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Deanship of Scientific Research

Employing Artificial Intelligence Technologies in the Monitoring and Analysis Processes of Jordanian Television Channels – A Study on the Communicator

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Abstract

Objective: To explore the extent to which Jordanian television channels employ artificial intelligence technologies in the process of media monitoring and analysis, and to reveal the AI technologies adopted by Jordanian channels, as well as the main challenges faced.

Methods: The research employed a descriptive approach, relying on a media survey method. A random sample of 50 individuals working in Jordanian channels was surveyed, utilizing a questionnaire as the data collection tool.

Results: The research findings revealed a disparity among employees of Jordanian television channels regarding their knowledge of AI technologies used in the media domain. It was observed that 34% of the sample had some level of familiarity with these technologies, while 24% had no knowledge of AI technologies employed in media operations. Additionally, the research demonstrated a significant positive correlation between the adoption of modern technology by Jordanian television channels and the utilization of AI technologies in monitoring and analysis.

Conclusions: The research concluded that Jordanian channels are still in the early stages of adopting AI technologies and employing them in the process of media monitoring and analysis. The research highlighted the need for Jordanian channels to focus on employing AI technologies in monitoring and analysis due to their effectiveness. It also recommended training television channel employees on using AI technologies in media monitoring and analysis, through practical training sessions and providing them with the necessary facilitative tools.

Keywords: Artificial intelligence, Monitoring and analysis, Television channels, Technologies.

توظيف القنوات التلفزيونية الأردنية لتقنيات الذكاء الاصطناعي في عملية الرصد والتحليل الإعلامي – دراسة على القائم بالاتصال

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ملخّص

الأهداف: التعرف على درجة توظيف قنوات التلفزيون الأردنية لتقنيات الذكاء الاصطناعي في عملية الرصد والتحليل الإعلامي، والكشف عن تقنيات الذكاء الاصطناعي التي تتبناها القنوات الأردنية، وأهم التحديات التي تواجهها. وقد وقع الاختيار على هذا الموضوع لحداثته وأهمية المحور الذي تركز عليه، المتمثل في تقنيات الذكاء الاصطناعي.

المنهجية: جاءت الدراسة وصفية معتمدة على منهج المسح الإعلامي؛ لمسح عينة عشوائية من العاملين بالقنوات الأردنية قوامها (50) مفردة، وتم استخدام الاستبيان كأداة لجمع البيانات.

النتائج: أوضحت نتائج الدراسة وجود تفاوت بين العاملين بالقنوات التلفزيونية الأردنية حول معرفتهم بتقنيات الذكاء الاصطناعي المستخدمة في مجال الإعلام، حيث تبين أن نسبة (34%) من أفراد العينة يعرفون إلى حد ما، وأن نسبة (24) لا يعرفون شيئا حول تقنيات الذكاء الاصطناعي المستخدمة في مجال الإعلام. كما أثبتت الدراسة وجود علاقة إيجابية قوية ذات دلالة إحصائية بين تبني القنوات التلفزيونية الأردنية للتكنولوجيا الحديثة، وتوظيف تقنيات الذكاء الاصطناعي في الرصد والتحليل.

الخلاصة: خلصت الدراسة إلى أن القنوات الأردنية ما تزال في بداياتها بالنسبة لتبني تقنيات الذكاء الاصطناعي وتوظيفها في عملية الرصد والتحليل الإعلامي، وقد خلصت الدراسة إلى ضرورة اهتمام القنوات الأردنية بتوظيف تقنيات الذكاء الاصطناعي في مجال الرصد والتحليل نظرًا لفاعليتها. وتدريب العاملين بالقنوات التلفزيونية، على استخدام تقنيات الذكاء الاصطناعي في الرصد والتحليل الإعلامي، من خلال إقامة تدريبات عملية وإمدادهم بالوسائل المسهلة لذلك.

الكلمات الدالة: الذكاء الاصطناعي، الرصد والتحليل، القنوات التلفزيونية، التقنيات.

1. Introduction

In recent times, the media landscape has witnessed numerous developments across various levels. These developments have posed significant challenges to media outlets, particularly in relation to the ongoing and intricate inflation of data and information generated by human activities, driven by instantaneous communication and the search to fulfill needs and desires. This interaction has provided an immense volume of information, which media institutions have managed by deploying technologies that facilitate the monitoring, analysis, and control of data in ways that serve their interests. Consequently, the importance of artificial intelligence and its capabilities has emerged, offering technologies that perform these tasks with ease and high efficiency (Khateeb, 2021).

With the advent of artificial intelligence and other modern developments, various communication media have endeavored to integrate these technologies at all stages of media production. Artificial intelligence technologies are considered one of the most significant and recent innovations provided by modern technology in the field of media. These technologies can be utilized to gather information, sources, and follow-ups, and to create marketing strategies in media that are based on precise data analysis. They are also used in developing automated control systems to manage media content more effectively and accurately (Al-Bahiri, 2022).

Television channels have not remained untouched by this trend. Some broadcasters have adopted artificial intelligence technologies to enhance media monitoring processes. They have relied on them for analyzing media content, highlighting continuously changing events, topics of public interest, and issues that require focus, thereby improving their understanding of data. This has notably reflected on the media performance of these channels (Noor, 2022).

Therefore, the current research aims to explore the reality of employing artificial intelligence technologies in monitoring and analyzing media by Jordanian channels and its reflection on their media performance. This is achieved by examining the extent to which the research sample channels depend on these technologies, highlighting the most significant technologies used, and the contributions they have made, in addition to addressing the challenges and difficulties they face.

2. Research Problem

Artificial intelligence technologies have revolutionized journalism and media by leveraging smart algorithms capable of executing tasks such as photography, content editing, proofreading, translation, and handling big data swiftly and accurately—far exceeding human capabilities. These technologies facilitate a substantial increase in content production, surpassing traditional methods, and completing tasks within seconds.

Monitoring and analyzing media content is a formidable task, necessitated by the vast quantities of data and information characteristic of the modern era. The overwhelming daily influx of information poses significant challenges for human personnel in terms of tracking and analysis. Consequently, a suite of AI-based technologies has been adopted by various television channels to ensure speed and accuracy in data monitoring and analysis.

This backdrop prompts a focused inquiry into the adoption of these modern technologies by Jordanian television channels. Are these channels utilizing AI to enhance their media monitoring and analysis processes, or are they lagging behind in this technological advancement? This research precisely aims to assess the extent of AI technology integration in the media monitoring and analysis processes of Jordanian television channels and its consequent impact on media performance. Additionally, the research will explore the challenges and opportunities presented by the deployment of these technologies. Hence, the central research question is formulated as follows: "To what extent are Jordanian television channels integrating artificial intelligence technologies in their media monitoring and analysis processes, and how does this integration affect their media performance?

3. Significance of the Research

3.1 Theoretical Significance

This research topic offers a novel perspective and augments the scholarly understanding of the domains in which AI technologies can be integrated within media operations.

The research significance is rooted in the importance of the phenomenon it examines, namely the application of AI technologies in media and communication fields. Most preceding research has broadly addressed AI technologies in the media sector without delving into specific applications for monitoring and analysis. Therefore, this research constitutess a vital contribution to this specialized area.

3.2 Practical Significance

The present research serves as a critical reference for the Jordanian television channels being analyzed. It helps in evaluating their positioning in the trajectory of technological advancement and modernization. The findings of this research will provide insights into the AI technologies utilized for monitoring and analysis purposes and will offer an understanding of the perceptions and attitudes of personnel within these Jordanian channels towards these technologies.

3. Research Objectives

The primary objective of this research is to explore the extent of artificial intelligence technology usage in Jordanian television channels, particularly in the processes of monitoring and analysis, and its impact on media performance. From this main goal, several specific objectives emerge:

1. To assess the current employment of AI technologies by Jordanian television channels.
2. To determine the extent to which Jordanian television channels under research adopt AI technologies in their media monitoring and analysis processes.
3. To document the uses of AI technologies in the media monitoring and analysis processes of the Jordanian television channels under research.
4. To explore the types of AI technologies used in the media monitoring and analysis processes by the Jordanian television channels under research.
5. To evaluate the success of Jordanian channels in using AI technologies for media monitoring and analysis from the perspective of their employees.
6. To identify the challenges faced by the Jordanian television channels under research when implementing AI technologies in their media monitoring and analysis processes.

4. Research Questions

The principal research question of this research focuses on the extent of artificial intelligence (AI) technology usage within Jordanian television channels, particularly in relation to their monitoring and analysis processes, and its impact on media performance. From this central inquiry, the research articulates several subordinate questions:

1. What is the current state of AI technology deployment across Jordanian television channels?
2. To what degree do the Jordanian television channels under study adopt AI technologies for media monitoring and analysis?
3. What specific AI technologies are employed in the monitoring and analysis of media content within these channels?
4. In which areas are AI technologies applied within the media monitoring and analysis processes of these channels?
5. How effective is the use of AI technologies in enhancing media monitoring and analysis from the perspective of the employees within these channels?
6. What challenges are encountered by the Jordanian television channels under study when integrating AI technologies into their media monitoring and analysis processes?

5: Research Hypotheses

This research is guided by specific hypotheses that aim to elucidate the dynamics between the embracement of advanced technology and the application of artificial intelligence (AI) technologies in the domain of media monitoring and analysis within Jordanian television channels. These hypotheses are formulated as follows:

1. There exists a correlative link between the extent to which Jordanian television channels adopt contemporary

technology and their degree of employing AI technologies in the realm of monitoring and analysis.

2. Variations are hypothesized to exist within the research's sample regarding their familiarity with AI technologies employed in the media sector, with these differences potentially influenced by demographic variables and the specific television channel with which they are affiliated.

6. Delimitations of the Research

This research is circumscribed by delineated boundaries in terms of its thematic concentration, temporal scope, and geographical and demographic focus, which are detailed as follows:

- **Thematic Delimitations:** The central theme of the research revolves around the effectiveness of utilizing artificial intelligence (AI) technologies in the processes of media monitoring and analysis. This thematic aspect defines the core subject matter boundary of the investigation.
- **Temporal Delimitations:** The research was conducted within a defined timeframe, specifically from July 1, 2023, to September 30, 2023. This timeframe demarcates the period during which the research was executed and data collection was undertaken.
- **Geographical and Demographic Delimitations:** The geographical and demographic confines of the research are characterized by the specific locations and the target demographic on which the research is focused. In particular, the research encompasses employees working in Jordanian television channels, with a focus on personnel from channels such as Al-Mamlaka, Jordan TV, Roya, and Amman TV.

7. Definitional Framework of the Research

7.1 Artificial Intelligence (AI) Technologies:

- Theoretical Definition: John McCarthy, often hailed as the father of AI, conceptualizes AI as 'the science and engineering of crafting intelligent machines, particularly intelligent computer programs.' This concept encompasses the development of devices and computer software that emulate the cognitive functioning of the human brain and replicate human behaviors (Shukla Shubhendu & Vijay 2013, p.28).
- Operational Definition: Within the scope of this research, AI technologies are characterized as an array of advanced technological tools that rely on electronic devices and computer software. These technologies are adaptable to various sectors, including the area of media monitoring and analysis, where their application is examined.

7.2 Media Monitoring and Analysis:

- Theoretical Definition: Media monitoring or surveillance is the systematic observation and analysis of media outputs, both in print and electronic forms, including audio-visual media. This process is aimed at identifying patterns, trends, and discrepancies in media content compared to the content disseminated by the entity conducting the monitoring (Shukla Shubhendu & Vijay 2013, p.28).
- Operational Definition: For this research, media monitoring and analysis is operationally defined as the methodology of collecting, collating, and evaluating information and data from a multitude of media sources. This definition encapsulates data acquisition from diverse media platforms including, but not limited to, newspapers, magazines, radio, television, and online media channels.

8. Theoretical Framework of the Research: The Unified Theory of Acceptance and Use of Technology (UTAUT)

The developmental trajectory of theories and models concerning technology acceptance has continually evolved since the early 20th century, with significant developments particularly within software engineering and software systems quality management. The interest in information system adoption, acceptance, and subsequent usage behaviors escalated in the 1970s, marking a critical period in understanding technology utilization and efficacy. In modern contexts, understanding the factors that influence users' acceptance or rejection of new technologies is considered crucial within the lifecycle of any information system. Theories and models related to technology acceptance serve as analytical frameworks to examine user

reception, adoption, and the impacts on sustained usage of new technologies. Factors such as perceived utility, ease of use, complexity, and social impact significantly influence user decisions regarding technology adoption and application (Momani, 2020).

The Unified Theory of Acceptance and Use of Technology (UTAUT), grounded in social psychology, aims to explain the intentions and behaviors of individuals towards technology use (Al-Farani and Al-Hajjili, 2020). According to the UTAUT model, the predisposition towards usage plays a crucial role in actual usage or non-usage. This inclination is primarily influenced by two factors: perceived benefits and ease of use associated with the technology. The theory delineates four core elements that directly impact behavioral intention towards technology acceptance and usage, namely: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions (Zaitoon, 2022).

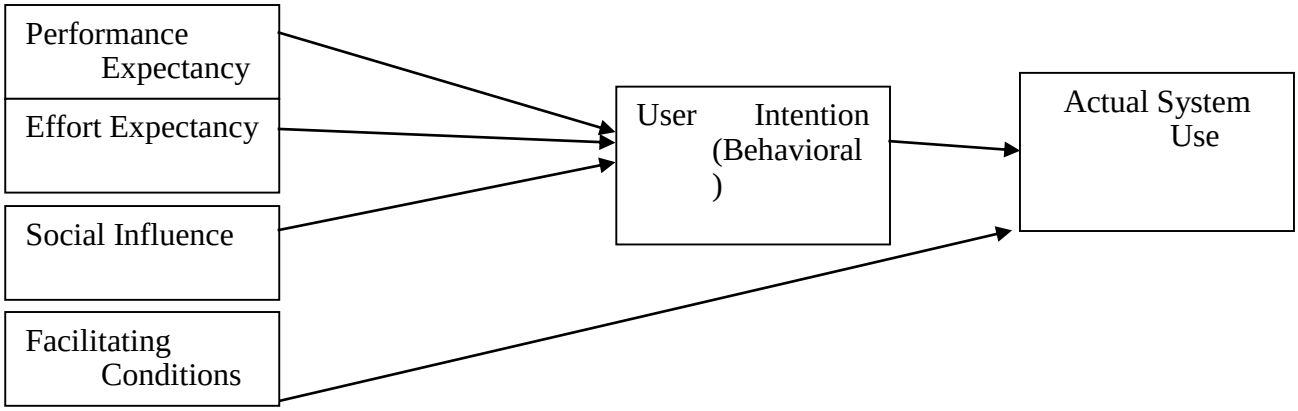

Figure (1) The Unified Theory of Acceptance Model for Technology (Wedlock & Trahan, 2019, p.13)

- **Application of the Unified Theory of Acceptance and Use of Technology in the Present Research**

The Unified Theory of Acceptance and Use of Technology (UTAUT) is identified as an apt theoretical construct for the present research, which delves into the media institutions' employment of contemporary technology, exemplified by artificial intelligence (AI) technologies. This theory thus provides an invaluable framework for dissecting the determinants that influence an individual's intent to adopt a new technology and their consequent actual usage behavior. Within the ambit of the present research, the UTAUT has been harnessed to analyze the rationale underpinning the studied television channels' integration of AI technologies within their media monitoring and analytical functions.

9. Literature Review

9.1 Studies Addressing Artificial Intelligence Utilization:

With the emergence of artificial intelligence (AI), researchers have progressively ventured into examining its applicability within the media sector, leading to a variety of studies with differing scopes and methodologies. Atbaiqa's study (2023) delved into the prospective utilization of AI technologies in the evolution of Arab media institutions, employing an electronic questionnaire for data collection from a convenience sample of 82 participants. The study concluded that the future incorporation of AI in these institutions is predominantly influenced by economic factors, proprietary advertising, government support, and employee salaries, which collectively accounted for a 32.16% impact. A notable challenge identified was the deficiency in technological infrastructure.

Singh et al. (2023) investigated the influence of AI on digital media and media marketing through a quantitative, analytical approach. The research, involving a sample of 100 AI program users, revealed significant advancements in media marketing fueled by AI, propelling the field to a new echelon. El-Bahiry's study (2022) sought insights into the perceptions of Egyptian journalists towards employing Robot Journalism in Egyptian newspaper content production. Utilizing a descriptive and survey-based approach, the research applied questionnaires to a sample of 40 journalists, indicating a

generally positive stance towards AI applications in journalism. Harb's research (2022) proposed a future vision for Palestinian satellite channels' AI adoption over the next decade (2021-2031), adopting a descriptive and foresight-based approach with a survey methodology. The questionnaire distributed to a purposive sample of 81 communication professionals in these channels highlighted economic factors as the crucial determinant for AI adoption, given the substantial financial investment required for technological transition.

Al-Harbi's study (2022) explored AI technology's penetration in the Arab television production arena. This descriptive research, incorporating a survey approach and employing interviews and scientific observation, was conducted on a sample of communication officials in satellite channels. The findings revealed a unanimous acknowledgment of AI's existence, though its application remains limited primarily to maintenance rather than production processes, with a universal agreement on the benefits of AI in television production. Al-Zahrani's research (2022) focused on Arab journalists' adoption of AI tools in journalism and media practices. Employing a quantitative, descriptive, and survey-based methodology, the study administered a questionnaire to a group of Arab media professionals, revealing that only a small percentage (24.6%) had limited knowledge of AI applications. Safori et al. (2022) aimed to gauge journalists' perceptions regarding the implementation of AI technologies in Jordanian television newsrooms. The study concluded that AI technologies had a notable impact on the perceptions of journalists working in these newsrooms.

Abdel Razek's study (2022) probed into communication professionals' attitudes toward AI technology adoption and its effect on their media practices. Through an exploratory approach using quantitative and qualitative survey methods, including questionnaires and interviews, the study covered a sample of 451 professionals from Egyptian and other Arab media institutions. The research inferred that AI technologies are predominantly employed in marketing, followed by media, and then in artistic and administrative areas.

Finally, Canavilhas's study (2022) examined the role of AI in Portuguese sports media, employing a survey methodology with a questionnaire. Data collected from 25 media institutions and news agencies suggested that, despite recognizing AI's potential, its current application in Portuguese sports journalism is limited due to economic and professional barriers.

9.2 Harnessing Insights from Previous Research for the Current Research

Methodological Contributions: The landscape of previous studies has played a pivotal role in the methodological grounding of the present research. A predominant trend among these studies, particularly those focusing on artificial intelligence applications, was their descriptive nature and reliance on survey methodologies. This is evident in the works of Al-Harbi (2022), Al-Zahrani (2022), and Canavilhas (2022). These studies have also facilitated a nuanced understanding of various data collection instruments utilized in quantitative research and their respective applications.

Theoretical Contributions: The previous body of literature has exhibited a rich diversity in theoretical frameworks, significantly enriching the informational foundation related to both general scientific theories and, more specifically, communication theories. Notably, the Unified Theory of Acceptance and Use of Technology (UTAUT) has been successfully applied by numerous researchers in examining the deployment of AI technologies in media research, as demonstrated in the studies by Al-Farani; Al-Hajjili (2020), and Zaitoon (2022). This informed the decision to apply this theoretical lens in the current investigation.

Knowledge-Based Contributions: An in-depth exploration of preceding studies has enabled the delineation of specific knowledge trends concerning AI technologies in the realm of media monitoring and analysis. This comprehensive review of existing literature has been crucial in refining the focus of the current research, clarifying conceptual overlaps and distinctions. Additionally, these studies have been instrumental in guiding the analysis, interpretation, and scientific commentary on the findings, given their direct relevance to the themes and objectives of the current research.

10. Methodological Framework

1. Research Design: This investigation is characterized as a descriptive resarach, focusing on elucidating the effectiveness of artificial intelligence (AI) technologies in the realm of media monitoring and analysis across Jordanian television channels.

2. Research Methodology: The researcher has employed a survey research method (sample survey), recognized for its widespread application in media research. This methodology is aimed at systematically collecting data and information that specifically relate to the scientific phenomenon under scrutiny.

3. Population and Sample: The research population from which the sample was drawn includes all workers in Jordanian television channels such as photographers, program preparers, reporters, directors, personnel responsible for monitoring and analysis, administrators, etc. The research sample was a random sample drawn from employees of Jordanian channels (Al Mamlaka TV, Jordan TV, Roya TV, and Amman TV), totaling 50 individuals . A detailed distribution of the research sample, segmented according to their respective television channels, is presented in the subsequent table.

Table (1): Distribution of the Field Research Sample According to the Television Channel They Work In

S.No.	Channel	Frequency (F)	Percentage (%)
1	Al-Mamlaka TV	8	16
2	Jordan TV	20	40
3	Roya TV	9	18
4	Amman TV	13	26
5	Total	50	100%

4. Research Instrumentation: The present research relied on the deployment of a questionnaire for data extraction from the sample group. A questionnaire is a widely recognized tool in the domains of media and social sciences for its efficacy in acquiring information or data essential for the validation or negation of hypotheses. It serves as a crucial method for subjecting participants to systematically arranged stimuli, aimed at data collection, hence its selection as the most suitable tool for this investigation. The questionnaire was structured into several segments, addressing various aspects: the initial segment encompassed the demographic variables of the participants, the second segment examined the use of AI technologies in media monitoring and analysis by the selected television channels, and the third segment focused on identifying the predominant AI technologies employed in these processes.

5. Validity and Reliability Assessment: To ascertain the validity of the questionnaire, it was initially presented to a panel of experts specializing in media studies for review and feedback. Following their guidance, necessary adjustments were made. The reliability of the instrument was evaluated through a preliminary application to a subset of the sample, sharing characteristics with the overall sample. Subsequent data collection and processing were conducted using SPSS software, and the instrument's reliability was confirmed by a Cronbach's Alpha value of 0.87, surpassing the benchmark figure of 0.60.

6. Statistical Analysis Techniques: Upon completion of data gathering from the research sample, a comprehensive data tabulation process was undertaken. This included coding and processing the data through the Statistical Package for the Social Sciences (SPSS). To derive insightful results, both descriptive and inferential statistical analyses were conducted. The applied statistical techniques encompassed:

- Calculation of simple frequencies and percentages for preliminary data exploration.
- Assessment of mean and standard deviation to gauge central trends and dispersion within the data.
- Utilization of Spearman's correlation coefficient to examine the relational dynamics and orientations between varied variables.
- Implementation of the T-Test to discern disparities between two distinct sample groups.

11. Research Results

11.1 Results of the Research Questions

1. Participant Perspective on AI Adoption Level:

The research sought to gauge the extent to which the participants' respective television channels have adopted artificial intelligence technologies.

Table (2) outlines the distribution of the research sample based on their assessment of AI technology utilization in their respective television channels.

Serial No.	Level of Adoption	Frequency (F)	Percentage (%)	Mean	Standard Deviation
1	Very Low	12	24	2.14	0.926
2	Low	23	46		
3	Medium	13	26		
4	High	0	0		
5	Very High	2	4		
6	Total	50	100%		

Table 2 presented offers insights into the research sample's perspectives on their respective television channels' adoption of artificial intelligence technologies. The mean score recorded is 2.14, with a standard deviation of 0.926. This suggests a general inclination towards a lower degree of AI technology adoption among the channels. In detail, the responses categorized as 'Low' in AI usage constituted the majority at 46%, followed by a 'Medium' level of usage at 26%, and 'Very Low' usage at 24%.

Interpreting these findings, the researcher considers several explanatory factors that could account for the Jordanian television channels' comparatively lower engagement with AI technologies, as observed in the research sample. Key among these factors is a potential lack of prioritization and investment in AI technology by these channels, coupled with a limited focus on developing these advanced technological solutions. The financial implications and substantial efforts required for AI technology development, trial, and implementation also play a role. Furthermore, concerns regarding data privacy and security might be leading to a degree of reluctance among some channels to fully embrace AI technologies, due to potential risks associated with information management. These results show a parallel with the findings of Mei Mustafa Abdel Razek (2022), wherein the 'Medium' level of AI usage emerged as the most common at 47.7%, followed by 'Low' usage at 31.7%, and 'High' usage at 20.6%.

2. To what extent has the television channel you are employed with adopted the following technologies in their media monitoring and analysis processes?

Table (3) outlines the utilization of artificial intelligence technologies in media monitoring and analysis, as adopted by the television channels represented in the research.

S.No.	Technology	Does Not Rely (F)	%	Do Not Know (F)	%	Relies (F)	%	Mean	Standard Deviation	Relative Weight (%)	Ranking
1	Coral Project (Comment Management)	10	20	34	68	6	12	1.92	0.566	64	1
2	Audio and Video Analysis Techniques	20	40	21	42	9	18	1.78	0.737	59.3	2
3	Natural Language Processing Techniques	20	40	23	46	7	14	1.74	0.694	58	3
4	Official: Media Bias Fact Check (Fake News Detection)	20	40	26	52	4	8	1.68	0.621	56	4
5	Connexion (Smart Search Engine for News Source Monitoring)	20	40	26	52	4	8	1.68	0.621	56	4
6	Open Source Handbook (Social Media Pages Management & Audience Sentiment Analysis)	20	40	22	44	8	16	1.67	0.716	55.7	5
7	News lynx (Public Interaction and Comment Analysis, News Story Comparison)	22	44	24	48	4	8	1.64	0.631	54.7	6

S.No.	Technology	Does Not Rely (F)	%	Do Not Know (F)	%	Relies (F)	%	Mean	Standard Deviation	Relative Weight (%)	Ranking
8	Deep Neural Networks for Complex Pattern Recognition in Media Data	20	40	28	56	2	4	1.64	0.563	54.7	6
9	newsguard (Journalist Team Analyzing News Sites)	20	40	30	60	0	0	1.60	0.495	53.3	7
	Total							1.70	0.627	56.8	

Table 3 discussed provides insights into the research participants' responses about the extent of adoption of specific artificial intelligence technologies for media monitoring and analysis by the television channel where they work. The aggregate mean score recorded is 1.70, accompanied by a standard deviation of 0.627. This indicates a predominant uncertainty among the research sample regarding their respective channels' reliance on the stated AI technologies for media monitoring and analysis.

This uncertainty might be attributable to several reasons. One significant factor is the limited focus on training programs in this domain. The educational and training initiatives related to artificial intelligence, particularly for media monitoring and analysis, remain relatively sparse in the Arab region. Consequently, this scarcity hampers the opportunities for channel employees to acquaint themselves with these technologies and understand their application. Furthermore, there's an evident lack of awareness about the importance of AI technologies in this field. Workers in Arab television channels might not be fully cognizant of the critical role AI technologies can play in media monitoring and analysis, partly due to unclearly defined benefits and a deficiency of comprehensive information about these technologies among channel employees. The findings from Table 3, which indicate a predominant uncertainty among Arab television channel employees regarding the adoption of AI technologies for media monitoring and analysis, resonate with similar trends identified in previous research. Studies like Abdel Razek's (2022) and Safori et al.'s (2022) highlight the pervasive issues of limited AI implementation due to inadequate training and a lack of comprehensive knowledge among media professionals. Additionally, Al-Harbi's (2022) research on the limited application of AI primarily to maintenance tasks within Arab media sectors further underscores the broader regional trend of slow AI adoption. These studies collectively suggest that the uncertainty observed in our findings could stem from unclearly defined benefits, deficiency in detailed AI knowledge, and the need for more robust training programs, emphasizing the importance of enhancing educational and informational initiatives to improve AI adoption and effectiveness in media monitoring and analysis across the Arab region.

3. Applications of Artificial Intelligence Technologies in Monitoring and Analysis Processes

Table (4) categorizes the different areas where artificial intelligence technologies are applied in the context of monitoring and analysis processes.

S.No.	Technology	Does Not Rely (F)	%	Do Not Know (F)	%	Relies (F)	%	Mean	Standard Deviation	Relative Weight (%)	Ranking
1	Coral Project (Comment Management)	10	20	34	68	6	12	1.92	0.566	64	1
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3	Natural Language Processing Techniques	20	40	23	46	7	14	1.74	0.694	58	3
4	Official: Media Bias Fact Check (Fake News Detection)	20	40	26	52	4	8	1.68	0.621	56	4

S.No.	Technology	Does Not Rely (F)	%	Do Not Know (F)	%	Relies (F)	%	Mean	Standard Deviation	Relative Weight (%)	Ranking
5	Connexion (Smart Search Engine for News Source Monitoring)	20	40	26	52	4	8	1.68	0.621	56	4
6	Open Source Handbook (Social Media Pages Management & Audience Sentiment Analysis)	20	40	22	44	8	16	1.67	0.716	55.7	5
7	News lynx (Public Interaction and Comment Analysis, News Story Comparison)	22	44	24	48	4	8	1.64	0.631	54.7	6
8	Deep Neural Networks for Complex Pattern Recognition in Media Data	20	40	28	56	2	4	1.64	0.563	54.7	6
9	newsguard (Journalist Team Analyzing News Sites)	20	40	30	60	0	0	1.60	0.495	53.3	7
	Total							1.70	0.627	56.8	

Table 4 provides an analysis of the research participants' responses regarding the application of artificial intelligence technologies in the monitoring and analysis process. The aggregate mean score across these applications stands at 2.16, with a standard deviation of 0.782. This suggests a general neutrality in the respondents' views on the application areas of AI technologies in monitoring and analysis.

Specifically, the application areas of "Comparison of Media Coverage of Events" and "Translation and Analysis of Topics from Other Languages" rank highest in terms of AI technology use, both achieving a mean value of 2.32, coupled with a standard deviation of 0.746. Following these are applications in "Handling and Analyzing Big Data," which recorded a mean of 2.16 and a standard deviation of 0.817. Meanwhile, the areas of "Verifying Fake and Misleading News" and "Predicting Outcomes of Upcoming Events" both hold the third rank, each showing a mean of 2.12 and a standard deviation of 0.746. These findings reflect the varied perceptions of the research sample on the priority and effectiveness of different AI applications in the domain of media monitoring and analysis. based on previous research, studies like Atbaiqa's (2023) and Singh et al.'s (2023) underscore the growing interest in AI across various media sectors, noting its economic impact and marketing advancements. Similarly, the present findings align with El-Bahiry's (2022) insights on the positive perceptions of Egyptian journalists towards AI in journalism, suggesting a broader acceptance and integration of AI in media operations. Harb's (2022) research further echoes this trend, emphasizing economic factors as a crucial determinant for AI adoption in Palestinian satellite channels, a perspective that resonates with the economic considerations observed in this research.

4. In your opinion, what is the level of success achieved by employing artificial intelligence technologies in the media monitoring and analysis process?

Table (5) Success of Implementing Artificial Intelligence Technologies in Media Monitoring and Analysis Process

S.No.	Level of Success	Frequency (F)	Percentage (%)	Mean	Standard Deviation
1	Not Successful	7	14	2.46	1.014
	Slightly Successful	23	46		
	Moderately Successful	12	24		
	Highly Successful	6	12		
	Very Highly Successful	2	4		
	Total	50	100%		

Reflecting on the findings from the preceding table, it becomes apparent that the responses from the researchy sample regarding the success of implementing artificial intelligence technologies in media monitoring and analysis are skewed towards the lower end. The calculated mean is 2.46, with a standard deviation of 0.918, suggesting a tendency among the majority of respondents to view the television channels in the research as achieving moderate success in the employment of AI technologies, predominantly skewed towards a lower level of success. The most prominent response was 'Marginally Successful,' constituting 46% of the sample, followed by 'Moderately Successful' at 24%, and 'Unsuccessful' at 14%.

This trend aligns with previous research that highlights similar challenges in the adoption of AI technologies within the media sector. For instance, studies like those by Abdel Razek (2022) and Al-Harbi (2022) have pointed out significant barriers such as the lack of awareness about AI capabilities and the absence of adequate training for media personnel, which are crucial for effective AI integration. These studies underscore that insufficient understanding and training can lead to underutilization and less favorable assessments of AI technology implementation in media operations.

5. Identifying the Challenges in Employing Artificial Intelligence Technologies in Media Monitoring and Analysis within Jordanian Television Channels:

Table (6) the challenges encountered in the implementation of artificial intelligence technologies in the domain of media monitoring and analysis.

Serial No.	Identified Challenges	Disagree (Frequency)	%	Neutral (Frequency)	%	Agree (Frequency)	%	Mean	Standard Deviation	Relative Weight (%)	Ranking
1	Susceptibility to Hacking and Analysis of Misleading Content	7	14	22	44	21	42	2.28	0.701	76	1
2	High Cost of AI Technologies in Monitoring and Analysis	11	22	18	36	21	42	2.20	0.782	73.3	2
3	Inaccuracy and Inflexibility in Media Content Analysis	7	14	32	64	11	22	2.08	0.601	69.3	3
4	Lack of Regulatory Frameworks for AI Usage in Media Analysis	13	26	20	40	17	34	2.08	0.778	69.3	3
5	Reduction of Human Element in Monitoring and Analysis	15	30	24	48	11	22	1.92	0.724	64	4
	Total							2.11	0.717	70.38	

Table 6 presented delineates the challenges encountered by Jordanian television channels in the implementation of artificial intelligence technologies for media monitoring and analysis. The aggregate mean value is calculated at 2.11, with a standard deviation of 0.717, signifying a consensus among the majority of the research sample on the existence of challenges in utilizing AI in this context. The most prominent challenge identified is the "Risk of Hacking and Analyzing Misleading Content," which stands at the forefront with the highest mean score of 2.27. This is closely followed by the challenge of "Increasing Costs of AI Technologies Used in Monitoring and Analysis," ranked second with a mean score of

2.20. Tied for third place are the challenges "Absence of Regulatory Frameworks for AI Application in Media Monitoring and Analysis" and "Lack of Precision and Flexibility in Media Content Analysis," both recording a mean value of 2.08. These results underscore the various obstacles perceived by professionals within the Jordanian television industry regarding the effective deployment of AI technologies in their operational processes. The consensus on challenges such as the "Risk of Hacking and Analyzing Misleading Content" and the "Increasing Costs of AI Technologies" aligns with findings from Abdel Razek's (2022) and Harb's (2022) research, which also cite economic barriers and security concerns as major impediments to AI adoption in Arab media. Additionally, the challenges related to the "Absence of Regulatory Frameworks" and the "Lack of Precision and Flexibility in Media Content Analysis" resonate with Al-Harbi's (2022) study, pointing out regulatory and technological limitations. These findings collectively underscore a pattern of significant obstacles affecting the deployment of AI in the media sector across the region, highlighting the need for strategic focus on regulatory, economic, and technological enhancements to advance AI integration effectively.

Research Hypotheses Outcomes

1. A correlation exists between the degree of adoption of contemporary technology by Jordanian television channels and the extent of their utilization of artificial intelligence technologies in the processes of monitoring and analysis.

Table (7) explores the correlation between the integration of modern technology in Jordanian television channels and their application of artificial intelligence technologies within monitoring and analysis frameworks.

Variables	Application of Artificial Intelligence in Monitoring and Analysis	
	Correlation Coefficient (Spearman)	Significance
Adoption of Modern Technology	0.73**	0.000

Table 7 illustrates a statistically significant positive correlation between the adoption of modern technology by Jordanian television channels and the employment of artificial intelligence technologies in monitoring and analysis. The Spearman correlation coefficient reached a value of 0.73, indicating a strong correlation. With a significance level of 0.000, which is less than the conventional threshold of 0.05, the alternative hypothesis suggesting the existence of a relationship between the adoption of modern technology by Jordanian television channels and the employment of AI technologies in monitoring and analysis is accepted, while the null hypothesis is rejected**.**

2. Examination of Gender-Based Variations in Knowledge of Artificial Intelligence Technologies Used in Media:

Table (8) Analysis of Knowledge Differences in AI Technologies in Media Among Research Participants, Categorized by Gender.

Variables	Gender	Sample Size	Mean Rank	Standard Deviation	T-Value	Significance Level
Knowledge of AI Technologies	Male	35	2.57	1.290	0.477	0.013
	Female	15	2.73	0.884		

From the data presented in Table 8, it can be inferred that there are no substantial differences in the level of knowledge about AI technologies used in the media sector attributed to gender differences within the research sample. The calculated T-value is 0.477, with a statistically significant level of 0.013, which is below the standard threshold of 0.05. These results lead to the rejection of the alternate hypothesis proposing the presence of significant differences in AI technology knowledge between male and female participants. Consequently, the null hypothesis, suggesting the absence of significant gender-based differences in the knowledge of AI technologies among the participants, is accepted.

CONCLUSIONS

The research conducted on the use of artificial intelligence technologies in Jordanian television channels reveals a scenario of limited employment of these technologies. Although they are utilized, the extent of their usage does not fully tap into their potential capabilities. There appears to be a mixed perception among the participants regarding the effectiveness of AI in media development, with sentiments ranging from skepticism to moderate optimism. This highlights a critical gap between the potential of AI technologies and their current application in the media sector. Furthermore, the research underscores a general underutilization of AI in the key areas of media monitoring and analysis. Despite the identification of AI applications in the comparison of media coverage of events, translation and analysis of topics from other languages, and big data handling, these technologies have not been fully integrated into daily operations. The consensus among respondents is that their channels have only achieved minimal success in implementing AI technologies effectively, which could be due to various operational challenges.

Significant challenges were noted, particularly regarding the security vulnerabilities and the risk of analyzing misleading content. These issues present substantial barriers to the effective utilization of AI in media operations. Nevertheless, a positive correlation was found between the uptake of modern technology and the application of AI in monitoring and analysis, indicating that as channels become more technologically advanced, the integration of AI could become more pronounced and effective. Lastly, the research observed no significant gender differences in the knowledge of AI technologies within the media sector. This uniformity suggests that awareness and understanding of AI applications are spread evenly across genders in the industry, which could foster a more inclusive approach to training and development in AI capabilities.

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Research Recommendations:

1. Given the results, it is recommended that Jordanian television channels increase their focus on employing AI technologies in monitoring and analysis due to their proven effectiveness.
2. Staff in these channels should receive training on using AI technologies for media monitoring and analysis, facilitated through practical training programs and appropriate resource provision.
3. Jordanian television channels are encouraged to establish partnerships and cooperative protocols to enable substantial financial and administrative investment in AI technology implementation.
4. These channels should leverage the expertise of researchers and academics to advance the development and application of AI technologies in media monitoring and analysis.

Arabic References

Al-Zahrani, A. (2022). Adoption of artificial intelligence applications by Arab journalists in media institutions. *Algerian Journal for Media and Public Opinion Research*, 5(1), 15-39.

Khattab, A. (2021). Use of artificial intelligence technologies in newsrooms: A study on development trends and transformation issues within technological changes. *Scientific Journal of Journalism Research, Faculty of Media, Cairo University*, 22, 93-154.

Maghlaoui, A., & Lachhab, W. (2022). *Effectiveness of distance learning during the COVID-19 pandemic: A survey study on a sample of students from Jijel University. Master's thesis*, Mohammed Seddik Ben Yahia University, Faculty of Humanities and Social Sciences, Department of Information and Communication Sciences.

Haddad, A. (2023). Employment of artificial intelligence technologies in Jordanian journalistic institutions and its reflection on the professional practice of journalists. *Scientific Journal of Journalism Research, Faculty of Media, Cairo University*, 25.

Hasnain, S. (2021). Contemporary Media; between the circulation of knowledge and the transfer of visual arts experiences. *Research in Art Education and Arts, Faculty of Art Education, Helwan University*, 1(21).

Al-Bahiri, S. (2022). Egyptian journalists' attitudes toward the use of Robot Journalism in Egyptian newspaper content production. *Scientific Journal of Journalism Research, Faculty of Media, Cairo University*, 1(24), 129-158.

Al-Harbi, A. (2022). Employment of artificial intelligence technology in the television production environment: A descriptive applied study on a sample of workers in Arab satellite channels 2022. *Journal of Communication Sciences*, 8(1).

Atiqa, A. (2023). The future of employing mechanisms and technologies of artificial intelligence in the development of Arab media institutions: A field study on a sample of communicators and academic elites in Libya and Palestine. *Al-Aqsa University Journal*, 27(3), 200-225.

Abdel Hamid, A. (2020). Employment of artificial intelligence applications in media content production and its relationship with its credibility among the Egyptian public. *Egyptian Journal for Media Research, Al-Azhar University*, 5(55).

Harb, G. (2022). A foresight vision for adopting artificial intelligence technologies in Palestinian satellite channels. *Algerian Journal for Communication*, 24(1).

Abdel Razek, M. (2022). Artificial intelligence technologies in media: reality and future developments: An applied study on media professionals in Egyptian and Arab media. *Egyptian Journal for Media Research*, 1(81), 1-74.

Al-Farani, L., & Al-Hajjili, S. (2020). Factors influencing the teacher's acceptance of using artificial intelligence in education in light of the Unified Theory of Acceptance and Use of Technology (UTAUT). *Arab Journal for Educational and Psychological Sciences*, 4(14).

Zaitoon, D. (2022). The role of service communication technology applications in Egyptian financial institutions and their impact on customer satisfaction. *Research Journal of the Faculty of Arts, Menoufia University*, 90(53).

Ali, K. (2018). Media monitoring of the performance of traditional and new media. *Egyptian Journal for Public Opinion Research*, 17(1).

Moussa, A., & Abdelfattah, A. (2020). Journalists' and leaders' attitudes towards the employment of artificial intelligence technologies inside newsrooms in Egyptian journalistic institutions: A comparative study. *Egyptian Journal for Public Opinion Research*, 19(1), 1-66.

Abdel Razek, M. (2022). Artificial intelligence technologies in the media.. reality and future developments. *Egyptian Journal for Media Research*, 81(1), 1-74.

Noor, H. (2022). Employment of artificial intelligence technologies in television to support self-education and the satisfactions achieved. *Baghdad University, Faculty of Media, ResearchGate*. https://www.researchgate.net/publication/361792698_twzyf_tqnyat_aldhka_alastnay_fy_altlfzywn_ldm_altlym_aldhaty_wa lashbaat_almthqqt

REFERENCES

Aizstrauta, D., Ginters, E., & Eroles, M. A. P. (2015). Applying theory of diffusion of innovations to evaluate technology acceptance and sustainability. *Procedia Computer Science*, 43(69).

Canavilhas, J. (2022). Artificial Intelligence and Journalism: Current Situation and Expectations in the Portuguese Sports Media. *Journalism and media*, 3, 511-519.

Dearing, J. W., & Cox, J. G. (2018). Diffusion of innovations theory, principles, and practice**.** *Health affairs*, 37(2).

Elaasy, H. (2023). Employing Artificial Intelligence (AI) Technology in Advertising Design on Social Media. *Journal of Design Sciences and Apped Arts*, 4(2), 247-263.

García-Avilés, J. A. (2020). *Diffusion of innovation*. The international Encyclopedia of media psychology**.**

Ridwan, D., & Heikal, J. (2023). Application Of Artificial Intelligence (Ai) In Television Industry Management Strategy Using Grounded Theory Analysis: A Case Study On Tvone. *Journal Pendidikan Indonesia*, l4(9), Pp: 922-930.

Sharadga, T. M. A., Tahat, Z., & Safori, A. O. (2022). Journalists' perceptions towards employing artificial intelligence techniques in Jordan TV's newsrooms. *Studies in Media and Communication*, *10*(2), 239-248.

Singh, P., Verma, A., Vij, S., & Thakur, J. (2023). Implications & Impact of Artificial Intelligence in Digital Media: With Special Focus on Social Media Marketing. In *E3S Web of Conferences* (Vol. 399, p. 07006). EDP Sciences.

Shukla Shubhendu, S., & Vijay, J. (2013). Applicability of artificial intelligence in different fields of life. *International Journal of Scientific Engineering and Research*, 1(1), 28.

Vargo, S. L., Akaka, M. A., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. *Journal of business research*, 116.

Momani, A. M. (2020). The unified theory of acceptance and use of technology: A new approach in technology acceptance. *International Journal of Sociotechnology and Knowledge Development (IJSKD)*, *12*(3).

Wedlock, B. C., & Trahan, M. P. (2019). Revisiting the Unified Theory of Acceptance and the Use of Technology (UTAUT) Model and Scale: An Empirical Evolution of Educational Technology. *Research Issues in Contemporary Education*, 4(1).

Fill,M., & Fil,T.(2018). Media Monitoring as an Element of Strategic Business Management. *Social Communication*, 4(1).