Artificial Intelligence in Newsrooms: Case Study on Al-Mamlaka TV

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ABSTRACT

The reliance on artificial intelligence (AI) in newsrooms has become increasingly common worldwide. This technology is used to enhance the efficiency of news gathering, editing, and distribution. Despite the numerous benefits that can be gained from these technologies, they also create many professional challenges for journalists, which can pose a challenge to increase their use and reliance on AI tools. Using the innovation diffusion theory, a qualitative approach was adopted focusing on Al-Mamlaka TV in Jordan as a case study. In-depth interviews were conducted with 14 journalists working in the newsroom at the headquarters of Al-Mamlaka TV in the capital of Jordan, Amman. The findings concluded that four key challenges affect journalists' use of AI in a newsroom: lack of knowledge and training, language barriers, lack of trust and credibility, and limited tasks. This study contributes to clarifying the challenges that hinder the adoption of AI in a newsroom, which can help media and journalistic institutions find solutions to effectively benefit from AI and avoid such challenges. In addition, the current study provides a theoretical framework for future researchers to further focus on the challenges of AI in newsrooms and utilize different sampling and methodological approaches, such as qualitative and quantitative methods.

Keywords: *Artificial intelligence, journalism, newsrooms, journalistic practice, Al-Mamlaka TV.*

INTRODUCTION

The media industry, including journalism, has undergone significant changes in recent years due to advancements in communications and information technology (Ahmad, 2016; Jamil, 2021). Newsrooms in developed countries are gearing up for the upcoming wave of data-driven journalism, which heavily relies on artificial intelligence (AI) (Goni & Tabassum, 2020). As a result, there is a growing trend among media organizations to incorporate AI techniques in newsrooms (Ali & Hassoun, 2019; Barceló-Ugarte et al., 2021; Naoaín, 2022).

AI automates processes that can be handled by machines and robots instead of humans (Huang & Rust, 2021). AI is revolutionizing journalism by changing how news is collected, edited, and presented. It enables robots to create authentic news articles, and AI algorithms can simplify complex information into easily understandable news pieces for the general public. For example, the Wordsmith program can convert data and complex texts into compelling sentences that closely resemble news articles authored by human journalists (Guanah et al., 2020).

Global media institutions widely utilize AI for various purposes. For instance, The New York Times employs AI to expedite research by collecting data and news (Chan-Olmsted, 2019). Since 2016, The Washington Post has been using AI-based reporters and claims to have written 850 news items yearly (Moses, 2017). The Canadian Press news agency has developed an AI-based approach to streamline translations in Canada, while the AFP utilizes AI to detect

Photoshopped images (White, 2020). In Brazil, newsrooms predominantly rely on Twitter bots that handle extensive data and communicate on digital media platforms using AI models (Dalen & Jurno, 2021).

Despite the significant benefits journalists gain from using various AI tools, many challenges concern journalists adopting AI in newsrooms. For example, several studies have indicated that AI can eliminate journalistic jobs and that robots can perform routine tasks. Additionally, studies have revealed ethical and professional concerns about the future of journalism and that AI can eliminate human journalistic creativity (Ali & Hassoun, 2019; Waleed, 2019; Hossain, 2021; Abdulmajeed & Fahmy, 2023).

Many Arab countries, including Jordan, are working towards overcoming challenges that hinder their press and media institutions (Safori, 2018). The term AI journalism has gained popularity in Arab countries, with media organizations like Al-Jazeera and Al-Arabiya embracing AI techniques, and various scientific research and conferences have confirmed that AI journalism will play a crucial role in the field of journalism (Abdulmajeed & Fahmy, 2023). Jordan is keen on staying updated with the technological advancements in AI across various fields such as medicine, education, and media (Alqudah & Muradkhanli, 2021). Meanwhile, in Jordan, journalists are interested in acquiring modern journalistic skills such as digital and data journalism (Alzoubi, 2022). As a result, Jordanian journalists must understand the main challenges and opportunities that will arise when AI journalism is implemented in media institutions (Hossain, 2021).

The Al-Mamlaka TV was established in 2018 in Jordan. It was intended to be the country's primary media outlet, producing distinctive news content that compete with neighboring television channels such as Al-Jazeera in Qatar and Al-Arabiya in Saudi Arabia. Al-Mamlaka TV aims to deliver comprehensive media content that meet the needs of the audience, with a focus on domestic and international news related to Jordan (Madanat & Pies, 2022). The channel has a distinguished team of journalists and technologists and is committed to keeping up with developments and staying updated on the latest methods for news dissemination. As a result, it has been at the forefront of Arabic channels that integrated the latest modern technological tools in a newsroom (Al-Souob, 2023). The current study focuses on the challenges faced by Al-Mamlaka TV journalists in adapting to AI technologies in the newsroom.

PROBLEM STATEMENT

Journalists must prepare for the imminent AI future (Dunajko, 2022). However, many journalists are unaware of the potential impact of these technologies on their work and are ill-equipped to embrace this technological revolution (Guanah et al., 2020). Most journalists and media organizations lack the knowledge and strategic planning to utilize these technologies effectively (Webb, 2017). Tatalovic (2018) found that nearly 70% of newsroom journalists cannot analyze upcoming technological changes and their potential influence on news in the next five to ten years. Newsrooms worldwide increasingly use AI in various operations, such as news collection, content production, and distribution. Western countries and China are leading the way in advancing AI within news organizations, as mentioned in studies by Biswal and Gouda (2020), Monti (2019), Underwood (2019), and Ali with Hassoun (2019). While some Middle Eastern nations have started integrating AI in areas like government agencies, healthcare, education, and finance, there is lack of research on using AI technology, specifically in newsrooms in this region (Kothari & Cruikshank, 2022). Therefore, numerous studies suggest that further scientific research should prioritize

investigating the impact and challenges of AI in various fields, including journalism and the media (Kirley, 2016; Chan-Olmsted, 2019).

This study is based on the theory of diffusion of innovations, so research using the Diffusion of Innovations Theory to examine the adoption and utilization of AI in journalistic practice is relatively uncommon (Yu & Huang, 2021). The Diffusion of Innovations Theory explains how an idea or technology spreads in a specific social system. This study seeks to test the theory by identifying the stage at which Jordanian journalists stop making a decision to adopt an innovation - AI in newsrooms. Additionally, it aims to determine the characteristics of the innovation that influence the rate of diffusion according to the theory. It also aims to identify the category to which Jordanian journalists belong to in terms of the innovators' category based on these characteristics. The results of this research will reinforce the perspective of the Diffusion of Innovations Theory, which argues that innovation and change are accompanied by a level of ambiguity due to the novelty of the concept and the risks associated with it (Rogers, 2003).

LITERATURE REVIEW

Many news organizations have embraced AI technologies, leading to new patterns and forms in news production and dissemination (Dorr, 2016; Graefe & Nina, 2020). According to Monti (2019), the field of journalism is anticipated to experience significant transformations in relation to AI, including the adoption of augmented reality, AI, and the use of robots. These changes are attributed to the fourth industrial revolution. With the emergence of AI applications, ethical concerns and professional challenges are increasing and could affect journalistic practices (Stray, 2021). For example, the Chat GPT application has raised much concern among journalists and writers about how this program can impact the production of AI-generated content without human intervention (Pavlik, 2023; Jarrah et al., 2023). From another perspective, algorithms may not have the same quality as human-written news due to the absence of creativity, values, insights, and emotions in algorithms (Dalgali & Crowston, 2021).

Ali and Hassoun (2019) found the challenges of AI in journalism cover professional challenges, such as bias and killing journalistic creativity, in using these tools. There are also ethical challenges, such as lack of transparency, difficulty verifying fake news, and the possibility of manipulating news content. While De-Lima-Santos and Salaverría (2021) conducted a study on the difficulties facing the implementation of AI in a leading Latin American news organization, the Argentinean newspaper La Nación, they found that the challenges include lack of suitable technological infrastructure for using AI, the absence of qualified journalists to use AI and the high financial cost. In Nigeria, Okiyi and Nsude (2020) identified obstacles to integrating AI into Nigerian journalism, such as automating routine reporting, providing faster insights, reducing entry barriers, accessing data, understanding unstructured data, and lacking self-awareness. In a separate study, Munoriyarwa et al. (2021) examined the adoption of AI in mainstream newsrooms in South Africa. They found that mainstream newsrooms in South Africa are adopting AI techniques slowly and unevenly due to concerns about job losses, implementation costs, lack of training, and ethical issues. Asmaa (2021) discovered the future of journalism in the age of AI technology that robots can control various professions and industries, including press institutions. They can even manipulate events to prevent reporters from covering them. Similarly, Yu and Huang (2021) conducted in-depth interviews with Chinese media workers to explore their views on the impact of AI on

employment in the media industry. The findings revealed that media professionals believe AI is reshaping the media landscape by optimizing the workforce structure and freeing human journalists.

Many studies have highlighted the challenges of AI regarding the lack of collaboration between educational institutions, such as associations and institutes, and media institutions to overcome the professional and technological difficulties journalists face. These studies also emphasized the necessity of integrating AI into journalism and media education at universities, as well as seeking the assistance of technology experts to create a generation of journalists capable of adapting to AI technologies (Murcia Verdú & Ufarte Ruiz, 2019; Beckett, 2019; Gómez-Diago, 2022).

In Arab countries, journalists encounter numerous challenges when accessing information and obtaining accurate, up-to-date open-source databases (Bebawi, 2021). Therefore, introducing AI in Arab newsrooms without proper preparation raises significant concerns and poses various challenges (Fahmy & Attia, 2021). Abdulmajeed and Fahmy (2022) conducted a systematic review of studies written in English and Arabic from 2014 to 2022, focusing on the effects, challenges, and considerations of using AI in newsrooms. The analysis revealed insufficient journalistic education as a significant barrier to integrating AI tools into journalistic practices. In Jordan, Al-Zoubi et al. (2024b) conducted a study on the ethical challenges journalists encounter when implementing AI in newsrooms. The findings highlighted data bias, privacy breaches, and the lack of global laws and regulations as the key ethical dilemmas in this context. After reviewing the changes and challenges that hinder the implementation of AI in various journalistic practices, this study attempts to answer the challenges journalists face at the Al-Mamlaka TV newsroom in Jordan.

METHODOLOGY

This research employed a qualitative approach which is commonly utilized in social science research to gain a comprehensive and interpretive understanding of the social world of research participants (Mohajan, 2018). This understanding is achieved by examining their social and material circumstances, experiences, perspectives, and histories (Thorne, 2016). In-depth interviews were conducted with 14 working in the newsroom of Al-Mamlaka TV, which is affiliated with the Jordanian government, to understand the challenges they face in implementing AI in a newsroom. Snowball sampling was employed to select the journalists for the interviews. This method involves the researcher initially choosing a few subjects, who suggest additional individuals to be interviewed (Bleich & Pekkanen, 2013). Given the busy schedules of journalists, utilizing snowball sampling proves advantageous as it helps identify topics that may be challenging to access through conventional means (Ahmad, 2023). The informants in the study were selected based on their previous use of AI applications and systems in the newsroom and their sound understanding of the study subject. The interviews were conducted in mid-2023. All the interviews were conducted face-to-face at the main headquarters of the channel in Amman, Jordan. Thematic analysis was used to analyze the data. The researchers performed a manual analysis to obtain the study's results.

The research topic received interest from the management of Al-Mamlaka TV, which collaborated with researchers to conduct interviews within the channel after obtaining official approval. A pilot study was conducted with three journalists to improve interview questions. All interview questions were carefully formulated based on the research objective which focuses on the challenges faced by Al-Mamlaka TV journalists in adapting to AI technologies in the newsroom. A consent form was provided to the journalists to conduct the interviews.

The researcher conducted the interviews in Arabic to help facilitate more precise answers for the research. This is because all journalists speak Arabic and may face difficulties expressing their ideas in a language other than their native language. The researcher translated the data into English with the assistance of a specialized translation center in Amman, Jordan. All interviews with the journalists were documented, and each recorded interview was listened to multiple times to ensure the accuracy of all information. The study utilized thematic analysis to reach its results.

INFORMANTS' PROFILE

The study involved 14 informants working in the Al-Mamlaka TV newsroom. All informants were described as using AI moderately in their work. They have a passion for using AI and have several concerns that could potentially hurt the integration of AI applications within the newsroom. Table 1 presents the profiles of the informants in the study.

Table 1: Informants' profile

Informant	Age	Position	Experience
1	27	Multimedia Producer	7 years
2	38	Senior Digital Journalist	16 years
3	29	Digital Reporter	6 years
4	35	Digital Director	15 years
5	43	Digital Content Producer	12 years
6	40	Newsroom Manager	17 years
7	35	Producer	13 years
8	28	Assistant Producer	6 years
9	32	Content Creator	9 years
10	50	Executive Producer	10 years
11	38	Senior Reporter	15 years
13	33	Reporter	12 years
14	38	Producer Journalist	14 years

RESULTS AND DISCUSSION

The informants in the study agreed that the challenges of AI in Jordan lie in several aspects, including the lack of knowledge and training, language barriers, lack of trust and credibility, and limited tasks.

Lack of Knowledge and Training

Journalists in newsrooms have struggled with a lack of technological knowledge since the introduction of computers, the internet, mobile devices, and the rise of social media platforms (Mambwe, 2019). Journalists find themselves compelled to evolve and receive training to keep up with technological advancements that can enhance their journalistic work. Some journalists have negative views towards AI, while others embrace it as a new tool (Perreault & Bell, 2022). In the context of Al-Mamlaka TV, the informants agreed that the lack of knowledge, training, and workshops presents a challenge in adapting these tools for their work in a newsroom.

The informants emphasized that the absence of training in using AI poses a significant challenge to the proper adaptation of these applications. In addition, some journalists suffer from a lack of knowledge of AI tasks within the newsroom. The following statements from some informants support this point:

> Sometimes, we see AI as a saviour and assistant that will improve our work and save our efforts, while from another perspective, we see it as a tool for stealing our jobs. This is because of the lack of knowledge about AI in journalism. (Informant 1, Multimedia Producer)

> The profession of journalism is a very sensitive profession, so we cannot rely on AI applications without receiving training on how we can use these applications to serve the interest of the news. (Informant 11, Digital Director)

> There should be clear strategies and plans to guide journalists in facilitating the use of these applications I believe that journalists need to engage in workshops about the use of AI in newsroom. (Informant 7, Producer)

Through interviews with informants, their passion for acquiring skills that qualify them to use AI was evident. Especially since most of them consider themselves not part of the traditional journalistic generation, and they are very keen on keeping up with the changes happening in journalism. One of the informants stated:

> Journalists must know how to use AI to generate content, verify fake news, and leverage these tools to facilitate journalistic tasks. Journalistic institutions should realize that training and preparing human resources for AI is essential to adopting AI in newsroom. (Informant 2, Senior Digital Journalist)

The current study's findings aligned with the study by De-Lima-Santos and Salaverría (2021), which confirmed that the absence of training for journalists on how to use AI poses a problem for journalists in Argentina. Additionally, the lack of practical information further complicates journalists' understanding of using AI. It also agreed with the study's results by Jamil (2021), which stated that the lack of education and training for journalists in using AI in journalism presents one of the challenges for journalists in Pakistan. Furthermore, a study by Naoaín (2022) emphasized the importance of training journalists on AI systems, as it reduces the stress journalists experience due to a lack of prior knowledge about AI. This was also observed in Beckett's (2019) survey conducted on 71 news organizations in 32 different countries worldwide, which identified the lack of technological skills as one of the main challenges facing journalists. In addition, the results of the current study agreed with some of the results of studies conducted in Arab countries, for example, the finding is consistent with the results of Al-Omari's study (2022) on the attitudes of Jordanian journalists towards AI, which indicates that the scarcity of trainers on AI systems poses a challenge for journalists in using these tools. In Egypt, Badawi (2021) also emphasized the need to train Egyptian journalists in the use of AI in journalistic practices.

Language Barriers
Computer languages have evolved significantly in recent years with the application of AI (Mhlanga, 2023). Arabic poses a significant challenge for journalists in Arab institutions because AI tools often only support the English language (Zakraoui et al., 2021; Saad & Talat, 2020). The Arabic language has many terms and symbols, each with different meanings

depending on the tone, letter, or punctuation (Weber, 2018). The study informants agreed that the language barrier in Arabic is a significant challenge for AI applications in newsroom.

The informants in the study revealed their struggle when using AI applications due to the lack of Arabic language support in some critical applications. In other cases, some applications support the Arabic language but not professionally. This is because most AI systems primarily support the English language and rely on automatic translation systems for those systems that may not have accurate translations or deal with different languages. For example, the informants stated the following:

> Many vital programs, websites, and AI-supported applications do not include the Arabic language. Some provide translations but not for the system itself, making their use risky and unreliable. (Informant 4, Digital Director)

> AI-powered fake news verification websites and applications do not serve Arabic content. For example, verifying the credibility of news published in English is easy. Still, it is difficult to do the same for news happening in Arab countries due to the lack of Arabic language support in these applications. (Informant 13, Reporter)

The Arabic language has various dialects branching from the Modern Standard Arabic, with each Arab country having its own dialect. The five most famous dialects are Egyptian, Moroccan, Gulf, Levantine, and Iraqi (Van Putten, 2020). Informants believe that the diversity of these dialects and cultures makes it challenging for AI specialists to adapt to the Arabic language. The following statements from the informants support this point.

> In Al-Mamlaka TV, we publish news in Arabic, which is closest to the Jordanian dialect. If we rely on AI to generate news, I don't think the audience will accept the language of AI easily due to the ease of distinguishing language based on dialects and words. (Informant 9, Content Creator)

> Most Arabic websites and newspapers do not adhere to a single language but write and publish according to their dialects. For example, most popular websites in Egypt are published in the Egyptian dialect, distinct from modern standard Arabic. This makes it difficult for AI specialists to categorize and deal with Arabic content based on data. (Informant 4, Digital Director)

Despite Arabic being one of the most widely spoken languages in the world, ranking fourth on the list of most commonly used languages, with over 480 million Arabic speakers worldwide, there is a scarcity of available data in Arabic on the internet. Additionally, there is a lack of systems that support AI applications in journalism (Fuad & Al-Yahya, 2022). Khalifa and Roman (2020) justified this in their study by pointing out the shortage of technology experts in the Arab region. This study aligned with the findings of Hassan and Albayari's (2022) study, which stated that Arab journalists face more difficulty adapting to AI applications compared to English speakers due to the unavailability of Arabic-based AI systems. Moreover, majority of journalists have no additional language like English. Al-Asi (2021) also confirmed in that one of the obstacles to journalists accepting AI is the absence of suitable Arabic

content, as these applications rely on limited rather than extensive vocabulary. Saad and Talat (2020) believe that the primary responsibility for overcoming linguistic obstacles lies with technological experts, and they suggest seeking assistance and collaboration with international experts to achieve a better understanding of using AI in journalistic practices.

Lack of Trust and Credibility
Jordanian journalists realize that fair and balanced reports enlighten the public. And these elements are part of objectivity in the news (Al-Zoubi et al., 2024a). In the Al-Mamlaka TV context, the study informants agreed that the lack of trust and credibility are challenges in adapting AI applications in the newsroom. Most journalists expressed a lack of complete trust in AI applications, which hinders greater reliance on AI. The informants supported this point and stated the following:

> AI can be biased in some issues. This makes us less reliant on everything that AI can write or suggest for us. (Informant 9, Content Creator)

> We cannot rely on and trust these systems entirely because they can negatively shape journalistic material. (Informant 6, Newsroom Manager)

Most informants stated that the credibility of information generated by AI is not necessarily accurate. Many of them have tested applications to ensure the safety of the results, but many errors undermine trust between journalists and AI. Informant 13 also mentioned that there is a difference between using content generation for marketing purposes and using it for news dissemination. The public does not easily forgive mistakes in media work. Informants also agreed that the lack of trust in AI applications is not only due to bias but also because of unsatisfactory results. The following statements from some informants support this point:

> AI-generated content is not necessarily satisfactory or worthy of publication. Applications process data and display results without verifying them. We face many silly mistakes in the information that everyone knows. Therefore, there is not much trust in these applications. (Informant 9, Content Creator)

> Some information we obtain from AI applications is not accurate. For example, if you ask Chat GPT about Jordanian media, it may provide inaccurate information. Credibility is a top priority in the channel's policy. We know that AI applications have contributed to improving work and saving time, but at the same time, they are an unreliable source of information for us as journalists. (Informant 13, Reporter)

Many studies have indicated that AI can be biased (Chakraborty et al., 2020; Deuze & Beckett, 2022; Kasneci et al., 2023; Wach et al., 2023). For example, images of men may be used more than women to train AI models in some applications, making AI biased against women. Alternatively, the person responsible for inputting the codes to create AI models may input codes against a particular group. The results of this study support what was mentioned by Park et al. (2020) and Norori et al. (2021) which AI can be subject to bias and provide information that is not objective or accurate. Shin et al. (2022) emphasized the importance of

establishing a reliable relationship between humans and AI, especially with the tremendous growth of AI. Therefore, Shin (2022) stated in his study that trust and credibility are crucial in helping journalists adopt AI tools. The higher the credibility of AI systems, the more journalists are inclined to adopt them.

On the other hand, the results of this study contradict with studies that stated that trust and credibility play a positive role between journalists and AI applications. For example, Tandoc Jr et al. (2020) pointed out that there is no difference in credibility between human and AI-generated content from the perspective of the Singaporean public. Furthermore, a study by Wölker and Powell (2021) concluded that Europeans perceive human and AI-generated content as equally credible. In addition, Robertson and Ridge-Newman (2022) emphasized in their study on the role of AI in renewing public trust in journalism that AI can restore public trust in journalism by 2030, due to its significant capabilities.

Limited Tasks

AI is considered a new technological revolution, but it is still in its early stages and continues to evolve (Robinson et al., 2020). Certainly, technology plays a crucial role in how information is disseminated to the public. This means that fully implementing it is expensive, which has led some news organizations to refrain from using these applications and wait until they see successful experiences from other news organizations. The cost of these systems will also decrease in time (Stray, 2021). The informants confirmed that AI applications are still in the early stages, limited, and do not fully serve journalism.

Informants also added that the limited data in AI applications is one of the challenges in the newsroom. Journalists are always looking for the latest news and what is new. Most applications do not have continuous updates on what is happening worldwide regarding news and events. These applications cannot update themselves. The following statements from informants support this point.

> Most AI applications for content generation give journalists previous information about the topics they are searching for, not new information. (Informant 7, Producer)

> If you want information about the winner of the presidential elections in Turkey in 2023, the GPT Chat app will inform you that the data it possesses is limited until December 2021. (Informant 8, Assistant Producer)

The informants noted that AI applications cannot be used to cover topics and events for which there is limited or no data. The idea of AI applications is based on the availability of data. If the data is available, the results are also available. Informant 14 explained that in an example:

> The content available in AI does not serve all communities and is limited in location. I often need videos and images to accompany the audio when preparing podcast programs. However, if I ask the application to provide a picture of a woman in traditional Arabic dress, it cannot help me and gives me pictures of Western women. (Informant 14, Producer Journalist)

A study by de-Lima-Santos and Ceron (2021) pointed out that AI systems adapt better in Britain and America due to language and technological experts, while limited AI systems exist in countries with different languages. Additionally, the studies by Kothari and Cruikshank (2022) and Munoriyarwa et al. (2021) indicate that newsrooms face limitations with applications that do not support African languages or traditions, making it difficult for journalists to adopt them. In Munoriyarwa et al.'s (2023) study, the journalists wondered if AI can distinguish between Western and African societies. The study's results also align with the study by Pavlik (2023), which stated that despite the benefits offered by Chat GPT, there are limitations in terms of quality and gathering information about all communities. Raisch and Krakowski (2021) and Zhang et al. (2023) emphasized in their studies the importance of the need to expand the tasks of AI systems and applications due to people's increasing need for them over time. On the other hand, the current study's findings contradict with Pashevich's study (2018), which pointed out the potential of automation in newsrooms to create innovative news in a new way with AI and provide opportunities for journalists to engage in more creative work.

CONCLUSION

This study revealed several challenges facing journalists in adapting AI within the newsroom at Al-Mamlaka TV in Jordan. Based on interviews with 19 informants (14 were journalists while five were producers/manager), their responses indicate four main challenges, including a lack of knowledge and training on AI, language barriers related to the Arabic language, lack of trust and credibility in the work and accuracy of AI applications, and limited tasks.

The Diffusion of Innovation Theory is valuable because it aids in the understanding of how new ideas or innovations spread, regardless of the social and cultural context or system that shapes the characteristics of the population (Wani & Ali, 2015). According to the theory, the study showed that Jordanian journalists are in the early stages of deciding to adopt AI in the newsroom. The first stage is the awareness stage, where the innovation is introduced, but there is a lack of information and no motivation to explore the innovation. The results have shown in terms of lack of training and knowledge about AI, in addition to the lack of available information supporting the Arabic language. There is also a lack of inclusivity and limitedness in some AI systems and applications.

The second stage is the decision stage, where individuals contemplate the principle of change by studying the advantages and disadvantages of using this innovation. The results showed that Jordanian journalists belong to the early majority category in terms of innovators, based on the characteristics of innovators according to the Diffusion of Innovation Theory. This category constitutes 34% of the population, as they adopt new technology before. However, they still need to see evidence that the innovation works well before accepting it. Most of the informants were aware of the changes led by AI in newsrooms. Still, they have doubts about several issues, such as trust, credibility, and limitations, that may delay their adoption of AI, so they have complexity-related concerns which refer to the degree of difficulty in understanding and using innovation.

This study has significantly contributed to knowledge and understanding of the importance of AI adoption in a media organization in Jordan, based on the Diffusion of Innovation Theory and informant perspectives. In response to a claim by Kirley (2016), Webb (2017), and Asmaa (2021) that the limited adoption of AI in newsrooms is due to a lack of research in this field. The study aligns with Rogers' (2003) concept of diffusion, which explains how members of a social system, like media organizations, adopt and confirm the use of

innovations. The study identifies challenges that hinder AI adoption in newsrooms, suggesting that media institutions could help find solutions to effectively utilize AI. Furthermore, it provides a theoretical framework for future researchers to expand upon using various samples and methodological approaches, both qualitative and quantitative.

Based on the findings, the study recommends that media institutions work on educating their journalists and providing them with proper training on using AI in newsrooms. Additionally, efforts should be made to address concerns related to trust, credibility, limitations, and language barriers by seeking the expertise of AI specialists and sending journalists to leading AI media institutions to knowledge transfer and experiences.

BIODATA

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