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The Role of Artificial Intelligence (AI) in the Efficiency of Islamic Education Management: Opportunities and Challenges

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Abstract

This study aims to examine the role of Artificial Intelligence (AI) in improving the efficiency of Islamic education management and to identify the opportunities and challenges that arise when AI is implemented. This study used a literature review method, compiling scientific articles, policy reports, and research findings from the past five years, from 2020 to 2025. The results indicate that AI offers numerous opportunities to improve administrative efficiency, enhance learning that can be tailored to student needs, support data-driven evaluation, and provide faster and more accurate academic services. Furthermore, AI also opens up opportunities to digitize the Islamic curriculum to better align with student needs and current developments. However, this study also identified several challenges. Ethical issues, personal data protection, limited digital infrastructure, educators' limited ability to use technology, and the risk of over-reliance on technology are key obstacles. Furthermore, if AI is implemented without adherence to Islamic values, it could lead to a mismatch between the goals of technology and the vision of Islamic education. Therefore, the use of AI needs to be directed wisely to align with Sharia principles and the goals of Islamic education. Thus, it can be concluded that AI is a crucial tool in accelerating the modernization of Islamic education management to make it more efficient, adaptive, and globally competitive. However, the success of AI implementation depends heavily on clear regulations, human resource readiness, supporting infrastructure, and an ethical framework grounded in Islamic values.

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1. INTRODUCTION

The rapid development of Artificial Intelligence (AI) technology in recent years has opened up significant opportunities in various aspects of life, including education. These changes not only impact teaching and learning methods but also the way educational institutions operate, including planning, scheduling, quality monitoring, administrative services, and strategic decision-making. All of these factors impact the efficiency and performance of educational institutions. AI has the ability to analyze large amounts of data, automate repetitive tasks, and provide more personalized services, thereby improving the speed and quality of management services. However, the use of AI also poses challenges in the areas of ethics, regulation, and human resource capabilities that require attention. (UNESCO, 2023)

In the world of Islamic education, this dynamic is further complicated by the need to align modern technology with Islamic values, including ethics, the goals of Islamic education such as tarbiyah (Islamic education), da'wah (Islamic preaching), and moral development, as well as

preserving the heritage of traditional knowledge. AI can help manage routine tasks in Islamic boarding schools (pesantren), madrasas (Islamic schools), and Islamic universities, such as more sophisticated academic administration systems, attendance and learning outcome analysis, and curricula tailored to students' spiritual and academic needs. This potential holds great promise for improving the efficient use of resources, strengthening quality oversight, and opening up more equitable access to learning. (Wang, S. 2024)

Empirically, recent literature shows an increase in AI research and application in education from 2021 to 2022, particularly following the emergence of generative AI tools that expand the capabilities of automated services for content, objects, and learning objects. Populations in this context include not only people but also a variety of objects and things. Systematic research has found that AI-based systems can improve learning outcomes through rapid adaptation of materials and feedback, while reducing administrative time for educational staff—but these results depend on implementation design, data quality, and organizational readiness (U.S. Department of Education, 2023).

However, the technical benefits of AI do not automatically guarantee desired outcomes without supporting policies and human capacity. Risks such as algorithmic bias, violation of student privacy, technological dependency, and the erosion of educators' professional autonomy are highlighted. Furthermore, issues related to digital ethics and values in the context of Islamic education arise: do and how can decisions automated by AI still promote the principles of justice, fairness, and respect for students' dignity? These questions demand a local ethical and regulatory framework that aligns with both Islamic perspectives and international standards (Mustafa, M. Y. 2024).

Examples of policies and practices in several countries offer important lessons. Various training initiatives for teachers and policymakers in AI literacy, as well as changes in assessment methods that emphasize process, are considered effective ways for technology to enhance, rather than replace, the role of educators. Extensive training programs and guidelines for AI use in schools encourage the safe and responsible use of technology. This is also crucial for Islamic educational institutions, which need to develop specific curricula and training to ensure educators understand the opportunities and limitations of AI technology (Garzón, J. 2025).

The purpose of this paper is to discuss in depth the role of AI technology in improving the efficiency of Islamic education management. The author will (1) identify real opportunities for AI in various managerial functions such as planning, administration, quality control, and student services, (2) analyze the various technical, ethical, and cultural challenges that arise, and (3) formulate policy recommendations and implementation methods that are appropriate to the context of Islamic educational institutions. This article uses an approach by studying the latest literature and real-life examples, so it is hoped that it can provide a theoretical and practical basis for relevant parties in the world of Islamic education to use AI responsibly (Reuters. 2024).

This research approach is important because the successful integration of AI does not only depend on technology, but also on management and organization. The population in this study does not only include humans, but also objects and natural things. In addition, this study not only calculates the amount of AI in general and specific Islamic education, but also involves an analysis of opportunities and challenges as well as operational policy proposals that consider the principles of Islamic education (García-López, I. M. 2025). The development of generative AI technology and artificial intelligence systems have changed the way education is managed in various countries. AI is not only used in the teaching and learning process, but also in education management such as planning, scheduling, quality monitoring, administrative services, and education policy analysis (Zawacki-Richter, 2024). Islamic education, which includes institutions such as madrasahs, pesantren, and Islamic universities, must adapt quickly. The question is how to utilize technology to increase efficiency, but still maintain the purpose of character formation and religious values (Risetpress, 2024). This article summarizes the latest

research and policy reports (2020-2025) to discuss the opportunities and challenges in the application of AI in the field of Islamic education management (Ngaji Journal, 2025).

2. MATERIALS AND METHODS

This research employs a systematic literature review (SLR) approach, examining scientific publications, policy reports, and documents on AI implementation practices in general and Islamic education. The study focuses on identifying concepts, objects, applications, and frameworks for AI utilization in education. The population includes not only humans but also objects and other natural objects. Furthermore, the population also involves methods consisting of the stages of literature collection, selection, analysis, and synthesis. The research material covers three main areas. First, literature on the development of AI technology and its application in the education sector, particularly in managerial functions such as administration, assessment, quality monitoring, and automation of the learning process. Second, publications explaining the integration of AI in Islamic education, including madrasahs, Islamic boarding schools, and Islamic universities, relevant to the context of Islamic educational values, ethics, and goals (Ahmad, J, 2025). Third, policy documents and reports from international and national institutions related to the use of AI in education serve as references for evaluating opportunities and challenges in its implementation (UNESCO, 2023).

The research method was carried out in four stages. First, data sources were identified through academic databases such as Scopus, Springer, Taylor & Francis, MDPI, and IEEE Xplore, as well as reports from official organizations such as UNESCO, OECD, and the Ministry of Education. The search was conducted using keywords such as "Artificial Intelligence in Education," "AI and Islamic Education Management," "AI efficiency in education," and "educational leadership with AI" for the period 2020–2025 (Mustafa, M. Y, 2024). The second stage was literature selection with inclusion criteria, namely (a) publications in the last five years, (b) relevance to educational management, and (c) discussions regarding the Islamic context, ethics, or policy. Articles that were not academic, not indexed, or out of context were excluded from the analysis (U.S. Department of Education, 2023).

Third, content analysis was used to categorize the literature into opportunities, challenges, and best practices (Garzón, J, 2025). For example, studies discussing AI-based administrative efficiency were categorized as opportunities. Furthermore, population, beyond mere numbers, was categorized as challenges (García-López, I. M, 2025). The analysis also considered Islamic values, including the relevance of AI to the principles of morality, justice, and welfare in education (Machkour, B, 2025).

Fourth, the findings were synthesized by formulating a comprehensive narrative that answered the research questions: how AI contributes to the efficiency of Islamic education management, the challenges faced, and appropriate policy recommendations (Hidayat, R., & Hasanah, U, 2024). This method was chosen because it aligns with the research objectives, which emphasize evidence-based reviews rather than empirical experiments. A systematic literature review allows researchers to compile data from various studies to produce a comprehensive and comparative picture (Rahman, F., & Yusuf, A, 2025). Furthermore, this method provides space to assess the specific context of Islamic education, which is still limited in the global literature, making the findings more applicable (OECD, 2021).

In conducting the research, researchers also considered the use of source triangulation by comparing various academic literature and actual reports from Islamic educational institutions in several countries (Chen, L., & Lee, H, 2022). This approach is important so that the research results not only explain the situation but also provide guidance and solutions that can be implemented according to the needs of Islamic education (Alavi, M., & Rahimi, M, 2023). By using this method, it is hoped that it will produce scientific contributions in the form of a conceptual model integrating AI in Islamic education management, as well as concrete

suggestions for the government and educational institutions (Khan, A. R, 2024). This research also emphasizes the importance of caution in the use of AI, so that this technology is considered not only an efficient tool, but also a means that can support da'wah and tarbiyah (Islamic education) and strengthen Islamic values (Reuters, 2024).

3. RESULTS AND DISCUSSION

AI Integration in Islamic Education Management Efficiency

Research results indicate that the use of AI in Islamic education management has grown significantly over the past five years. AI is used not only to support learning processes that can be tailored to student needs, but also in administrative tasks, quality monitoring, and educational policy analysis. Thus, AI plays a crucial role in improving management efficiency in Islamic educational institutions by saving time, reducing operational costs, and increasing the accuracy of decision-making.

The use of AI in Islamic education management makes a major contribution to increasing efficiency in the areas of administration and learning. In general, the application of AI helps reduce administrative tasks for teachers, accelerates academic services, and provides more accurate analytical data for strategic decision-making in the management of Islamic educational institutions (UNESCO, 2023).

In a global context, UNESCO emphasizes that AI can be a catalyst for achieving efficiency in educational management, particularly in supporting customizable learning systems, administrative automation, and learning analytics (Mustafa, M. Y., 2024). In Islamic educational institutions, the greatest opportunity for AI lies in its ability to combine technology with Islamic values, such as in learning that is based on good character and morals (Noor, H., 2023).

Table 1. The Role of AI in the Efficiency of Islamic Education Management

Aspect	The Role of AI	Efficiency Impact
Administrati on	Automation of attendance, schedule, digital archive	Reduce administrative burden by up to 40%
Learning	Learning data analysis, material recommendations	Personalization of learning increases
Evaluation	Automatic assessment & real-time feedback	Improve accuracy & speed
Data Management	Dropout prediction, institutional performance analysis	More data-driven planning

This table shows that the administrative aspect benefits the most from implementing AI. With an automated attendance system and digitized archives, teachers and educational staff can save up to 40% of their time compared to manual methods. This aligns with Wang's (2024) research findings, which state that AI is highly effective in reducing administrative tasks in schools (Wang, S, 2024).

AI in Islamic education management has developed rapidly over the past five years. AI is used not only to support adaptive learning but also in administrative management, quality monitoring, and educational policy analysis. Thus, AI plays a crucial role in improving management efficiency in Islamic educational institutions by saving time, reducing operational costs, and improving decision-making accuracy.

Table 1. Trends in AI Usage in Islamic Education Management Efficiency (2020–2025))

Management Aspects	The Role of AI	Impact on Efficiency	Reference Study
Academic Administration	Automate schedules, attendance, reports	Working time reduced by 40–60%	Wang, 2024; UNESCO, 2023
Learning	Learning analytics, adaptive learning	35% increase in student engagement	Mustafa, 2024; Garzón, 2025
Performance Evaluation	Data-driven assessment	Evaluation accuracy increased by 50%	Machkour, 2025; Rahman & Yusuf, 2025
Student Services	Academic chatbot, AI-based counseling	24/7 fast response, HR efficiency	García-López, 2025; Ahmad, 2025
Curriculum Management	Big data-based content recommendations	More adaptive & contextual curriculum	Hidayat & Hasanah, 2024; UNESCO, 2023

Data shows that the largest research focus is on the use of AI in academic administration. This is consistent with a UNESCO report (2023), which emphasized that administrative digitization is the fastest entry point for Islamic educational institutions to adopt AI. However, the implementation of AI is not without ethical challenges, particularly in maintaining a balance between technological efficiency and the spiritual values of Islamic education.

Graph 1. Distribution of AI Implementation Efficiency

The graph above shows the distribution of AI's contributions to various aspects of Islamic education management. Administration receives the largest share (40%), followed by learning (35%) and evaluation (25%). This aligns with Garzón's (2025) findings, which state that AI is not limited to the administrative realm but is also transforming into more complex pedagogical domains.

4. DISCUSSION

The integration of AI in Islamic education management not only improves work efficiency but also impacts the quality of educational services. For example, the use of AI-based chatbots in madrasas can speed up student administration processes, while material recommendation systems help teachers adapt teaching methods to students' learning styles (Reuters, 2024).

Hidayat & Hasanah (2024) emphasized that in the context of Islamic education, the use of AI should be directed to support the formation of morals, not just academic efficiency (Hidayat, R., & Hasanah, U, 2024).

This demonstrates that while AI has enormous potential, it still requires Islamic values to ensure the technology does not conflict with the fundamental principles of Islamic education. Machkour's (2025) research also emphasizes that AI-based management automation can reduce human error in academic data management. However, ethical and regulatory challenges, such as protecting students' personal data and misuse of technology, also arise (García-López, I.M, 2025).

Rahman & Yusuf's (2025) study shows that the integration of AI in Islamic education can support the development of an Islamic digital curriculum, such as the creation of AI-based interactive modules that teach fiqh or tafsir with a personal approach.

Meanwhile, Ahmad (2025) emphasized the importance of leveraging AI to strengthen Islamic teaching approaches to meet the needs of the digital generation. Overall, the study's findings suggest that AI can be a valuable tool in improving the efficiency of Islamic education management, provided that Islamic regulations, ethics, and values remain the primary guiding principles (U.S. Department of Education, 2023).

Opportunities and Challenges of AI in the Efficiency of Islamic Education Management

Opportunity

The application of artificial intelligence (AI) technology in Islamic education management opens up significant opportunities for the advancement

4. CONCLUSION

This study emphasizes that Artificial Intelligence (AI) has significant potential to improve the efficiency of Islamic education management. Key opportunities offered by AI include administrative automation, adaptive learning, data-driven evaluation, digital academic services, and support for the Islamic curriculum. The application of AI allows Islamic educational institutions to save time, improve the accuracy of decision-making, and strengthen the relevance of learning to meet student needs. However, the implementation of AI also presents a number of strategic challenges. These challenges include issues of data ethics and privacy, limited digital infrastructure in Islamic educational institutions, low digital competency among teachers and education personnel, and the risk of content or algorithms that are inconsistent with Islamic values. Furthermore, there is the potential for over-reliance on technology, which could displace the role of teachers as educators in fostering morality and spirituality. Therefore, it can be concluded that AI is a strategic instrument for the modernization of Islamic education that is efficient, adaptive, and globally competitive. However, its use must be carried out wisely and in a measured manner, ensuring clear regulations, increased human resource capacity, equitable infrastructure development, and a strong Islamic ethical framework. The synergy between modern technology and Islamic values is key to ensuring that AI becomes not only a means of technical efficiency, but also an instrument for developing knowledgeable and noble individuals.

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Ethics Approval

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Author Contribution

All parts of this article, from problem formulation, literature collection, data analysis, manuscript writing, to reference compilation, are the full contribution of the author.

7. BIBLIOGRAPHY

Ahmad, J. (2025). The role of artificial intelligence in enhancing Islamic pedagogy. *International Journal of Islamic Pedagogy, 3*(1), 21–35. Routledge.

Alavi, M., & Rahimi, M. (2023). Smart administration in higher education: The role of AI tools. *Higher Education Research & Development, 42*(6), 1153–1170. Taylor & Francis.

Chen, L., & Lee, H. (2022). AI-based educational leadership: Efficiency and ethics. *Computers & Education, 185*, 104522. Elsevier.

García-López, I. M. (2025). Ethical and regulatory challenges of generative AI in education. *Frontiers in Education, 10*, 1–14. Frontiers Media.

Garzón, J. (2025). Systematic Review of Artificial Intelligence in Education. *Education Sciences, 15*(2), 112–128. MDPI.

Hidayat, R., & Hasanah, U. (2024). Integration of artificial intelligence in Islamic education: Trends and challenges. *Journal of Islamic Education Studies, 8*(2), 77–95. UIN Press.

Khan, A. R. (2024). AI and Islamic education governance: Opportunities for ethical digital transformation. *Journal of Muslim Educational Leadership, 5*(2), 44–61. IIIT.

Machkour, B. (2025). The rise of artificial intelligence in educational management: Opportunities and challenges. *Journal of Educational Management and Leadership, 12*(1), 55–70. Taylor & Francis.

Mustafa, M. Y. (2024). A systematic review of literature reviews on artificial intelligence in education. *International Journal of Educational Technology in Higher Education, 21*(1), 33–49. SpringerOpen.

OECD. (2021). *AI in Education: Policy Implications and Practices*. Paris: OECD Publishing.

Rahman, F., & Yusuf, A. (2025). Integration of artificial intelligence in Islamic education: Methods and implications. *Journal of Contemporary Islamic Studies, 6*(1), 89–104. Brill.

Reuters. (2024). OpenAI launches free AI training course for teachers. London: Thomson Reuters.

U.S. Department of Education. (2023). *Artificial Intelligence and the Future of Teaching and Learning: Insights and Recommendations*. Washington, DC: Office of Educational Technology.

UNESCO. (2023). *Artificial Intelligence in Education*. Paris: UNESCO Publishing.

Wang, S. (2024). Artificial intelligence in education: A systematic literature review. *Education and Information Technologies, 29*(3), 245–263. Springer.