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Article

The role of AI in raising the efficiency of public relations practitioners at Jordanian telecommunications companies

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Abstract: The study aims to explore the role of artificial intelligence in enhancing the efficiency of public relations practitioners in Jordanian telecommunication companies. This study belongs to the category of descriptive research and adopted a survey methodology. The study surveyed (86) individuals representing the community of public relations practitioners and customer service personnel in the Jordanian telecommunication companies Zain and Orange.The study findings revealed that less experienced public relations personnel in Zain and Orange, with less than five years of experience, exhibit greater acceptance and enthusiasm for using artificial intelligence applications compared to their more experienced counterparts. The study also indicated that most public relations practitioners in Zain and Orange perceive artificial intelligence applications to have a moderate to significant contribution to achieving public relations functions and enhancing their work, reflecting technological advancement and the need to adapt to rapid changes in the business environment. Moreover, the study also discussed the limits, including that artificial intelligence can analyze large amounts of data related to the market and the audience, which provides further research and study.

Keywords: artificial intelligence; public relations; enhancing practitioners' efficiency; Jordanian telecommunication companies

1. Introduction

The digital revolution has led to the emergence of new communication means. Many countries around the world are striving to develop the field of communications by exploiting the massive advancements in information technology related to media and communication and working on developing these networks through technological and human resources. Therefore, the revolution in information technology within the media work environment has created a competitive environment on both regional and international levels to achieve a completely different qualitative shift in the field of communication and media to enhance their cultural, scientific, and economic capabilities (Habes et al., 2024). The importance of technological development in the field of communications lies in its fundamental role in raising cultural and social levels by facilitating communication among peoples (Habes et al., 2024). This is achieved through the data and means provided by technological and informational globalization, which enhance the empowerment of communities in keeping pace with the development of the communications sector in line with international policies and changes. Despite the modernity of AI, it has begun to spread very rapidly and has become a focal point of interest for entrepreneurs and companies alike due to the changes it has brought about in the technological and communicative environment (Tahat et al., 2023). Undoubtedly, it has become necessary to move towards

contemporary modern methods that ensure these companies and entrepreneurs continuity, flexibility, and openness to the new digital environment. This includes developing the role of institutions in presenting an innovative vision to benefit from these technologies, particularly in raising the efficiency of employees in those institutions (Bdoor and Habes, 2024).

Public relations are considered the foundation of successful management in various institutions, gaining their trust and securing public support, as it is one of the communication functions of great importance (Hilat et al., 2019). Thus, the incorporation of AI, with its technologies and applications, into the public relations work environment has positively contributed to facilitating all its tasks and enhancing the efficiency of its employees (Habes et al., 2023). Jordan is one of the countries that have taken development as a fundamental pillar in raising the level of competencies and expertise within public institutions and specifically in Jordanian telecommunications companies, particularly the public relations departments in those companies (Olaimat and Khalaf, 2022). This is according to a set of visions that seek to integrate communication means within a modern digital environment, contributing to the improvement of the quality of these institutions, companies, and their employees. This, in turn, leads to creating a competitive environment and achieving the principle of distinction among these companies for the targeted audience (Rababa et al., 2022). Given the rapid progress and growth in the field of communications in Jordan, this has been reflected through the engagement of employees, especially in public relations departments, in advancing these companies and ensuring their continuity and development towards an advanced technological future that seeks to meet all the communicative needs of the public (Hadeed et al., 2024). This is considered an indicator of the advancement of the economic level in various Jordanian telecommunications companies. This is reflected in the outputs of the public relations departments in telecommunications companies, which have brought about fundamental changes in customer service that align with the media vision of these departments. This results in positive impacts that enrich and enhance the message of public relations interactively and comprehensively through high-quality and effective AI applications and tools in public relations functions (Khalifa, 2019, p. 2).

In light of the aforementioned, this study aims to monitor AI with its various technologies and tools and its effective and positive role in raising the functional efficiency of public relations practitioners. It also seeks to examine the impact of this on different tasks, especially in Jordanian telecommunications companies, and to study the factors that contribute to their improvement and development (Al Olaimat et al., 2022). The rapid pace of technological advancement and changes in the field of communication have made it imperative for researchers to study their impact on public relations. Technology has been integrated and employed within the scientific and practical aspects of institutions. In Jordan, the telecommunications sector is experiencing intense competition among its companies (Zain and Orange) in terms of utilizing AI to maintain a level that elevates the performance of public relations employees within these companies to enhance their values and improve the performance of employees in the public relations department. The study problem lies in attempting to uncover the role of AI in enhancing the efficiency of public relations practitioners in Jordanian telecommunications companies.

2. Background

The digital revolution has dramatically reshaped the landscape of public relations (PR), transforming how organizations communicate with their audiences and manage their reputations. With the rise of social media, real-time communication, and data-driven strategies, PR practices have become more dynamic, fast-paced, and complex. In this evolving environment, AI has emerged as a particularly relevant tool, offering unprecedented capabilities to enhance PR functions (Diga and Kelleher, 2009). This discussion explores the specific impacts of the digital revolution on PR and examines why AI is crucial in addressing these changes, So The digital revolution has moved PR practices from traditional media outlets like print, radio, and television to digital platforms, including social media, blogs, and online news sites. Today, news spreads quickly across the internet, and audiences expect immediate, transparent communication from organizations (Ivancsics and Hansen, 2019). The digital revolution has profoundly impacted PR practices, making real-time engagement, data-driven strategies, and crisis management more critical than ever. AI is particularly relevant in this context, providing the tools needed to automate processes, analyze sentiment, predict trends, and personalize communications. As PR continues to evolve in the digital era, AI will play an increasingly central role in helping professionals manage the fast-paced, complex world of digital communication (Hallahan, 1999; Kuan et al., 2021; Nisreen, 2015). So the integration of Artificial Intelligence (AI) in public relations is revolutionizing how telecommunications companies operate globally. In Jordan, where the telecommunications sector plays a critical role in driving economic development, the use of AI to enhance PR practices can significantly improve efficiency, strategic decision-making, and audience engagement, The results of studying AI's role in enhancing the efficiency of PR practitioners in Jordanian telecom companies can provide vital insights that shape both operational practices and policies (Hadeed et al., 2024). So this the role of Artificial Intelligence (AI) in enhancing the efficiency of public relations (PR) practitioners in Jordanian telecommunications companies offers significant theoretical contributions. Specifically, it deepens the understanding of technology adoption in the PR sector, which has not been extensively explored in previous literature, especially in the context of AI. By leveraging established theories such as the Unified Theory of Acceptance and Use of Technology (UTAUT) and Media Richness Theory, this study not only tests these frameworks in a novel context but also extends their application to new domains,substantial theoretical contributions by advancing the application of UTAUT and Media Richness Theory to the field of AI in PR.

3. Study objective

This study aims to understand how artificial intelligence techniques such as data analysis, natural language processing, and interactive robotic systems can be used to improve communication with customers and the general public. It also aims to measure the extent to which artificial intelligence contributes to enhancing the customer experience and improving personal interaction through sentiment analysis and personalizing messages. The role of artificial intelligence in enhancing the efficiency of public relations practitioners within Jordanian telecommunications

companies. This research also aims to determine how this advanced technology affects the professional performance of public relations practitioners, and whether it contributes to improving communication strategies and interaction with the public, in addition to facing challenges and achieving corporate goals more efficiently at Jordanian Telecommunications Companies.

4. Literature review

4.1. AI its development in public relations

Initially, digital tools in public relations were primarily used to automate routine tasks such as scheduling content on social media(Olaimat et al., 2022). Over time, these tools have evolved to become more intelligent, as AI can now provide accurate analytics on audience behavior, predict trends, and make strategic recommendations based on these analytics. In the current era, AI has become a central tool in supporting and implementing public relations strategies. According to numerous studies, AI automates routine and complex tasks that used to require significant time and effort. For example, a study by vancsics and Hansen (2019) showed that AI can improve data analysis, allowing public relations practitioners to understand audience trends and needs more accurately. Another study by Safori et al. (2023) showed that AI can improve media analysis processes through advanced sentiment analysis tools and big data, helping public relations practitioners develop more effective media strategies and target messages more accurately. With the advancement of AI technologies, repetitive tasks in public relations such as writing daily press releases, scheduling social media posts, and managing automated responses to audience inquiries can now be automated (Mansoori et al., 2023). These tools allow PR practitioners to focus on more strategic tasks such as developing messages and planning media campaigns (Tahat and Al-Mutairi, 2022). AI is also being used to improve the quality of engagement with audiences (Tahat et al., 2024). For example, chatbots can provide automated and rapid responses to customer inquiries, increasing customer satisfaction and boosting engagement. These tools are increasingly being used in public relations to improve customer experience and increase effective communication with audiences (Habes et al., 2024). As well as the effective implementation of Artificial Intelligence (AI) in public relations relies heavily on a robust technological infrastructure. This includes high-performance computing, data storage, and analytics tools that can process and analyze large datasets in real-time (Mansoori et al., 2023). Additionally, a reliable and secure internet connection is essential for seamless communication and data exchange. To support the adoption of AI in public relations, policy frameworks should focus on data protection, cybersecurity, and infrastructure development. This can be achieved by investing in digital literacy programs, updating regulations to accommodate AI-driven technologies, and establishing clear guidelines for AI usage in public relations (Tahat and Al-Mutairi, 2022).

4.2. Applications of artificial intelligence in the telecommunications sector

Artificial intelligence has become one of the most influential tools in various industries and sectors, including PR. Recent research has shown that integrating AI into public relations practices significantly enhances efficiency and performance, helping companies improve their communication strategies with their target audiences (Tahat et al., 2024). Telecommunications companies are among the sectors that benefit the most from AI, especially in the field of public relations. AI is used to improve customer engagement through applications such as chatbots and predictive data analytics systems that help companies anticipate customer needs and engage with them in more personalized ways. A study by Yadav et al. (2019) indicated that telecom companies that rely on AI technologies were able to improve the efficiency of their media campaigns and engagement with the public, which led to an improvement in the company's image and increased customer loyalty. AI thus contributes significantly to improving the operational efficiency of the telecom sector, enhancing customer experience, and analyzing big data to provide more personalized services. In addition, AI plays a crucial role in managing advanced networks such as 5G, fraud detection, and crisis management. As these technologies continue to evolve, the telecom sector is expected to continue to leverage AI to drive further innovation and growth. In the Jordanian context, not many studies have been conducted that specifically focus on the role of AI in public relations in the telecom sector, highlighting the importance of this research. However, a study by Al-Khasawneh et al. (2022) showed that Jordanian telecom companies have begun to adopt AI applications to improve customer experience, but there is still significant scope for expanding its use in enhancing the efficiency of PR teams.

4.3. Artificial intelligence in Jordanian telecom companies

Jordanian telecom companies such as Zain and Orange have witnessed a major shift in public relations (PR) practices as a result of technological advancements and the integration of artificial intelligence (AI) technologies into their operations. Among the most important telecom companies in Jordan are Zain and Orange (Alshare, 2018). Therefore, one of the most important applications of artificial intelligence in Zain and Orange is the analysis of big data related to the market and the target audience (Nahar et al., 2020). The public relations teams in these two companies rely on data analysis tools that use artificial intelligence to understand general trends and behaviors of the public. These tools allow public relations employees to analyze customer comments on social media, evaluate reactions to media campaigns, and identify trending topics and problems that customers may face. For example, sentiment analysis tools that rely on artificial intelligence can help the public relations teams at Zain and Orange measure customer satisfaction with the company's services or products (Al-Zyoud et al., 2021). These analyses contribute to directing communication strategies and reformulating media messages to suit the needs of the target audience(Nahar et al., 2020) .

4.4. Unified theory of acceptance and use of technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) predicts individuals' actual behavior towards technology and its use by users in an organizational context. Venkatesh et al. (2003) developed a framework to evaluate technology acceptance as a way to measure individuals' technological acceptance. After the proliferation of theories and models used to explain technology acceptance behavior, researchers faced challenges in selecting the appropriate and influential model (Habes et al., 2022; Safori et al., 2023). The Unified Theory of Acceptance and Use of Technology (UTAUT) analyzes the context of determinants of behavioral intention and actual behavior, along with some demographic variables. These determinants constitute the variables and dimensions of the theory (Venkatesh et al., 2003): Given the requirements of this study, the Technology Acceptance Model (TAM) by Fred Davis (1989) was relied upon. TAM is one of the most prominent and widely influential models for predicting the acceptance and use of technology for learning purposes, with a strong theoretical foundation and sufficient empirical support. It provides a basis for tracking how internal and external variables influence attitudes and intentions to use technology (Davis et al., 2017, p. 3). Davis noted that when users are introduced to new technology, a variety of factors influence their decision on how and when they will use it. The perceived usefulness and ease of use are critical factors contributing to technology acceptance. The perceived ease of use depends on the individual's understanding and awareness of the role of the technology itself. This study relied on two theories: The Unified Theory of Acceptance and Use of Technology (UTAUT) and Media Richness Theory to examine the role of AI in enhancing the efficiency of public relations practitioners in Jordanian telecommunications companies (Habes et al., 2023; Wang et al., 2022). The Unified Theory of Acceptance and Use of Technology (UTAUT) is a comprehensive model that offers a holistic understanding of technology acceptance, particularly in the context of Artificial Intelligence (AI) adoption in public relations (PR) efficiency (Wang et al., 2022, 2023; Wang et al., 2009). UTAUT integrates key constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions to predict behavioral intention and technology use. The theory emphasizes the direct impact of these factors on technology adoption and utilization, providing a robust foundation for studying how AI can enhance PR efficiency in Jordanian telecommunications companies. Similarly, Media Richness Theory (MRT) also plays a vital role in understanding the impact of AI on PR efficiency in telecommunications companies. MRT focuses on the capacity of communication channels to convey information effectively and efficiently (Pedrotti and Nistor, 2016). In the context of AI implementation, MRT can elucidate how the richness of communication mediums influences the adoption and success of AI technologies, especially in the PR domain (Alhammad et al., 2021).

5. Study design and methodology

This study belongs to the category of descriptive studies, aiming to provide an accurate description of the phenomenon related to the role of AI in enhancing the efficiency of public relations practitioners in Jordanian telecommunications

companies and offering logical interpretations thereof. This study adopted a survey methodology as it is the most suitable approach for the study topic, aiming to understand and interpret the problematic phenomenon, describe the relationships between them, and reach practical results regarding the role of AI in enhancing the efficiency of public relations practitioners in Jordanian telecommunications companies.ٔSince this study falls under descriptive research, a questionnaire was used as a tool for collecting data and information from the study participants, as it is one of the most suitable tools for collecting quantitative information and data The sampling process for the study was carefully designed to ensure representativeness, even with the relatively small population of PR practitioners in Jordanian telecommunications companies. By including professionals from all major companies, ensuring role diversity, and selecting an appropriate sample size based on the concept of data saturation. The survey instrument was designed to comprehensively measure key constructs related to AI adoption and its impact on PR efficiency. By combining structured Likert-scale questions with open-ended responses, the survey provided both quantitative data and qualitative insights. The questions were carefully crafted to assess performance expectancy, effort expectancy, social influence, facilitating conditions, PR efficiency, and the extent of AI usage—ultimately providing a well-rounded understanding of how AI is transforming PR practices in Jordanian telecommunications companies.The study adopted a comprehensive survey method, which is a means to collect information and data from the entire research community using appropriate methods. The questionnaire was distributed to all public relations practitioners at Zain and Orange companies, with responses received from 86 individuals at Zain and 45 individuals at Orange. Therefore, the study encompasses all participants represented by Zain and Orange companies. This method was chosen due to the relatively small size of the study population.

5.1. Data analysis

The data analysis methods—descriptive statistics, reliability and validity testing, correlation analysis, regression, *t*-tests, ANOVA, and thematic analysis—were carefully chosen to align with research hypotheses si These methods enabled the study to quantify the relationship between AI usage and PR efficiency and explore how various factors from the UTAUT model influence AI adoption in Jordanian telecom companies . The combination of statistical and qualitative analysis provided a comprehensive understanding of the impact of AI on PR practices (Elbasir et al., 2020).

5.2. Validity and reliability procedures

To process the data collected from the study sample and to verify the study's questions, the Statistical Package for the Social Sciences (SPSS) was used to obtain the study-related results. For the purpose of verifying face validity, the study tool was presented to a number of academic experts in the field of media, university professors, to provide their opinions on its paragraphs in terms of linguistic formulation, relevance of paragraphs to their fields, appropriateness for the intended purpose, and to take their guidance and signals to finalize its form. To ensure a high degree of consistency in the study questions, a reliability test was conducted by re-applying the same tool to a

sample consisting of (10) public relations employees from Zain and Orange companies, representing (25%). Three analysts selected the reliability process by applying the Holsti equation, where the results showed that the average reliability coefficient reached (85.9%), indicating a high-value percentage that the study tool is reliable and valid for application.

These preliminary tests are critical in modifying the research design, to identify potential problems and offer practical insights. Also, the findings from pilot studies can guide other researchers and provide direction for future research. For this study, a pilot sample of 50 respondents was chosen. The pilot test results showed that Cronbach's Alpha values for each construct exceeded the 0.7 threshold (Habes et al., 2021) demonstrating the reliability of the survey questionnaire. The results of the pilot test are summarized in **Table 1**.

Table 1. Results of pilot testing.

Variables	Cronbach Alpha Values	Acquired Values
Age	0.738	0.7
Educational Qualification	0.714	
Years of Experience	0.801	
AI Application Use	0.0746	

5.2.1. Gender

Table 2. Distribution of sample participants by gender.

Gender	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Male	18	43.9%	21	46.7%	39
Female	23	56.1%	24	53.3%	47
Total	41	100%	45	100%	86

Table 2 and the figure indicate the distribution of sample individuals from public relations practitioners at Jordan Telecommunications Companies, "Zain" and "Orange," according to gender. The relative distribution by gender shows that males at Zain constitute (43.9%) of the sample, while females constitute (56.1%). In contrast, males at Orange are slightly higher at (46.7%), while females constitute (53.3%). This indicates a relatively similar distribution between males and females in both companies.

5.2.2. Age group

Table 3. Distribution of sample participants by age group.

Age Group	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Up to 30	10	24.4%	16	35.6%	26
31–50	25	61.0%	24	53.3%	49
+ 51	6	14.6%	5	11.1%	11
Total	41	100%	45	100%	86

Through the analysis of **Table 3**, it can be noted that the majority of the sample individuals working in public relations and customer service at Zain and Orange companies belong to the age group of 31 to less than 51 years old. This age group represents (61.0%) in Zain and (53.3%) in Orange, indicating that most public relations practitioners in these two companies have moderate to high experience. This may reflect their ability to adapt to modern technologies such as AI in the field of public relations.

Additionally, from the previous table and figure, it is evident that the total number of employees working in public relations in both companies who belong to the age group "30 years and younger" amounted to (26) practitioners, while those belonging to the age group "31 to less than 51 years" totaled (49) practitioners. Those in the age group "51 years and older" amounted to (11) practitioners in both companies, thus integrating both young and experienced professionals through the inclusion of these age categories.

These results align with the study conducted by Bani Arshid (2022), which demonstrated a positive impact of AI on organizational performance in Jordanian telecommunications companies. However, they differ from the findings of Al-Madhoon (2022), indicating deficiencies in the use of AI technologies in media work in Palestine, suggesting variations in the adoption and utilization of AI.

5.2.3. Academic qualification

Table 4. Distribution of sample individuals according to educational qualification.

Age Group	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Secondary Education or Less	0	0.0%	0	0.0%	0
Diploma	7	17.1%	5	11.1%	12
Bachelor's	16	39.0%	19	42.2%	35
Master's	15	36.6%	17	37.8%	32
PhD	3	7.3%	4	8.9%	7
Total	41	100%	45	100%	86

By analyzing **Table 4**, which pertains to the distribution of sample individuals according to educational qualification, it can be observed that the majority of the sample individuals in both Zain and Orange hold a Bachelor's degree, representing 39.0% in Zain and 42.2% in Orange. This is followed by those holding a Master's degree at 36.6% in Zain and 37.8% in Orange.

This indicates that most public relations practitioners in these two companies have high educational qualifications, which may contribute to their ability to understand and apply modern technologies such as AI in their field. The results also suggest that public relations practitioners in Jordanian telecommunications companies enjoy a high level of education, which can be a significant factor in enhancing their ability to adapt to technological changes and use AI to improve their professional performance.

These results differ from the study conducted by Hammoud (2022), which indicates that there is a need for more training and development for workers in

Jordanian satellite channels to handle AI applications. This shows that merely having high educational qualifications is not enough without proper training and continuous development in the field of AI.

5.2.4. Years of experience

Table 5. Distribution of sample individuals according to years of experience.

Years of Experience	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
5 Years or Less	16	39.0%	18	40.0%	34
6 to 10 Years	18	43.9%	15	33.3%	33
More than 10 Years	7	17.1%	12	26.7%	19
Total	41	100%	45	100%	86

Table 5 shows that the distribution of sample individuals according to years of experience is primarily concentrated in the categories "5 years or less" and "6 to 10 years," representing 39.0% and 43.9% respectively in Zain, and 40.0% and 33.3% respectively in Orange.

This suggests that the majority of public relations practitioners in both companies have moderate experience in the field. This implies that most public relations practitioners at Zain and Orange have sufficient experience to understand and assimilate modern technologies such as AI. Additionally, the significant proportion of individuals within the "6 to 10 years" category may reflect a certain level of professional maturity that can help in effectively applying AI in public relations. These findings are consistent with the study conducted by Bani Arshid (2022), which showed a positive impact of AI on organizational performance in Jordanian telecommunications companies. It is also possible that moderate experience plays a role in facilitating the effective adoption and use of AI.

6. Discussion of the results

6.1. Knowledge of AI applications

Table 6. Knowledge of AI applications.

Level of Knowledge	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
High	19	46.3%	23	51.1%	42
Medium	13	31.7%	14	31.1%	27
Low	9	22.0%	8	17.8%	17
Don't Know	0	0.0%	0	0.0%	0
Total	41	100%	45	100%	86

Table 6 shows the distribution of the study sample individuals according to their knowledge of AI applications. It is observed that a significant percentage of participants in both Zain and Orange have a high level of knowledge of AI applications, with 46.3% in Zain and 51.1% in Orange. From the table, it is evident that the total

distribution of the sample individuals in both companies who have a "high" knowledge of AI applications reached 42 employees. In contrast, those with a "medium" level of knowledge reached 27, and those with "low" knowledge amounted to 17 practitioners in both companies. This result indicates that most public relations practitioners in these companies are well-versed in AI technologies and can use them to enhance their job performance. This awareness of the importance of these technologies in advancing public relations and communications could positively impact the organizational efficiency and effectiveness of these companies. This supports the notion that knowledge of AI applications contributes to improved organizational performance.

6.2. Extent of AI application use in public relations management at zain and orange

Table 7. Extent of AI application use in public relations management at zain and orange.

Extent of AI Use	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
High	9	22.0%	11	24.4%	20
Medium	26	63.4%	29	64.4%	55
Low	6	14.6%	5	11.1%	11
Don't Know	0	0.0%	0	0.0%	0
Total	41	100%	45	100%	86

Table 7 indicates that the medium use of AI applications in public relations management at Zain and Orange is the most common, with 63.4% in Zain and 64.4% in Orange. The high usage rate is lower, at 22.0% in Zain and 24.4% in Orange, while low usage is the least common, at 14.6% in Zain and 11.1% in Orange.

The table also shows that the total distribution of the sample individuals in both companies who use AI applications to a "high" extent is 20 employees, while those using it to a "medium" extent is 55, and those using it to a "low" extent is 11 employees.

These findings suggest that the public relations management in both companies uses AI applications to a medium to high extent, reflecting a trend towards leveraging advanced technology to improve their operations and services efficiently and effectively. This might also indicate an increasing reliance on automation and advanced analytics to understand the target audience and develop effective communication strategies.

6.3. Contribution of AI applications in achieving public relations functions in zain and orange

Table 8 shows that most of the sample individuals from both companies believe that the contribution of AI applications to achieving public relations functions is moderate, with 68.3% in Zain and 71.1% in Orange. The smallest percentage is from those who see a high contribution, with 24.4% in Zain and 20.0% in Orange. The lowest percentage is from those who see a low contribution, with 7.3% in Zain and 8.9% in Orange.

Table 8. Contribution of AI applications in achieving public relations functions.

Degree of Contribution	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
High	10	24.4%	9	20.0%	19
Medium	28	68.3%	32	71.1%	60
Low	3	7.3%	4	8.9%	7
Total	41	100%	45	100%	86

It can be observed that a total of 19 employees from both companies believe that AI applications have contributed "greatly" to achieving public relations functions. Meanwhile, a total of 60 employees believe the contribution is "moderate," and 7 employees believe the contribution is "low."

6.4. Degree of AI contribution in developing public relations work in zain and orange

Table 9. Degree of AI contribution in developing public relations work.

Degree of Contribution	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
High	18	43.9%	21	46.7%	39
Medium	17	41.5%	19	42.2%	36
Low	6	14.6%	5	11.1%	11
Don't Know	0	0.0%	0	0.0%	0
Total	41	100%	45	100%	86

According to **Table 9**, a large percentage of sample individuals from both companies believe that AI applications have a "high" contribution in developing public relations work, with 46.7% in Orange and 43.9% in Zain. It can be observed that a total of 39 employees from both companies believe that AI applications have contributed "greatly" to developing public relations work. Meanwhile, 36 employees believe the contribution is "moderate," and 11 employees believe the contribution is "low." This indicates a high appreciation for the role of AI in improving and developing public relations strategies within Orange more than in Zain. However, there is also a very close percentage between the two companies that consider the contribution to be "moderate," suggesting that there is room to improve and increase the use of AI applications in this field, thereby increasing competitiveness between the companies.

The study's results on the degree of AI contribution in developing public relations work in Zain and Orange can be attributed to several factors, including rapid technological advancements and the growing need for companies to adapt to rapid changes in the business environment. AI provides powerful tools for data analysis, understanding customer behavior, and developing effective communication strategies, all of which contribute to improving public relations performance.

6.5. Aspects of benefit to the public relations department from AI applications

Table 10. Aspects of benefit to the public relations department from AI applications.

Aspect of Benefit	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Increased Practitioner Confidence	12	5.7%	8	3.2%	20
Understanding Customer Trends	23	11.0%	30	12.0%	53
Producing Various Press Arts	14	6.7%	6	2.4%	20
Increased Innovation and Idea Generation	31	14.8%	33	13.2%	64
Improved Decision-Making	33	15.8%	41	16.4%	74
Better Data Analysis	16	7.7%	38	15.2%	54
Improved Customer Relations	31	14.8%	36	14.4%	67
Data Archiving	18	8.6%	21	8.4%	39
Monitoring Company-Related Comments	19	9.1%	19	7.6%	38
Preparing and Organizing Various Activities	11	5.3%	16	6.4%	27
Other	1	0.5%	2	0.8%	3
Total	209	100%	250	100%	459

The data in **Table 10** shows the distribution of the aspects of benefit to the public relations department from AI applications in Zain and Orange. It is noticeable that there is a variety of aspects of benefit, but some aspects stand out more than others. From the table, it is evident that the total frequencies of sample individuals in both companies on the options for aspects of benefit to the public relations department from AI applications reached 459 repetitions. The highest frequency was for the options "Improved Decision-Making" and "Improved Customer Relations," with 74 repetitions and 67 repetitions, respectively.

Regarding "Improved Decision-Making," it is considered one of the most prominent aspects of benefit in both companies, with a percentage of 15.8% in Zain and 16.4% in Orange. This indicates the importance of AI applications in providing accurate information and deep analyses that help in making more effective and strategic decisions. As for the aspects "Increased Innovation and Idea Generation" and "Improved Customer Relations," they are considered important benefits that the public relations sector in both companies gains. This highlights the role of AI in enhancing creativity and building stronger and more sustainable relationships with customers in Zain and Orange.

Another notable aspect is "Better Data Analysis," with percentages of 7.7% in Zain and 15.2% in Orange. This reflects the growing need to understand big data and extract valuable insights from it to improve public relations strategies.

6.6. The impact of AI applications on improving the performance of public relations practitioners in zain and orange

Table 11 shows the distribution of the sample individuals according to the impact of AI applications on improving the performance of public relations practitioners in

Zain and Orange. It is evident that AI applications have multiple impacts on the performance of public relations practitioners, and these impacts vary between the two companies. From the table, it is clear that the total frequency of sample individuals in both companies regarding the impact of AI applications on improving public relations performance reached 659 repetitions. The highest frequencies were for the options "Speeding Up Planning" and "Automatically and Regularly Collecting and Interpreting Information," with 79 and 73 repetitions, respectively.

Table 11. The impact of AI applications on improving the performance of public relations practitioners.

Impact of Applications on Performance	**Zain**		**Orange**		**Total**
	Count	**Percentage**	**Count**	**Percentage**	
Assisting in Database Scanning	30	10.0%	28	7.8%	58
Speeding Up Planning	40	13.3%	39	10.9%	79
Identifying Current and Potential Customer Needs	22	7.3%	42	11.7%	64
Responding to Customer Inquiries Regularly	39	13.0%	38	10.6%	77
Automatically and Quickly Writing Press Releases	10	3.3%	8	2.2%	18
Analyzing Data Quickly and Accurately	23	7.6%	41	11.5%	64
Obtaining Customer Data and Feedback	28	9.3%	26	7.3%	54
Automatically Recording Data	31	10.3%	21	5.9%	52
Automatically and Regularly Collecting and Interpreting Information	36	12.0%	37	10.3%	73
Speeding Up Transactions	18	6.0%	40	11.2%	58
Dividing Roles and Tasks	21	7.0%	32	8.9%	53
Other	3	1.0%	6	1.7%	9
Total	301	100%	358	100%	659

This result indicates that AI applications significantly impact the acceleration of planning processes and efficient information analysis within Zain. For Orange, the impact of "Identifying Current and Potential Customer Needs" was 11.7%, while the impact of "Analyzing Data Quickly and Accurately" was 11.5%. These are among the most prominent aspects that have improved within the company, reflecting AI's direct role in deeply understanding customer needs and quickly and accurately analyzing data. There are differences in percentages between the two companies in certain aspects, such as "Assisting in Database Scanning" and "Responding to Customer Inquiries Regularly," indicating a variation in the application and use of AI applications in Zain and Orange. Despite this variation, AI applications have a positive and diverse impact on the performance of public relations practitioners, from improving planning processes and data analysis to understanding customer needs and speeding up transactions.

The data in **Table 12** regarding the impact of AI applications on the accuracy of public relations practitioners' performance in Zain and Orange shows that the total frequencies of sample individuals in both companies for this option reached 515 repetitions. The highest frequencies were for the options "Providing Accurate Predictive Analysis on Demand" and "High-Accuracy Content Organization," with 82 and 79 repetitions, respectively. The impact "Providing Accurate Predictive Analysis on Demand" had the highest percentage in both companies, with 17.3% in Zain and

14.8% in Orange. This indicates that AI applications significantly aid in data analysis and accurate trend prediction, thus enhancing decision-making in public relations.

Table 12. The impact of AI applications on the accuracy of public relations practitioners' performance.

Impact of Applications on Performance Accuracy	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
More Accurate Customer Preferences Detection	35	15.2%	39	13.7%	74
Creating Accurate Content	29	12.6%	16	5.6%	45
High-Accuracy Content Organization	39	16.9%	40	14.1%	79
Providing Accurate Predictive Analysis on Demand	40	17.3%	42	14.8%	82
Fraud Detection	33	14.3%	38	13.4%	71
Accurate Information Collection	19	8.2%	41	14.4%	60
Accurate Interpretation and Analysis of Information	21	9.1%	43	15.1%	64
Reducing Ad Usage	13	5.6%	19	6.7%	32
Other	2	0.9%	6	2.1%	8
Total	231	100%	284	100%	515

The impact "High-Accuracy Content Organization" ranked second in importance, with 16.9% in Zain and 14.1% in Orange. This demonstrates that AI contributes to the precise organization and management of content, thereby improving communication quality with customers and the public. The impact "Fraud Detection" is also important for both companies, with 14.3% in Zain and 13.4% in Orange. This means that AI helps in identifying and detecting suspicious or fraudulent activities, thus enhancing customer trust in the company. Meanwhile, the impact "Accurate Interpretation and Analysis of Information" was 9.1% in Zain and 15.1% in Orange, highlighting its importance as public relations effectiveness heavily relies on the accurate interpretation and analysis of data to make informed decisions.

Analyzing the data as shown in the table above, it can be observed that AI applications positively impact the accuracy of public relations practitioners' performance in both companies, with some differences in percentages in certain aspects. This indicates that AI can be a powerful tool in enhancing the effectiveness of public relations by improving performance accuracy in various areas, from data analysis to content management to fraud detection.

Table 13 shows the distribution of the sample individuals according to the impact of AI applications on the quality of public relations practitioners' performance in Zain and Orange. The total frequencies of sample individuals in both companies for this option reached 518 repetitions. The highest frequencies were for the options "Measuring Customer Feelings and Reactions Accurately" and "Designing Highly Coordinated and Targeted Marketing Campaigns," with 77 and 69 repetitions, respectively. The highest impact in both companies relates to "Measuring Customer Feelings and Reactions Accurately," with a percentage of 14.8% in Zain and 15.0% in Orange. The second highest impact was "Identifying the Best Services and Times for Offers," with 12.7% in Zain and 14.2% in Orange. The third highest impact was "Designing Highly Coordinated and Targeted Marketing Campaigns," with 13.5% in Zain and 13.1% in Orange.

Table 13. The impact of AI applications on the quality of public relations practitioners' performance.

Impact of Applications on Performance Quality	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Innovating New Methods to Attract Customers	20	8.2%	27	9.9%	47
Continuous Prediction of Suitable Prices	13	5.3%	14	5.1%	27
Identifying the Best Services and Times for Offers	31	12.7%	39	14.2%	70
Measuring Customer Feelings and Reactions Accurately	36	14.8%	41	15.0%	77
Continuous and Effective Communication with Customers	21	8.6%	23	8.4%	44
Building Databases	28	11.5%	31	11.3%	59
Designing Highly Coordinated and Targeted Marketing Campaigns	33	13.5%	36	13.1%	69
Contributing to Innovation Processes	11	4.5%	15	5.5%	26
Reducing Time	17	7.0%	12	4.4%	29
Speed of Work	29	11.9%	32	11.7%	61
Other	5	2.0%	4	1.5%	9
Total	244	100%	274	100%	518

The lowest impact was "Other," indicating other aspects with a low impact percentage of 2.0% in Zain and 1.5% in Orange, suggesting there are other unspecified aspects where AI might influence the quality of public relations practitioners' performance in Zain and Orange. Based on the results, the study concludes that AI applications play a significant role in analyzing customer data and understanding their needs more accurately. AI also greatly aids in understanding and analyzing customer emotions and interactions, enabling companies to improve their services and marketing strategies based on this data. This increases the opportunity for companies to identify the perfect moments to offer their services and products, enhancing marketing efficiency. The positive impact of AI is also evident in the companies' ability to design precise and targeted marketing campaigns, reflecting AI's significant role in improving the quality of public relations performance.

Table 14. Challenges facing public relations practitioners in using AI applications.

Challenges Facing Public Relations Practitioners	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
High Cost of AI Systems and Devices	24	12.8%	24	12.4%	48
Conducting Training Courses on AI Techniques	23	12.3%	22	11.4%	45
Lack of Creative Thinking	20	10.7%	21	10.9%	41
Lack of Necessary Technical Equipment and Infrastructure	39	20.9%	41	21.2%	80
Job Insecurity	36	19.3%	39	20.2%	75
Fear of Replacing Human Elements with AI	19	10.2%	20	10.4%	39
Security Breaches and Threats	21	11.2%	23	11.9%	44
Other	5	2.7%	3	1.6%	8
Total	187	100%	193	100%	380

From **Table 14**, regarding the challenges facing public relations practitioners in using AI applications in Zain and Orange, it is observed that the total frequencies of

these challenges in both companies amounted to 380 repetitions. The top challenge was "Lack of Necessary Technical Equipment and Infrastructure," with a percentage of 20.9% in Zain and 21.2% in Orange, reflecting the importance of providing the necessary technical infrastructure to effectively use AI technologies in public relations.

The second-ranked challenge was "Job Insecurity," with 19.3% in Zain and 20.2% in Orange, indicating fears among public relations workers about the possibility of being replaced by AI technologies, which affects job security. The third-ranked challenge was the "High Cost of AI Systems and Devices," with 12.8% in Zain and 12.4% in Orange, highlighting that the high cost of AI applications is a barrier to their widespread use in public relations.

Table 15. Positive impacts of using AI applications.

Positive Impacts	**Zain**		**Orange**		**Total**
	Count	**Percentage**	**Count**	**Percentage**	
Increased Work Efficiency	10	5.9%	12	6.1%	22
Encouraging the Company to Develop New Methods	9	5.3%	11	5.6%	20
Identifying Gaps and Weaknesses	11	6.5%	13	6.6%	24
Reaching Quick Results for Required Tasks	39	22.9%	43	21.7%	82
Providing High-Speed Services	30	17.6%	38	19.2%	68
Designing Messages According to Audience Needs	18	10.6%	20	10.1%	38
Employing Past Experiences in Solving New Problems	12	7.1%	14	7.1%	26
Reducing Communication Activity Costs	21	12.4%	23	11.6%	44
Reducing Resulting Errors	16	9.4%	18	9.1%	34
Other	4	2.4%	6	3.0%	10
Total	170	100%	198	100%	368

From **Table 15**, concerning the positive impacts of using AI applications among public relations practitioners in Zain and Orange, it is observed that the total frequencies of these positive impacts amounted to 368 repetitions. The top positive impact was "Reaching Quick Results for Required Tasks," with 22.9% in Zain and 21.7% in Orange. The second-ranked positive impact was "Providing High-Speed Services," with 17.6% in Zain and 19.2% in Orange. The third-ranked positive impact was "Reducing Communication Activity Costs," with 12.4% in Zain and 11.6% in Orange, while the impact "Designing Messages According to Audience Needs" had 10.6% in Zain and 10.1% in Orange.

These results suggest that AI applications significantly contribute to speeding up work processes and achieving results more efficiently, which enhances the productivity of public relations practitioners. AI technologies also improve the speed of service delivery to customers, enhancing customer satisfaction and strengthening public relations within the companies. Additionally, the use of AI can reduce costs and improve service quality.

Table 16. Negative impacts of using AI applications.

Negative Impacts	Zain		Orange		Total
	Count	Percentage	Count	Percentage	
Lack of Emotional Intelligence in Task Performance	8	7.8%	10	8.3%	18
Difficulty in Handling AI Applications and Technology	9	8.8%	11	9.2%	20
Customers' Concerns about Privacy and Data Security	29	28.4%	31	25.8%	60
Continuous Lack of Technical Skills among Practitioners	31	30.4%	35	29.2%	66
Job Insecurity and Replacement by AI	10	9.8%	13	10.8%	23
Practitioners' Dependence on AI and Neglect of Human Element	12	11.8%	16	13.3%	28
Security Breaches and Threats	21	11.2%	23	11.9%	44
Other	3	2.9%	4	3.3%	7
Total	102	100%	120	100%	222

Table 16 highlights the negative impacts of using AI applications among public relations practitioners in Zain and Orange, with a total of 222 repetitions across both companies. The most significant negative impact was the "Continuous Lack of Technical Skills among Practitioners," with 30.4% in Zain and 29.2% in Orange. The second most significant impact was "Customers' Concerns about Privacy and Data Security," with 28.4% in Zain and 25.8% in Orange. The third impact was "Practitioners' Dependence on AI and Neglect of the Human Element," with 11.8% in Zain and 13.3% in Orange.

6.7. Hypothesis testing

1) There are statistically significant differences in the use of AI applications by public relations practitioners in Zain and Orange attributed to the variable: (gender).

Table 17. T-test results for the first hypothesis for the gender variable.

Category	Mean	*t*-value	Significance
Male	2.88	4.349	0.00
Female	1.29		

The data in **Table 17** shows that the mean for the "Male" category is higher than that for the "Female" category, with a positive *t*-value of 4.349 and a significance value of 0.00. This indicates that the difference is statistically significant and favors males.

2) There are statistically significant differences in the attitudes towards the use of AI applications among public relations practitioners in Zain and Orange attributed to the variables: (age, educational qualification, years of experience).

Table 18. ANOVA results for the second hypothesis for the variables: Age, educational qualification, years of experience.

Variables	Categories	F-value	Degrees of Freedom	Significance
Age	30 years or less 31 to less than 51 years 51 years or more	0.695	85	0.364
Educational Qualification	High School or Less Diploma Bachelor's Master's PhD	0.342	85	0.686
Years of Experience	5 years or less 6 to 10 years More than 10 years	9.43	85	0.00

The results in **Table 18** indicate no statistically significant differences at the significance level ($\alpha \leq 0.05$) among the study sample's attitudes towards the use of AI applications attributed to the variables (age, educational qualification). The significance values for these variables are 0.364 and 0.686, respectively, which are greater than the significance level ($\alpha = 0.05$).

However, there are statistically significant differences at the significance level ($\alpha \leq 0.05$) among the study sample's attitudes attributed to the variable (years of experience). The significance value for this variable is 0.00, which is less than the significance level ($\alpha = 0.05$). Therefore, the LSD test for the variable years of experience is conducted as shown in the following table:

6.8. LSD test for years of experience

Table 19. ANOVA/LSD results for the variable years of experience.

Years of Experience	Statistical Significance	LSD	Mean
5 years or less	0.000		
6 to 10 years	0.017	8.648	2.682
More than 10 years	0.019		

The data in **Table 19** reveals statistically significant differences in the impact of the variable years of experience on the attitudes of public relations practitioners in Zain and Orange towards adopting AI applications. There is a clear variation between employees with less than five years of experience (0.000) compared to those with six to ten years of experience (0.017) and those with more than ten years of experience (0.019), with this difference favoring the first category, i.e., employees with less than five years of experience. This result can be attributed to the evident enthusiasm among the younger and less experienced group towards using AI applications. It is likely that this group has more recent educational or training backgrounds in AI, enabling them to better appreciate the added value of these applications. Conversely, employees with longer experience, who belong to earlier generations, may find it more challenging to

adapt to and accept new technologies, which is reflected in their less positive evaluations of using AI applications.

7. Conclusion and future research

Most public relations practitioners in both companies are well-versed in AI technologies and use them to enhance their job performance. This reflects their awareness of AI's importance in boosting organizational efficiency and effectiveness, as well as Public relations staff with less than five years of experience show greater acceptance and enthusiasm for using AI applications compared to their more experienced colleagues reflecting a trend towards leveraging advanced technology to improve services and decision-making. and Most public relations practitioners believe that AI applications contribute moderately to achieving public relations functions. This reflects technical or financial constraints and challenges related to privacy and data security. A dd to Practitioners see AI applications as having a moderate to significant contribution to public relations functions and their development, indicating the need to adapt to rapid changes in the business environment. Public relations departments in both companies benefit from AI applications in various ways, particularly in improving decision-making, increasing innovation and idea generation, and enhancing customer relationships. This highlights the importance of these technologies in enhancing strategic performance in public relations. AI applications have a positive and diverse impact on the performance of public relations practitioners, improving planning processes, data analysis, understanding customer needs, and speeding up transactions, with some differences in specific aspects. add to AI applications enhance the accuracy of public relations practitioners' performance in both companies, especially in predictive data analysis, content organization, fraud detection, and information interpretation, contributing to improved public relations effectiveness. AI applications are seen as a powerful tool in enhancing the effectiveness of public relations by improving performance accuracy across various aspects. as well as AI plays a crucial role in analyzing customer data and understanding their needs more accurately. It also helps significantly in understanding and analyzing customer emotions and interactions, enabling companies to improve their services and marketing strategies based on this data. The main challenges facing public relations practitioners in both companies include the lack of necessary technical equipment and infrastructure, job insecurity, and the high cost of AI systems. AI applications positively contribute to enhancing the efficiency and speed of public relations practitioners' performance by achieving quick results, providing high-speed services, and reducing communication activity costs. The biggest challenges in using AI applications for public relations practitioners include a lack of technical skills, concerns about data security and privacy, and fears of neglecting the human elements in public relations. The use of artificial intelligence in the field of public relations in Jordanian telecommunications companies opens new horizons for improving efficiency and effectiveness. Through data analysis, improving customer communication, crisis management, and improving marketing strategies, AI can provide significant support to public relations practitioners. Therefore, communications companies become more able to achieve their goals and build

stronger relationships with their audiences. Big data analysis will be key in enhancing the efficiency of public relations practitioners. By using AI technologies, telecom companies can analyze data represented by customer interactions across multiple platforms and market forecasts, Work on addressing technical and financial challenges and enhance job security for public relations practitioners in Jordanian telecommunications companies by providing the necessary training and support to achieve effective use of AI applications.

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References

Al Olaimat, F., Habes, M., Hadeed, A., Yahya, A., & Al Jwaniat, M. I. (2022). Reputation management through social networking platforms for PR purposes: A SEM-based study in the Jordan. Frontiers in Communication, 11(3), 247.

Alhammad, K. L., Habes, M., Al Olaimat, F., & Haddad, I. (2021). Attitudes of Students of the Faculty of Mass Communication at Yarmouk University towards Using Video platforms in Distance Education. Review of International Geographical Education Online, 11(5), 1041–1052.

Al-Khasawneh, A. L., Eyadat, H. M., Alrawad, M., Almaiah, M., & Lutfi, A. A. (2022). The impact of organizational training operations management on job performance: An empirical study on Jordanian government institutions. Global Business Review, 09721509221133514.

Alshare, F. (2018). The Role of the Integrated Marketing Communications in highlighting the competitive advantage in the Jordanian Telecommunication Companies (Orange Company: Study Model). International Journal of Academic Research in Business and Social Sciences, 8(4), 573–593.

Al-Zyoud, M. F., Al-Mu'ani, L., Alsoud, M., & Alsoud, A. (2021). The role of TQMk in increasing the effectiveness of E-Marketing within the Jordanian telecommunication sector. Journal of Theoretical and Applied Electronic Commerce Research, 16(5), 1353–1368.

Bdoor, S. Y., & Habes, M. (2024). Use Chat GPT in Media Content Production Digital Newsrooms Perspective. In Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom (pp. 545–561). Springer.

Diga, M., & Kelleher, T. (2009). Social media use, perceptions of decision-making power, and public relations roles. Public Relations Review, 35(4), 440–442.

Elbasir, M., Elareshi, M., & Habes, M. (2020). The Influence of Trust, Security and Reliability of Multimedia Payment on the Adoption of EPS in Libya. Multicultural Education, 6(5), 341–354.

Habes, M., Alanani, A., Youssef, E., & Sharif, H. (2024). Why Do Jordanian Students Prefer Using ChatGPT A Case Study of Higher Education Institutions. In Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom (pp. 127–141). Springer.

Habes, M., Alghizzawi, M., Elareshi, M., Ziani, A., Qudah, M., & Al Hammadi, M. M. (2023). E-Marketing and Customers' Bank Loyalty Enhancement: Jordanians' Perspectives. In The Implementation of Smart Technologies for Business Success and Sustainability (pp. 37–47). Springer.

Habes, M., Alhazmi, A. H., Elareshi, M., & Attar, R. W. (2024). Understanding the relationship between AI and gender on social TV content selection. Frontiers in Communication, 9, 1410995.

Habes, M., Ali, S., & Pasha, S. A. (2021). Statistical Package for Social Sciences Acceptance in Quantitative Research: From the Technology Acceptance Model's Perspective. FWU Journal of Social Sciences, 15(4), 34–46. https://doi.org/http://doi.org/10.51709/19951272/Winter-2021/3 Statistical

Habes, M., Ali, S., & Tahat, D. (2022). Healthy Living and New Media : A Review. In Springer, Cham (Issue November, pp. 267–275). https://doi.org/10.1007/978-3-031-17746-0

Habes, M., Ali, S., Qamar, A., Elareshi, M., Ziani, A., & Alsridi, H. (2023). Public Service Advertisements and Healthcare Attitudinal Changes in Developing Countries: Pakistanis' Perspectives. International Conference on Business and Technology, 433–442.

Habes, M., Pasha, S. A., Tahat, D. N., Safori, A., Sharadga, T., Bakir, A., & Ajouz, M. (2024). Factors Affecting Artificial Intelligence-Enabled Virtual Assistants Incorporation: A Case Study of the Students of Mass Communication. In Artificial Intelligence-Augmented Digital Twins: Transforming Industrial Operations for Innovation and Sustainability (pp. 1–12). Springer.

Hadeed, A., Yahya, A., Maysari, I., Aldroubi, M. M., Attar, R. W., Al Olaimat, F., & Habes, M. (2024). Role of Public Relations Practices in Content Management: The Mediating Role of New Media Platforms. Frontiers in Sociology, 8, 1273371.

Hallahan, K. (1999). Seven models of framing: Implications for public relations. Journal of Public Relations Research, 11(3), 205–242. https://doi.org/10.1207/s1532754xjprr1103_02

Hilat, K. M., Al-Tahat, K. M., Ahmed, A. E. D., & Tahat, Z. Y. (2019). The awareness of communicators in the Jordanian electronic news websites about the law of cyber-crime and its relationship to professional practice. The Egyptian Journal of Media Research, 2019(69), 409–439.

Ivancsics, B., & Hansen, M. (2019). Actually, It's about Ethics, AI, and Journalism: Reporting on and with Computation and Data. New York, NY: Tow Center for Digital Journalism.

Kuan, D., Mohd Hasan, N. A., Mohd Zawawi, J. W., & Abdullah, Z. (2021). Framing Theory Application in Public Relations: The Lack of Dynamic Framing Analysis in Competitive Context. Media Watch, 12(2), 333–351. https://doi.org/10.15655/mw/2021/v12i2/160155

Mansoori, A., Tahat, K., Tahat, D., Habes, M., Salloum, S. A., Mesbah, H., & Elareshi, M. (2023). Gender as a moderating variable in online misinformation acceptance during COVID-19. Heliyon.

Nahar, K. M. O., Jaradat, A., Atoum, M. S., & Ibrahim, F. (2020). Sentiment analysis and classification of arab jordanian facebook comments for jordanian telecom companies using lexicon-based approach and machine learning. Jordanian Journal of Computers and Information Technology, 6(3).

Nisreen, K. (2015). The Role of Promotion Through Public Relations in Improving Services, Tourism Activity,. Kassadi Murbah University - Ouargla.

Olaimat, F., & Khalaf, A.-T. (2022). The Situation of Communication and Media in the Syrian Refugee Camps in Jordan (The Zaatari Camp as a Model). Dirasat: Human and Social Sciences, 49(1), 44–61.

Olaimat, F., Almanajrah, M., Jwaniatt, M., & Rawabdeh, M. (2022). How Effective is Distance Learning from the Viewpoint of Students of School of Mass Communication from Yarmouk University in Light of the Corona Crisis and its Developments. Dirasat, Educational Sciences, 49(2).

Pedrotti, M., & Nistor, N. (2016). User motivation and technology acceptance in online learning environments. Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 9891 LNCS, 472–477. https://doi.org/10.1007/978-3-319-45153-4_45

Rababa, M. A. H., Tahat, Z. Y. A., & Al-Awamra, A. I. (2022). The role of TV drama in security awareness of crime. The Egyptian Journal of Media Research, 2022(80), 491–520.

Safori, A., Youssef, E., Attar, R. W., Tahat, O., Al Adwan, M. N., & Habes, M. (2023). New Media and Crisis Management in Jordan: COVID 19 Perspective.

Tahat, K., Habes, M., Mansoori, A., Naqbi, N., Al Ketbi, N., Maysari, I., Tahat, D., & Altawil, A. (2024). Social media algorithms in countering cyber extremism: A systematic review. Journal of Infrastructure, Policy and Development, 8(8), 6632.

Tahat, K., Tahat, D. N., Masoori, A., Habes, M., Alghazo, E., & Ketbi, N. (2023). Role of Social Media in Changing the Social Life Patterns of Youth at UAE. In Artificial Intelligence (AI) and Finance (pp. 152–163). Springer.

Tahat, Z. Y., & Al-Mutairi, S. S. (2022). Dependency of Kuwaiti Voters on Social Networking Sites as a Source of Information about the 2016 Parliamentary Elections. Egyptian Journal of Public Opinion Research, 21(4), 457–503.

Tahat, Z. Y., Habes, M., Hailat, K. M., Al Jwaniat, M. I., Safori, A., & Kamarudin, S. (2024). Attitudes of Students Towards Press Coverage of E-Learning: An Empirical Study. Abdalmuttaleb MA Musleh Al-Sartawi Arafat Salih Aydiner, 2(7), 251.

Wang, S., Ibrahiem, M. H., & Li, M. (2022). Motivations Influencing Alipay Users to Participate in the Ant Forest Campaign: An Empirical Study. International Journal of Environmental Research and Public Health, 19(24), 17034.

Wang, S., Li, N., Liu, N., & Habes, M. (2023). Transitioning from Information Sharing to Knowledge Services: Unpacking the Evolution of Rural Media Within the Context of Media Integration. Journal of the Knowledge Economy, 1–32.

Wang, Y. S., Wu, M. C., & Wang, H. Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. British Journal of Educational Technology, 40(1), 92–118. https://doi.org/10.1111/j.1467-8535.2007.00809.x

Yadav, D., Jain, R., Agrawal, H., Chattopadhyay, P., Singh, T., Jain, A., Singh, S. B., Lee, S., & Batra, D. (2019). Evalai: Towards better evaluation systems for ai agents. ArXiv Preprint ArXiv:1902.03570.