFCN code of principles application/profile. *International Fact-Checking Network (Poynter), 5*(1), 55–59. https://ifcncodeofprinciples.poynter.org/application/public/fatabyyano-project/661a8b06ba7689d48141c1ae

Fleerackers, A., Riedlinger, M., Moorhead, L., Ahmed, R., & Alperin, J. P. (2022). Communicating scientific uncertainty in an age of COVID-19: An investigation into the use of preprints by digital media outlets. Health Communication, 37(6), 726–738. https://doi.org/10.1080/10410236.2021.1888437

Haddad, E. (2023). *Employing artificial intelligence technologies in Jordanian press institutions and its implications for journalists' professional practices*. Scientific Journal of Journalism Research, 2023(25), 37–60. https://sjsj.journals.ekb.eg/article_301638.html

Haider, A. S. (2019a). The representation of Al-Megrahi's release in Arabic and English newspapers in 2009 and 2010: A corpus-assisted discourse study. *Dirasat: Human and Social Sciences, 46*(1, Suppl. 2), 297–317. https://doi.org/10.35516/0103-046-986-019

Haider, A. S. (2019b). Syrian-Lebanese relations: A corpus-based critical discourse analysis of Bashar Al-Assad's speeches and interviews. *Dirasat: Human and Social Sciences, 46*(4), 551–570. https://doi.org/10.35516/0103-046-004-040

Haider, A. S. (2019c). Using corpus linguistic techniques in (critical) discourse studies reduces but does not remove bias: Evidence from an Arabic corpus about refugees. *Poznan Studies in Contemporary Linguistics, 55*(1), 89–133. https://doi.org/10.1515/psicl-2019-0004

Haider, A. S. (2026a). AI as a language tutor: Jordanian university students' perceptions of AI-generated feedback on their English. *Research Journal in Advanced Humanities, 7*(4), 1–17.

Haider, A. S. (2026b). Trust in AI translation: Reception and adoption among Jordanian business professionals. *Research Journal in Advanced Humanities, 7*(4), 1–15.

Haider, A. S., & Al-Abbas, L. S. (2022). Stereotyping Arab women in jokes circulated on social media during the coronavirus crisis. *The European Journal of Humour Research, 10*(1), 168–185. https://doi.org/10.7592/EJHR2022.10.1.569

Haider, A. S., & Hussein, R. F. (2020). Analysing headlines as a way of downsizing news corpora: Evidence from an Arabic–English comparable corpus of newspaper articles. *Digital Scholarship in the Humanities, 35*(4), 826–844. https://doi.org/10.1093/llc/fqz074

Haider, A. S., & Hussein, R. F. (2022). Modern Standard Arabic as a means of euphemism: A case study of the MSA intralingual subtitling of Jinn series. *Journal of Intercultural Communication Research, 51*(6), 628–643. https://doi.org/10.1080/17475759.2022.2106289

Haider, A. S., Obeidat, M. M., Hamdan, Y., Abu-Rayyash, H., & AlZghoul, O. (2025). SDL Trados Live Cloud vs. traditional subtitling workflows: An empirical evaluation of performance. *Research Journal in Advanced Humanities, 6*(4). https://doi.org/10.58256/fc624p07

Harb, Z. (2024). The adoption of artificial intelligence technologies in Arab newsrooms. *City University Working Papers in Journalism, 4*(1), 1–35. https://openaccess.city.ac.uk/id/eprint/34069/4/The%20Adoption%20of%20Artificial%20Intelligence%20Technologies%20in%20Arab%20Newsrooms.pdf

Internews. (2024). Jordan information ecosystem assessment. *Internews Reports, 12*(4), 1–85. https://internews.org/wp-content/uploads/2024/11/IEA_Jordan_V8-compressed.pdf

Khalouf, M. (2024). *The implications of employing artificial intelligence on professional work in Palestinian media institutions from the perspective of communicators*. An-Najah University Journal for Research, 38(6), 1095–1180.

Luttrell, R., Wallace, A., McCollough, C., & Lee, J. (2020). The digital divide: Addressing artificial intelligence in communication education. Journalism & Mass Communication Educator, 75(4), 470–482. https://doi.org/10.1177/1077695820937901

Mohamed, A., Ali, F., & Abdel Bari, W. (2024). *The role of digital transformation in developing journalistic content in national press institutions*. Bohouth Journal, 4(3), 24–43.

Nader, K., Toprac, P., Scott, S., & Baker, S. (2024). Public understanding of artificial intelligence through entertainment media. AI & Society, 39(2), 713–726. https://doi.org/10.1007/s00146-023-01643-6

Owsley, C. S., & Greenwood, K. (2024). Awareness and perception of artificial intelligence operationalized integration in news media industry and society. AI & Society, 39(1), 417–431. https://doi.org/10.1007/s00146-023-01612-z

Rabie, A. (2022). *Theories of media philosophy and their applications in the era of digital transformation*. Journal of the Faculty of Education in Humanities and Literary Sciences, 28(3), 243–244. https://journals.ekb.eg/article_275296.html

Ramadan, M. (2020). *Media convergence for content dissemination in Egyptian newspapers: A field study on a sample of communicators in light of digital transformation theory*. Journal of Media Research, 55(55), 101–180. https://jsb.journals.ekb.eg/article_115633.html

Smadi, H., Obeidat, M., & Haider, A. S. (2022). Paratextual (re)framing of media coverage of Christchurch mosque shootings: A translation-oriented study. *Cogent Social Sciences, 8*(1), 2029251. https://doi.org/10.1080/23311886.2022.2029251

Solopova, V. (2025). From trust to truth: Actionable policies for the use of AI in fact-checking in Germany and Ukraine. arXiv. https://arxiv.org/abs/2503.18724

Subakti, H. (2024). Media edukasi tentang pentingnya artificial intelligence bagi dunia pendidikan di daerah Ibu Kota Nusantara (IKN). Jurnal Pengabdian Masyarakat Akademisi, 2(1), 56–60. https://doi.org/10.1234/jpma.2024.020106

Thing, V. L. L. (2025). Deepfake detection with deep learning: Convolutional neural networks versus transformers. arXiv. https://arxiv.org/abs/2304.03698

Zafrullah, Z., Meisya, A., & Ayuni, R. T. (2024). Artificial intelligence as a learning media in English education: Bibliometric using Biblioshiny analysis (2009–2023). ELTR Journal, 8(1), 71–81. https://doi.org/10.9744/eltr.8.1.71-81