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Statistical Analysis of AI Applications in Awareness-Oriented Media Practices Through Public Relations

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Abstract: In this paper, we examine the impact of using modern technology and artificial intelligence (AI) in awareness-oriented media. The study also assesses the degree of agreement among communication practitioners regarding the adoption of AI applications to strengthen and enhance media awareness initiatives. In addition, it explores practitioners' perceived benefits of integrating AI into awareness campaigns. A descriptive analytical approach was used, and a questionnaire was administered to 30 public relations practitioners working at the General Presidency in Makkah who participate in media awareness activities. The results revealed a high level of reliance on modern technologies in media awareness work, with 46.7% of participants reporting strong usage. Moreover, 86.7% expressed agreement on using AI applications to support and develop media awareness efforts. Finally, the findings showed no statistically significant differences among respondents based on years of experience regarding the domains of AI use in awareness-oriented media work.

Keywords: Statistical Analysis, AI Applications, Awareness-Oriented Media, Public Relations.

1. Introduction

Modern technological developments have brought about transformative changes in professional environments, imposing the need for agile performance across organizations, including communication departments and specialists in media and public relations. These professionals have increasingly assumed a leading role in adopting emerging technologies, particularly applications driven by artificial intelligence [1].

Artificial intelligence (AI) represents a major branch of computer science that focuses on developing systems and programs capable of thinking, learning, and making decisions independently in a manner that mimics human cognitive abilities. AI relies on a wide range of advanced tools and techniques, including machine learning, natural language processing, speech and image recognition, robotics, and artificial neural networks among others. Artificial intelligence is utilized across numerous sectors, including medicine, industry, commerce, entertainment, media, and many others. It is regarded as one of the most influential modern technologies shaping the future of human life. The era of artificial intelligence represents a pivotal stage in the media landscape, given the ability of its tools to simulate human behavior in carrying out various media-related tasks [2]. These technologies have become increasingly significant, and acquiring and investing in them is now a pressing necessity due to the advantages they offer—provided they remain under careful human supervision and monitoring. In this context, the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque has sought to employ artificial intelligence technologies in delivering awareness-oriented messages.

Accordingly, the need emerged to examine the role of artificial intelligence applications in enhancing awareness-oriented media work within the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque, from the perspective of communication practitioners.

2. Problem Statement

Artificial intelligence applications contribute to producing new forms of content characterized by speed, accuracy, and reduced cost, in addition to requiring significantly less effort compared to human-generated content. Considering the growing reliance on AI technologies, the current study focuses on exploring the role of artificial intelligence applications in developing awareness-based media work at the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque, from the viewpoint of communication specialists. This is examined within the framework of the Unified Theory of Acceptance and Use of Technology (UTAUT), which suggests that individuals' acceptance of technology depends on several factors—primarily ease of use and expected benefits—alongside external variables such as training and social influence regarding the perceived value of technology to others.

Within this context, the researchers conducted an exploratory study on a sample of 10 communication practitioners at the

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General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque to determine the extent to which the Presidency uses AI applications. The findings of this exploratory study were as follows:

All participants in the exploratory study (100%) confirmed that the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque make use of artificial intelligence applications in media work.

All participants in the exploratory study (100%) confirmed that the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque employ artificial intelligence applications in media work.

Accordingly, the problem of the current study can be formulated in the following question:

What is the role of artificial intelligence applications in enhancing awareness-oriented media work at the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque, from the perspective of communication practitioners?

3. Significance of Study

1. The study addresses artificial intelligence applications, which represent the peak of technological advancement and have gained widespread attention in recent years.
2. The use of artificial intelligence in the Arab world is relatively recent and remains a new phenomenon that requires in-depth examination considering institutions adopting modern technologies in content production, photography, broadcasting, and other media functions.
3. There is a limited number of media studies conducted on artificial intelligence applications, to the best knowledge of the researchers.
4. This study serves as a continuation of research aimed at developing awareness-based media practices.

Previous studies, through the facts and information they provide, constitute a highly valuable resource for researchers. Accordingly, the researchers present relevant earlier studies that examined artificial intelligence applications, e.g. Shatnawi et al. [3] examined the extent to which media institutions are interested in employing artificial intelligence in media content production, the significance of using AI in media content creation, and the motivations behind its adoption from the perspective of media experts. This study is descriptive in nature and relied on a field survey approach. A questionnaire was used as the primary tool for data collection, administered systematically to the target population. The study was applied to a purposive sample consisting of 100 academics, researchers, and practitioners in the Jordanian media sector. The findings revealed that the use of artificial intelligence in media content production in Jordanian media institutions is perceived as highly important, with a significance rate of 80.4% according to the participants. However, the study also showed that Jordanian media institutions have not given sufficient attention to AI implementation, as their level of interest decreased by 55.9%. Moreover, media experts in Jordan acknowledged several advantages of adopting AI technologies in media content production, with the most prominent being time and effort reduction, which ranked first at 89.2%.

The current state of Arab journals considering artificial intelligence technologies has been discussed in Ref. [4]. The study relied on multiple tools: content analysis forms, big data content analysis using AI software, and a questionnaire—within the framework of the Unified Theory of Technology Acceptance. It is a descriptive study employing a survey methodology. The survey targeted three Arab news websites: Al-Dustour (Jordan), Al-Sharq (Qatar), and Cairo 24 (Egypt). The volume of analyzed content reached 156,318 items in order to determine the proportion of AI-generated content compared to human-generated content, the most frequent topics published through AI tools, and the extent of audience acceptance of such content. In addition, a survey was conducted among communication practitioners in the sampled institutions to assess their usage of AI technologies. The findings indicated that, although AI-generated content forms a noticeable portion of published materials on the selected websites, human-generated news ranked first, followed by content produced by artificial intelligence.

The study also found that news reports were the most frequently used journalistic format on the websites in the sample, and that economic topics ranked first among subjects published using artificial intelligence (AI) technologies. In a related study, Abu Naqira [5] examined how the media elite evaluated opportunities to use AI journalism techniques in news editing. The study adopted a descriptive design and used a survey methodology, specifically surveying media practice methods. Data were collected through a questionnaire administered to a purposive sample of 103 individuals from the media elite. The analysis relied on two theoretical frameworks: the Diffusion of Innovations theory and Gatekeeping Theory. The findings showed that 50.5% of participants considered the impact of AI journalism techniques in news editing to be "high," while 25.2% rated it "very high." Additionally, 60.2% indicated that AI journalism could be applied to news editing to handle big data and to improve the quality of journalistic content by adding documented background information.

The role of the digital environment in developing media institutions—enhancing their administrative, productive, and marketing capabilities to strengthen competitive advantage—has been highlighted in recent research [6]. These studies

particularly focus on how public relations practitioners bridge the gap between technological tools and improved performance across administrative, production, and marketing functions. Consequently, this body of work contributes to establishing the concept of the modern digital environment, specifically artificial intelligence, and its impact on digital marketing performance, thereby helping to determine the value of this technology across commercial, media-based, and service-oriented institutions. To explore this, the present study draws on two theoretical frameworks: Media Richness Theory, which emphasizes the medium's ability to deliver distinctive media messages utilizing AI capabilities, and Technology Acceptance Theory, which addresses users' perceptions of modern technologies, their usability, and the ease of message delivery. Employing a survey methodology, this research was applied to a random sample of 400 participants, including public relations practitioners in governmental and private institutions in Cairo and Giza, as well as individuals interacting with their institutions' advertising campaigns.

The results of this foundational work indicate that public relations practitioners express a strong interest in acquiring AI-related knowledge, viewing it as the future of communication, publishing, information delivery, and digital marketing. The findings further confirm a statistically significant relationship between practitioners' level of AI knowledge and their positive evaluation of AI's role in digital marketing, as well as a significant effect between their interest in AI and their assessment of advertising campaign effectiveness. Extending these insights, prior research [7] identified factors driving customers to use AI-powered chatbots, finding that perceived human-likeness positively predicts social presence, improved visualization, and continued use. Similarly, another study [8] demonstrated the importance of voice-based interfaces and conversational platforms in enhancing branding and consumer experience. In contrast, further work [9] uncovered negative effects of AI voice assistants compared to touch screens, showing reduced satisfaction and perceived control, while emphasizing the link between automated social presence, service evaluations, and behavioral intentions such as word-of-mouth communication.

Further research has examined AI's integration with customer relationship management (CRM) systems. One study [10] showed that AI-CRM enables more accurate decision-making, strengthens inter-organizational relationships, and improves efficiency in B2B environments. Conversely, another investigation [11] found that poor planning in AI-CRM implementation leads to system failure, while additional research [12] revealed that AI tools assist customer service agents by monitoring speech and behavior, though automation may reduce staff numbers. Other work [13] highlighted how AI reshapes marketing operations and decision-making, necessitating technical knowledge for managers. In a related context, a study [14] analyzed media relations in the digital era, finding that AI-powered analytics, human–machine interaction, and digital transformation now underpin effective audience engagement. Additional studies on AI-driven CRM systems [15], automated content production [16], privacy concerns and loss of human touch [17], and organizational readiness for AI-CRM [18] all reinforce the central role of AI. Drawing on this comprehensive literature, the present study adopted the predominant descriptive and survey methodology, used prior work to determine sample size and formulate research questions, selected appropriate theoretical frameworks, and identified the most suitable research tools to achieve its objectives.

4. Theoretical Framework

4.1 Unified Theory of Technology Acceptance

Nasri [19] stated that the Technology Acceptance Model (TAM) is one of the most valid and reliable models used to explain the acceptance of information systems. The purpose of this model is to interpret user behavior toward information systems. Davis developed TAM in 1986 based on the **Theory of Reasoned Action**, proposed by Fishbein and Ajzen in 1980, and the **Theory of Planned Behavior**, introduced by Ajzen in 1985.

The original TAM explains an individual's use of information systems through three primary factors:

- Perceived usefulness
- Perceived ease of use
- Attitude toward use

The model assumes that an individual's attitude toward using a system is the main determinant of actual usage or non-usage. Attitude is influenced by two major factors: perceived usefulness and perceived ease of use. Additionally, perceived ease of use directly affects perceived usefulness. Both perceived usefulness and perceived ease of use are influenced by external variables.

In 1993, Davis modified the TAM, suggesting that perceived usefulness has a direct impact on the intention to use the system in practice [20]. Saunders and Klemming [21]. argue that technology acceptance and behavioral intention to use are among the greatest challenges faced by educational institutions, particularly regarding individual usage patterns. Technology acceptance is defined as "the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support" [22].

4.2 Factors Influencing Technology Acceptance

The Unified Theory of Acceptance and Use of Technology identify core characteristics related to individuals' reactions toward using technology. These characteristics include factors that determine technology adoption (independent variables), behavioral intention and actual use (dependent variables), and individual characteristics of users (mediating variables) [23]. In addition to behavioral intention and actual usage, the **UTAUT model** consists of four main elements:

1. **Performance Expectancy**

   This refers to the degree to which an individual believes that using a given technology will improve job performance. It can also be viewed as the perceived usefulness of the technology [24].

2. **Effort Expectancy**

   This refers to the perceived ease of use of the technology. For example, journalists may compare the time and effort required to use digital tools for accomplishing a task with other traditional media methods. This element is also associated with several related factors, including:

- **Perceived Enjoyment (PE):**

The level of enjoyment expected from using the technology,

- **Trust in Technology (TT):**

Users' confidence in the reliability of digital tools for media work,

- **Attitude Toward Use:**

Journalists' and media professionals' willingness to accept and adopt the technology, and

- **Intention to Use (ITU):**

Their motivation to apply such tools in their professional duties [25].

3. **Social Impact**

This refers to the extent to which individuals believe that others think they should use the technology. This includes whether journalists expect that colleagues, supervisors, audiences, or others will value their use of digital applications. In this context, Han indicated that perceived social factors play a significant role in increasing employees' confidence in the technologies used within the workplace [26].

4. **Facilitating Conditions**

This refers to the degree to which an individual believes that the necessary technical and organizational infrastructure is available to support the use of technology. This variable includes the availability of resources such as knowledge, computers or smartphones, internet access, and whether the organization permits the use of social media during working hours. In addition to these four core elements—which represent the foundational structure of the theory—there are other factors that indirectly influence behavioral intention to use technology, including attitude toward technology, system efficiency, and anxiety [27].

Pan explains that the Technology Acceptance Model (TAM) is based on the following assumptions:

1. When users perceive that a system is easy to use and requires minimal cognitive effort, they tend to develop a positive attitude toward using it.
2. When users find the system beneficial for accomplishing their work, they develop favorable intentions toward using it.
3. When users hold a positive attitude toward the system, they are likely to use it frequently and intensively, which ultimately indicates system success [28].

The Technology Acceptance Model (TAM) is considered one of the most powerful and widely adopted models for explaining technology adoption and usage for the following reasons:

1. It has a strong theoretical foundation and is characterized by simplicity in its structure and interpretation.
2. The model has been employed extensively in scientific research aimed at understanding and explaining information technology usage behavior and has consistently produced statistically reliable results.
3. TAM is regarded as an advanced theory derived from the Theory of Reasoned Action and the Theory of Planned

Behavior and therefore provides a more precise explanation and prediction of actual user behavior toward technology adoption than other theories.

4. The model can be applied to explain and interpret technology adoption factors at both the individual and organizational levels [29].

5. Research Questions and Objectives

5.1 Research Questions

1. To what extent does the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque rely on modern technology and artificial intelligence in awareness-oriented media work?
2. To what extent do communication practitioners agree on the use of AI applications to enhance awareness-oriented media work at the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque?
3. To what extent do communication practitioners agree on applying artificial intelligence applications to develop awareness activities?
4. What benefits does the General Presidency gain from employing AI applications in awareness campaigns, from the perspective of communication practitioners?
5. What are the fields in which AI applications are used within the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque?
6. What facilitating conditions are available to communication practitioners that enable the employment of AI in the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque?

5.2 Research Objectives

The main objective of this study is to identify the role of AI applications in developing awareness-oriented media work at the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque from the perspective of communication practitioners.
From this central objective, several sub-objectives emerge:

1. To identify the extent to which the General Presidency relies on modern technology and AI in awareness-oriented media work.
2. To determine the level of agreement among communication practitioners regarding the use of AI applications to develop awareness-oriented media work.
3. To determine the extent to which communication practitioners agree on the application of AI technologies for developing awareness activities.
4. To identify the benefits gained by the General Presidency when employing AI applications in awareness work from the viewpoint of communication practitioners.
5. To identify the domains in which AI applications are utilized within the General Presidency.
6. To determine the facilitating conditions available to communication practitioners for employing AI within the General Presidency.

6. Research Hypotheses

1. There are statistically significant differences among respondents' mean scores on the scale measuring the domains of AI application in awareness-oriented media work at the General Presidency, at the total score level, according to their level of agreement on applying these technologies.
2. There are statistically significant differences among respondents' mean scores on the scale measuring the domains of AI application in awareness-oriented media work at the total score level according to the following demographic variables: gender (male–female), age, years of experience, and job position.
3. There are statistically significant differences among respondents' mean scores on the scale measuring the perceived benefits of AI applications for awareness work at the total score level according to the following demographic variables: gender, age, years of experience, and job position.
4. There are statistically significant differences among respondents' mean scores on the scale measuring the use of AI

techniques (performance expectancy) at the total score level according to the demographic variables: gender, age, years of experience, and job position.

5. There are statistically significant differences among respondents' mean scores on the scale measuring the facilitating conditions enabling communication practitioners to use AI at the total score level according to the demographic variables: gender, age, years of experience, and job position.
6. There are statistically significant differences among respondents' mean scores on the scale measuring the planned effort (expected effort) to implement AI technologies in developing future awareness media content at the total score level according to the demographic variables: gender, age, years of experience, and job position.

7. Study Limits and Constraints

- **Spatial boundaries:**

The study was conducted at the headquarters of the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque.

- **Temporal boundaries:**

Hajj season of 1445–1446 AH.

- **Scientific (subject-related) boundaries:**

The study was limited to examining artificial intelligence applications and their role in developing awareness-oriented media work at the General Presidency for the Affairs of the Grand Mosque and the Prophet's Mosque, from the perspective of communication practitioners.

8. Study Terminology

8.1 Artificial Intelligence Applications:

Ian Rich defines artificial intelligence as "the science concerned with enabling computers to perform tasks carried out by humans, but with greater efficiency. AI aims to understand human intelligence by developing computer programs capable of simulating intelligent behavior. It refers to a computer program's ability to solve a problem or decide in each situation. This means that the program independently determines the methods required to solve the problem or reach a decision based on various reasoning processes embedded within it" [30].

8.2 Development of Awareness-Oriented Media Work:

The researchers define it as the enhancement of media capacities through the integration of modern technologies—specifically artificial intelligence applications—in awareness communication.

8.3 Communication Practitioner:

Mohamed Abdel-Hamid defines the communication practitioner as the person who initiates the communication process by sending ideas, opinions, or information through a message he prepares. This person may or may not be the original source of the information. The source could be another individual, particularly within media institutions where practitioners obtain information or news from sources, then reprocess and reshape it for publication or broadcasting before sending it back to the audience of receivers [31].

9. Results and Interpretation

This section presents the findings derived from the questionnaire and provides interpretations based on hypothesis testing.

1. The Extent of Reliance on Modern Technology by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in Awareness-Oriented Media Work

Table 1: Differences by Gender in the Degree of Reliance on Modern Technology in Media Awareness Work

Level of Reliance	Males		Females		Total		Chi-Square (χ^2)	**Sig. (p-value)**
	(N)	%	**(N)**	%	**(N)**	%		
High	9	50	5	41.7	14	46.7	0.288	0.000 (Significant)
Moderate	7	38.9	5	41.7	12	40		
Low	2	11.1	2	16.7	4	13.3		
Total	18	100	12	100	30	100		

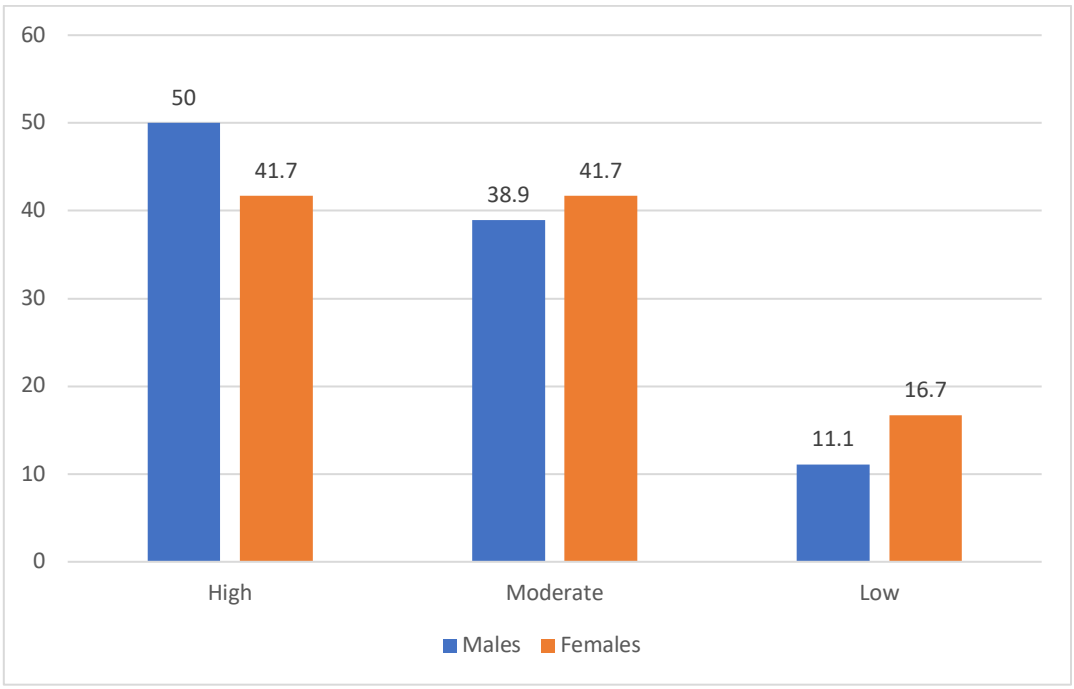

Fig. 1: Distribution of Modern Technology Reliance in Media Awareness Work Across Genders

Table 2: The Extent of Using Artificial Intelligence Applications by the General Presidency in Awareness Media Work

Level of Use	Males		Females		Total		Chi-Square (χ^2)	**Sig. (p-value)**
	(N)	%	**(N)**	%	**(N)**	%		
High	9	50	5	41.7	14	46.7	**0.244**	0.885 (ns)
Moderate	6	33.3	5	41.7	11	36.7		
Low	3	16.7	2	16.7	5	16.7		
Total	18	100	12	100	30	100		

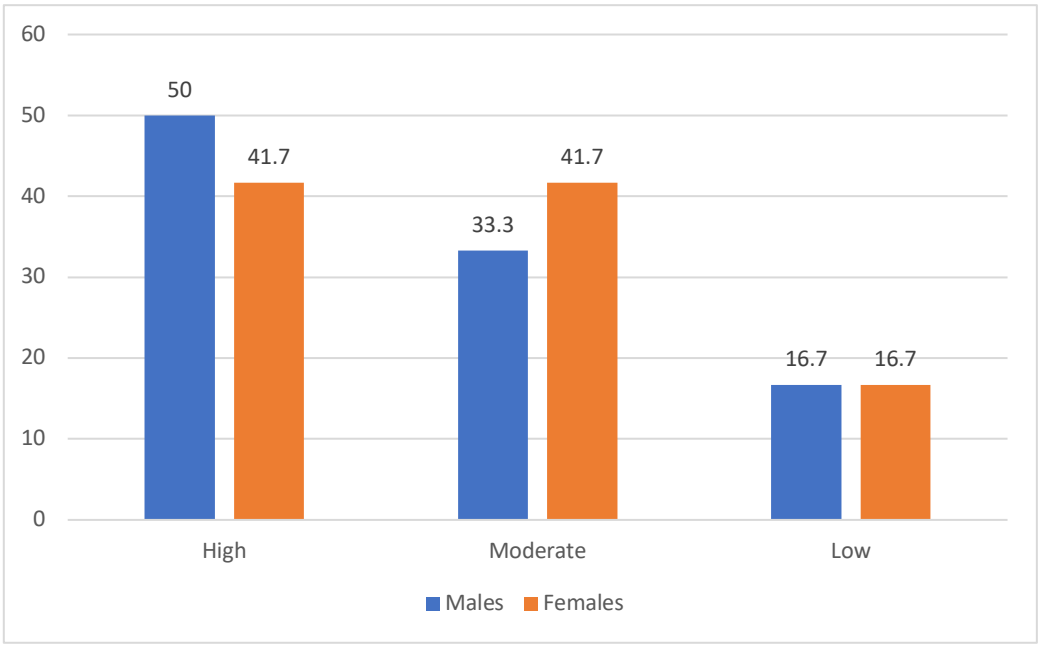

Fig. 2: Distribution of AI Application Reliance Across Genders within Awareness-Oriented Media Environments

Level of Agreement Among Study Participants on Applying AI to Enhance Awareness-Oriented Media Work

Table 3: Gender-Based Differences in Agreement on Applying AI to Enhance Awareness Media Work

Agreement Level	Males		Females		Total		Chi-Square (χ^2)	**Sig. (p-value)**
	(N)	%	**(N)**	%	**(N)**	%		
Yes	16	88.9	10	83.3	26	86.7	**0.244**	0.885 (ns)
No	2	11.1	2	16.7	4	13.3		
Total	18	100	12	100	30	100		

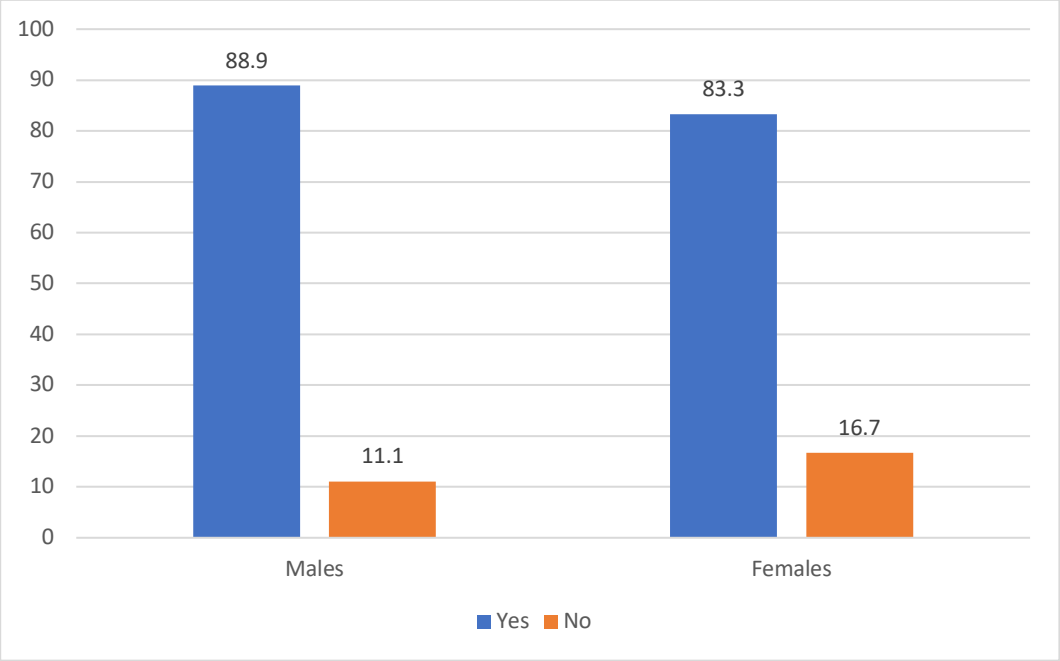

Fig. 3: Distribution of Agreement on Applying AI to Enhance Awareness Media Work Across Genders

6. Areas of Artificial Intelligence Application in Awareness Media Work by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque

Table 4: Arithmetic Mean, Standard Deviation, Relative Weight, and Ranking of the Study Sample's Views on the Areas in Which the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque Uses Artificial Intelligence Applications in Awareness-Oriented Media Work

Rank	Relative Weight (%)	Arithmetic Mean	Sample Responses (--)						Area of Use	No.
			Disagree		Neutral		Agree			
			(N)	**(%)**	**(N)**	**(%)**	**(N)**	**(%)**		
1	93.3	2.80	1	3.3	4	13.3	83.3	25	Social media platforms of the General Presidency	1
1=	93.3	2.80	2	6.7	2	6.7	86.7	26	Visual media production	2
1=	93.3	2.80	2	6.7	2	6.7	86.7	26	Audio media production	3
1=	93.3	2.80	1	3.3	4	13.3	83.3	25	Photography	4
1=	93.3	2.80	2	6.7	2	6.7	86.7	26	Makkah Magazine – Kiswa Complex	5
2	91.0	2.73	1	3.3	6	20	76.7	23	Official website	6
3	89.0	2.67	3	10	4	13.3	76.7	23	Printed media production	7
4	87.7	2.63	3	10	5	16.7	73.3	22	News content	8
5	84.3	2.53	3	10	8	26.7	63.3	19	Makkah Magazine – Two Holy Mosques Exhibition	9

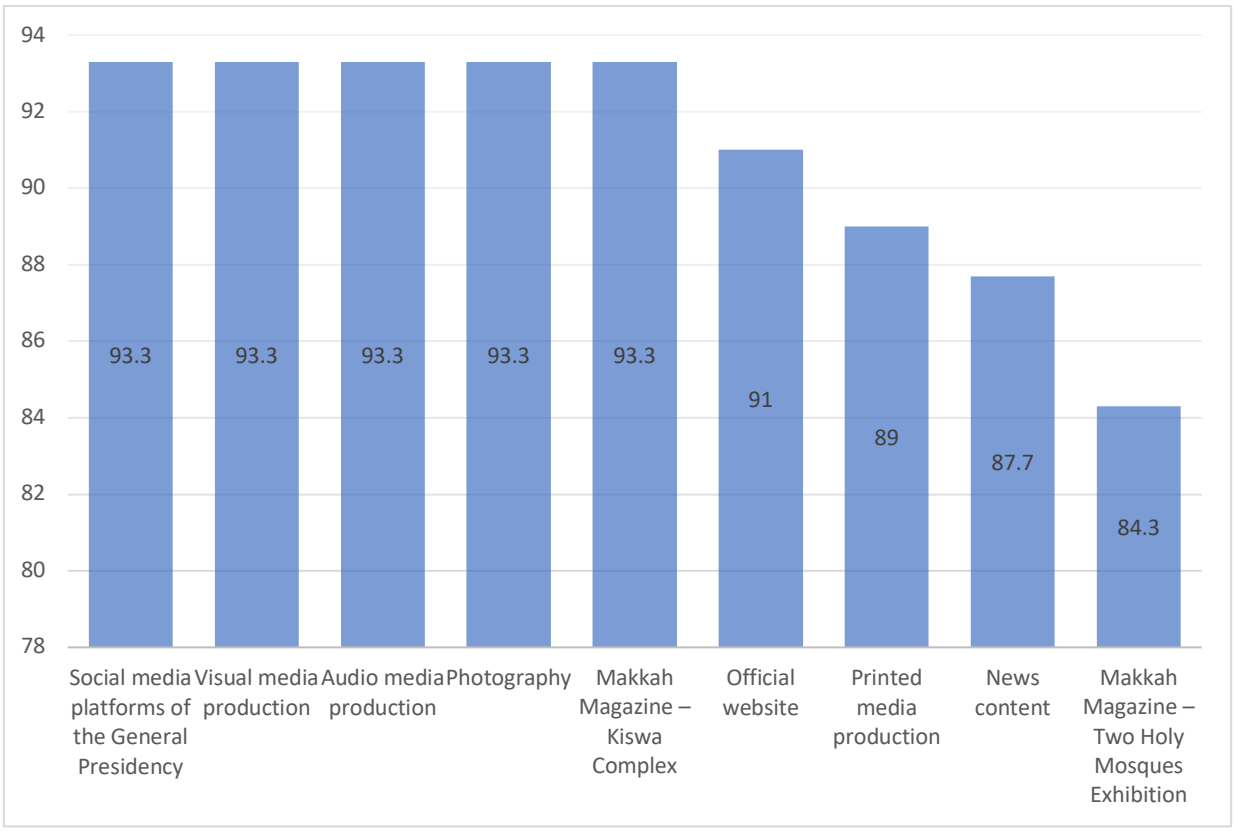

Fig. 4: Statistical Assessment and Ranking of AI Use Areas in Awareness Media Work

The Study Sample's Response Regarding the Benefits That the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque Would Gain from Extensively Utilizing Artificial Intelligence Applications in Awareness-Oriented Work

Table 5: Arithmetic Mean, Standard Deviation, Relative Weight, and Ranking the Study Sample's Views on the Benefits That the General Presidency Would Gain from Extensively Utilizing Artificial Intelligence Applications in Awareness-Oriented Work

Rank	Relative Weight (%)	Arithmetic Mean	Sample Responses (--)						Benefit	No.
			Agree		Neutral		Disagree			
			(N)	(%)	(N)	(%)	(N)	(%)		
1	92.3	2.77	24	80	5	16.7	1	3.3	High speed in news dissemination	1
2	90.0	2.70	22	73.3	7	23.3	1	3.3	Enhancing staff capabilities to align with new technologies	2
2=	90.0	2.70	23	76.7	5	16.7	2	6.7	Developing awareness media work at the General Presidency	3
3	87.7	2.63	22	73.3	5	16.7	3	10	Greater credibility in awareness media content	4
3=	87.7	2.63	20	66.7	9	30	1	3.3	Reducing bias in coverage, especially during Hajj and Umrah	5
4	86.7	2.60	20	66.7	8	26.7	2	6.7	High-quality content from the General Presidency	6

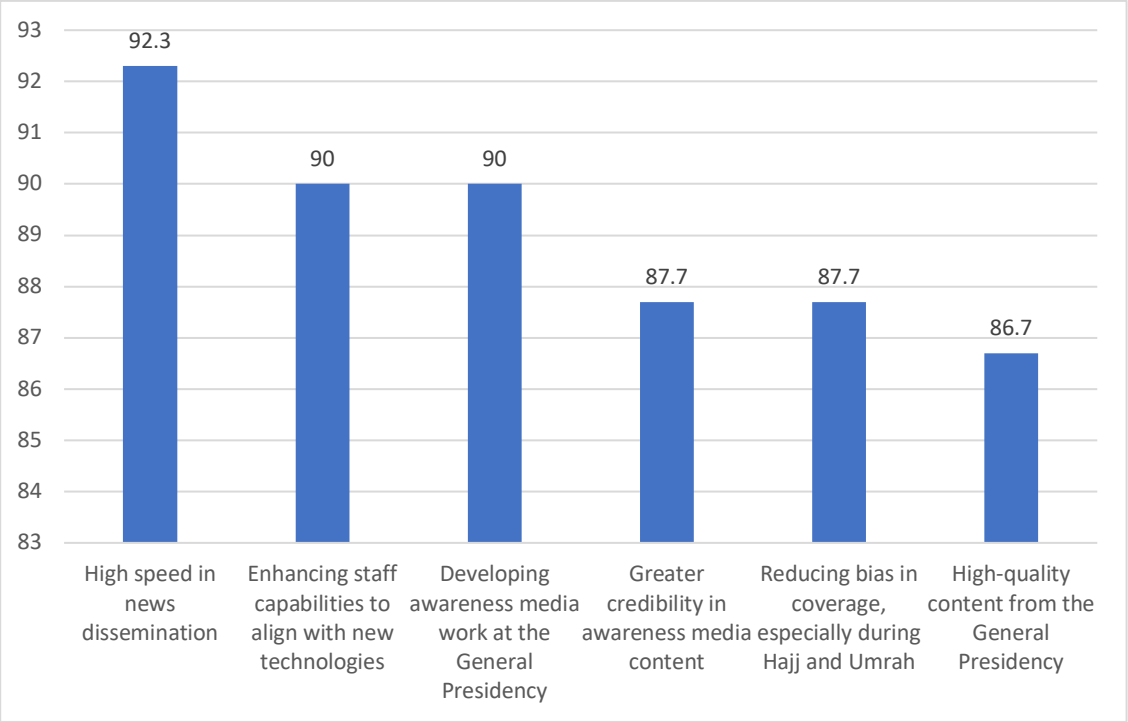

Fig. 5: Statistical Assessment and Ranking of Expected Benefits from AI Integration

Identifying the Use of Artificial Intelligence Technologies (Expected Performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.

Table 6: Arithmetic Mean, Standard Deviation, Relative Weight, and Ranking of the Study Sample's Views on the Use of Artificial Intelligence Technologies (Expected Performance) in the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque

Rank	Relative Weight (%)	Arithmetic Mean	Sample Responses (--)						Statement	No.
			Agree		Neutral		Disagree			
			(N)	(%)	(N)	(%)	(N)	(%)		
1	92.3	2.77	25	83.3	3	10	2	6.7	Factchecking and verification before publication	1
1=	92.3	2.77	25	83.3	3	10	2	6.7	Correcting linguistic errors is one of the most important uses of AI	2
2	91.0	2.73	23	76.7	6	20	1	3.3	AI can be used to publish news on the website for real-time updates	3
3	89.0	2.67	22	73.3	6	20	2	6.7	Reducing editorial, publishing, and reviewing workload for staff	4
4	87.7	2.63	21	70	7	23.3	2	6.7	Improving media handling and awareness strategies for events	5
4=	87.7	2.63	20	66.7	9	30	1	3.3	Utilizing advanced technologies to convert data into visuals and charts	6

The Study Sample's Response Regarding the Available Facilities for Communication Practitioners to Employ Artificial Intelligence in the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.

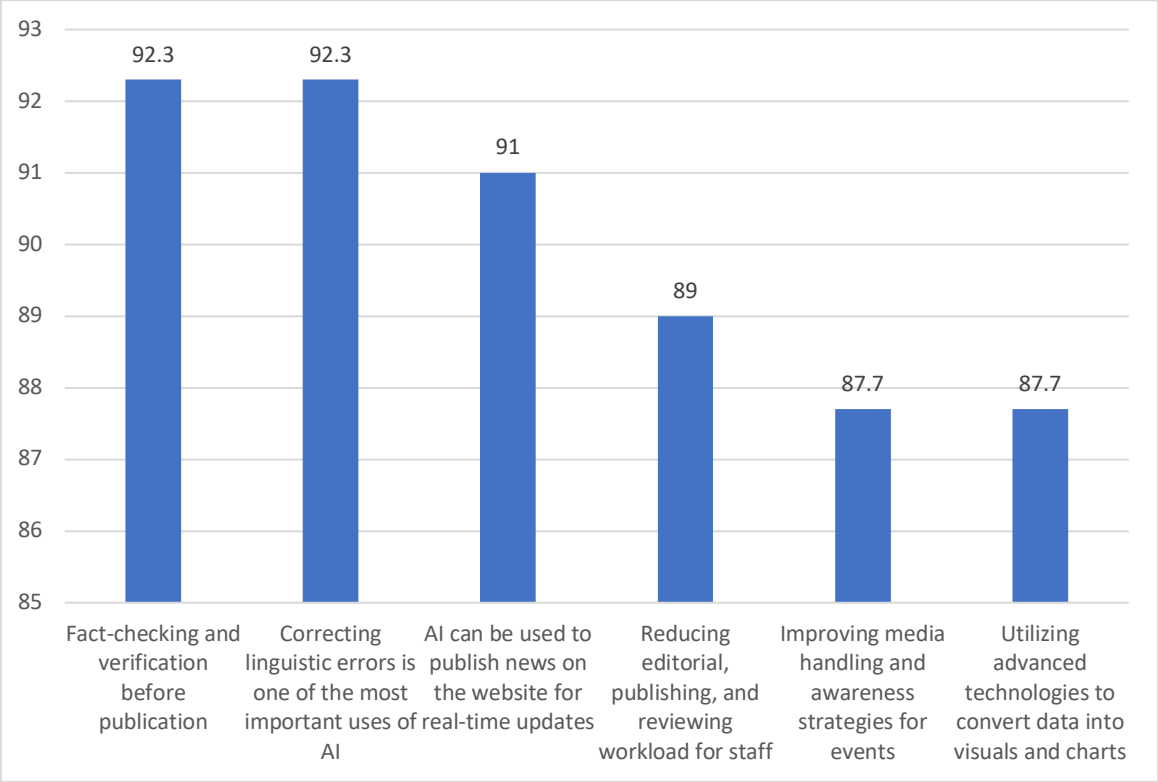

Fig. 6: Statistical Evaluation and Ranking of Expected AI Performance in Organizational Work

Table 7: Arithmetic Mean, Standard Deviation, Relative Weight, and Ranking of the Study Sample's Views on the Available Facilities for Communication Practitioners to Employ Artificial Intelligence in the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque

Rank	Relative Weight (%)	Arithmetic Mean	Sample Responses (--)						Statement	No.
			Agree		Neutral		Disagree			
			(N)	(%)	(N)	(%)	(N)	(%)		
1	93.3	2.80	26	86.7	2	6.7	2	6.7	The expected benefits of using AI make the anticipated effort easier	1
2	91.0	2.73	23	76.7	6	20	1	3.3	The flexibility of AI technologies makes them easier to use	2
2=	91.0	2.73	25	83.3	2	6.7	3	10	The General Presidency is progressing in employing these technologies in awareness media work	3
3	90.0	2.70	23	76.7	5	16.7	2	6.7	The Presidency provides the modern technologies needed for awareness media work	4
4	89.0	2.67	23	76.7	4	13.3	3	10	The staff at the General Presidency are fully ready to employ AI technologies	5
5	86.7	2.60	21	70	6	20	3	10	The Presidency provides the material and human resources needed to employ AI in awareness media work	6

7. The Study Sample's Response Regarding the Planned Efforts to Apply Artificial Intelligence Technology in Developing Awareness Media Content in the Upcoming Period

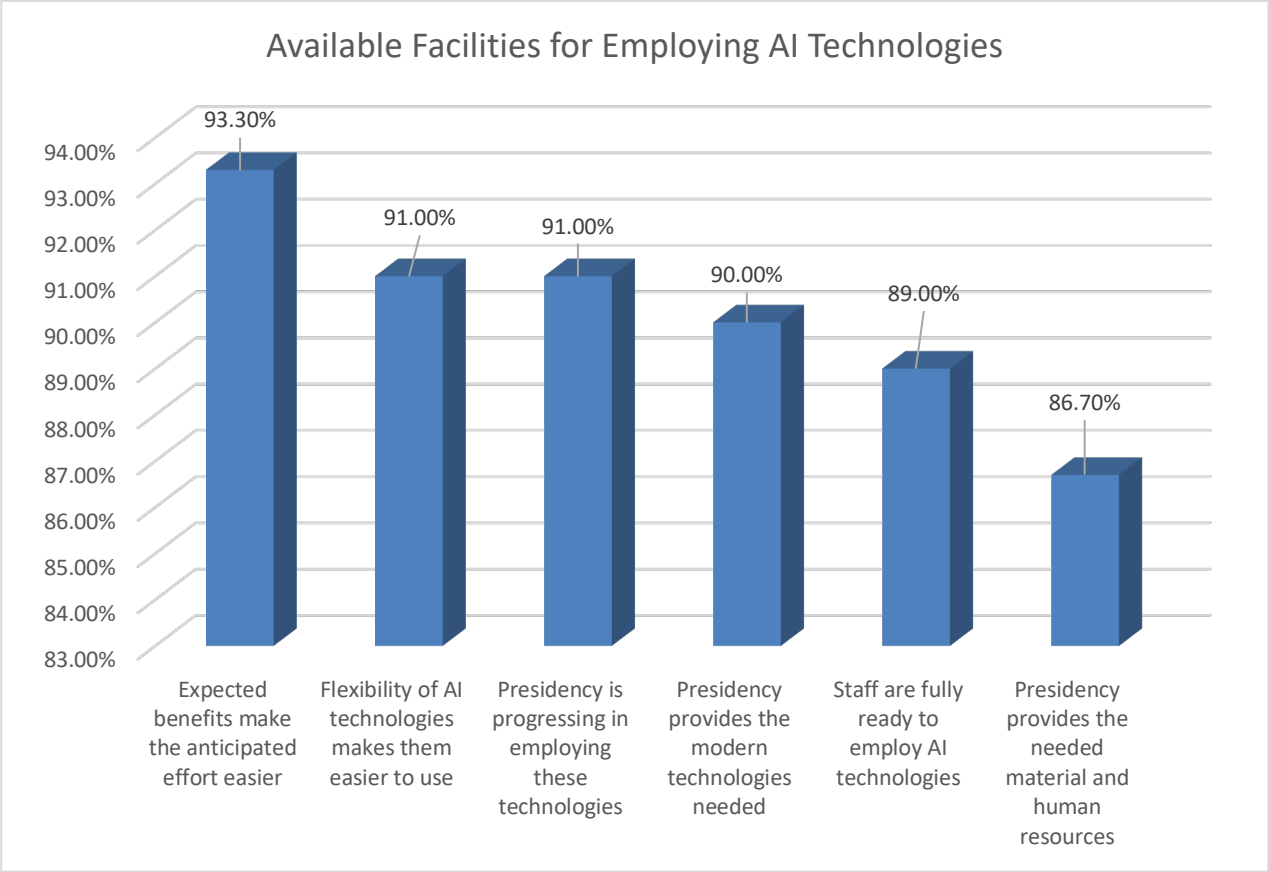

Fig. 7: Statistical Assessment and Ranking of AI-Related Facilities for Communication Practitioners

Table 8: Arithmetic Mean, Standard Deviation, Relative Weight, and Ranking of the Study Sample's Views on the Planned Efforts to Apply Artificial Intelligence Technology in Developing Awareness Media Content in the Upcoming Period

Rank	Relative Weight (%)	Arithmetic Mean	Sample Responses (--)						Statement	No.
			Agree		Neutral		Disagree			
			(N)	(%)	(N)	(%)	(N)	(%)		
1	94.3	2.83	26	86.7	3	10	1	3.3	I propose involving trained scientific expertise in AI	1
1=	94.3	2.83	26	86.7	3	10	1	3.3	I will advocate for holding seminars or regular meetings on the importance of employing AI in developing awareness media work at the General Presidency	2
2	93.3	2.80	25	83.3	4	13.3	1	3.3	Attending training courses on how to employ AI techniques in awareness media work	3
3	92.3	2.77	24	80	5	16.7	1	3.3	Recommending to my supervisors at the General Presidency to introduce more modern technologies to facilitate work	4

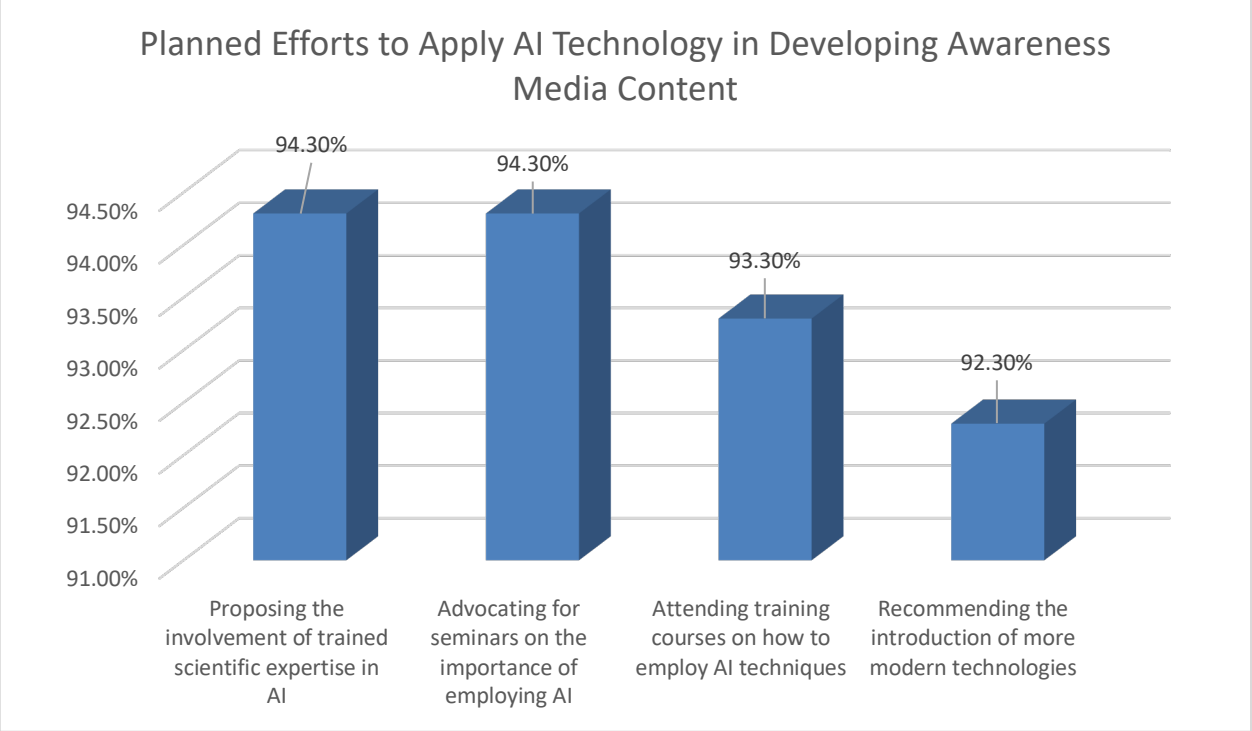

Fig. 8: Statistical Assessment and Ranking of Future AI Strategic Planned Efforts in Media Content

The extent to which this hypothesis is verified is presented in the following table:

Table 9: Significance of the Differences Between the Mean Scores of Respondents on the Scale of AI Application Areas Utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in Awareness-Oriented Media Work, and Their Level of Agreement on Implementing These Applications

Communication Practitioner		**N**	**Mean**	**Std. Deviation**	**Statistical Indicator**	
Agreement	Yes	26	2.79	0.286	t-value	Significance (p-value)
	No	4	2.37	0.478	2.481	0.019

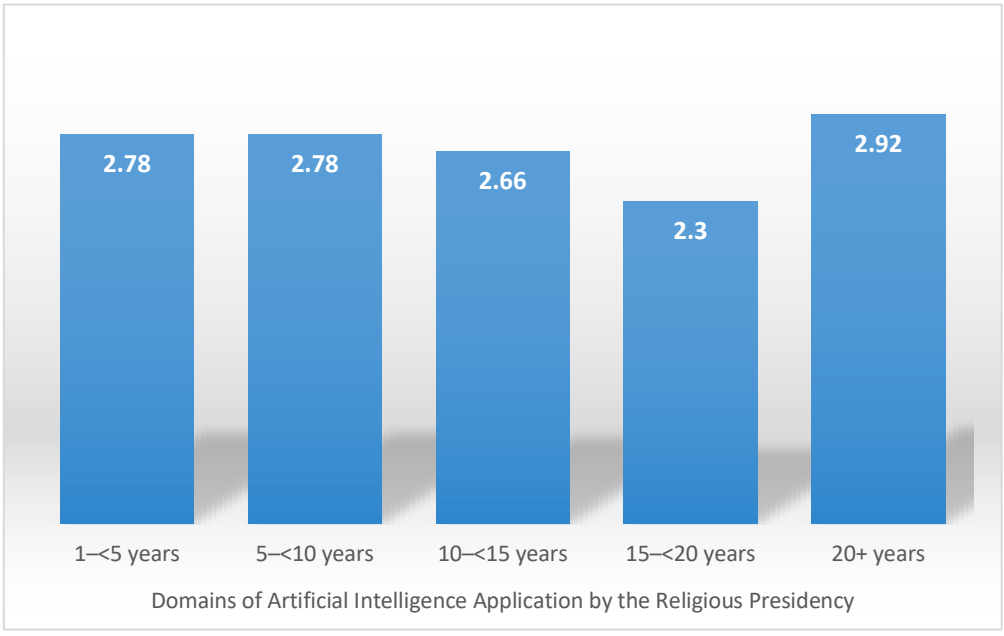

Fig. 9: Differences between means of experience levels in AI application domains according to the Least Significant Difference (LSD) test

The extent to which this hypothesis is verified is presented in the following table:

Table 10: Significance of the Differences Between Sample Groups Regarding the Overall Areas of Artificial Intelligence Application by the General Presidency in Awareness-Oriented Media Work

Sample Group		**N**	**Mean**	**Std. Deviation**	**Statistical Test**	
Gender	Male	18	2.88	0.247	Test Value	Significance (p-value)
	Female	12	2.50	0.339	3.557	0.001
Age	20 to <30	7	2.81	0.247	Test Value	Significance (p-value)
	30 to <40	8	2.52	0.436	1.634	0.206
	40 to <50	11	2.84	0.201		
	50 and above	4	2.72	0.485		
Years of Experience	<5 years	6	2.78	0.256	Test Value	Significance (p-value)
	5–<10 years	5	2.78	0.228	3.158	0.031
	10–<15 years	6	2.66	0.480		
	15–<20 years	4	2.30	0.382		
	20+ years	9	2.92	0.109		
Job Title	Public Relations Officer	12	2.71	0.371	Test Value	Significance (p-value)
	Website Administrator	3	2.96	0.057	0.404	0.804
	Editor	9	2.67	0.417		
	Video Editor	4	2.72	0.000		
	Graphic Designer	2	2.80	0.339		

Table 11: LSD Test of Means and Standard Deviations Between Experience Levels of the Sample on the Scale of AI Application Areas by the General Presidency in Awareness-Oriented Media Work

Experience Level		**N**	**Mean**	**Std. Deviation**	**1–5**	**5–10**	**10–15**	**15–20**	**20+**
Domains of Artificial Intelligence Application by the Religious Presidency	1–<5 years	6	2.78	0.256		0.003	0.116	0.483*	0.138
	5–<10 years	5	2.78	0.228			0.113	0.480*	0.142
	10–<15 years	6	2.66	0.480				0.366	0.255
	15–<20 years	4	2.30	0.382					0.622*
	20+ years	9	2.92	0.109					

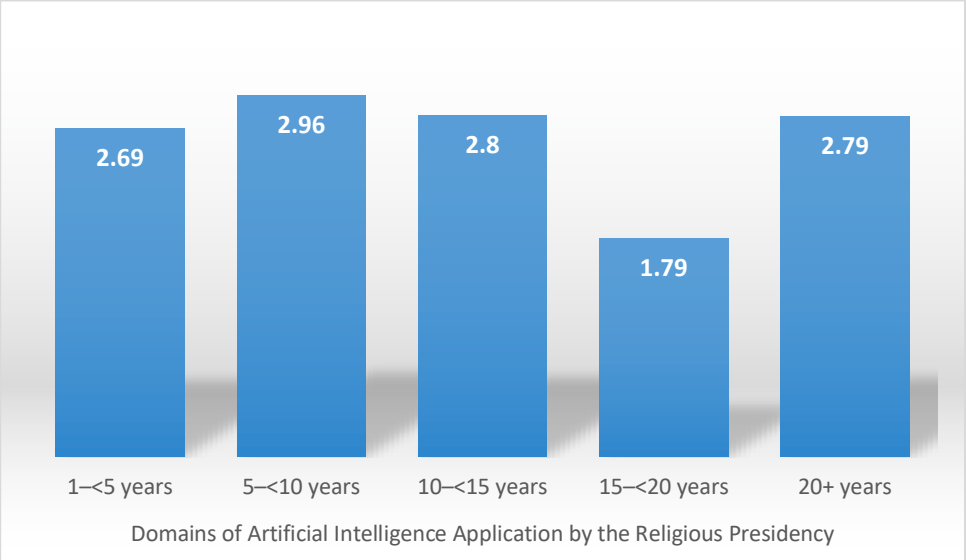

Fig. 10: Differences between means of experience levels on the scale of benefits from utilizing AI applications according to the LSD test

Table 12: Significance of the Differences Between Sample Groups Regarding the Overall Benefits That the General Presidency Would Gain from Extensively Utilizing Artificial Intelligence Applications in Awareness-Oriented Work

Sample Group		**N**	**Mean**	**Std. Deviation**	**Statistical Test**	
Gender	Male	18	2.86	0.275	Test Value	Significance (p-value)
	Female	12	2.38	0.528	3.209	0.003
Age	20 to <30	7	2.57	0.543	Test Value	Significance (p-value)
	30 to <40	8	2.68	0.440	0.153	0.926
	40 to <50	11	2.69	0.446		
	50 and above	4	2.75	0.500		
Years of Experience	<5 years	6	2.69	0.267	Test Value	Significance (p-value)
	5–<10 years	5	2.96	0.074	10.806	0.000
	10–<15 years	6	2.80	0.400		
	15–<20 years	4	1.79	0.250		
	20+ years	9	2.79	0.320		
Job Title	Public Relations Officer	12	2.56	0.494	Test Value	Significance (p-value)
	Website Administrator	3	3.00	0.000	0.547	0.703
	Editor	9	2.72	0.440		
	Video Editor	4	2.62	0.643		
	Graphic Designer	2	2.66	0.000		

Table 13: LSD Test of Means and Standard Deviations Between Experience Levels of the Sample on the Scale of the Benefits That the General Presidency Would Gain from Extensively Utilizing Artificial Intelligence Applications in Awareness-Oriented Work

Experience Level		**N**	**Mean**	**Std. Deviation**	**1–5**	**5–10**	**10–15**	**15–20**	**20+**
Benefit	1–<5 years	6	2.69	0.267		0.270	0.111	0.902*	0.101
	5–<10 years	5	2.96	0.074			0.161	1.175*	0.170
	10–<15 years	6	2.80	0.400				1.013*	0.009
	15–<20 years	4	1.79	0.250					1.004*
	20+ years	9	2.79	0.320					

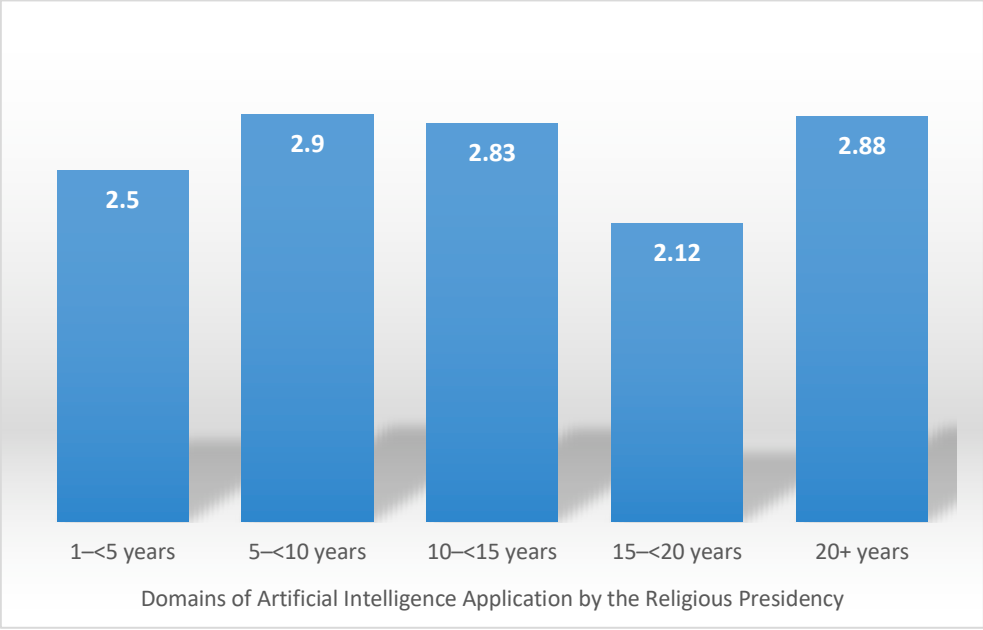

Fig. 11: Differences between means of experience levels on the scale of expected performance from using AI technologies according to the LSD test

Table 14: Significance of the Differences Between Sample Groups Regarding the Overall Use of Artificial Intelligence Technologies (Expected Performance) in the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque

Sample Group		N	Mean	Std. Deviation	Statistical Test	
Gender	Male	18	2.82	0.359	Test Value	Significance (p-value)
	Female	12	2.51	0.452	2.090	0.046
Age	20 to <30	7	2.50	0.544	Test Value	Significance (p-value)
	30 to <40	8	2.75	0.388	0.670	0.578
	40 to <50	11	2.77	0.343		
	50 and above	4	2.75	0.500		
Years of Experience	<5 years	6	2.50	0.537	Test Value	Significance (p-value)
	5–<10 years	5	2.90	0.223	4.651	0.006
	10–<15 years	6	2.83	0.408		
	15–<20 years	4	2.12	0.159		
	20+ years	9	2.88	0.220		
Job Title	Public Relations Officer	12	2.62	0.487	Test Value	Significance (p-value)
	Website Administrator	3	3.00	0.000	0.496	0.739
	Editor	9	2.74	0.425		
	Video Editor	4	2.62	0.478		
	Graphic Designer	2	2.66	0.000		

Table 15: LSD Test of Means and Standard Deviations Between Experience Levels of the Sample on the Scale of Using Artificial Intelligence Technologies (Expected Performance) in the General Presidency

Experience Level		N	Mean	Std. Deviation	1–5	5–10	10–15	15–20	20+
Expected Performance	1–<5 years	6	2.50	0.537		0.400	0.333	0.375	0.388*
	5–<10 years	5	2.90	0.223			0.066	0.775*	0.111
	10–<15 years	6	2.83	0.408				0.708*	0.055
	15–<20 years	4	2.12	0.159					0.763*
	20+ years	9	2.88	0.220					

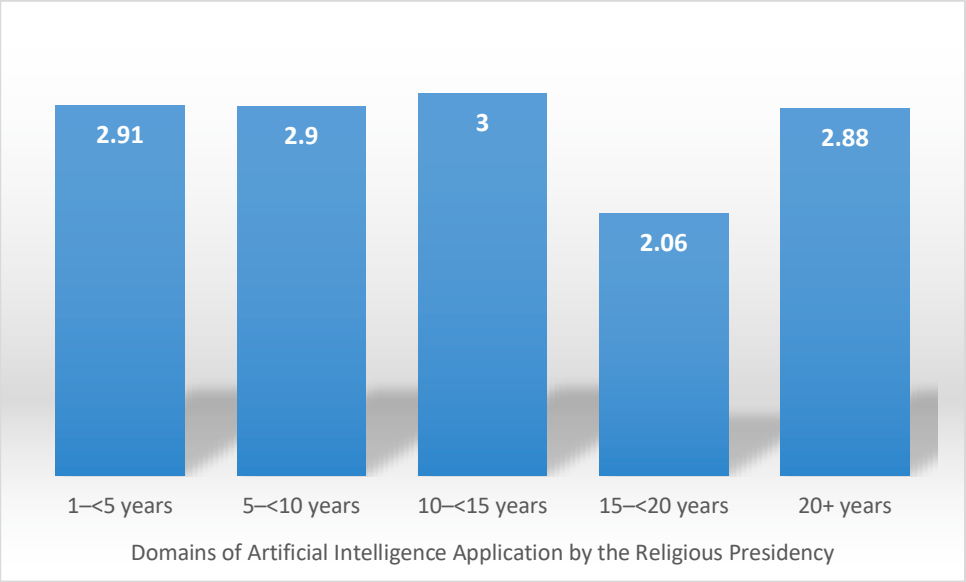

Fig. 12: Differences between means of experience levels on the scale of perceived effort to implement AI technologies according to the LSD test.

The extent to which this hypothesis is verified is presented in the following table:

Table 16: Significance of the Differences Between Sample Groups Regarding the Overall Availability of Facilities

Sample Group		**N**	**Mean**	**Std. Deviation**	**Statistical Test**	
Gender	Male	18	2.78	0.351	Test Value	Significance (p-value)
	Female	12	2.58	0.588	1.190	0.244
Age	20 to <30	7	2.59	0.568	Test Value	Significance (p-value)
	30 to <40	8	2.85	0.350	0.443	0.724
	40 to <50	11	2.65	0.485		
	50 and above	4	2.75	0.500		
Years of Experience	<5 years	6	2.55	0.602	Test Value	Significance (p-value)
	5–<10 years	5	2.90	0.223	1.470	0.240
	10–<15 years	6	2.83	0.408		
	15–<20 years	4	2.29	0.671		
	20+ years	9	2.76	0.320		
Job Title	Public Relations Officer	12	2.69	0.470	Test Value	Significance (p-value)
	Website Administrator	3	3.00	0.000	0.509	0.730
	Editor	9	3.68	0.474		
	Video Editor	4	2.50	0.707		
	Graphic Designer	2	2.83	0.000		

The extent to which this hypothesis is verified is presented in the following table

Table 17: Significance of the Differences Between Sample Groups Regarding the Overall Planned Efforts to Apply Artificial Intelligence Technology in Developing Awareness Media Content in the Future

Sample Group		**N**	**Mean**	**Std. Deviation**	**Statistical Test**	
Gender	Male	18	2.91	0.171	Test Value	Significance (p-value)
	Female	12	2.64	0.516	2.076	0.047
Age	20 to <30	7	2.89	0.133	Test Value	Significance (p-value)
	30 to <40	8	2.81	0.530	0.173	0.913
	40 to <50	11	2.77	0.325		
	50 and above	4	2.75	0.500		
Years of Experience	<5 years	6	2.91	0.129	Test Value	Significance (p-value)
	5–<10 years	5	2.90	0.223	12.166	0.000
	10–<15 years	6	3.00	0.000		
	15–<20 years	4	2.06	0.515		
	20+ years	9	2.88	0.181		
Job Title	Public Relations Officer	12	2.77	0.419	Test Value	Significance (p-value)
	Website Administrator	3	3.00	0.000	0.558	0.674
	Editor	9	2.86	0.353		
	Video Editor	4	2.62	0.478		
	Graphic Designer	2	3.00	0.000		

Table 18: presents the results of the LSD test, along with the means and standard deviations, for differences across experience levels among the sample participants on the scale measuring the perceived effort exerted by the institution to implement artificial intelligence technologies in the future development of awareness-oriented media content.

Experience Level		**N**	**Mean**	**Std. Deviation**	**1–5**	**5–10**	**10–15**	**15–20**	**20+**
Perceived Effort	1–<5 years	6	2.91	0.129		0.016	0.083	0.854*	0.027
	5–<10 years	5	2.90	0.223			0.100	0.847*	0.011
	10–<15 years	6	3.00	0.000				0.937*	0.111
	15–<20 years	4	2.06	0.515					0.826*
	20+ years	9	2.88	0.181					

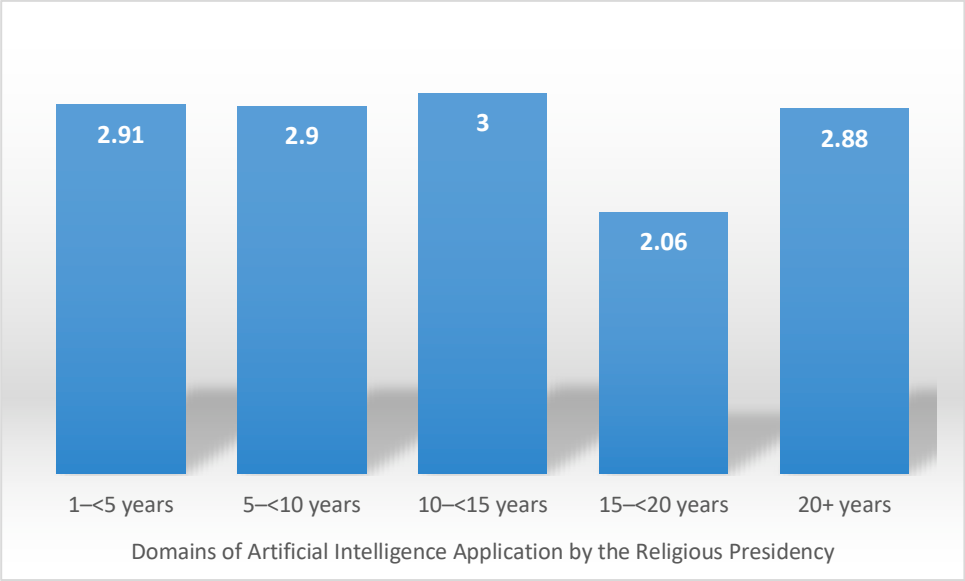

Fig. 12: Differences between means of experience levels on the scale of perceived effort to implement AI technologies according to the LSD test.

10. Key Findings of the Study

1. A high percentage (46.7%) of the study sample indicated that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque relies heavily on modern technology in awareness-oriented media work.
2. A notable proportion of the study sample (46.7%) reported that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque makes substantial use of artificial intelligence applications in awareness-oriented media work.
3. A high level of agreement was observed among the study participants, with 86.7% expressing their support for applying artificial intelligence applications to enhance awareness-focused media work within the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
4. The highest-ranked fields for the use of artificial intelligence applications in awareness media work, as perceived by the study sample (with a relative weight of 93.3%), included:

The official social media platforms of the General Presidency, visual media production, audio media production, photography, and the Makkah Magazine issued by the Kiswa Complex

5. The statement "high speed in news dissemination" ranked first among the perceived benefits of extensively utilizing artificial intelligence applications in awareness-oriented work, with a relative weight of 92.3% according to the study sample.
6. The statements "fact-checking and verification before publication" and "correcting linguistic errors as one of the most important uses of artificial intelligence" jointly ranked first, with a relative weight of 92.3%, among the study sample's views regarding the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
7. The statement "the expected benefits of using artificial intelligence make the anticipated effort easier" ranked first, with a relative weight of 93.3%, among the study sample's views regarding the available facilities for communication practitioners to employ artificial intelligence at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
8. The statements "I will propose involving trained scientific expertise in the field of artificial intelligence" and "I will advocate for organizing seminars or regular meetings to discuss the importance of employing AI in the development of awareness-oriented media work at the General Presidency" jointly ranked first, with a relative weight of 94.3%, among the study sample's views regarding the planned efforts to apply artificial intelligence technology in developing awareness media content in the upcoming period.
9. There are statistically significant differences between the mean scores of the respondents on the overall scale of AI

application areas utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work, based on their level of agreement regarding the application of these technologies.

10. There are statistically significant differences between the mean scores of male and female participants on the scale measuring the use of artificial intelligence applications by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work.
11. There are no statistically significant differences between the participants across different age groups on the overall scale of AI application areas utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work.
12. There are statistically significant differences between participants based on their years of experience on the overall scale of AI application areas utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work.
13. There are no statistically significant differences between participants based on their job position on the overall scale of AI application areas utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work.
14. There are statistically significant differences between the mean scores of participants with 1 to less than 5 years of experience and those with 15 to less than 20 years of experience on the scale of AI application areas utilized by the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque in awareness-oriented media work, in favor of participants with 1 to less than 5 years of experience.
15. There are statistically significant differences between the mean scores of male and female participants on the overall scale of the benefits that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque would gain from extensively utilizing artificial intelligence applications in awareness-oriented work.
16. There are no statistically significant differences between participants across different age groups on the overall scale of the benefits that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque would gain from extensively utilizing artificial intelligence applications in awareness-oriented work.
17. There are statistically significant differences between participants based on their years of experience on the overall scale of the benefits that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque would gain from extensively utilizing artificial intelligence applications in awareness-oriented work.
18. There are statistically significant differences between participants based on their years of experience on the overall scale of the benefits that the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque would gain from extensively utilizing artificial intelligence applications in awareness-oriented work.
19. There are statistically significant differences between the mean scores of male and female participants on the overall scale measuring the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
20. There are no statistically significant differences between participants across different age groups on the overall scale measuring the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
21. There are statistically significant differences between participants based on their years of experience on the overall scale measuring the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
22. There are no statistically significant differences between participants based on their years of experience on the overall scale measuring the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque.
23. There are statistically significant differences between the mean scores of participants with 1 to less than 5 years of experience and those with 20 or more years of experience on the scale measuring the use of artificial intelligence technologies (expected performance) at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque, in favor of participants with 20 or more years of experience.
24. There are no statistically significant differences between the mean scores of the respondents on the overall scale measuring the available facilities for communication practitioners to employ artificial intelligence at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque, according to demographic variables (gender,

age, years of experience, and job position).

25. There are statistically significant differences between the mean scores of male and female participants on the overall scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future.
26. There are no statistically significant differences between participants across different age groups on the overall scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future.
27. There are statistically significant differences between participants based on their years of experience on the overall scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future.
28. There are no statistically significant differences between participants based on their years of experience on the overall scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future.
29. There are statistically significant differences between the mean scores of participants with 1 to less than 5 years of experience and those with 15 to less than 20 years of experience on the scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future, in favor of participants with 1 to less than 5 years of experience.
30. There are statistically significant differences between the mean scores of participants with 20 or more years of experience and those with 15 to less than 20 years of experience on the scale measuring the planned efforts to apply artificial intelligence technology in developing awareness media content in the future, in favor of participants with 20 or more years of experience.

11. Recommendations

1. The researchers recommend raising awareness among communication practitioners working at the General Presidency for the Affairs of the Holy Mosque and the Prophet's Mosque about the importance of artificial intelligence applications and their expected advantages in media work.
2. The researchers recommend working on maximizing the benefits of artificial intelligence in the field of media work
3. The researchers recommend working on developing Arabic language programming to better integrate artificial intelligence technologies used in media tasks.

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