

## PAPER

# Exploring AI-Powered Mobile Technologies in Educational Leadership: Perceptions, Challenges, and Opportunities

Reema Aloqlah(✉)

Deanship of Preparatory  
Year and Supporting  
Studies, Imam Abdulrahman  
bin Faisal University,  
Dammam, Saudi Arabia

[rmaloqlah@iau.edu.sa](mailto:rmaloqlah@iau.edu.sa)**ABSTRACT**

The implementation of AI technologies in the nuances of human life has proliferated, with increasing evidence of these technologies' usefulness to activities in both academia and administration. However, to reap their full benefits, it is pertinent for teachers to understand the distinctions between current tools and to be prepared and motivated to apply them. To contribute towards achieving such understanding, this study conducts an evaluation of the level of perceived usefulness of AI technologies in academic and administrative activities. Data collection was conducted with 70 Jordanian school teachers using mixed methods. Based on the results, teachers reported low-moderate levels of perceived usefulness ( $M = 1.86$ ,  $SD = 0.478$  to  $M = 2.15$ ,  $SD = 0.374$ ) for AI tools. Moreover, the results of an independent samples t-test did not support statistically significant differences based on respondents' gender ( $t = -.870$ ,  $p = .387 > 0.05$ ) or age ( $t = -1.754$ ,  $p = 0.087 > 0.05$ ). These findings highlight the potential of AI to improve leaders' skills. This study is among the few to tackle school leaders' perceptions of AI technologies on a global scale and in the Arab nations. The study provides evidence of the significance of integrating AI technologies into school systems and highlighting their gender and age differences in AI leader education.

**KEYWORDS**

interactive artificial intelligence (AI), mobile technologies, perceived usefulness, school, leader

## 1 INTRODUCTION

Advancements in technology are revolutionizing all sectors of society [1]–[2]. In the education sector in particular, Gomez-Garcia et al. [3] observed that technology has been an issue for several decades. Internet use has transformed the learning environment and the field of education [4], and research [5] has supported the need to train school leaders in digital skills. In the educational environment, [6] states that AI technologies are among the most prominent technologies implemented in

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the education environment. The importance of AI is evident at present, given the dynamic changes occurring in people's lives [7]. AI is part of computer science and refers to computer programs that mimic intelligent behavior through human-like abilities [8]. With the development of human-computer interaction and AI technologies for academic life, the education sector must learn to use interactive platforms such as AI-based mobile learning, which can enhance learners' competences, improve user's experience, and thus encourage user acceptance and enjoyment [9]–[10]. Additionally, using AI-based mobile learning promotes learners' enthusiasm and increases their motivation for continuous learning [11]. Using AI-based mobile learning also has advantages during emergency situations by enabling leaders to connect virtually to discuss work issues.

Current literature focuses on learning technologies such as AI and their usefulness to the education field [12]–[14]. The development of AI tools has provided solutions, particularly for enhanced learning and teaching [15], and AI has been incorporated into teaching methods to facilitate learner-focused learning [16]. AI applications have been used to promote positive results for both teachers and students by facilitating teaching, learning, decision-making, and evaluation; administrative tasks optimizations, self-learning and collaboration. Moreover, AI has contributed to the way schools can be managed by leaders [17]–[29]. It is thus important for school leaders, teachers, and students to shift towards a more technology-enhanced academic environment in which learning and teaching integrate AI tools.

Despite the benefits of AI technologies, the integration of AI into education presents several challenges, especially regarding the adaptation and functioning of school abound, stakeholders' interests, and skepticism among teachers about the way their roles may be influenced using such tools. The number of teachers who understand how to integrate AI tools and the curricula that can accommodate AI approaches is low compared to the high demand for AI-aided education [24]–[33]. Similarly, [34] determined that AI can automate at least 40% of educational leaders' and teachers' activities, but only 12.5% feel confident using AI [35]. Successful adoption of AI is heavily reliant on the actions and perspectives of school leaders [36]. While there are a number of studies on the role of school leadership in the current AI environment [37]–[38], the leadership role of teachers, the gaps remaining in practice, and the technologies' capabilities have not yet been studied as well as the capabilities of these technologies, with emphasis on the pros and cons of using AI in the field of education [37]–[40]. Literature on the subject needs to be extended to clarify the perceptions and experiences of educational leaders/teachers in AI technology usage, and thus, this study mainly aims to achieve the following objectives:

- To determine the perceived usefulness of AI technologies used among schools' leaders.
- To determine the differences in the perceived usefulness of AI technologies used among schools' leaders based on demographic variables.
- To determine the benefits and concerns of AI technologies' use in support of academic activities among schools' leaders.

## 2 LITERATURE REVIEW

### 2.1 Artificial Intelligence

Artificial intelligence is a computer science term that refers to technological systems and software that facilitate intelligent behavior [41]. The main objective of AI is to

create machines that are capable of learning from experience, acquiring knowledge, and making informed decisions so that they can carry out complex tasks in an autonomous manner [41]. AI integration in the field of education has been considered as relevant as the technological developments in other industries and fields [42]. In fact, AI integration in education has become an integral component of the future of the field [42]; understanding of AI education relates to the application of AI technology in several contexts, namely education, learning, and management, and has become so inevitable that the future of the field cannot be conceptualized without it [42]–[43].

## 2.2 Artificial intelligence and mobile learning

The use of AI in mobile learning as a pedagogical approach that facilitates learning through using portable electronic devices to improve the teaching and learning process is a particularly new trend in the educational environment [44]–[45]. The convergence of AI and mobile learning (ML) has revolutionized digital education [45], with the integration of AI into ML enhancing learning experiences, augmenting learning outcomes, and mitigating the potential negative outcomes of using mobile devices in learning settings. Priamono et al. [46] confirmed that the integration of AI technologies and mobile learning can significantly enhance student learning outcomes as well as overall education quality. AI technology can also enhance the social and collaborative dimensions of mLearning [45]. For instance, AI facilitates leaders' interactions, and they can use virtual discussion forums and applications to share ideas. However, although the integration of AI and mLearning has become an important topic, there remains a paucity of research on these concepts within leadership settings. AI-mobile platforms are driving a paradigm shift in leadership. AI-powered tools and mLearning have the potential to influence learning environments and facilitate active and responsive educational experiences [47]. Integrating AI into mobile platforms can help leaders in numerous ways, such as by offering opportunities to improve decisions, tasks to be performed quickly and efficiently, and streamlined communication [48]. Integrating AI into mobile applications can accommodate leaders' styles and be more engaging for diverse leaders. Additionally, integrating AI into mobile applications can promote collaboration by facilitating communication between leaders and their followers, regardless of their location. Althuwaini [49] noted that AI applications can enhance various aspects of education administration and support decision-making. Using AI-based mobile applications also benefits decision-makers during emergency situations by connecting leaders virtually to discuss work issues. In terms of academic and administrative tasks, integrating AI-based mobile tools can increase the knowledge system. For example, distance learning applications can support meaningful curricula and administrative tasks as well as fulfill user needs through simulation techniques with multiple representation tools such as pictures, videos, and voice assistants [50]–[51]. In sum, AI-powered mobile applications can support educators, personalized learning, and teaching activities and enhance the effectiveness, efficiency, and accessibility of education as well as offer an interactive work environment in which diverse ideas are produced.

## 2.3 School leaders

Teachers' leadership in schools refers to their ability to take on leadership roles and responsibilities in the educational environment external to the classroom in a way that influences student learning, instructional practices, and school

improvement [28], [52]–[54]. Many types of activities fall under the teacher leadership concept, including mentoring and coaching other teachers, designing and implementing professional development programs, promoting educational policies, and facilitating innovation and research [55]–[57]. Given the role of teacher leadership in improving schools, it is potential to understand teachers' perceptions of and experiences with using AI tools to meet demands for greater effectiveness and successful administration [58]–[59].

## 2.4 Importance of AI in education

Artificial intelligence is a novel technology in the field of the education sector [60]–[62]. Such technologies overcome the limitations of both space and time and are supported by portable mobile devices. They enable learners to access, read, collect, and review information at their learners' convenience [15]. As such, AI appears to have a promising future in improving different aspects of education, such as learning, assessment and evaluation, teaching, educational administration, and decision-making [38], [42], [61]. In addition, AI technologies can streamline learning through the provision of required additional and complementary materials [62]–[63]. AI tools seem inevitable by ensuring education efficiency and improvement as well as teaching effectiveness [64]–[70].

For example, mobile learning powered by AI is a promising tool that introduces a tutoring system and personalized learning [10]. In their experimental study, [10] confirmed the significant positive impact of using AI-based mobile learning to improve students' English language abilities. Furthermore, Nama [71] demonstrated that AI in mobile apps enhanced individual engagement and satisfaction. Similarly, in [72], a study was conducted on the integration of an innovative AI-based mobile application, and it was determined that it effectively improved the quality of life for visually impaired individuals as well as enhanced their performance. A study by [73] found that using AI-driven mobile-tailored learning systems significantly enhanced students' engagement and learning experiences. Charles [74] conducted a mixed-methods study on students, parents, and teachers in New Zealand and concluded that a customized mobile education system powered by AI effectively improved students' learning experiences.

Currently, school leaders are expected to be at the forefront of digital leadership to effectively manage their institutions and direct the use of technologies in both teaching and learning [75]–[76]. To do this requires a highly digitally enhanced learning environment—one that integrates technologies into effective management and leadership in educational institutions [24]. In this regard, studies on AI use among education leaders have recently increased [24], [75]–[76]. For instance, [77] stated that AI allows teacher leaders to understand students' learning needs. Other researchers [78]–[80] have supported that AI-enabled decisions are more effective and efficient.

Nevertheless, the existing literature on the application of AI technology among school leaders presents a considerable gap regarding school leaders' perceptions of AI implementation, and the present study therefore aims to describe the perceived influence of AI on school leaders.

## 2.5 The importance of mobile AI tools in education activities

The mobile applications with an AI technology tool designed to enhance learning, teaching, and administrative tasks [81]. AI's tools and its capacity have the potential

to revolutionize how and where learning occurs (Maya and Camacho, 2024) [81]. For example, AI-powered adaptive learning systems help in personalizing content, pace, as well as assessment based on the real-time learner data, optimizing the learning (Guan et al., 2020; Kamalov et al., 2023) [82]–[83]. Ugras (2024) [84] supported that ChatGPT-supported interventions have improved positive outcomes in the learning environment, such as promoting positive learning outcomes and facilitating teacher-student engagement. Furthermore, (Klaxoon, 2024; Mueras et al., 2025) [85]–[86] supported that AI chatbots can answer questions about academic resources, administrative procedures, and course selection. Beyond personalization, AI also enhances the social and collaborative dimensions of mLearning (Maya and Camacho, 2024) [81]. Additionally, AI-powered tools can facilitate peer-to-peer interaction, group collaboration, and knowledge sharing through features such as virtual classrooms, discussion forums, and collaborative project spaces (Tan et al., 2022) [87]. In terms of using AI-powered technology in an education leadership context, prior studies supported that utilizing AI-powered tools such as chatbots and ChatGPT saves leaders time, frees up their own personal activities, and enhances job satisfaction, as well as enabling school leaders to allocate academic resources effectively (Lee et al., 2024; Adams and Thompson, 2024) [88]–[89].

## 2.6 AI-powered mobile technologies' benefits and challenges in school activities

AI-driven mobile learning tools have emerged as a great tool in education settings. However, recent studies highlighted several benefits of AI integration, for instance, personalization systems to suit individual needs and enhancing engagement and students' retention (Yuan et al., 2025) [90]. AI-powered tools also help in gaining students feedback, personalized content, and learning paths tailored to the needs of students as well as their learning styles (Akavova, 2023; Jeong, 2022) [91]–[92]. The interactive and dynamic nature of AI-powered mobile apps can increase student engagement and motivation to learn (Alenezi, 2023) [93]. AI-powered chatbots and virtual assistants can provide timely and personalized feedback, guidance, and tutoring to students, replicating the interactions of a human tutor and improving administrative tasks (Fazlollahi et al., 2022; Deeva et al., 2021; Yuan et al., 2025) [90], [94]–[95]. However, while these studies acknowledged the benefits of AI-powered mobile learning, studies also highlighted several challenges, such as information reliability and accuracy, fair process of assessment and evaluation, and ethical issues (Labadze et al., 2023) [96]. Thus, both benefits and challenges were highlighted in literature regarding AI-powered mobile learning.

## 3 METHODOLOGY

This study adopted a mixed-method design where quantitative and qualitative approaches are used in combination to determine the perceived usefulness of AI technologies in the day-to-day activities of Jordanian teachers. Accordingly, a survey questionnaire was administered to the participants to assess their perceptions of AI. The survey questionnaire is useful for evaluating participants' views and beliefs about their use of AI. The study made use of two research instruments, namely a survey, which is the main data collection instrument, and an interview, which was conducted to elicit participants' opinions and their ideas about using AI in their

activities. Both survey and interview were integrated in this study to gather more in-depth insights into participants' perceptions, which is a supportive instrument to obtain the attitudes and perceptions of the teachers towards using AI tools in their professional capacity. The results of the interview were then utilized as additional information for validation of the survey answer data and to provide a more comprehensive understanding of the AI used among leaders. The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Imam Abdulrahman bin Faisal University, and the leaders' participation was on a voluntary basis, where their verbal agreement was obtained and they were informed the data would be used for research only with confidentiality.

### 3.1 Study participants

The study participants consisted of 70 teachers who have experience in using AI technologies in educational institutions in Jordan. The number of participants was included based on their familiarity with the AI-integrated applications and was sufficient to achieve the study goals. The participants were composed of 40 male teachers, constituting 57.14%, and female teachers, constituting 42.86%. The majority of the respondents fell in the age ranges from 26 to 35 years old (52.8%), while the remaining were more than 36 years of age (47.5%). Also, the majority of them have frequent users (58.8%), with the remaining not using AI technologies (37.6%). Table 1 tabulates the demographic variables of the respondents (refer to Table 1).

**Table 1.** Sample characteristics

Variable	Category	No	%
Gender	Male	40	57.1
	Female	30	42.8
Age	26–35 years	37	52.8
	Above 36 years	33	47.2
Experience	Used	41	58.8
	Frequently used	29	41.2

### 3.2 Questionnaire

The questionnaire was the main instrument used to collect data, and the instrument contents were adapted from past studies [97]–[102], [81]–[86] that examined the perception of school leaders towards AI use, skills, inclusion, and obstacles. The items were gauged through a 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). With regard to the qualitative data, semi-structured interview was developed and conducted with 10 teachers that had experience in AI use in the education field. The interview questions covered topics that elaborated on those in the questionnaire, allowing the factual opinions, perceptions, and perspectives of teachers from a school located in North Jordan. Also, the interview obtained the teacher's perceptions on the benefits and concerns of using AI in their field. The semi-structured interview was based on pre-determined questions, which paved the way for the interviewee to provide clarification. There are three questions

that were directed towards obtaining the benefits and concerns of the teachers regarding AI technologies' use in their field, and they are as follows:

1. In your opinion, is it possible to rely on AI technologies to support academic activities?
2. In your opinion, do you think that using AI technologies is convenient and facilitates daily academic tasks?
3. In your opinion, what are the benefits and concerns of using AI technologies in schools?

### 3.3 Validity and reliability

The study tested two validity types, namely content validity and construct validity. With regard to the tested instrument, keeping in mind that the respondents lacked English proficiency, the instrument was translated with the help of two bilingual experts proficient in Arabic and English—this ensured the understanding of the respondents of the questionnaire items, instructions, and general contents. Following the translation of the questionnaire, it was forwarded to six faculty experts who had experience and expertise in computer science, psychology measurement, and information and communication systems in their institutions. Based on their feedback, the level to which the questionnaire items measured the variables and the level of accuracy of linguistic formulation and suitability of the items to achieve the study objectives were gauged. The questionnaire was amended based on the experts' feedback, with the top being the linguistic reformulation of items for clarification and accurate measurement. Consequently, the instrument was developed to reach its final version, of which 21 items were included. Moreover, the reliability and discriminant validity of the questionnaire were confirmed by obtaining Cronbach's alpha coefficient, which was found to be 0.86 for perceived usefulness, 0.65 for usage, 0.80 for skills, 0.69 for obstacles, and lastly, 0.71 for inclusion. Consistency of measurement was confirmed in relation to the perceptions of using AI among the school leaders.

## 4 DATA ANALYSIS

The items-obtained data from the questionnaire were encoded into SPSS version 22. Validity and reliability of the instrument were confirmed through Cronbach's alpha, and data were statistically analyzed by descriptive analysis, such as mean and standard deviation values, to identify the leaders' AI perception levels. Independent sample t-tests were carried out to compare the results of the gender and age factors on the AI perceived usefulness levels. The study considered a p-value lower than 0.05 for statistical significance. The study results are explained under this section, the first of which pertains to the first question. The related mean scores indicated that the average scores were low to moderate, varying from 1.86 to 2.15, gauged through a 5-point Likert scale upon which the level of perceived benefits of AI technologies among school leaders. To begin with, the items of teachers' perception towards using AI technologies in daily tasks were found to be moderate, with a mean of 2.05 and a standard deviation of .321. In this regard, inclusion led at the top with a mean of 2.15 and a standard deviation of .374, after which the remaining are as follows: skills with a mean of 1.86 and standard deviation of .478, usage with

a mean of 2.13 and a standard deviation of .625, and obstacles with a mean of 2.12 and a standard deviation of .309. As for the top-scoring items for perceived benefits of AI technologies, “AI technologies help me to get connected with others” had a mean of 2.45 and a standard deviation of 0.652, followed by the following items: “It facilitates personal participation in academic activities” with a mean of 2.31 and a standard deviation of 0.602, and “I am worried that someone might be able to access personal information that is shared with a smart assistant,” with a mean value of 2.27 and a standard deviation of 0.635. Also, the item that read, “I am aware of the dangers and vulnerabilities of AI technologies connected to the Internet,” obtained a mean value of 2.25 and a standard deviation of 0.629, while the one that read, “They allow me to work independently,” obtained a mean value of 2.17, with a standard deviation of 0.563. Table 2 summarizes the perceived usefulness of AI technology (refer to Table 2).

**Table 2.** Perceived usefulness of AI technologies

Variable	Mean	SD
Perceived usefulness	2.05	.321
Usage	2.13	.625
Obstacles	2.12	.309
Inclusion	2.15	.374
Skills	1.86	.478

Moving on to the second question, the study employed an independent sample t-test to conduct a comparison between perceived usefulness and its dimensions, considering the gender of participants. The relevant analysis in Table 3 revealed that females obtained higher mean scores on perceived usefulness compared to their male counterparts ( $M = 2.01$ ,  $SD = 0.283$ ;  $M = 2.08$ ,  $SD = 0.347$ , respectively). Table 3 shows no significant differences in the perceived benefits of AI for school leaders ( $t = -.870$ ,  $p = .387 > 0.05$ ;  $t = -1.222$ ,  $p = .226 > 0.05$ ;  $t = -2.603$ ,  $p = .011 < 0.05$ ;  $t = 0.149$ ,  $p = .882 > 0.05$ ;  $t = 1.417$ ,  $p = .161 > 0.05$ ) respectively (refer to Table 3).

**Table 3.** Independent sample t-test results based on respondents' gender

Variable	t-value	p-value
Perceived usefulness	-.870	.387
Usage	-2.603	.011
Obstacles	1.417	.161
Inclusion	.149	.882
Skills	-1.222	.226

Moreover, the analysis of the groups based on age in Table 4 indicated that in terms of perceived usefulness, younger participants obtained a higher mean value of 2.04, with a standard deviation of 0.292, compared to their elder counterparts' mean value of 1.89 and standard deviation of 0.184. To compare the participants' needs, an independent sample t-test was carried out, and based on the results in Table 4, no significant differences were found in perceived benefits of AI technologies between the groups ( $t = -1.754$ ,  $p = 0.087 > 0.05$ ), albeit the younger respondents

obtained higher perceived usefulness of AI technologies compared to their elder counterparts (see Table 4).

**Table 4.** Independent sample t-test results based on respondents' age

Variable	Mean	SD
Perceived usefulness	-1.754	.087
Usage	-2.281	.028
Obstacles	.558	.580
Inclusion	-.775	.443
Skills	-2.016	.050

Regarding the last question (Q3), the results supported the positive perceptions of school leaders towards AI technologies' implementation and use in academic activities. The majority of the responses (90%) showed agreement towards AI technologies' implementation and their usefulness in conducting academic activities across teaching and administrative activities. With regard to the convenience and facilitation of AI technologies for daily academic tasks, six school leaders supported this considering teaching tasks and students' evaluation, and eight school leaders supported the use of AI technologies in administrative activities, including teacher monitoring and student work. All the school leaders agreed as to the usefulness of AI technologies in carrying out academic and administrative tasks and in decreasing academic workload like teaching, assessment, and attendance, while they provide support for students and teachers when required. Meanwhile, nine school leaders were concerned with the use of AI in school activities, including the availability of such technologies, the availability of experts in the school, and the need for regular training in using AI technologies for teaching and learning. The same were concerned with reduced teachers' collaboration and lack of privacy and safety. The leaders agreed with AI technologies' penetration of privacy and personal safety, which poses high risks.

## 5 DISCUSSION

This study aimed to determine the perceived usefulness of AI technologies among school leaders. The results indicated different perceptions of AI technologies. More specifically, perceptions of AI's usefulness varied from low to moderate levels, with some respondents supporting AI's value as a tool to improve the academic process and knowledge management [12], while others stressed privacy and security concerns, the negative psychological effects related to its use, and ethical considerations [13]. The results may be due to technical difficulties that are common when implementing AI applications in education settings. Additionally, participants highlighted ethical concerns due to their worries about the similarities of using AI in the evaluation process. Past studies have highlighted concerns regarding AI's usefulness, ethics, and emotional environment [13], [43]. Additionally, each AI application has distinct features, and every user has their own set of skills. The result is aligned with those of [69], who found that the key factors preventing the adoption of technology are ethical concerns and data privacy. This result may also be related to awareness levels among the respondents [24], [83], and [99]. This result is important because perceptions of AI technologies are the basis for their acceptance and integration into

the field of education [83], [99]. Privacy concerns were related to a lack of a specific communication time, and that lead to potential disturbance in their personal lives.

As for the second research question, no significant differences were found in the perceived usefulness of AI based on gender and age. The result may be attributed to similar perceptions and satisfaction requirements among respondents regarding AI use in day-to-day academic and administrative activities. Both male and female education leaders perceived the benefits of using AI tools in their professional tasks and academic settings, and participants of both genders expressed willingness to use AI in their decision-making. Although participants of different ages had a good level of perception, they reported difficulties in integrating AI applications into academic and administrative tasks and indicated that they need more time and support to adopt new technology. Another issue is also leaders in educational settings have similar perceptions of the benefits of using technological tools such as AI in their professional tasks or academic settings, and both groups express a willingness to use such tools in their decision-making. Another issue is related to the lack of technical infrastructure in education settings. This was supported by [84], [100], who confirmed that education plays a crucial role in individual attitudes and broadens engagement with AI. Past studies likewise found no significant differences in teachers' perceptions of AI technologies based on gender [85], [101]. Thus, respondents of different genders and ages had various levels of experience with AI technologies, and they faced similar challenges as well.

The results highlight the benefits of AI technologies, such as improved academic activities, monitoring of students and teachers, and student assessment and evaluation. Respondents also cited concerns relating to AI technologies, including human interaction, privacy, technical skills, and resource availability. The results align with prior studies highlighting negative concerns about using AI, such as impacts on job security and the potential for privacy and ethical issues [86]–[88], [102]–[104]. To alleviate these concerns, ongoing training and development sessions on AI competencies are needed for leaders and their teams to manage the demands of AI-driven technologies. Overall, this study extends the scope of AI technologies in the education field, providing insights into how school leaders perceive AI technologies' usefulness to their day-to-day academic and administrative tasks.

## 5.1 Implications

The study's results have several theoretical and practical implications. To begin, the study stresses the importance of AI implementation for school leaders to conduct academic and administrative activities. The study extends the theoretical scope of surrounding technology management literature and previous empirical studies by examining the influence of the demographic factors of gender and age on the use of AI to support academic and administrative activities. In this regard, despite ample interest among academic and industry circles, studies on the school environment and school leaders are still lacking [28], [37], [38]. More studies should be performed to explore the possibilities of AI applications used to support academic and administrative tasks among school leaders. Only a few studies have examined school leaders' perceptions of AI technologies to support their tasks; therefore, this study attempts to reduce this gap and considers the influence of demographic factors on AI perception.

Practically, this study demonstrates the potential of AI technology for management tasks, and it is therefore advisable for future research to incorporate broader

implementations of AI into school leadership tasks, such as for teacher collaborations and student assessments through mobile or interactive platforms. This study contributes to the government's understanding of the facilitation of knowledge of AI technologies used in supporting academic and administrative tasks, in line with the demands of the technology era in the academic field. Trends, motivation, and skills of school leaders need to be directed towards AI implementation and use. The results also enhance understanding of the process of implementing AI technologies.

## 5.2 Limitations and suggestions

One significant limitation of this study is its narrow geographic focus on Jordan. While this focus provides in-depth insights specific to the region, it limits the generalizability of the findings. Therefore, future studies should consider including a broader geographic scope or cross-regional scope to enhance the applicability of the results. Future studies may also adopt qualitative methodologies to examine the advantages and disadvantages of using AI technologies in supporting academic and administrative tasks. This study is also limited in terms of the variables evaluated in relation to the perception of AI among school leaders. Additionally, variables at the individual, environmental, and economic levels should be included in future studies. Finally, the potential of AI-powered mobile learning to enhance educational experiences has rarely been considered in the literature, and future studies should thus fill this gap by investigating the potential of mobile and interactive AI technologies according to leaders and their experiences.

## 5.3 Conclusion

This study examined school leaders' perceptions of the use of AI technologies for improving academic and administrative activities in Jordan. The study is among the first to shed light on education leaders' perceptions of AI technologies. Data was obtained using a mixed-methods approach and collected from 70 school leaders with experience using AI technologies. The results indicate that despite the proliferation of AI technologies in the field of education, respondents' perceptions were still low to moderate regarding the tools' usefulness. The results revealed no significant difference in perceived usefulness based on participants' gender or age. Overall, school leaders generally perceived AI technologies to be useful, but they also raised several concerns.

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## 7 AUTHOR

**Reema Aloqlah** is with the Deanship of Preparatory Year and Supporting Studies, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia (E-mail: [rmaloqlah@iau.edu.sa](mailto:rmaloqlah@iau.edu.sa)).