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Factors influencing the use of media faculty members at Arab universities for artificial intelligence applications in teaching and research

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Abstract

Artificial Intelligence (AI) is changing higher education and scientific research. The main aim of the current paper is to explore factors that affect the use of AI by media faculty members at Arab universities for teaching and research purposes. The study depended on the "Technology Acceptance Model" (TAM) as a theoretical framework to explore the effect of perceived usefulness, perceived ease of use, and optimism on faculty attitudes, intentions, and the use of AI by the study sample. It employed a quantitative research design, utilizing an online questionnaire administered to a convenience sample of 216 media faculty members selected from various Arab universities. The results demonstrated that there was a moderate level of use of AI applications within the study sample. The results revealed that perceived utility and optimism about technology significantly influence attitudes toward AI applications in education and research. Furthermore, attitudes toward using AI applications in education and research influence both the intention to use and the actual use. However, perceived ease of use did not affect attitudes toward using AI applications in education and research, which partially supports the TAM hypotheses. The study suggests the need for training media faculty members on leveraging AI in teaching and research and developing AI ethics guidelines to govern this use.

Keywords: Arab universities, artificial intelligence (AI), higher education, media education, technology acceptance model (TAM).

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1. Introduction

Since technological advancement is a progressive process, it is no surprise that artificial intelligence (AI) is changing many sectors, including education. Previous literature reviews have illustrated that there is no doubt about the enormous potential of AI in library services, research management, and academic administration [1]. However, leveraging AI in education is still a significant issue of concern, as faculty members' attitudes toward AI remain an open question. In this regard, the main purpose of this study is to identify faculty members' attitudes towards integrating AI in education and research.

This study examines the faculty members' perceptions of AI to reveal the advantages and disadvantages of AI. It explores how they perceive the roles of AI in teaching and learning, inventiveness, teaching strategies, learning and research processes, and the general quality of education. Thus, the purpose of this study is to reveal the factors influencing intentions to use and the actual use of AI technologies in education and research. In addition, it aims to evaluate the benefits and challenges that can be associated with the implementation of AI in the higher education sector and research field. Therefore, this study offers important findings for decision-makers, higher education institutions, and faculty members on how to use AI in education and research. Furthermore, this paper seeks to outline the areas of strength and weaknesses regarding the incorporation of AI into Arab higher education institutions specializing in media and mass communication studies to build effective strategies in this context.

1.1. The Scope of the Study

This study aims to explore how attitudes about utilizing AI technologies in research and education are influenced by factors such as optimism towards technology, perceived ease of use, and perceived usefulness of these applications. It also aims to identify the relationship between media faculty members' attitudes regarding the use of AI applications and both their intention to use and their actual utilization of AI applications in Arab universities.

1.2. Research Objectives

General objective: To determine the influencing factors that impact attitudes about utilizing AI technologies in research and education.

Specific objectives: The current study seeks to:

- Explore the extent to which faculty members in media faculties in Arab universities use AI tools in education and research.
- Determine how faculty members can benefit from AI applications in education and research.
- Identify the risks of implementing AI for teaching and research purposes as perceived by faculty members
- To assess the impact of faculty members' attitudes toward AI applications on their intention to use and the actual use of AI applications in education and research. Review of Literature

2. Review of Literature

2.1. AI in Scientific Research

2.1.1. Uses of AI for Research Purposes

AI has a significant effect on the academic research framework, especially in qualitative research. It has been used for literature collection, identifying study purposes and questions, and for content analysis [2]. Recently, AI has attracted increased attention in the academic research field due to its ability to process and analyze vast amounts of data, identify trends, generate valuable insights, automate many complex tasks, and perform numerous other functions. In this regard, many research papers have been conducted highlighting the benefits of AI in conducting research. For example, Gururangan et al. [3].

It was found that AI can help in creating innovative theoretical conceptualizations, novel theoretical frameworks, and generating textual data, especially in social sciences like mass communication studies. At the same time, Christou [4] found that the mass communication discipline is just one of the areas that can benefit from the use of AI in research in terms of analyzing social media images, generating text data, and using repeated visual themes to write captions. In addition, AI can also enhance social research by using deep learning models like GPTs to generate textual data and offer suggestions for language proofreading, writing abstracts, and conclusions, which have a positive impact on the writing process of social research papers [5].

In this regard, other literature reviews highlighted more beneficial uses of AI in the social research field. Chowdhury et al. [6] focused on the valuable use of AI to generate new knowledge, helping in correcting grammatical mistakes, revising punctuation, adjusting the syntax, recommending literature review resources, and expanding results based on the research questions and the applied theory. AI could also be used in social research as an analytical tool in sentiment analysis [7]. In addition, it could be used as an opinion extraction tool from textual or visual materials [8].

2.1.2. Limitations and Criticisms of AI in Research

On the other hand, many other research articles focused on shortcomings and criticisms of using AI in scientific research. In this regard, Buruk [9] concluded that it is essential to understand the importance of using AI in scientific research. However, researchers should acknowledge the limitations of using AI for research purposes. For example, deep learning models like GPT may not certainly provide real, correct, or trustworthy information, which can lead researchers to false systematic reviews and incorrect results. The same result was concluded by Saliba and Boitsios [10], who found that using AI heavily in writing literature reviews can lead researchers to lose their independence of thought. In addition, it can cause

them to lose their critical-thinking and argument skills. In the same context, Christou [4] confirmed the above harmful use of AI in research. He revealed that using AI in research can lead to biases and provide only incorrect data and inadequate findings. In addition, AI applications also lose the human touch, especially the emotional explanations. This can be a limitation, especially in the research areas that aim to create new theoretical frameworks and models.

2.1.3. Factors Influencing Staff Members' Adoption of AI in Research

Another trend in the same sequence of using AI in research focused on the factors that affected the use of staff members' AI in research. In this regard, Richter et al. [11] found that organizational culture that supports innovation and collaboration influenced the adoption of AI in research among staff members. For this reason, the authors suggested that it is essential for the high administration authority in any university to foster the culture of using updated technology to reap its benefits. In the same context, Dwivedi et al. [12] revealed that AI training is the key factor that can affect the staff members' use of AI in research. They confirmed that the official training that any university offers for its staff members can help in overcoming the resistance to AI adaptation in research specifically and educational processes in general.

In the same sequence, another study by Bukliv et al. [13] highlighted that most staff members in many global universities lack AI skills and need intensive training on using AI more effectively for research and academic purposes. Bauer et al. [14] found that perceived usefulness and ease of use were the main factors that influenced using AI by the staff members in research. For this reason, the authors recommended that universities should encourage their staff members to use AI in research by highlighting that these AI tools are user-friendly and clarifying their benefits.

Ethical considerations and trust are other factors that affect the use of AI in research by staff members. In this regard, Jobin et al. [15] clarified that privacy, transparency, and bias were the most obvious reasons that hindered the use of AI by the staff members. They confirmed that building trust in AI as a beneficial tool in research needs time. In the same context, Abdelhafiz et al. [16] found concerns regarding AI's potential to automate researcher tasks in terms of data analysis, language proofreading, editing, and statistics affected using AI in research among staff members in many universities. Furthermore, Ann et al. [17] found that faculty members were reluctant to approve the use of AI in research and dissertation writing because of plagiarism issues.

2.1.4. Faculty Members' Attitude on the Use of AI in Higher Education

Gupta and Goarty [18] examined the attitudes of faculty members across multiple disciplines in many higher education institutions towards the adoption of AI technologies for academic and research purposes. They found that there was a positive attitude regarding the use of AI for research data analysis. However, most of them expressed concerns about data privacy, in addition to the need for sufficient training and support from their universities. Wang and Lee [19] also investigated the differences in the attitudes of a sample of faculty members towards the use of AI in the higher education sector. They concluded that younger faculty members tend to be more interested and passionate about using AI in both teaching and research, while older faculty members expressed a high level of uncertainty and worries about using AI in research and traditional teaching methods. Both groups expressed the need for intensive training on the adequate use of AI in research and the higher education sector in general.

Numerous studies that investigated the attitudes of many faculty members in different higher education institutions indicated a positive tendency towards applying various AI tools in the educational process. However, they also pointed out some fears and threats that may cause some faculty members to decline teaching using those tools.

2.2. AI in Teaching

2.2.1. Benefits of Applying AI Applications for Teaching Purposes

According to some faculty members, using AI tools has transformed the learning environment in terms of using smart instruction, promoting cooperation, encouraging active learning, sharing materials, offering distance education via virtual classrooms, and enhancing pedagogic systems [20]. Conversely, AI applications provide a fundamental resource base for faculty members, administrators, and policymakers to lead to better comprehension as well as guiding informed strategic decisions for those seeking to maximize the value of generative AI tools in an ever-changing higher education landscape that encourages innovation and effective use of AI towards better educational experiences [21]. In addition, certain findings demonstrated a positive attitude amongst faculty members who seek to incorporate AI technologies or applications into design courses taught in higher education [17].

Moreover, the potential applications of AI cover the exploration of educational consequences, including the enhancement of teaching methods, the acquisition of knowledge by students, and the facilitation of timely and accurate decision-making within educational institutions [22]. Also, embedding AI in education can enhance the students' ability to rewrite options usefully in addition to learning how to improve their writing and rewrite sentences more formally to suit an academic writing style [23]. Moreover, some studies showed how teachers could improve their teaching and how higher education institutions could make quick and accurate decisions by using AI programs [20]. Meanwhile, some findings emphasized the strong impact of the use of machine learning and AI [24].

The use of AI has encouraged a paradigm shift towards student-centered learning, thus enabling faculty members` ability to access a variety of digital resources and interactive learning platforms. This move has made administrative tasks in higher education more straightforward [25]. As a result, this optimization allowed teachers to concentrate more on instructional design and learner support, which creates a conducive environment for studying [26]. In addition, several faculty members have claimed that students can use tutoring systems or AI tools like webQuests to do their homework and solve problems.

They can also use other educational technologies, including blogs, where they can create, collaborate, practice, and share their work [27]. Furthermore, they can utilize several AI applications for sophisticated content attributes [28].

Educational technology is viewed positively by academia. This optimistic attitude has some important implications for increasing the efficiency of technology and ensuring its long-term existence [29]. Certain faculty members referred to effective tools that affected how students approached learning, sustained their ability to make connections and obtain information beyond class materials, and facilitated communication with their professors [30]. Moreover, embedding AI in education has been identified as one of the key drivers for transforming learning experiences, fostering innovation, and emphasizing the importance of education on sustainable development [31]. Nevertheless, other researchers have argued that there was a significant positive relationship between leaders' use of AI in teaching and faculty members' level of teaching competence [32].

2.2.2. The Most Important Applications of AI Used in Higher Education

Many studies have investigated ChatGPT as a tool that enhances teaching and learning in higher education classrooms [33]. In addition, some faculty members have used PLS-SEM as an intelligent tool for data analysis when analyzing complex models. Rather than SPSS, PLS-SEM has been shown by some educators to be better because composite reliability and weights cannot be found directly from SPSS but must be computed manually in addition to using it to assess validity and reliability [34]. Recent findings indicate that Wordtune, one of the AI-based writing assistants, offers college faculty members alternative phrases or sentences, which help them to rewrite text by changing structure or substituting words with synonyms. Moreover, it has a translation functionality that enables non-native speakers to convert multiple languages into English [23]. Besides, a significant result concerning the attitude toward AI-based robot adoption for educational purposes in selected universities shows their benefits among students and instructors [35]. Using Canva has been mentioned as a way in which some professors depend on it intensively during preparation for lectures and class presentations [28]. In the same sequence, Ansone et al. [36] have focused on how educators employ Midjourney as generative AI software that creates images based on natural language descriptions known as prompts, which are part of the technologies associated with the AI boom. It also highlights the benefits of using DALL-E to generate new pictures or art pieces using text by combining different ideas, concepts, attributes, and styles.

2.2.3. Proposals to Enhance the Use of AI Applications by Students and Faculty Members

According to many studies that focused on the attitudes of students and faculty members at different universities regarding the use of AI programs, results indicated that despite the emergence of positive trends, a number of educators explained the need for both students and faculty members to be exposed to training courses and to raise their abilities to use AI tools, as well as the necessity of eradicating students' illiteracy in this field to achieve understanding, creativity, and practical production for both parties [37].

2.2.4. Challenges that Reduce the Use of AI Applications

Although there are positive outcomes of employing AI in education, there are many concerns that hinder its adoption by academics. First and foremost, among these apprehensions is the dread of joblessness associated with AI [38]. Also, some teachers worry that this can take out human interaction from learning and make it impersonal [39]. There is also hesitation due to doubt about whether AI-developed content is accurate enough [38]. Furthermore, ethical issues like privacy and data security form psychological hindrances to faculty members' acceptance [40]. In conclusion, educational management's effectiveness may improve if AI is adopted, but this technology should be handled with care, given its possible drawbacks, to minimize the associated risks [41].

2.2.5. Factors Influencing Faculty Adoption of AI in Higher Education: A Technology Acceptance Model Perspective

Many studies have examined factors influencing faculty adoption of AI tools in higher education institutions based on the Technology Acceptance Model. Many studies indicated that faculty members would think about how useful an AI application is and then act accordingly [42]. According to many research results, behavioral adoption by an individual is highly influenced by perceived utility and ease of use when it comes to AI applications [17]. In the same context, different educators also associated their positive perceptions of using AI tools with the awareness of their ease and benefits [29, 43]. Nonetheless, behavior intention changes may be ascribed to variables including perceived utility, perceived ease of use, and attitude toward usage [44, 45]. Although optimism for technology is found to play a significant role in supporting the uptake and regular use of AI technology among students, research has not taken this point into account. Therefore, these variables are considered in the current study.

2.3. Gaps in Literature

AI is increasingly becoming a focus point globally. However, research on the adoption of AI at Arab universities and its impact on teaching, learning, and research processes is minimal. Most of the available literature review on this topic investigated leveraging AI into the academic curriculum without providing specific examples of its implications at the Arab university level. In fact, the actual use of AI should be the focus for faculty members in mass communication programs since it touches on various subjects, such as content creation [46]. Therefore, more studies are required to evaluate how different AI tools have been integrated into mass communication curricula across Arab higher educational institutions to remain at the cutting edge of teaching innovation and train students to adapt to this ever-changing media environment [47]. The current study identified significant gaps in the Arab research on using AI in higher education. In addition, many previous studies

didn't investigate the effect of using AI in the mass communication discipline, which can have a good impact on enhancing the quality of this specialization. Generally, based on the above literature review, there is a lack of Arabic studies on using AI technologies and applications in mass communication schools in both research and teaching processes. For this reason, this study tried to cover this gap.

3. Theoretical Framework

Most previous research used the technology acceptance model (TAM) and the unified theory of acceptance and use of technology (UTAUT) to investigate the factors influencing attitudes about utilizing AI technologies in research or education processes [48-50]. As a result, this study employed the technology acceptance model and added optimism about technology as an independent factor to measure its impact on the attitude toward using AI applications in education and research. The study model is depicted in the following figure.

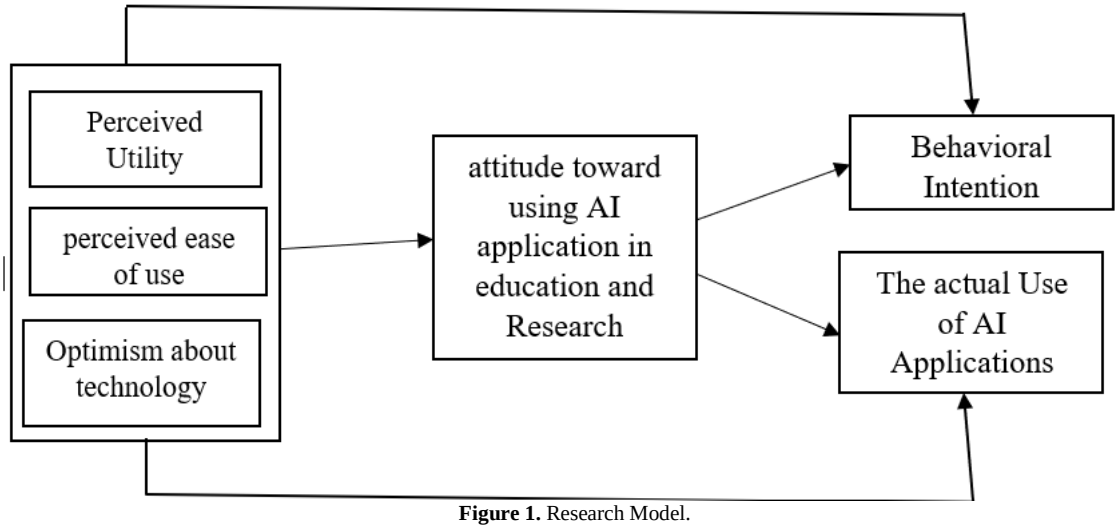

Figure 1. Research Model.

3.1. Research Questions

- Research Question 1: In what ways did faculty members benefit from AI applications in the educational and research process?
- Research Question 2: What are the risks of implementing AI for teaching and research purposes as perceived by faculty members?
- Research Question 3: What types of courses do faculty members believe have benefited from AI applications?
- Research Question 4: What are the reasons for using/non-using AI applications in the educational and research process?

3.2. Research Hypotheses

- *H_1: The factors (Perceived utility, perceived ease of use, and Optimism about technology) have a positive and significant impact on Attitudes toward using AI applications in the educational and research process in higher education.*
- *H_2: Attitude toward using AI applications positively impacts behavioral intention towards using AI applications in the educational and research process in higher education.*
- *H_3: Attitudes toward using AI applications positively impact the use of AI applications in the educational and research processes in higher education.*
- *H_4: The factors (Perceived Utility, perceived ease of use, and Optimism about technology) have a positive and significant impact on behavioral intention towards using AI applications in the educational and research process in higher education.*
- *H_5: The factors (Perceived Utility, perceived ease of use, and Optimism about technology) have a positive and significant impact on using AI applications in the educational and research process in higher education.*

4. Research Methodology

4.1. Research Design

This study employed a quantitative research design through an online questionnaire to reach a sample of media faculty members at different Arab Universities in many countries (UAE, Egypt, Bahrain, Jordan, Algeria, Saudi Arabia, Morocco, and Iraq). The study populations` specializations were journalism, radio, television, public relations, advertising, digital media, public opinion, etc.

4.2. Data Collection Tool

The study utilized an online questionnaire to gain insights into factors influencing media faculty members' use of AI applications in teaching and scientific research, the reasons for non-use, aspects of use, and the most used AI tools. In addition, it aimed to measure perceived usefulness, ease of use, optimism about the technology, attitudes toward the use of AI applications, and reveal potential risks associated with this use. The authors used Google Forms to design this online questionnaire and then distributed it to the study sample from July 10 to September 10, 2024. Emails containing the survey link were distributed to several media faculty members at various Arab universities. Additionally, the link was shared on the faculty members' LinkedIn pages, WhatsApp and Messenger accounts, and research groups for Arab scholars on WhatsApp.

4.3. Study Sample

A convenience sampling method was employed to recruit media faculty members from various Arab universities. This approach involved inviting faculty members who were readily accessible through professional networks and online platforms. A total of 216 faculty members participated in the online survey. The following table provides details of the sample characteristics (Table 1).

Table 1.
Demographic Profile of the study sample.

Variables	F	%
Male	49	22.7
Female	167	77.3
25-35	69	31.9
36-45	78	36.1
46-55	41	19.0
More than 55	28	13.0
Teaching Assistant	41	19
Assistant professor	115	53.2
Associate Professor	31	14.4
Professor	29	13.4
Experience less than 5 years	26	12.0
Experience from 5 to 10	54	25.0
Experience from 11 to 15	55	25.5
Experience from 16 to 20	31	14.4
Experience more than 20	50	23.1
Works in government university	141	65.3
Works in private university	75	34.7

4.4. Validity and Reliability

Pilot testing and anonymous participation ensured data quality and minimized potential bias. In addition, Cronbach's Alpha Coefficient was used to statistically verify the stability and validity of the study measures, as shown in the following table:

Table 2.
Validity of Research variables.

Research Variable	Statements Numbers	Cronbach's alpha coefficient
Perceived Utility	4	0.742
perceived ease of use	3	0.823
Optimism about technology	3	0.705
Attitude toward using AI applications	4	0.893

It is clear from the previous table that the value of Cronbach's alpha coefficient ranged between (0.705) and (0.893), and its value for the total study measures was (0.860), which are high values that indicate good internal consistency and reliability of the questionnaire.

5. Findings

5.1. Research Questions

5.1.1. The Benefits of AI Applications in Education and Research

According to the findings, 179 staff members (82.8% of the study sample) utilized AI technologies in scientific research and education. The highest percentage of them (51.4%) use AI apps sometimes. Regarding the areas of AI applications in the educational process, they included the following rank: (1) using translation applications for some educational content, (2) offering educational activities during the lecture, (3) preparing the scientific material for teaching, and (4) responding to questions from the students (whose averages were 2.246, 1.955, 1.838, and 1.514). Using AI tools was for the following reasons: automated grading systems, exam preparation, and, lastly, providing the students feedback on their academic performance ranked last. Their respective averages were 1.380, 1.324, and 1.436. To give insight into the potential preference

for tools that can automate or streamline tasks, it is important to point out areas where their usage has been reported as the highest in education. This would ultimately mean freeing up time for instructors, which they could utilize on more interactive aspects of teaching, including but not limited to discussions and personalized feedback.

Concerning how scientific research can benefit from AI applications, these include gathering data on the research topic to write the introduction, looking for ideas for the topic, gathering literature reviews, modifying the research linguistically, creating shapes and graphs to display the study's findings (the averages for these were 2.039, 1.944, 1.899, 1.899, and 1.743), while the last ranks were designing research questionnaires and the study measurements (the averages were 1.547 and 1.469, respectively). These results reflect that AI can automate tedious tasks like searching for relevant sources or creating basic visualizations, freeing up researchers' time for more complex intellectual pursuits like analysis and interpretation.

5.1.2. The Risks of Implementing AI for Teaching and Research Purposes

The sample members expected several risks regarding the use of AI applications in scientific research and education. The highest risk factor was an increase in academic plagiarism (791.7%), which was followed by researchers' poor critical thinking abilities (74.07%), students' lack of creativity (73.61%), and lower-than-expected quality in scientific research (42.13%). As for the violation of personal data of faculty members and the decrease in employment in higher education, they ranked last with a percentage of 27.24 for each reason. This finding highlights the urgent need for media faculties at Arab universities to create an ethical framework for using AI applications in scientific research and education and to organize numerous training sessions to instruct staff members and students on the safe use of these tools.

5.1.3. The Types of Courses that have Benefited from AI Applications

61.45% of the sample believed that practical and theoretical courses derive the greatest advantage from AI applications. Only 16.76% of respondents thought that only theoretical courses benefit the most from AI technology, while 21.79% believed the opposite. These benefits include creating instructional materials and producing different kinds of media.

5.1.4. The Reasons for Not using AI Applications in the Education and Research Process

Only 37 individuals from the study sample, representing 11.7%, did not use AI applications in scientific research or the educational process. The following were the reasons for this: first, there was not enough training to ensure that users knew how to use it (40.54%); second, there were unclear controls and ethical standards for its use (24.32%); third, both the difficulty of use and the lack of sufficient guarantees regarding the security and privacy of the data (21.62% for each); fourth, the university's budget was inadequate to cover the costs of using AI applications (18.92%). Finally, there were two reasons: the belief in the inaccuracy of the outputs and the workplace culture discouraging the use of modern technologies like AI applications (16.22% for each). As a result, the reasons differed; some were related to the organization, while others pertained to security, privacy, complexity, and usage controls.

Table 3.
The influencing factors on attitudes toward using AI applications in education and research in higher education.

Testing Hypotheses:										
H1	**Dependent Variable**	**Independent Variable**	**R**	**R^2**	**F**		**Beta**	**T**		**Result**
					Value	**Sig.**		**Value**	**Sig.**	
H1a	Attitudes toward using AI applications	Perceived utility	0.693	0.481	198.266	0.001	0.693	14.081	0.001	Approved
H1b		Perceived ease of use	0.091	0.008	1.787	0.183	0.091	1.337	0.183	Rejected
H1c		Optimism about technology	0.687	0.471	190.890	0.001	0.687	13.816	0.001	Approved

The results revealed that the perceived utility and Optimism about technology significantly influence attitudes toward using AI applications in education and research. The statistically significant F-values (198.266, 190.890) at $p < 0.05$. Additionally, the R^2 values ranging from .481 to 0.471 elucidate that these factors, as shown in Table 3, explain between 48.1% and 47.1% of the variance in attitudes toward using AI applications in education and research. Furthermore, the T-values (14.081, 13.816) consistently confirm the significant influence of these factors on attitudes. Therefore, H1a and H1c are approved. This result partially differed from what was assumed by the technology acceptance model, as perceived ease of use did not affect attitudes toward using AI applications in education and research. In general, H1 is partially accepted.

Table 4.
The impact of attitudes toward using AI applications on behavioral intention and the actual use of AI applications in the educational and research process in higher education.

H	Dependent Variable	Independent Variable	R	R^2	F		Beta	T		Result
H2	Behavioral intention	Attitudes toward using AI applications	0.398	0.159	**Value**	**Sig.**		**Value**	**Sig.**	
					40.343	0.001	0.398	6.352	0.001	Approved
H3	The actual use		0.218	0.047	10.646	0.001	0.218	3.263	0.001	Approved

As depicted in Table 4, attitudes toward using AI applications in education and research influence both the intention to use and the actual use. The statistically significant F-values (40.343, 10.646) at $p < 0.05$. The values of R^2 elucidate that attitudes toward using AI applications in education and research explain between 15.9% and 4.7% of the variance in the intention to use and the actual use, respectively. In general, based on the previous results, H2 and H3 are accepted. This result supports what was assumed by the technology acceptance model.

Table 5.
The influencing factors on behavioral intention and the actual use of AI applications in education and research in higher education.

H	Dependent Variable	Independent Variable	R	R^2	F		Beta	T		Result
H4	Behavioral intention	perceived utility	0.416	0.173	**Value**	**Sig.**		**Value**	**Sig.**	
					44.784	0.001	0.416	6.692	0.001	Approved
		perceived ease of use	0.245	0.060	13.629	0.001	0.245	3.692	0.001	Approved
		Optimism about technology	0.381	0.145	36.380	0.001	.381	6.032	0.001	Approved
H5	The actual use of AI apps	perceived utility	0.327	0.107	**Value**	**Sig.**		**Value**	**Sig.**	
					25.554	0.001	0.327	5.055	0.001	Approved
		perceived ease of use	0.352	0.124	30.336	0.001	0.352	5.508	0.001	Approved
		Optimism about technology	0.348	0.121	29.418	0.001	0.348	5.424	0.001	Approved

As shown in Table 5, the values of R^2 elucidate that the three variables explain between 6% to 17.3% of the variance in the intention to use and the actual use, respectively. In general, based on the previous results, H4 and H5 are accepted.

6. Discussion

The use of AI in higher education has been a matter of debate and discussion. The current study aimed to explore the factors influencing the use of AI tools by a sample of Arab faculty members in their teaching and research activities. By comparing the study results with the literature, the implications for academia can be identified in terms of the impacts, benefits, problems, and prospects of AI applications.

Despite the growing spread of AI applications internationally and the huge capabilities they offer, the percentage of usage of these applications is still moderate among media professors in Arab universities in both scientific research and teaching processes, as shown in the results above.

6.1. Benefits of AI in Education and Research

In their academic pursuits, 82.8% of the sample faculty members in the current study were found to use AI technologies in both research and education processes. This finding is consistent with previous research that underscored numerous advantages of AI in the educational sector, including handling large data sets, generating knowledge, and automating repetitive operations, as stated in Gururangan et al. [3] and Christou [2].

Regarding educational benefits, faculty members stated that AI can be used in many teaching activities, such as translating educational content, preparing teaching materials, and facilitating student queries. This result demonstrates strong agreement with López Costa [20] and Fernández-Barrero et al. [21]. Furthermore, the results showed that AI enhances personalized learning experiences and automates administrative functions, as also concluded by [22] and Kefalis et al. [25]. Given that mass communication academic programs are mainly practical in their nature, previous results indicated the insufficient exploitation of using AI in teaching the practical aspects of mass communication programs among the study sample, considering the variety of AI applications used in media production areas such as editing, design, and content writing. Interestingly, the current study also identified variations in faculty perspectives on which specific mass communication courses were most suited to incorporate AI applications.

These results highlighted the need for Arab universities to develop focused training programs on integrating AI applications into various mass communication courses. This training should address faculty concerns about the types of courses where AI can be most effective, ensuring its successful implementation and alignment with evolving industry demands.

Moving to the research benefits of using AI, it was discovered that AI helped in data collection, literature review, and visualization of findings. Lund and Wang [5] and Chowdhury et al. [6] also highlighted AI's ability to innovate new knowledge, correct errors in grammar, and expand results as the main benefits of embedding AI in the teaching process. The above results showed that it is essential to organize numerous training sessions to instruct staff members in Arab Universities on the safe use of these tools. In the same context, the study results showed a high level of risk in implementing AI for teaching and research purposes from the study sample`s point of view, especially in increasing academic plagiarism. This finding highlights the urgent need to develop an ethical framework for leveraging AI applications in scientific research and education in Arab universities.

6.2. Risks and Limitations of Using AI in Academia

However, the study also identified some risks associated with AI use in terms of academic integrity and critical thinking. The most frequently cited risks were the increase in plagiarism and the decrease in critical thinking among researchers. These fears have been well-documented in previous literature. For example, according to Buruk [9] and Saliba and Boitsios [10], over-relying on AI can cause wrong information dissemination and decrease independence and critical-thinking skills. Christou [2] pointed out that AI has potential biases or inaccuracies.

6.3. Factors Influencing AI Adoption

The current study highlighted many factors that influenced AI adoption by faculty members, including organizational culture, AI literacy, and perceived ease of use. In this regard, Richter et al. [11] found that supportive organizational culture and adequate training are vital in encouraging AI adoption. Bauer et al. [14] found that the usefulness and the ease of using AI tools were the main factors that influenced the acceptance of these tools among faculty members. Jobin et al. [15] and Abdelhafiz et al. [16] determined ethical considerations as the main factor that shaped attitudes toward AI in privacy and data security.

6.4. Faculty Attitudes towards AI and the Technology Acceptance Model

This current study was guided by the Technology Acceptance Model (TAM), aiming to explore the determinants of using AI applications in teaching and research among media faculty members from Arab universities. The study's results coincide with the (TAM), a theory that supports usefulness and ease of use as fundamental factors toward accepting technology [17]. It also explains how audiences can accept new technologies and their subsequent influence on actual use and adoption. The hypotheses' results of the current study showed that perceived utility, perceived ease of use, and optimism about technology as independent variables significantly influenced behavioral intentions toward using AI applications in education and scientific research. Moreover, it has also been established from the findings that attitudes toward AI applications for learning and research purposes influenced both the intention and actual usage of AI. Therefore, the findings emphasize the need for intensive training on leveraging AI in teaching and research. In this regard, Wang and Lee [19] reheated the same result that attitudes toward embedding AI technology into learning and research purposes influenced both the intention and actual usage of AI.

7. Implications and Recommendations

Based on the study results, especially those that showed the reasons for not using AI in both education and research, several important recommendations can be presented to increase the effectiveness of employing AI in both the teaching process and scientific research in media programs at Arab universities, as follows:

7.1. At the Research Level

To enhance the utilization of AI in research, it is important to hold sufficient training and host regular workshops and seminars for the staff members specialized in mass communication to expand the wide scope of using AI applications in research, especially in synthesizing information from large databases and analyzing big data, which can help improve research quality. Moreover, it is important to develop ethical guidelines for the utilization of AI in conducting research. The lack of agreement on when and how to employ AI applications was highlighted by the study findings, which also indicated security fears as well as privacy concerns. Therefore, there should be guidelines that address data privacy issues connected with algorithmic biases whereby AI-driven insights must be transparent.

As mass communication is considered an interdisciplinary discipline, the effective use of AI applications in mass communication research may require interdisciplinary collaboration with staff members from many disciplines to develop guidelines for using AI in social studies. Additionally, since many AI applications are expensive, it is recommended that every university should be responsible for offering a wide range of these useful applications to help the faculty members in conducting their research effectively.

7.2. At the Education Level

Since the media academic programs are distinguished by creativity, it is essential for Arab universities to hold workshops on how to make use of AI in practical courses of media programs to enable the staff members to utilize AI in creating more attractive media productions. At the same time, considering the importance of authenticity in media production, it is important to develop a code of ethics for employing AI applications in the media production process. Furthermore, it is advised that

universities subscribe to essential AI tools relevant for video editing and content writing because the most needed AI applications for media production are costly.

Overall, since AI technologies are likely to play an increasing role in the mass communication labor market, it is recommended that Arab universities find ways to leverage AI's advantages in media programs and mitigate potential risks. This will ensure that teaching practices remain innovative and capable of addressing the challenges posed by AI in the evolving landscape of the mass communication discipline.

7.3. Future Research

This research provides important information about media faculties in Arab universities regarding their use of AI. Longitudinal studies would be more helpful to find out how AI adoption develops over time and the long-term benefits and challenges of incorporating it into academic organizations. These would monitor changing attitudes and patterns of use as technologies with AI continue to evolve along with educational practices, providing an active understanding of how AI has been adopted.

Additionally, research could expand into cross-disciplinary comparative studies that may reveal discipline-specific difficulties or opportunities around AI adoption. This approach will enable the creation of unique strategies for integrating AI in different fields beyond media and mass communication, as well as a practice that is not limited to any field. By examining AI's place across various academic settings, scholars can discover the possibilities it offers different subjects, together with barriers specific to each discipline.

A key area for future research would be exploring how AI tools directly impact educational outcomes. For instance, some investigations might examine the effects of applications using AI, such as learner performance records, among others. That inquiry may establish whether these tools advance learning processes or create new obstacles by analyzing their effectiveness in teaching and learning.

Moreover, ethical implications regarding the use of AI in education and research should be investigated. In this regard, future research can focus on ethical issues like data privacy, algorithmic bias, and academic integrity. Addressing these concerns is essential when using AI in a manner that respects scholarly norms and ethics.

Another suggestive research area is assessing the effectiveness of training programs for both instructors and learners to enhance AI literacy levels among them. This research area can focus on the most successful methods for improving teacher readiness. Consequently, understanding effective ways through which staff can receive training aimed at enhancing AI competency to address concerns related to its utilization.

Similarly, specific study on innovation driven by AI in media production could offer a deeper understanding of the impact of AI tools on media practices. Therefore, it is recommended to study the integration of AI into media curricula. So, it is recommended to search for new ways that AI could be used in the different media platforms.

Moreover, understanding cultural and contextual factors that influence the adoption of AI across different regions is vital for various reasons. In this regard, future research can investigate how culture regards technology and institutional factors that may affect the incorporation of AI within higher learning institutions. This would help in understanding variations concerning attitudes towards AI and match these results with effective adoption strategies.

Also, exploring factors influencing faculty members` resistance to adopting AI tools would provide insight into their concerns such as job security and perceived usefulness. Future studies on these issues can help in integrating AI into higher education effectively.

Furthermore, examining the role played by AI in enhancing research productivity deserves attention from scholars. For example, future studies can examine whether using AI enhances the quickness of analyzing data among researchers and its role in improving research quality. Such studies show how AI can change academic practices related to conducting research.

Finally, by investigating how students view AI tools in education, we can gain insights into how students engage with AI-driven content. It is necessary to understand which AI applications students prefer to use and any concerns they may have. Having this knowledge would enable AI tools to serve as facilitators in the teaching process.

Exploring all the aforementioned issues through future research would help in obtaining valuable insights regarding the current status of using AI in higher education institutions. This can contribute to developing effective strategies to integrate AI technologies into education and research efficiently.

8. Conclusion

The current study analyzes the use of AI in higher education concerning media programs in several Arab countries. The results indicate that media faculty members have a high level of AI adoption in teaching and research. The results reveal that using AI technologies includes content translation, educational material generation, and data collection. Although AI is widely used in the media field, little is known about the factors influencing this use. However, such an approach might not be valid since only certain faculty members from some Arab countries were included in the study sample.

The study highlighted several concerns associated with AI adoption, including fears of academic plagiarism and adverse impacts on instructors' critical thinking skills. This indicates that such problems can be addressed by developing comprehensive training programs and implementing ethical guidelines. In addition, technological aspects pertaining to AI should be examined by future studies so that a wider range of academic disciplines addressing practical issues associated with its implementation at universities can be covered.

To sum up, for effective leveraging of AI technologies in higher education institutions, these limitations should be addressed first. At the same time, there is a need to maximize the benefits of integrating AI technology into the higher education sector, especially in teaching and research fields, which will enhance the education process in general.

8.1. Limitations

While this research provides valuable insights into the use of AI in higher education, it is important to recognize several areas for improvement. The current study employed convenience sampling as a means of selecting participants, whereby 216 media staff members were selected from specific Arab countries (UAE, Egypt, Bahrain, Jordan, Algeria, Saudi Arabia, Morocco, and Iraq). However, the ability to generalize findings from this study may be limited due to the possible non-representation of the entire population of faculty members in different disciplines and geographical locations.

Secondly, most of the attention in the research was given to factors influencing AI use by media faculty members towards research and education, with less emphasis on the technicalities involved in AI systems. This exclusion could undermine understanding of AI capabilities and the direct consequences on mass communication programs. Different aspects of technology can be useful when studying educational practices and methodology if we closely examine how these technologies impact teaching and learning.

Also, the survey relied upon self-reported data gathered online which may introduce bias like social desirability and recall bias that could compromise the accuracy of data provided. Being cross sectional by design, it provides information only at one point time hence limiting longitudinal assessment for behavioral modification.

Again, practical challenges and barriers related to implementing AI in educational institutions or research settings were not exhaustively discussed by the researcher. Key areas where AI has been used along with their attendant risks were identified by this study, but it did not go in depth regarding some resistance experienced during adoption as well as other ways through which they were overcome.

In addition, since the focus of this study was only on faculty members specializing in media, generalizing them to other fields may not yield accurate results. This research did not cover some specific difficulties or issues encountered during such mergers or strategies that helped overcome the problems faced during integration. It would be necessary for future researchers to determine larger samples to understand AI's role within many fields.

All these limitations indicate the need for further studies that can fill those gaps and address all these limitations to expand on the generalizability and depth of findings.

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