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Integrating Technology and Education Management Information Systems in Islamic Education Management

Nurul Hidayah¹, Sunarto², Hikmatullah³

¹P2KK UMM, Malang, Indonesia

²Universitas Muhammadiyah Malang, Indonesia

³SDN 3 Kalisongo Malang, Indonesia

*Corresponding Author

nurulhidayahumm@gmail.com

Abstract. This research aims to explore the implementation of technology in improving the effectiveness of Islamic education management in the digital era. This study uses a qualitative method with a literature study approach, where data is collected through documentation sourced from scientific journals and related books that discuss Islamic education technology and management. The data analysis technique used is content analysis. The results of the study show that the implementation of technology in Islamic education management has a positive impact, especially in terms of improving administrative efficiency, academic data management, and communication between related parties, such as teachers, students, parents, and school administrators. Information technology also helps to overcome some obstacles in the management process, such as faster and data-driven decision-making. However, challenges such as limited infrastructure, lack of human resource skills, and implementation costs are still major obstacles for many Islamic educational institutions.

Keywords: Usage, Technology, Management, Education, Islam

INTRODUCTION

The development of information and communication technology (ICT) has had a significant impact in various sectors, including education. Information and communication technology (ICT) provides a variety of tools and platforms that can support education management systems, such as Education Management Information Systems (SIMP), Learning Management Systems (LMS), as well as cloud-based applications to manage academic and administrative data. (Intan & Dian, 2023)

In the context of Islamic education, the use of technology is not only a tool, but also a means to improve the efficiency and effectiveness of education management. The management of Islamic education faces the challenge of keeping up with these developments in order to improve the quality and efficiency of management. Technology can help in curriculum development, learning evaluation, and communication between managers, educators, and students. (Wahyono & Rofi'i , 2023)

The integration of technology in Islamic education management allows human resource management, administration, and teaching-learning processes to be more structured and measurable. Along with the increasing need for quality education that is responsive to the dynamics of the times, Islamic educational institutions are faced with the challenge of adopting appropriate technology. (Sholeh, 2023)

This integration of technology also presents various obstacles, such as limited resources, resistance to change, and the need for adequate training. Therefore, this study aims to explore how technology can be effectively integrated in Islamic education management through the application of education management information systems.

Several previous studies have presented good results and shown the effectiveness of education management management, including: Augusta et.al Research (2021), research through this literature study aims to increase the effectiveness of the teaching and learning process through the application of blockchain technology. The results of the study show that the application of blockchain in the field of education can increase the motivation of learners and teachers and increase the effectiveness of teaching and learning. (Augusta et al., 2021)

According to Yaqin (2021), this study aims to explore the optimization of management information systems in Islamic educational institutions. The results show that optimization can be achieved by integrating with existing technology such as websites, social media and applications Research Suciowati et al (2022), the purpose of this research is to explore the computer base as the basis of the PAI management information system. The result of this study is that computers are the basis of educational management information that needs to be considered for their functions, especially on the devices, namely software, hardware and users. (Yaqin , 2021). (Suciowati et al., 2022)

According to the results of this study, information technology such as educational applications, online learning platforms and education management systems have a positive impact on student development monitoring, teacher-student interaction and access to Islamic resources. Information technology can be an effective tool in achieving the goals of Islamic education in accordance with the principles of the Qur'an and Sunnah. This study does not specifically mention examples of applications or platforms being researched so that readers cannot clearly understand the flow of thought rather than the subject, the media and the results of the research. (Suherman & Indra, 2023)

Amrullah et.al (2023) research aims to determine the performance of PAI teachers in the use of Information and Communication technology (ICT) and how to manage its use. The results of this study show that teachers have used ICT to support their

performance even though not all teachers understand its use. The disadvantage of its use is the absence of special planning and evaluation. (Amrullah et al., 2023)

Research by Maemunah and Junaidi (2023), this study aims to see the differences in information management systems in a pesantren before and after the implementation of the TOGAF ADM method to improve the quality of Islamic boarding school services. From the application of this method, the pesantren has a clear and detailed picture of *the blueprint* of the direction of work and its improvement. Research by Intan and Dian (2023), this study aims to describe and analyze the management information system strategy in student administration services at SD Muhammadiyah Mlangi. The results show that elementary schools have succeeded in integrating technological advances and internet networks so that quality educational services are created. (Maimunah & Junadi , 2023) (Intan & Dian, 2023)

The research of Ramadhana & Nasution (2024), investigates the impact of the application of artificial intelligence (AI) technology on strategic decision-making in management information systems (SIM). The research shows that AI has great potential to improve the quality of strategic decisions by providing quick access to relevant data, in-depth analysis, and the ability to forecast market trends. As a result, organizations that apply AI to their driver's licenses can make informed decisions and respond faster. Organizations are advised to consider the proper use of AI, maintain data security, and monitor its impact to gain a competitive advantage in making strategic decisions. The following is a table of previous research to facilitate analysis. (Ramadan & Nasution, 2024)

Table 1. Previous research search table

No	Research	Purpose	Method	Result	Deficiency
1	Augusta et al. (2021)	Increasing the effectiveness of teaching and learning through blockchain	Literature study	Blockchain increases the motivation of learners and teachers, as well as the effectiveness of teaching and learning.	Literature studies, lack of empirical evidence
2	Yaqin (2021)	Optimization of management information systems in Islamic institutions	Exploratory studies	Optimization can be achieved by integrating technology, such as websites, social media, and applications.	Doesn't address implementation-specific examples

No	Research	Purpose	Method	Result	Deficiency
3	Suciowati et al. (2022)	Explain the role of computers as the basis of PAI SIM	Theoretical exploration	The computer as the basis of the SIM is important with software, hardware, and users.	Focus only on infrastructure, not specific applications
4	Suherman & Indra (2023)	Analyzing the impact of information technology on Islamic education	Qualitative studies	Information technology contributes positively to student monitoring, teacher-student interaction, and access to Islamic resources.	Less specific in mentioning application examples
5	Amrullah et al. (2023)	Assessing the performance of PAI teachers in the use of ICT	Case studies	Teachers use ICT to support their performance, but not all understand their use, and lack specific planning and evaluation.	No special planning and evaluation
6	Maemunah & Junaidi (2023)	Seeing the difference between Islamic boarding school SIM before and after the implementation of TOGAF ADM	Case studies	The TOGAF ADM method helps pesantren have a clear blueprint for improving service quality.	Research is limited to one method and one pesantren

No	Research	Purpose	Method	Result	Deficiency
7	Intan & Dian (2023)	Analyzing SIM strategies in student administration services in elementary schools	Case studies	SD Muhammadiyah Mlangi has succeeded in integrating technology and the internet, creating quality educational services.	Focus on only one school
8	Ramadhana & Nasution (2024)	Investigating the impact of AI on decision-making in driver's licenses	Case studies	AI improves the quality of strategic decisions with fast data access and in-depth analysis. It is recommended to maintain data security and monitor the impact.	Focus on the SIM sector, less discussion of other implementations

Looking at the analysis of the table above, the researcher wants to explore how technology can be effectively integrated in Islamic education management through the application of education management information systems.

METHOD

This study uses a qualitative approach with the type of literature study research. Data collection uses documentation, where researchers use journals, books and other scientific information related to the theme. The data analysis technique uses content analysis techniques. (Zed, 2014) (Hamzah, 2020)

RESULT & DISCUSSION

Technology according to KBBI is a scientific method to achieve practical goals. Technology is also a whole means of providing goods necessary for the survival and comfort of human life. Volti & Croissant in their book (Ministry of Education and Culture, 2021) *Society and Technological Change: Ninth Edition* says that technology is the application of knowledge for practical purposes in society, especially in solving problems and improving efficiency. The book, whose first printing was written in 1988, discusses the history of technology, technology and economy, technology and culture and the social

impact of technology. In summary, technology and social change go hand in hand where technology is able to change the way we work, interact and live, which is also the other way around technology is influenced by existing social needs and dynamics. (Volti & Croissant, 2024)

Following the development of the times, education is required to integrate technology into its system, both managerial and learning. As explained by Volti & Croissant that technology and social dynamics influence and change each other, then an educational institution must be able to adapt to the times. In the book *Diffusion of Innovation* (DOI) by Everett M. Rogers, explained about the theory of innovation decisions. There are three main concepts, namely innovation (discovery), diffusion (diffusion) and adoption (taking to adapt or apply). Rogers' theory was first coined in 1962 and is a reference to this day. (Rogers, 2003)

Rogers argues that the adoption of technological innovations in education is influenced by factors such as relative advantage, compatibility, complexity, trialability, and observability. Effective integration requires strategic planning and support from all relevant parties. (Rogers, 2003)

Relative advantage (*Relative Advantage*) is to see the extent to which technology is considered superior to existing methods or systems. If it proves to be superior and beneficial, then the adoption process is fast. Compatibility (*Compatibility*) is the conformity of technology with the values, needs, and practices that exist in educational institutions. Complexity (*Complexity*) is the level of ease or difficulty in using the technology. Technology that is easier to understand and use will be faster to be adopted by users, especially by teachers and administrative staff who may not be familiar with technology. (Rogers, 2003)

Trialability is the ability of a technology to be tested before full adoption. The easier it is for a technology to be tested or tried on a small scale, the more likely it is to be accepted by users. *Observability* is the level at which the results of the use of such technology can be seen by others. If the results of the application of technology are evident and have a positive impact on learning and management, then the adoption rate will increase. (Rogers, 2003)

In the context of Islamic education management, technology integration requires good strategic planning, involving an analysis of the above factors as well as the full support of all relevant parties, including school managers, teachers, students, and parents. With careful planning and the involvement of all parties, the process of technology adoption can run more effectively and sustainably. (Kusumawati, 2023) (Mailin et al., 2022)

In addition to the above opinions, there is the opinion of Fred D Davis (1989) regarding the *Technology Acceptance Model* (TAM) which states that the acceptance of technology by users is influenced by two main factors: perceived *ease of use* and *perceived of usefulness*). Davis explained that the perception of usefulness and the perception of ease of use affect the acceptance and use of IT. In the context of Islamic education management, TAM can be used to understand how managers and educators receive and use technology-based education management information systems. (Wibowo, 2020)

The above theories of DOI and TAM should be well and carefully considered if an educational institution wants to integrate technology into its educational management. To facilitate integration, it is also a good idea to conduct a standard analysis through a SWOT analysis to map what strengths can be used as a means to achieve goals, what weaknesses may hinder, what opportunities can be seized to achieve goals, and finally what threats may interfere and hinder the achievement of goals.

ANALISIS SWOT



Figure 1. SWOT Analysis Images

(source: <https://kwikkiangie.ac.id/home/2023/09/20/analisis-swot-arti-dan-cara-menggunakannya/>)

In the book *Theory of Educational Management*, more analysis items are mentioned (Latif & Latief, 2018), including: 1) Planning, 2) Organization, 3) Budgeting, 4) Directing, 5) Actuating, 6) Controlling, 7) Evaluating.

School institutions or Islamic educational institutions should prepare well for the above management phases in order to obtain appropriate methods and obtain results in accordance with the initial objectives.

CONCLUTIONS

Reading the description above, based on the theory and analysis of previous research, it can be concluded that the implementation of technology in Islamic education management has a positive impact, especially in terms of improving administrative efficiency, academic data management, and communication between related parties, such as teachers, students, parents, and school administrators. Information technology

also helps to overcome some obstacles in the management process, such as faster and data-driven decision-making. However, challenges such as limited infrastructure, lack of human resource skills, and implementation costs are still major obstacles for many Islamic educational institutions.

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