

*The Impact of Artificial Intelligence Technologies on Television Media
Content Production
A Field Study on a Sample of Communication Practitioners at the Algerian
Public Television Institution*

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Received: 04/02/2025

Accepted: 01/06/2025

10.2478/2543-3938-2602-7771-2025-02-00000

Abstract:

This study examines the impact of using artificial intelligence (AI) techniques on the production of television media content, focusing on the Algerian Public Television Institution. Amid rapid transformations in communication technology and modern advancements that have revolutionized various fields of life, AI has emerged as a fundamental tool reshaping media practices. The study explores the transition from traditional media work to algorithm-driven, automated processes and discusses the areas in which AI techniques are employed, the reasons behind their adoption, and the manifestations of their use in enhancing journalistic performance and television content production. In addition, the research addresses the challenges posed by these technologies, such as the absence of an appropriate regulatory and legal framework. Based on a field study involving a sample of media professionals at the Algerian Public Television Institution, the study aims to highlight how media institutions are adapting to digital transformation and striving for competitiveness

Keywords: *Artificial Intelligence, Media Content Production, Television, Algerian Public Television Institution.*

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I. INTRODUCTION

The rapid advancements in communication technologies and modern techniques have led to continuous and accelerating transformations across various domains of life. Communication technology is no longer confined to merely transmitting and storing information; it has evolved into an autonomous decision-making tool. Once information is embedded in electronic systems, it is automatically processed into executable commands, leveraging what is now known as artificial intelligence (AI). This paradigm shift has had a profound impact on media institutions across all forms and platforms, fundamentally transforming the journalism profession and the work of media practitioners. Both traditional mass media and emerging digital communication channels have significantly benefited from these technological developments, which have influenced the performance, orientation, and execution of media-related tasks.

Currently, there is an ongoing discourse on the transition from traditional journalistic practices to automated, algorithm-driven media operations. This shift raises critical questions about the role of AI technologies in media production, their impact on content creation, and the extent to which media institutions have adapted to these innovations. The integration of AI into media production has paved the way for new and diverse journalistic practices, fostering a more intelligent and digitally adaptive media landscape. Within the framework of the Fourth Industrial Revolution and the advent of 5G networks, AI-driven tools and technologies have revolutionized the field of journalism by exponentially increasing content production and reshaping the roles and responsibilities of journalists in newsrooms and editorial departments. These advancements have been utilized in various areas, including data extraction, enhancing research methodologies, predicting trending topics, combating misinformation, generating automated news reports, and even presenting news via AI-powered robotic anchors.

Given the rapid pace of global events and the vast volume of information generated by international media through AI technologies, the ability of these tools to shape public opinion and engage audiences has become increasingly evident. Consequently, Algerian media institutions, including television networks, must strategically prepare for this evolving landscape, where competitiveness and the pursuit of media leadership are closely tied to mastering information acquisition and dissemination.

In light of these developments, the present study seeks to address the following central research question: **What is the impact of artificial intelligence technologies on television media content production at the Algerian Public Television Institution?**

To answer this primary research question, the study is guided by the following sub-questions:

- 1- What are the key areas of AI application and the reasons for its adoption in television media content production at the Algerian Public Television Institution?
- 2- What are the manifestations of AI integration in television media content production at the institution?
- 3- What are the challenges associated with the implementation of AI technologies in television media content production at the Algerian Public Television Institution?

1. Research Objectives:

- This study aims to identify the artificial intelligence (AI) technologies utilized by media professionals at the Algerian Public Television Institution in television media content production, as well as the specific media fields where AI-generated content is applied and the reasons behind its adoption in media production.

- To examine the manifestations of AI integration in television media content production.
- To explore the challenges associated with the implementation of AI technologies in television media content production at the Algerian Public Television Institution.

2. Significance of the Study:

The significance of this study lies in the importance of the phenomenon under investigation and its scientific value, along with the practical outcomes it can yield. From both a theoretical and an applied perspective, the study seeks to generate findings that can be effectively utilized.

The scientific importance of this research stems from its focus on one of the most critical contemporary media phenomena, which has emerged as a result of rapid technological advancements in the media sector—particularly those driven by the Fourth Industrial Revolution. The advent of AI technology has significantly influenced television journalism, reshaping production processes and media workflows. By analyzing the impact of AI technologies on television media content production, this study aims to diagnose the challenges associated with their use and propose appropriate solutions to achieve optimal outcomes. Additionally, the study seeks to contextualize these findings within the Algerian media landscape, specifically through an examination of AI implementation at the Algerian Public Television Institution.

3. Key Concepts and Terminology:

3.1. Artificial Intelligence (AI)

Artificial Intelligence (AI) is a multidisciplinary field that focuses on developing systems capable of perceiving, reasoning, learning, and acting in ways that exhibit intelligence. It can be defined from multiple perspectives:

Figure (1): AI Perspectives

Thinking Humanly “The exciting new effort to make computers think . . . <i>machines with minds</i> , in the full and literal sense.” (Haugeland, 1985) “[The automation of] activities that we associate with human thinking, activities such as decision-making, problem solving, learning . . .” (Bellman, 1978)	Thinking Rationally “The study of mental faculties through the use of computational models.” (Charniak and McDermott, 1985) “The study of the computations that make it possible to perceive, reason, and act.” (Winston, 1992)
Acting Humanly “The art of creating machines that perform functions that require intelligence when performed by people.” (Kurzweil, 1990) “The study of how to make computers do things at which, at the moment, people are better.” (Rich and Knight, 1991)	Acting Rationally “Computational Intelligence is the study of the design of intelligent agents.” (Poole <i>et al.</i> , 1998) “AI . . . is concerned with intelligent behavior in artifacts.” (Nilsson, 1998)

The source: Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.

In essence, AI encompasses both human-like and rational models of intelligence, integrating empirical scientific methods with mathematical and engineering principles to develop autonomous, adaptive, and efficient systems.

AI technologies are now central to a wide range of industries, including media, where their application enhances content creation, decision-making, and operational efficiency. By using AI-driven tools, media organizations can automate tasks, analyze vast amounts of data, and create personalized, engaging content more efficiently.

3.2. AI Technologies

AI technologies refer to systems and tools that enable machines to perform tasks that typically require human intelligence. These tasks include learning, problem-solving, pattern recognition, decision-making, and language processing. AI can be classified into narrow or weak AI, which is designed for specific tasks, and general or strong AI, which can understand, learn, and apply knowledge across a wide range of activities.

Some core areas of AI technologies include :

1. **Machine Learning (ML)** : A method of data analysis that automates analytical model building by using algorithms to find patterns and insights from data.
2. **Natural Language Processing (NLP)** : Enables machines to understand, interpret, and generate human language in a way that is both meaningful and useful.
3. **Computer Vision** : Allows machines to interpret and make decisions based on visual data from the world, such as images or videos.
4. **Robotics** : The use of AI to control robots and allow them to carry out tasks autonomously or semi-autonomously.
5. **Expert Systems** : Programs that mimic the decision-making ability of a human expert, using a set of rules and knowledge bases.
6. **Neural Networks** : A set of algorithms, modeled loosely after the human brain, that are designed to recognize patterns and solve complex problems. (Stryker, 2024)

These technologies are continuously evolving and are being applied across various fields such as healthcare, finance, manufacturing, entertainment, media and more.

3.3. AI Journalism

AI Journalism refers to the use of artificial intelligence technologies in news production, media content creation, and data-driven journalism. By leveraging AI tools, media organizations aim to improve efficiency, accuracy, and relevance in reporting. AI's role spans a wide array of applications, including automation of writing, personalized content delivery, content moderation, and predictive analytics. (Broussard, 2018)

In this study, AI journalism focuses on how AI is integrated into television journalism within the Algerian Public Television, particularly in content production, editing, and broadcasting.

3.4. Media Content Production

Media Content Production refers to the process of creating, editing, and distributing content across different media platforms, including television, digital and social media channels. This involves various stages such as pre-production, production, and post-production, with tasks ranging from story development to content distribution. AI technologies are increasingly integrated into these processes to improve efficiency, automate repetitive tasks, and personalize content. According to **Napoli (2021)**, AI in media production helps to automate content generation, analyze large datasets for trends, and create personalized experiences for audiences, making the production process more data-driven and tailored to specific demographic needs. (Napoli, 2021)

AI has already begun revolutionizing media content production by automating processes, improving efficiency, and enabling new forms of personalized media experiences. From content creation to distribution, AI technologies are enhancing how media organizations produce and deliver content to their audiences. As these technologies continue to advance, media content production will become even more efficient, data-driven, and adaptable to the changing preferences of audiences worldwide.

3.5. Television TV

Television is a medium for transmitting moving images and sound that allows for the broadcast of visual content to a wide audience, typically for entertainment, information, and education. As a concept, television combines both the technical and social aspects of media. It involves the use of

electrical signals to broadcast content through airwaves, cables, or digital platforms. Television has played a crucial role in shaping public discourse, culture, and access to information across the globe. According to **Meyrowitz (1985)**, television is not just a medium for entertainment, but a powerful force in shaping societal norms and behaviors, providing a shared experience and a primary source of information for the mass public. (Meyrowitz, 1985)

Television is a mass communication medium that transmits audiovisual content to audiences through broadcast, satellite, or digital platforms.

In this study, television specifically refers to the Algerian Public Television, its use of AI technologies, and the impact of these technologies on its content creation and production processes.

4. Artificial Intelligence Techniques in Television Content Production

The news production process, across its various stages, remains the backbone of newsrooms, whether traditional or advanced. While the fundamental stages of news production have not changed, the methods, tools, and skills required have evolved, significantly influenced by modern communication technologies and artificial intelligence (AI). Below is a detailed analysis of the primary phases of the process :

4.1. News Gathering Phase

One of the distinguishing factors among journalists in newsrooms and editorial offices is their ability to develop a diverse and reliable network of information sources, enabling them to achieve exclusivity in news reporting. This skill requires experience, cumulative work, and the establishment of trust between journalists and their sources. With the increasing integration of AI technologies in media production, journalists must master these tools to facilitate access to information sources. Some of the key AI-powered tools in this phase include :

Table (1): AI Tools for gathering phase

No.	AI Tool	Functional Description
01	NodeXL	Analyzes key topics of interest on social media platforms over a specific period.
02	Bertie	Assists in suggesting story topics, aggregating basic information, and providing recommendations for engaging headlines and relevant imagery.
03	Feedly	An RSS reader across digital platforms that monitors and categorizes news based on audience engagement.
04	HelloTalk	Facilitates communication between journalists and sources in foreign countries, acting as both a translator and a speech-to-text converter.
05	Rewind	Records ambient sounds during field reporting, allowing journalists to review and utilize them during news editing.
06	NewsWhip	Conducts advanced analysis of news coverage on social media, monitoring audience reactions to specific topics and notifying journalists via online alerts.

The source :(Khattab, 2022)

4.2. Editing and Processing News Stories

Table (2): AI Tools for editing and processing

No.	AI Tool	Functional Description
01	Narrative Science	Integrates AI with storytelling ; journalists input general ideas and keywords, and the tool generates the news story.
02	Automated Insights	Produces detailed profiles of public figures by aggregating comprehensive personal data.
03	Wordsmith	Automatically generates interactive news stories based on input data.

The source: (El-Sayed, 2022)

4.3. Verification and Fact-Checking Phase

Verification is one of the most challenging aspects of news production, as verifying the authenticity of journalistic materials is complex. An event may be real, but the accompanying images could be manipulated. Therefore, AI-driven verification tools have become essential in modern journalism, enabling the detection of image manipulation, the identification of original sources, and the verification of metadata. The following AI tools are commonly used :

Table (3): AI Tools for verification

No.	AI Tool	Functional Description
01	Fotoforensics/LFidexif.com	Examines images to detect manipulations and identify the nature of alterations.
02	Google Image	Searches for similar images online to determine prior publications.
03	Tineye	Traces image sources and identifies similar images.
04	Amnesty YouTube Data Viewer	Developed by Amnesty International in 2014 to verify YouTube videos.
05	Factmata	Cross-references information against the Freebase database linked to Wikipedia.
06	FIB	Detects fake news online through advanced keyword analysis and source verification.
07	B.S. Detector	Identifies misinformation, particularly on Facebook and X (formerly Twitter).
08	Official Media Bias Fact Check	Evaluates news websites for accuracy, credibility, and political bias.
09	Truepic	A blockchain-based platform used by news agencies to authenticate images and videos.

The source: (Arqoub, 2019)

4.4. AI in News Photography

AI has significantly advanced photography, introducing features such as autofocus, depth of field adjustments, facial recognition, and enhanced color grading. AI-assisted tools help photographers streamline their workflow and improve image quality. Key AI-powered photography tools include :

- **Arsenal** : Connects to a camera and assists in capturing scenes by referencing a vast database of professional photographs.
- **Olympus E-M1X** : Recognizes subjects within the frame before capturing an image, including birds, vehicles, and human faces, enhancing autofocus and facial recognition.

- **Google Clips** : The first fully AI-controlled analog camera, learning to recognize and capture key moments of individuals important to the user.

4.5. Visual and Editorial Processing of News Stories

Once an appropriate news story is selected, the final phase involves both editorial and visual refinement. Editorial processing ensures the story is well-structured, properly sourced, and linguistically polished. Despite advancements in AI tools, this phase still requires human expertise for final adjustments.

Visual processing focuses on optimizing the presentation of news content for television and digital platforms. This involves enhancing image and video quality, integrating compelling graphics, and ensuring visually engaging storytelling. Among the most prominent AI-driven visual storytelling techniques are :

- **Video Wall** : Displays graphics behind news anchors to illustrate complex stories with visual data.
- **Hologram Technology (HOLOGRAM)** : Uses laser-based imaging to create three-dimensional representations of objects or individuals, adding depth and realism to news presentations.
- **Augmented Reality (AR)** : Blends real-world and computer-generated visuals, enhancing news narratives through immersive graphics and interactive elements. (Mohamed, 2022)

The integration of artificial intelligence in television news production has transformed traditional workflows, automating various tasks while enhancing journalistic efficiency and content quality. From news gathering and verification to editing and visual storytelling, AI technologies continue to reshape modern journalism, offering new opportunities for innovation and audience engagement. However, despite these advancements, human editorial oversight remains crucial to ensure accuracy, credibility, and ethical reporting in an AI-driven media landscape.

II. Methods and Materials:

The nature of the study is evident from its main title. Media studies vary based on the elements of the communication process being examined whether the sender, the message, the audience, or the medium. Any researcher seeking to answer a specific research question, formulated within a defined problem statement, must adopt a methodological framework that outlines the steps and stages necessary to achieve the study's objectives and address its questions. The research topic itself largely determines the nature of the methodology employed.

Since this study aims to examine the impact of artificial intelligence (AI) technologies on television media content production at the Algerian Public Television Institution and to assess how media professionals at the institution evaluate the integration of these technological systems given their significant influence on media production it falls within the category of descriptive research. This type of research seeks to "describe and interpret the subject under investigation using a scientifically sound methodology and to present the findings in meaningful forms that can be analyzed and explained". (Al-Mahmoudi, 2019)

To achieve the study's objectives, we have chosen the survey methodology, which is one of the most appropriate scientific methods for descriptive studies. It constitutes a systematic scientific effort to obtain data and descriptions related to the phenomenon under investigation. The survey method focuses on recording and analyzing the phenomenon in its current state by collecting relevant data and information through structured procedures that define the type of data, its sources, and the methods of obtaining it. (Hamid, 1992)

Furthermore, this method represents an organized attempt to document, analyze, and interpret the current state of a social system or a specific group, focusing primarily on the present to gather the necessary facts and information. (Ibrahim, 2000)

Within this methodological framework, we employed the survey of practice methods, which aims to examine the techniques and approaches used in television content production within media institutions, as well as the demographic characteristics of professionals specializing in artificial

intelligence applications (Nagm, 2015). This approach was specifically utilized to assess the perspectives of media professionals such as technicians, programmers, and journalists who integrate AI technologies into television media content production at the Algerian Public Television Institution.

In this study, we relied on the questionnaire as the primary tool for collecting the necessary data and information relevant to the research. The questionnaire is defined as "a tool that includes a set of questions or declarative statements requiring respondents to answer in a manner determined by the researcher, depending on the research objectives". (Atwi, 2009)

Typically, questionnaire questions are written and may take the form of closed-ended, open-ended, or a combination of both, depending on the research requirements. In this study, we employed the mixed closed-open questionnaire, which consists of a set of closed-ended questions that require respondents to select the most appropriate answer, alongside open-ended questions that allow participants the freedom to express their opinions.

This type of questionnaire is particularly useful for studying complex and intricate topics, as it enables researchers to formulate broad and in-depth questions. Additionally, it is highly effective in obtaining comprehensive information, as it provides respondents with the opportunity to articulate their views. (Al-Dhiyabat, 2007)

Given that our study focuses on artificial intelligence (AI) technologies and their application in media production, a topic that is both modern and complex, the use of this type of questionnaire was essential. It allowed for a richer exploration of the subject and provided us with detailed and in-depth information to support the research.

The questionnaire was structured according to the following key thematic sections :

1. **First Section :** Covers the general characteristics of the study sample, including gender, age, years of experience, and field of work.
2. **Second Section :** Examines the areas of AI application in television content production and the reasons behind its adoption.
3. **Third Section :** Explores the manifestations of AI utilization in television content production.
4. **Fourth Section :** Identifies the challenges associated with AI implementation in media production within the Algerian Public Television.

Study Population

The study population consists of media professionals working at the Algerian Public Television, selected based on their expertise, practical experience, and familiarity with the latest media and communication technologies, particularly AI-powered tools used in their field. Their knowledge qualifies them to provide insights into the impact of AI technologies on television content production.

Since the research population is extensive, making it impractical to conduct a comprehensive survey, we adopted a sampling approach to overcome time constraints and logistical challenges.

Sampling Method : Purposive Sampling

We selected a purposive sample consisting of media professionals working in satellite channels under the Algerian Public Television, specifically those who actively use AI technologies in content production.

Purposive sampling is a non-random selection technique where the researcher deliberately chooses individuals most relevant to the research objectives. In this case, respondents were selected

based on their direct involvement in AI applications in media production. This method ensures that the most representative and knowledgeable individuals provide valuable insights.

"In purposive sampling, the researcher selects the sample members in a deliberate and non-randomized manner, ensuring they best represent the study's objectives and data requirements, based on prior knowledge of the research population." (Mersli, 2003)

The selection process was guided by availability and accessibility, following extensive communication with various media professionals (journalists, technicians, camera operators, etc.) at the Algerian Public Television Corporation to determine whether they use AI technologies in their work.

As a result, the final sample consisted of 30 media professionals who integrate AI tools into their content production processes.

III. Results and discussion :

1. Presentation and Analysis of Data for Personal Information Axis

Table (4): Distribution of Respondents by Gender Variable

Variable	Frequency	Percentage (%)
Female	09	30 %
Male	21	70 %
Total	30	100 %

The data presented in the above table illustrate the distribution of the study sample according to gender. The findings reveal that the majority of respondents are male, accounting for 70% (n=21), while female participants constitute 30% (n=9).

The results indicate a significant gender disparity, with male participants outnumbering their female counterparts. This discrepancy may be attributed to the tendency of males to engage more actively with technological tools across various professional domains. This inclination is often linked to their propensity for exploring technological innovations and experimenting with emerging tools to optimize work processes and address professional challenges. Conversely, female professionals tend to be more engaged in editorial roles, including content preparation and media production, rather than technical functions. Generally, the participation of women in the technology sector remains limited.

According to a study conducted by Deloitte Global, women constitute only 23% of the workforce in the technology sector. Isabelle Collet, a computer scientist and researcher at the University of Geneva, critically examines this issue in her book *The Forgotten Women in the Digital World* (2019). She highlights that in the 1980s, women obtained 40% of computer science degrees in Europe and the United States. However, this proportion has since declined to approximately 25%. The reasons for this decline remain complex and multifaceted, despite the significant contributions of women to technological advancements throughout history, many of which have become integral to contemporary digital life. (Sanajla, 2022)

Table (5): Distribution of Respondents by Age Variable

Age Group	Frequency	Percentage (%)
25–35 years	16	53.3 %
36–46 years	12	40.0 %
47–57 years	02	06.6 %
Total	30	100 %

The table above illustrates the distribution of the study sample based on the age variable. The 25–35 age group constitutes the majority, with 16 individuals, accounting for 53.3%, ranking first. The 36–46 age group, comprising 12 individuals (40%), follows it. The 47–57 age group ranks last, with only two individuals.(%6.6)

This distribution can be attributed to the fact that the 25–35 age group represents the most active segment in the journalism profession, as it falls within the youth stage. Recently, the Algerian Public Television Corporation has undergone a significant rejuvenation and large-scale recruitment process within its workforce, particularly with the expansion of its television channels, such as El Shababia (Youth Channel), El Maarefa (Knowledge Channel), and El Thakira (Memory Channel).

Additionally, journalism is a profession that demands high mobility, dynamic engagement, and continuous interaction with daily events, which aligns well with the energy and vitality of young professionals. Furthermore, individuals in this age group tend to possess greater proficiency in digital technologies and media platforms, making them better equipped for careers in digital journalism and modern media platforms.

Table (6): Distribution of Respondents by Years of Experience

Years of Experience	Frequency	Percentage (%)
Less than 5 years	05	16.7 %
5–10 years	13	43.3 %
11–15 years	10	33.3 %
More than 16 years	02	06.7 %
Total	30	100 %

The table above presents the distribution of the study sample based on the years of professional experience variable. The 5–10 years experience category represents the largest proportion, comprising 13 individuals (43.3%), followed by the 11–15 years category, with 10 individuals (33.3%). The less than 5 years category includes five respondents (16.7%), while the more than 16 years category ranks last, with only two individuals.(%6.7)

The predominance of the 5–10 years experience group can be attributed to intensified competition and the increasing trend toward specialization in the audiovisual sector. In response to these industry dynamics, Algerian Public Television has expanded its portfolio of specialized channels to cater to diverse audience demands. As previously mentioned, this expansion has led to a significant wave of recruitment, particularly within newly established channels. Consequently, a substantial proportion of professionals in the field possess relatively limited experience, as they have joined the sector in recent years.

Table (7): Distribution of Respondents by Field of Work

Field of Work	Frequency	Percentage (%)
Content Writing and Editing	19	63.3 %
Photojournalism	04	16.3 %
Content and Advertisement Design	03	10.0 %
Video Production and Editing	04	13.3 %
Total	30	100 %

The table above illustrates the distribution of the study sample according to the field of work variable. The content writing and editing category represents the majority, comprising 19 respondents (63.3%), followed by video production and editing and photojournalism, each with 4 respondents (13.3%). The content and advertisement design category ranks last, with 3 respondents (10.0%).

This distribution highlights the dominance of content writing and editing among the surveyed professionals. This can be attributed to the critical role of written text in journalism, serving as an essential medium for conveying information, opinions, and analyses in a detailed and balanced manner. Writing remains the foundation of journalistic work across all media platforms.

With advancements in machine learning and natural language processing (NLP), intelligent systems are now capable of generating news articles and reports with remarkable efficiency and accuracy. Technologies such as artificial neural networks enable machines to interpret textual contexts and produce relevant content with coherent and engaging narratives. These innovations have not only accelerated news dissemination but have also broadened the scope of journalistic coverage, allowing for the rapid processing of information from diverse sources.

For instance, automated journalism has enabled AI-driven systems to generate detailed financial reports and sports analyses within moments of an event's conclusion or the closing of financial markets. Furthermore, AI is increasingly capable of adapting to audience preferences, delivering personalized news content that aligns with individual reading habits and interests.

Thus, balancing journalistic quality with technological advancements is essential for fostering a progressive and responsible media landscape. AI is reshaping the journalism industry, compelling media institutions to adapt to the fast-paced digital era and integrate innovative solutions into their workflow. (Taswiqai, 2024)

2. Presentation and Analysis of Data for Axis 1: Areas of AI Application and Reasons for Its Employment in Television Media Content Production

Table (8): The Algerian Public Television Institution's Interest in Employing AI Technologies in Media Content Production

Variable	Frequency	Percentage (%)
No	30	100 %
Yes	//	//
Total	30	100 %

The table above presents the distribution of the study sample based on responses to the question : To what extent is the Algerian Public Television Institution interested in employing AI technologies in media content production ?

The findings indicate that all 30 respondents (100%) confirmed that the Algerian Public Television Institution is currently not interested in integrating artificial intelligence into its media content production processes.

This result can be attributed to a lack of openness toward technological innovations, as well as a lack of awareness among the institution's executives regarding the significance of AI and its role in advancing journalistic work across all stages of media production. This includes news gathering, sorting, classification, production, and automated processing.

Despite the growing global adoption of AI-driven journalism, the Algerian Public Television Institution has yet to embrace these technologies, in contrast to major international media

organizations that have recognized AI's transformative potential. These organizations have successfully integrated AI to enhance efficiency, achieve higher productivity, and gain a competitive edge in media production.

As Egyptian researcher Mohamed Abdel Zaher emphasized, AI journalism has become a tangible reality, moving beyond the realm of cinematic fiction. International media institutions have already implemented AI-based solutions, demonstrating their practical effectiveness. These technologies are not only capable of making informed editorial decisions but also enable AI-powered news anchors to deliver spontaneous speeches without errors or the need for fabricated information. (Zaher, 2021)

Table (9): illustrates the artificial intelligence (AI) techniques utilized by communication professionals in the production of television media content at the Algerian Public Television Institution.

Variable	Frequency	Percentage (%)
Recording events through drones	04	03.7 %
Graphic software	11	10.3 %
Social network algorithms	03	02.8 %
Language generation software	14	13.1 %
Spelling and grammar correction techniques	18	16.8 %
Machine translation techniques	17	15.9 %
Hologram technology	04	03.7 %
Text-to-speech software and vice versa	04	03.7 %
Mapping applications for event location tracking	15	14.0 %
Fake content detection and source verification techniques	15	14.0 %
Other responses	02	01.9 %
Total	107	100 %

Upon reviewing the table above, which shows the distribution of the study sample's responses to the question "What artificial intelligence techniques are used by communication professionals in the production of television media content at the Algerian Public Television Institution?", it is evident that the total count of 107 responses exceeds the number of sample participants (30) due to respondents selecting multiple answers. The highest-ranking technique is spelling and grammar correction, with 18 responses (16.8%), followed by machine translation techniques with 17 responses (15.9%). In third place, we find both fake content detection and source verification techniques, and mapping applications for event location tracking, with 15 responses each (14.0%). The language generation software ranks fourth with 14 responses (13.1%), followed by graphic software with 11 responses (10.3%). Lastly, other techniques recorded 4 responses each (3.7%), with two additional responses.

The results indicate a close distribution of responses, especially for spelling and grammar correction techniques, machine translation, language generation software, fake content detection and source verification, and mapping applications for event location tracking. The reason behind this could be that journalists at the Algerian Public Television Institution turn to these technologies to facilitate content production, save time, and optimize the workflow, particularly in newsrooms and editing rooms where they work under tight deadlines. This observation aligns with the findings in Table 4, which shows the areas of work for the study sample. This was also confirmed by the producer of the

program "I Tech 2.0" at the Knowledge Channel, part of the Algerian Public Television Institution, in an electronic interview, where he emphasized the reliance on these and other technologies, such as graphic software, to produce high-quality programs that blend creativity and technology. He further stated that today's audience prefers to consume visual information, as images, graphs, and videos presented in multiple languages attract attention, simplify the understanding of complex information, and serve as an effective tool for conveying information quickly and clearly. The technological advancements in AI techniques have made creating high-quality visual content more accessible and effective, enabling journalists to produce complex graphics and analyses more quickly and at lower costs, which enhances the appeal of these technologies.

Table (10): Shows the areas of artificial intelligence (AI) techniques usage in the production of television media content at the Algerian Public Television Institution.

Variable	Frequency	Percentage (%)
Monitoring breaking news	18	20.0 %
Handling and analyzing big data	08	08.9 %
Automated precision search for news from multiple sources	14	15.6 %
Error correction and fact-checking of rumors and fake news	20	22.2 %
Translating content into other languages	18	22.0 %
Automated news production and using unconventional writing methods	03	03.3 %
Other (e.g., photography, editing, graphic design)	09	10.0 %
Total	90	100 %

From the table above, which illustrates the areas of AI techniques usage in the production of television media content at the Algerian Public Television Institution, it is evident that the total frequency of 90 responses exceeds the number of participants (30) due to respondents selecting multiple answers. This suggests that the application of AI techniques in the television media sector is not limited to a narrow scope. The most common areas where AI techniques are applied by communication professionals at the Algerian Public Television Institution include error correction and the fact-checking of rumors and fake news, with 20 responses (22.2%). Following this, both monitoring breaking news and translating content into other languages were each selected 18 times (20.0%). In third place, the field of automated precision search for news from multiple sources was cited 14 times (15.6%). The fourth position was occupied by handling and analyzing big data, with 8 responses (8.9%), while automated news production and using unconventional writing methods received 3 responses (3.3%). Additionally, 9 responses (10.0%) mentioned other areas, such as photography, editing, and graphic design, which are mainly handled by those working in the technical departments.

The responses suggest that communication professionals utilize AI techniques in various fields, particularly those that facilitate the editorial process and news production. Some AI techniques are versatile, serving multiple functions across different fields. For example, certain techniques are used exclusively for visual content production, while other systems focus on audio content and various mixing functions. Thus, the employment of AI techniques spans multiple areas. The use of AI in television production occurs across diverse domains. This aligns with the findings of Mustafa Abbas Mohamed Reda (Reda, 2023), which also identifies the diverse fields of AI application in television media content production.

Table (11): presents the reasons why communication professionals at the Algerian Public Television Institution utilize artificial intelligence (AI) techniques in the production of television media content.

Variable	Frequency	Percentage (%)
Facilitates access to information sources	20	39.2 %
Modern audience preferences for receiving news via AI technologies	07	13.7 %
Greater capability in conveying information	05	09.8 %
Its attractiveness and appeal to the various senses of the audience	18	35.3 %
Other (specify)	01	02.0 %
Total	51	100 %

As illustrated in the table above, the total number of responses (51) exceeds the number of individual sample participants (30), as respondents were permitted to select multiple answers. The most significant reason cited by communication professionals for employing AI techniques in television media content production is that these technologies “facilitate access to information sources,” accounting for 39.2% of responses. This is followed by the reason “its attractiveness and appeal to the various senses of the audience,” which garnered 35.3% of responses. The third most frequently cited reason is “modern audience preferences for receiving news via AI technologies,” at 13.7%, while “greater capability in conveying information” was noted last, at 9.8%.

These results underscore the importance of accessing information sources—a fundamental phase in the television content production process. The distinctiveness among journalists in newsrooms and editing suites is largely determined by the extent of their network of reliable information sources, which in turn facilitates breaking news and enhances professional distinction. This is not an easy achievement ; it is a skill that requires cumulative experience and the establishment of trust-based relationships between journalists and their sources. With the advent and integration of AI technologies in media production, journalists have increasingly mastered these tools to overcome challenges in accessing information sources. Moreover, the findings reflect the critical role of audience interests, as communication professionals aim to reach the audience by aligning with their preferences and providing content that is both engaging and sensorially appealing. These observations are consistent with the study by Abd al-Aziz Lamiya. (Lamiya, 2017)

3. Presentation and Analysis of Data for Axis Two: Manifestations of the Use of Artificial Intelligence Techniques in the Production of Television Media Content

Table (12): How Communication Professionals Benefit from the Use of Artificial Intelligence Techniques in the Production of Television Media Content

Variable	Frequency	Percentage (%)
Saving time and effort	18	55.5 %
Reducing errors and increasing credibility	06	18.2 %
Handling big data	03	09.1 %
Improving the audiovisual quality assessment of production	04	12.1 %
Eliminating routine tasks and devoting time to creative work	02	06.1 %
Total	33	100 %

As observed from the table above which displays the distribution of the study sample's responses to the question "How is the use of artificial intelligence techniques beneficial at the Algerian Public Television Institution ?" only a few respondents selected more than one answer. The total count of responses is 33, in contrast to the 30 individual participants in the sample. The responses are summarized as follows :

- Saving time and effort ranked first with 54.5% of responses.
- Reducing errors and increasing credibility was noted by 18.2% of the respondents.
- Improving the audiovisual quality assessment of production received 12.1% of the responses.
- Handling big data was mentioned by 9.1%.
- Eliminating routine tasks and devoting time to creative work ranked last with 6.1%.

It is noteworthy that proposals such as the regular updating of news on the channel's website and the marketing of advertisements to increase the channel's revenue were not selected among the responses.

These percentages indicate that the primary benefit derived from the implementation of artificial intelligence techniques at the Algerian Public Television Institution is the significant saving of time and effort. AI plays a pivotal role in accelerating editing and production processes ; for instance, automated editing technologies can produce news texts at an exceptional speed, thereby reducing the time required to prepare news materials. In addition, AI systems are capable of continuously monitoring global and local events and providing immediate alerts for breaking news. This enables editors and journalists to respond more rapidly to events and deliver live, up-to-date coverage to viewers.

Regarding the saving of effort, AI alleviates the burden on journalists and editors by automating the refinement and analysis of data. With its ability to process vast amounts of data and extract key information with high precision, AI reduces the need for labor-intensive manual analysis. Moreover, AI systems can autonomously generate content for example, by writing news articles based on specific data inputs without human intervention thus allowing the media team to concentrate on more complex and creative tasks.

AI can also assume routine editing tasks and perform the initial processing of news items, which frees communication professionals from mundane duties and enables them to focus on creative work.

Furthermore, the implementation of AI improves the efficiency of media operations by reducing the consumption of resources such as time and energy.

In this manner, artificial intelligence becomes a powerful tool that assists communication professionals at the Algerian Public Television Institution in enhancing operational efficiency, reducing costs, and accelerating the news transmission process. This, in turn, positions the institution to compete effectively in today's increasingly complex media market.

The results of this study are relatively consistent with the findings of the American study titled *"Artificial Intelligence Systems for Programme Production and Exchange in Broadside Services (Television)"*. (ITU, 2019) study aimed to discuss and evaluate current applications and ongoing efforts related to near-term broadcasting workflows and production trajectories. It highlighted that new broadcasting techniques driven by AI are being integrated into the workflow with the purpose of increasing productivity, efficiency, and creative opportunities during programme production, as well as rapidly, accurately, and automatically transmitting information to viewers. The study included a classification of applications and technological benefit areas such as workflow improvement, enhanced bandwidth usage, automated content creation, generation of content from archival materials, targeted content selection for different demographic segments, improved metadata creation, product placement, and dynamic advertising for broadcasting. In doing so, it underscored the ways in which machine learning (ML) and AI algorithms are already influencing content creation, operational processes, and distribution within programme production.

Moreover, a report published by PwC titled *"Sizing the Prize : What's the Real Value of AI for Your Business and How Can You Capitalise ?"* provided a comprehensive analysis of the impact of artificial intelligence on business. The report discussed both the opportunities and challenges associated with AI and emphasized that one of the most significant benefits of AI is its ability to improve productivity. According to the report, approximately 44% of the leaders surveyed stated that "AI enhances productivity through automation."

In an interview with the International Journalists' Network, Saja Murtada, Director of the Arab Network for Information Verifiers at Arij, remarked, "Artificial intelligence can greatly support the work of journalists, especially in repetitive and routine tasks that require significant time and effort." She noted that AI could assist newsrooms and journalists in four primary stages of work : news collection, data processing, production, publication, and internal administrative affairs. (ijnet, 2024)

Table (13): Skills Acquired by Communication Professionals as a Result of Using Artificial Intelligence Techniques in the Production of Media Content at the Algerian Public Television Institution

Variable	Frequency	Percentage (%)
Writing and Editing	17	21.0 %
Managing Social Media Accounts	06	7.4 %
Proficiency in Using Media Tools	26	32.1 %
Design	09	11.1 %
Video Shooting	06	07.4 %
Video Editing and Montage	17	21.0 %
Total	81	100 %

As observed from the table above, which outlines the skills acquired by communication professionals as a result of using artificial intelligence techniques in media content production at the Algerian Public Television Institution, respondents selected multiple answers. Consequently, the total number of responses reached 81, which is considerably higher than the number of individual participants (30).

The skill "Proficiency in Using Media Tools" ranked first among the journalistic skills acquired through the use of AI techniques in disseminating their stories, with a relative importance of 32.1%. It was followed in second place by both "Writing and Editing" and "Video Editing and Montage," each with 21.0%. "Design" ranked third with 11.1%, while "Video Shooting" and "Managing Social Media Accounts" were tied at 7.4% each.

The relative convergence among the categories and the multiple selections made by respondents indicate the importance of acquiring all these skills in order to elevate professional practice and present content in modern ways. These findings are consistent with the study by Abd al-Aziz Lamiya, (Lamiya, 2017) which emphasizes the necessity for journalists to master content production techniques such as photography, video editing, and design.

Table (14): Skills Acquired by Communication Professionals as a Result of Using Artificial Intelligence Techniques in the Production of Media Content at the Algerian Public Television Institution

Positive and Negative Effects		Frequency	Percentage (%)
What are the positive effects of using artificial intelligence techniques in television content creation?	Acquiring technical and professional skills that aid in media work	15	46.9 %
	Transitioning to what is known as comprehensive content	13	40.6 %
	Eliminating journalists' concerns about organizing creative work	02	06.2 %
	Enhancing focus on the core of the story in a complete and clear manner	01	03.1 %
	Assisting in correcting journalistic content errors	01	03.4 %
	Total	32	100 %
What are the negative effects of using artificial intelligence techniques in television content creation?	Raising ethical and legal challenges regarding publishing rights and content accuracy	24	70.0 %
	Weakening journalistic content in terms of depth and human aspects	05	15.6 %
	Reducing the quality of investigative journalism	02	06.2 %
	Declining creativity due to reliance on AI to generate events and their narration	01	03.1 %
	Total	32	100 %

The results of the above table illustrate the positive and negative impacts of using artificial intelligence (AI) technologies in television media content production at the Algerian Public Television Corporation, from the perspective of the study sample. The statement "Acquiring technical and artistic skills that aid in media work" ranked first among the positive impacts of AI usage in media work, with a percentage of 46.9%. Conversely, the statement "Raises ethical and legal challenges regarding copyright and inaccurate content" ranked first among the negative impacts, with a percentage of 75.0%.

In second place among the positive impacts is the statement "Transitioning to what is known as the comprehensive journalist," with a percentage of 40.6%. In contrast, the second most significant negative impact is the statement "Automated journalistic content is rigid and neglects human aspects," with a percentage of 15.6%.

At the lower end of the rankings, nearly equal in percentage, both positive and negative aspects include "Relieving journalists from routine tasks," "Focusing on news stories rather than chasing scoops," "Correcting journalistic content errors," "Declining creativity due to the difficulty of AI comprehending the full implications and meanings of events," "Decreased quality of in-depth reports," and "Automated journalistic content being rigid and neglecting human aspects."

The study concludes that the most prominent positive impact of AI technologies is acquiring technical and artistic skills that enhance media work, due to increased task efficiency and the creation of a suitable and comfortable work environment. This finding aligns with the study by El-Khouli, Sahar (El-Khouli, 2020), which found that reliance on AI technologies benefits journalists by enabling rapid news editing and publication while reducing the effort required for data collection. It also concurs with the study by Gould & Finch (Gould, 2019), which found that AI technologies help journalists predict news trends. Furthermore, our results align relatively with the study by Moussa Issa and Abdel Fattah Ahmed (Ahmed, 2020), which showed that AI technologies provide a more comfortable working environment for journalists. Similarly, the study by Biswal & Gouda (Biswal, 2020) confirmed that AI saves time and effort while helping to verify rumors and false news spread on social media.

Notably, the study sample did not select the statement "Eliminating professional competencies due to reliance on machines and robot anchors." This suggests that communication professionals at the Algerian Public Television Corporation do not express significant concerns or future apprehension in this regard. This can be attributed to the fact that the Algerian media environment is not yet fully prepared for a complete transition to AI-driven journalism in the short or medium term. This finding contrasts with the study by Saad & Issa (2020), which indicated that AI will impact media operations in various domains, leading to the disappearance of several jobs and tasks. Similarly, the study by Abdelhamid Amr (Amr, 2020) found that AI applications in media threaten human employment, weaken interactivity, and diminish emotional engagement. Additionally, the study by Al-Warqili Sherihan (Al-Warqili, 2019) suggested that robot journalism significantly impacts the profession and that robot anchors could replace human anchors in the future.

Ethical and legal challenges ranked highest among the negative impacts, reflecting the concerns of communication professionals at the Algerian Public Television Corporation regarding copyright issues and inaccurate content generated by AI. This finding aligns with the study by Chan-Olmsted (Chan-Olmsted, 2019), which highlighted ethical concerns related to AI-generated content. The rigidity of automated content ranked second, reinforcing the notion that AI lacks the human touch and creative elements. This finding is consistent with the study by Badawi Mohamed Gamal (Badawi, 2021), which concluded that the most significant negative impact of AI technologies is their rigidity and inability to address human interests and emotional aspects.

Based on the previous table's results, it is evident that the use of AI technologies in media content production at the Algerian Public Television Corporation has a highly positive impact from the sample's perspective. This indicates the importance of integrating AI applications into television media work, as they play a significant role in transforming tasks, developing technical skills, and producing unique content tailored to an informed audience. These technologies enable media institutions to compete in an era of rapid technological advancements, where major global media institutions are increasingly adopting AI-driven journalism.

Furthermore, respondents' answers suggest that AI technologies cannot serve as the core of journalistic and media work but rather as auxiliary tools that facilitate and enhance various media formats and methods. Creativity and excellence remain directly attributed to the human element, even when AI algorithms generate remarkable work. The credit ultimately goes to the humans who developed and programmed these algorithms. Moreover, the interactive human dimension in television content production holds significant importance for audiences. While AI integration in production processes is valuable, it should be utilized as a tool under the supervision of communication professionals rather than replacing them entirely. For instance, editors cannot be eliminated even if AI assists in text editing, as journalistic text editing follows a specific editorial policy set by the media institution, requiring careful selection of words and expressions within a predetermined framework. Independent AI-driven editing without human intervention may lead to misinterpretations and distortions of intended meanings

Table (15): Skills Acquired by Communication Professionals as a Result of Using Artificial Intelligence Techniques in the Production of Media Content at the Algerian Public Television Institution

Ethical and Professional Challenges		Frequency	Percentage (%)
What are the ethical challenges posed by the use of AI technologies in television media content production?	Lack of legal regulations and accountability of systems and individuals	29	37.2 %
	Violation of privacy	14	17.9 %
	Lack of transparency and manipulation of information	20	25.6 %
	Bias and discrimination in AI algorithms	15	19.2 %
	Total	78	100 %
What are the professional challenges posed by the use of AI technologies in television media content production?	Changing the nature of work by automating tasks and developing new skills for media professionals	30	36.6 %
	Training and professional development to keep pace with rapid advancements in AI technologies and adapt to technology	30	36.6 %
	Human-machine collaboration to ensure high-quality content production	04	04.9 %
	The necessity of maintaining human creativity, focusing on innovation, and using AI as a tool to enhance creativity	18	22.0 %
	Total	82	100 %

The results of the above table illustrate the ethical and professional challenges faced by communication professionals when using AI technologies in television media content production within the Algerian Public Television Corporation.

Regarding ethical challenges, the highest response was the lack of legal regulations and accountability of systems and individuals at 37.2%, followed by lack of transparency and manipulation of information at 25.6%. In third place was bias and discrimination in AI algorithms at 19.2%, while violation of privacy ranked last at 17.9%. The percentages are relatively close, and the total number of responses exceeded the sample size, as respondents were allowed to choose multiple answers.

Regarding professional challenges, the two responses "changing the nature of work by automating tasks and developing new skills for media professionals" and "training and professional development to keep pace with rapid advancements in AI technologies and adapt to technology" ranked first at 36.6% each. The response "the necessity of maintaining human creativity, focusing on innovation, and using AI as a tool to enhance creativity" ranked second at 22.0%, while "human-machine collaboration to ensure high-quality content production" ranked last at 4.9%.

These findings suggest that the ethical challenges posed by AI technologies in media content production at the Algerian Public Television Corporation primarily revolve around the absence of legal regulations, followed by manipulation of information and lack of transparency. This field lacks a clear legal framework outlining AI applications in journalism, raising concerns about its use and its impact on press freedom and individual rights. The absence of regulations leaves gaps that could lead to unethical AI exploitation.

Moreover, manipulation of information emerges as a major challenge. AI technologies can be used to distort facts and spread misinformation, undermining audience trust in media. Technologies such as deepfake can generate seemingly authentic but fabricated content, exacerbating ethical risks in AI-driven media.

Regardless of how independent AI journalists become in performing their tasks and making decisions, they cannot attain legal personality to bear criminal liability at least under current laws. An AI journalist is neither a natural person nor a legal entity that can be held accountable for offenses such as defamation, threats to national security, or public order violations. If a judge were to bypass AI itself and hold its operator accountable, they would face another dilemma : Should responsibility fall on the AI system operator, the media institution, or both ? This uncertainty leads many broadcasters to approach AI journalism with caution, while some avoid it entirely due to its legal and ethical complexities that leave traditional journalists in a precarious position regarding accountability. (Kerjani & Belkebat, 2023)

As for professional challenges, the most significant concerns include the automation of tasks and the need for new skills, followed by continuous training to keep up with AI developments. Another major challenge is balancing automation with human creativity, ensuring that AI enhances rather than replaces journalistic innovation.

All these challenges, as identified by the survey respondents, suggest that media professionals struggle to master AI tools, which require specialized technical skills for effective integration into content production. Additionally, preserving journalistic storytelling and editorial integrity remains crucial. AI primarily relies on data processing and analytics, which may reduce the emphasis on traditional journalistic skills such as investigative reporting and storytelling. This shift risks producing generic, less distinctive content that could weaken audience engagement.

Traditional journalism relies on human intuition and dynamic engagement with events, capabilities that AI systems still lack. Therefore, adapting to AI-driven media production requires a balance between automation and skill development, achievable through comprehensive and sustainable training strategies. These strategies are essential for Algerian Public Television professionals to keep pace with technological advancements in AI-powered journalism.

Survey respondents reinforced these findings when answering the open-ended question : "What difficulties do you face in using AI technologies in media content production ?" The majority stated that the lack of training programs and the absence of institutional interest in AI journalism were major obstacles.

This indicates that journalists do not struggle with using AI tools themselves, but rather with insufficient training and education in the field.

Journalist Anis Belmili confirmed this in an interview, stating :

"AI tools have user-friendly interfaces and offer vast potential for enhancing news quality and accuracy through rapid data analysis and content generation. However, the biggest challenge remains the lack of specialized training programs that equip journalists with the necessary skills to use these technologies effectively. Continuous training and advanced learning programs are crucial for keeping up with AI advancements."

This underscores the need for greater investment in AI education and training by media institutions and policymakers. Developing journalists' AI expertise would not only improve journalism quality but also enable them to create more tailored content that meets audience expectations.

Improving training and education would help Algerian journalists fully harness AI technologies and overcome existing barriers, ultimately leading to a more innovative and efficient media sector.

This aligns with the conclusions of Mohamed Gamal Badawi's study (Badawi, Robot journalism , 2021).

It also corresponds with the recommendations of Ghasan Harb's study (Harb's, 2021) on AI adoption in Palestinian television channels, which emphasized the challenges and prospects of AI-driven media.

In response to another open-ended question, "What solutions do you propose to overcome these difficulties ?", the majority of respondents emphasized the need for serious institutional efforts to integrate AI into media production.

They proposed :

- Investing in AI technologies for newsroom operations.
- Organizing training programs for journalists and technical teams.
- Encouraging policymakers to legally regulate AI journalism by introducing AI-specific media laws in Algerian legislation to define its applications and ethical guidelines.

General Results of the Study

The study arrived at numerous findings through the use of a questionnaire. Among the most notable results are:

- It was found that the Algerian Public Television Institution currently does not pay any attention to employing artificial intelligence (AI) techniques in media content production. This conclusion was confirmed by 100% of the respondents. This may be due to the lack of awareness among the institution's officials regarding the importance and role of AI techniques in enhancing media work at all production stages, as they tend to view such technologies as mere fantasy or an unnecessary technological luxury.

- The media personnel at the Algerian Public Television Institution use various AI techniques in the production of television media content. This is evidenced by the similar percentages recorded, particularly with regard to language and spelling correction tools, machine translation techniques, language generation programs, fake content detection and source verification tools, as well as mapping applications for tracking event locations. The reason is that the journalists at the institution rely on these technologies to facilitate the editing process, produce media content, and save time especially in the news department, newsrooms, and program production, where they are in a race against time. This aligns with the results shown in Table No. 04, which details the working areas of the study sample.

- The study revealed that media personnel at the Algerian Public Television Institution use AI techniques in multiple fields. This is based on the closely related percentages obtained from respondents' multiple selections, which help them in the editing, production, and crafting of news content. Some AI techniques can operate in more than one function; for example, some systems work exclusively in the production of visual content, while others function with audio content and various mixing features.
- One of the most important reasons for the media personnel to use AI techniques in the production of television media content at the Algerian Public Television Institution is that "it facilitates the process of accessing sources of information" (39.2%). Access to reliable information sources is a fundamental step in producing television content. What distinguishes journalists from one another in newsrooms and editorial offices is their possession of a diverse network of trustworthy sources, which helps them achieve a competitive edge in reporting. This skill is not easy to master it requires cumulative experience and the building of trust with information sources. Since the advent of AI techniques in media production, journalists have had to master these technologies to overcome the difficulties in accessing reliable information.
- The study showed that there is a significant benefit from employing AI techniques at the Algerian Public Television Institution in terms of saving time and effort, as confirmed by 54.5% of the respondents. AI plays a pivotal role by accelerating editing and production processes, thereby reducing the time required to prepare news materials. Additionally, AI systems can continuously monitor global and local events and issue instant alerts for breaking news. This allows editors and journalists to respond more quickly to events and provide immediate live coverage for viewers. In terms of saving effort, AI reduces the workload on journalists and editors by automating data analysis and refinement processes. AI is capable of analyzing vast amounts of data and accurately extracting essential information, which minimizes the effort needed for manual analysis. Furthermore, AI systems can automatically produce content, such as writing news articles based on specific data without human intervention, thus enabling the team to concentrate on more complex and creative tasks.
- It became evident that the effective use of AI techniques in media work turns AI into a powerful tool that helps media personnel and the Algerian Public Television Institution enhance operational efficiency, reduce costs, and speed up the news dissemination process, thereby enabling it to compete effectively in today's modern and increasingly complex media market.
- The study indicated that mastery of media tools ranks first among the journalistic skills acquired by journalists and content producers as a result of using AI techniques in storytelling, with a relative importance of 32.1%. This is followed in second place by writing and editing, video editing and montage at 21.0%, design in third place at 11.1%, and finally video filming and managing social media accounts at 7.4% each. The relatively close percentages among the various categories and the multiple choices offered by the respondents indicate the importance of acquiring all these skills to enhance professional practice and to present content in innovative ways.
- The study showed that the most significant positive effects resulting from the use of AI techniques are the acquisition of technical and artistic skills that aid media work (46.9%). These benefits include increased speed in task performance and the provision of a suitable and comfortable working environment, thus confirming the close relationship between technology, speed, and skill in performing various journalistic tasks.
- According to the study, from the perspective of the sample, the use of AI techniques in producing media content at the Algerian Public Television Institution has a highly positive impact. This underscores the importance of employing AI techniques in television media work and their major role

in changing tasks, developing technicians' skills, and producing distinctive, unique content that meets the demands of an informed audience. These techniques will enable media institutions to compete with others amid the enormous technological advances and the global trend toward AI-driven journalism.

- Ethical and legal challenges emerged as the foremost negative effects (75.0%). This reflects the concerns among the media personnel at the Algerian Public Television Institution about the impact of these new technologies on copyright issues and the production of inaccurate content.

- It was found that the media personnel at the Algerian Public Television Institution do not harbor any major fears about a future where professional competencies might be replaced by machines or robotic presenters. This is because the Algerian media environment is not yet fully prepared for a complete, near- or medium-term transition to AI-driven journalism.

- The study revealed that AI techniques should not be the core of journalistic and media work but rather serve as auxiliary tools that facilitate and enhance the delivery and development of various media formats and methods. Creativity and excellence still rely directly on the human element. Even if AI algorithms produce astonishing work, the credit goes to the human factor that created and developed them. Moreover, the interactive human element in producing television content holds significant importance for the audience. Even if AI is integrated into production processes, it should be used as a tool by media personnel rather than a replacement for them. For example, an editor cannot be dispensed with, even if AI is used in text editing, because editing follows a specific policy adopted by the media institution, requiring the use of certain words and expressions within a predefined framework. Solely relying on AI for editing without human intervention could lead to miscommunication of the intended message.

- The study showed that the ethical challenges posed by the use of AI techniques in producing media content at the Algerian Public Television Institution primarily lie in the absence of legal regulations (37.2%), followed by information manipulation and lack of transparency (25.6%). This area lacks clear and defined legal regulations that specify the standards for using AI in journalism, raising concerns about how these techniques might be employed and their impact on press freedom and individual rights. The absence of legal controls creates loopholes that could lead to unethical exploitation of AI. Additionally, information manipulation is one of the main challenges. AI techniques can be used to fabricate facts and provide misleading information, which in turn can deceive the audience and erode trust in media outlets. Techniques such as deepfakes can produce content that appears real but is entirely fabricated, thereby amplifying the ethical risks associated with these technologies.

- The professional challenges posed by using AI techniques at the Algerian Public Television Institution primarily lie in changing the nature of work through task automation, developing new skills among media workers, and the need for training and professional development to keep pace with the rapid advancements in AI technology. This was confirmed by 36.6% of respondents, followed by the need to preserve human creativity and focus on innovation by using AI techniques as tools to enhance creativity. All these challenges indicate that media personnel face significant obstacles in mastering the use of AI techniques, which require journalists to acquire a range of new skills for their media production while ensuring the preservation of the originality of media content and the news story, especially in the absence of proper training and education in the field of AI.

- The study found that the main difficulties encountered by media personnel at the Algerian Public Television Institution in using AI techniques for media content production are the lack of training courses and the institution's current disinterest in the field of AI.

- The study emphasized the need for serious consideration by the officials of the Algerian Public Television Institution regarding the transformation toward the integration of AI techniques in media

work by providing the necessary technology and establishing comprehensive and sustainable training strategies to ensure that the media personnel keep pace with technological developments in AI.

- Finally, it is necessary for Algerian legislators to pay attention to this type of media by including provisions in media law that define and explain how AI techniques should be used in media work and to legally regulate their use.

IV. Conclusion:

The fundamental principle of artificial intelligence (AI) lies in its ability to simulate and even surpass the methods by which humans perceive and interact with their environment. This capability has become a cornerstone for fostering innovation across various domains, most notably in media and communication technology. AI techniques have demonstrably revolutionized the production of media content and the overall workflow within the global media industry. However, in Algeria, these transformative technologies remain in their nascent stage, largely due to a prevailing lack of commitment to modernizing the media sector particularly the audiovisual segment, where technological advancements are traditionally adopted at a sluggish pace.

Our study indicates that the current application of AI within Algerian media is predominantly the result of individual initiatives undertaken by journalists at the Algerian Public Television Institution rather than the product of a coherent, institutionally driven strategy. Journalists have independently embraced AI as an auxiliary tool to streamline the process of media content production. This includes enhancing the efficiency of accessing and processing information and leveraging the inherent advantages of these technologies. Notably, these professionals do not express significant concern over the potential displacement of human labor by machines. Instead, their primary apprehension revolves around the conspicuous absence of a legal framework that defines standards and protocols for the use of AI in media. Such regulatory gaps represent a substantial barrier to the comprehensive and progressive integration of AI technologies within Algerian media practices, risking a scenario in which AI is employed in a limited and overly cautious manner.

To address these challenges, it is imperative that the governing bodies responsible for media regulation in Algeria take proactive measures to develop and implement comprehensive regulatory guidelines. These guidelines should specifically address the ethical, legal, and professional dimensions associated with the use of AI in journalistic practices. In parallel, journalistic unions and professional associations must engage in reforming existing codes of conduct and operational manuals to incorporate clear provisions related to the handling and utilization of AI products. This dual approach combining robust legislative frameworks with updated professional standards will help to safeguard intellectual property rights while fostering an environment that encourages innovation and the effective adoption of AI technologies.

Furthermore, establishing such regulatory and ethical standards will not only mitigate potential risks associated with misinformation, copyright infringement, and privacy breaches but will also promote greater confidence among media practitioners and the public. By ensuring that AI is used as a complementary tool rather than a replacement for human expertise, Algeria can pave the way for a more dynamic, efficient, and ethically sound media landscape. This will ultimately contribute to the broader goal of aligning Algerian media practices with global technological advancements and the rapidly evolving standards of contemporary journalism.

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