



Islamic Education Policy Responses to Artificial Intelligence and Society 5.0

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Abstract

The development of Artificial Intelligence (AI) and Society 5.0 has created new challenges for Islamic education policy. This study aims to analyze the response of Islamic education policy to AI and Society 5.0, identify implementation challenges, and examine their implications for digital transformation. A qualitative approach with a case study design was employed. Data were collected through in-depth interviews, observations, and document analysis involving twelve informants selected through purposive sampling. The data were analyzed thematically using NVivo 10. The findings show that Islamic education policy remains in a transitional stage, with five main issues: curriculum transformation, teacher competence, digital infrastructure, AI governance, and educational ethics based on Islamic values. While digital transformation has begun, AI competencies, teacher readiness, infrastructure equity, specific governance mechanisms, and ethical guidelines remain limited. The findings imply that Islamic education policy needs to strengthen AI regulations, teacher competence, digital infrastructure, governance, and ethical frameworks grounded in Islamic values to ensure that digital transformation remains aligned with the objectives of Islamic education.

INTRODUCTION

Digital transformation driven by the development of Artificial Intelligence (AI) has brought significant changes to various aspects of life, including education. AI no longer functions merely as a technological tool supporting learning but has become part of an educational ecosystem that influences curriculum development, data-driven decision-making, assessment systems, educational governance, and interactions between educators and students (Alouzi et al., 2026). This transformation has become increasingly relevant in the context of Society 5.0, which places humans at the center of technology utilization to address various social needs and challenges (Baroud et al., 2025; Tadol et al., 2025). In Islamic education, these developments present more complex demands because the use of technology must be accompanied by the strengthening of ethics, character, academic integrity, and Islamic values. Therefore, digital transformation in Islamic education is not only concerned with the ability to adopt technology but also with policy readiness to guide its use in accordance with the objectives of Islamic education (Engkizar et al., 2026).

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The development of AI has implications for the direction and implementation of educational policies. Educational policies can no longer focus solely on administrative and regulatory aspects but must also respond to changes in curriculum, teacher competence, digital infrastructure, data governance, and the ethical and responsible use of technology. In practice, the implementation of AI also presents several challenges, including unequal access to technology, limited digital competence among educators, personal data protection, algorithmic bias, academic integrity, and the absence of clear boundaries regarding the use of AI in learning and assessment activities (Calp & Bütüner, 2022; Mustapha et al., 2025). These challenges indicate that Islamic education policies need to possess adaptive capacity to guide the use of AI while maintaining ethical principles and educational objectives oriented toward holistic human development (Azer & Oran, 2023; Muslimin, 2024).

Theoretically and empirically, studies on Islamic education policy have extensively examined curriculum implementation, educational management, institutional governance, and Islamic education reform. Meanwhile, studies on AI in education have primarily focused on its use in learning, personalized learning, learning analytics, digital learning media, and generative technologies. These two areas of study have not yet been sufficiently integrated in discussions that specifically examine how Islamic education policies respond to changes brought about by AI in the context of Society 5.0. However, educational transformation depends not only on the availability and innovation of technology but also on policies capable of directing its implementation systematically, adaptively, and in accordance with students' interests and educational objectives (Dwivedi et al., 2021; Imran & Almusharraf, 2024).

The urgency of this issue has increased alongside the widespread use of generative AI in education. This technology has influenced how students obtain information, complete academic assignments, develop ideas, and access various learning resources. These changes require Islamic education policies to provide clearer guidance regarding the use of AI in learning, academic assignments, assessment, data protection, and academic integrity (Al-Jaghoub et al., 2025). At the same time, policies need to consider the principles of justice, accountability, transparency, and Islamic values so that the use of AI is not oriented solely toward technological efficiency. Without an adequate policy response, digital transformation may create new inequalities in educational access and quality and generate ethical challenges in educational practices (Dwivedi et al., 2021; Imran & Almusharraf, 2024; Nicolaou et al., 2019).

Several previous studies have examined the integration of AI in education, digital transformation in Islamic educational institutions, and the application of Society 5.0 in learning. However, most studies have approached AI from the perspectives of pedagogy, learning innovation, or technological readiness. Studies that connect Islamic education policy responses with the implementation of AI in educational contexts remain relatively limited (De Villiers, 2024; Hasnah et al., 2023). This limitation indicates the need for research that views technology not only as a learning instrument but also examines the relationship between curriculum transformation, teacher competence, digital infrastructure, AI governance, and the ethical use of technology based on Islamic educational values. This study addresses this gap by analyzing the responses to and implementation of Islamic education policies in dealing with the development of AI and Society 5.0 through a qualitative case study approach. This perspective enables the study to examine the relationship between policy directions and educational experiences in the context of technology use more comprehensively.

Based on this research gap, this study aims to analyze the responses of Islamic education policies to the development of Artificial Intelligence and Society 5.0,

explore the challenges emerging during their implementation, and identify policy implications for the development of adaptive, sustainable, and Islamic values-based digital transformation. The study is expected to contribute to the development of Islamic education policy studies by extending attention beyond educational implementation and technology utilization to the relationship among policy, resource readiness, AI governance, and educational ethics in responding to digital transformation.

METHODS

This study employed a qualitative approach with a case study design. The design was selected to obtain an in-depth understanding of the implementation of Islamic education policies in addressing the development of Artificial Intelligence (AI) and Society 5.0 within a naturalistic context. The case study approach enables researchers to explore a phenomenon contextually through multiple sources of data, thereby providing a holistic understanding of the relationships among policy, educational practices, students' experiences, and institutional conditions (Ateş & Afat, 2018; Baxter & Jack, 2015; Engkizar et al., 2023; Halkias et al., 2022).

Data Sources and Participants

The research data were obtained through in-depth interviews, observations, and document analysis. Interviews were conducted to obtain information regarding experiences, understandings, and practices related to the use of digital technology and AI in Islamic Education. Observations were conducted to obtain an overview of learning practices and the use of technology within the research context. Meanwhile, document analysis was conducted to identify policies, regulations, and guidelines related to digital transformation, AI, and Islamic education.

Interview participants were selected using purposive sampling. This technique was employed because the study required participants who had relevant knowledge, experience, and direct involvement with the phenomenon under investigation (Robinson, 2023). Participants were selected based on four criteria: (1) having direct experience with the use of digital technology and AI in Islamic Education; (2) being actively involved in the educational context under study; (3) being willing to participate and provide in-depth information; and (4) being able to describe their experiences and the conditions they encountered in ways relevant to the research focus.

A total of twelve informants participated in the study. All informants were active students who had experience using digital technology and AI in Islamic Education. The selection of students as informants was intended to obtain direct perspectives on students' experiences in responding to changes in learning practices in the era of AI and Society 5.0. The interview data were then examined alongside the observation findings and relevant policy documents to understand the relationship between policy directions and educational practices within the case under study (Engkizar et al., 2024).

Research Instrument and Data Collection Procedures

In qualitative research, the researcher serves as the primary instrument (human instrument) responsible for determining the research focus, developing data collection guidelines, conducting interviews and observations, interpreting the data, and drawing conclusions. A semi-structured interview guide was used to provide informants with opportunities to describe their experiences and perspectives in depth while ensuring that the interviews remained aligned with the research objectives. Supporting instruments included an audio recorder, field notes, and a documentation sheet (Armajijn et al., 2024).

Data collection was conducted in stages. In-depth interviews were used to explore informants' experiences with the use of digital technology and AI in Islamic

Education. Observations were conducted to identify learning conditions and practices relevant to the research focus. Document analysis was conducted on policy documents and educational documents relevant to digital transformation, AI, and Society 5.0. The use of multiple data sources enabled the researchers to compare information and develop a more contextual understanding of the phenomenon under investigation (Engkizar et al., 2025; Engkizar et al., 2025; Flannelly et al., 2018).

Data Analysis

The data were analyzed using thematic analysis with the assistance of NVivo software. NVivo was used as a tool to organize the data, conduct coding, group codes, identify patterns, and develop themes systematically. The software did not replace the researcher's interpretive process but was used to enhance the organization and traceability of the data analysis process (Allsop et al., 2022; Maher et al., 2018; Mortelmans, 2019).

The analysis process began with transcribing the interview data and organizing observation notes and relevant documents. The researchers then read the entire dataset repeatedly to develop an overall understanding of the case. The data were subsequently subjected to open coding based on information relevant to the research focus. Codes with similar meanings were grouped into categories and then compared and developed into more conceptual themes (Abidin et al., 2023; Zamawe, 2015). The subsequent stages involved reviewing and refining the themes, defining and naming each theme, and interpreting relationships among the themes. The analysis generated five main themes: curriculum transformation, teacher competence, digital infrastructure, AI governance, and educational ethics based on Islamic values.

The analysis was conducted iteratively by comparing findings from interviews, observations, and documents. This process was used to identify consistencies, differences, and gaps between policy directions and educational practices within the context of the case under study. Thus, the analysis not only described the informants' experiences but also explained how the phenomenon was shaped by the broader context of educational policies and practices.

Data Trustworthiness

The trustworthiness of the data was established through source triangulation, member checking, and an audit trail. Source triangulation was conducted by comparing information obtained from interviews with observation findings and relevant documents. This process was used to identify consistencies and differences across data sources so that interpretations of the phenomenon were not dependent on a single source.

Member checking was conducted by providing informants with opportunities to confirm information or interpretations related to their experiences. This step was intended to minimize misinterpretation of the information provided during the interviews. In addition, an audit trail was maintained by systematically documenting the stages of data collection, organization, coding, and interpretation. These strategies were used to strengthen the credibility, dependability, confirmability, and transferability of the qualitative study (Charli et al., 2022; Roni et al., 2020).

RESULT AND DISCUSSION

The findings show that Islamic education policy in addressing the development of Artificial Intelligence (AI) and Society 5.0 in the case under study is still in a transitional stage. The case study findings indicate that various education policies have accommodated digital transformation as part of educational modernization. However, their implementation at the school-unit level has not fully kept pace with the rapid development of AI technology. This condition is evident in curriculum readiness, teacher competence, the availability of digital infrastructure, AI governance, and the application of Islamic ethics and values.

Analysis of policy documents and interview data identified five main themes: (1) curriculum transformation, (2) teacher competence, (3) digital infrastructure, (4) AI governance, and (5) educational ethics based on Islamic values. These five themes indicate that readiness to address AI is not merely related to the availability of technology but also to the capacity of policies to guide its use pedagogically, ethically, and in accordance with the objectives of Islamic education.

Table 1. Analysis of Islamic education policy in addressing AI and society 5.0

Policy Aspect	Research Findings	Challenges	Recommendations
Curriculum	Beginning to integrate digital literacy	Has not comprehensively incorporated AI competencies	Revision of AI- and digital-literacy-based curricula
Teacher Competence	Digital training has been provided	Teachers' AI competence remains low	Continuous AI training programs
Infrastructure	School digitalization has increased	Disparities in facilities across regions	Equitable provision of digital infrastructure
Governance	No specific AI regulations are yet available	No guidelines for AI use	Development of AI policies for Islamic education
Educational Ethics	Islamic values remain a foundation	No specific ethical guidelines for AI use	Integration of AI ethics based on Islamic values

Curriculum Transformation

The findings indicate that the integration of digital technology into the curriculum has begun, but AI use has not yet become a structured component of Islamic Education. One teacher explained:

“Digital technology is already being used in learning, but AI is still mainly used to help find materials or provide examples. There are no specific guidelines on how AI should be incorporated into Islamic Education.”

The interview excerpt indicates that the use of AI in learning still largely depends on teachers' individual initiatives and has not yet been fully supported by a curriculum structure that specifically regulates AI competencies. This condition reveals a gap between the direction of educational digitalization and the curriculum's need to respond to AI development. The curriculum needs not only to introduce the use of technology but also to develop students' ability to understand, evaluate, and use AI responsibly.

Teacher Competence

Regarding teacher competence, the study found that experience in using digital technology has not necessarily been accompanied by readiness to use AI pedagogically. One informant stated:

“We have received training on using technology in learning, but training specifically addressing AI is still limited. Teachers still need to understand how to use AI properly and how to guide its use so that it does not replace students' thinking processes.”

This statement indicates that teachers' competency needs are not limited to technical skills in using AI but also include pedagogical abilities to determine when and how the technology should be used. Therefore, AI training for teachers needs to be provided continuously and linked to the learning needs of Islamic Education.

Digital Infrastructure

Regarding infrastructure, the findings indicate that the digitalization process has increased the use of technology-based devices and learning resources. However, the availability of facilities is not yet fully equitable. One informant explained:

“The use of technology is very helpful for learning, but the facilities are not the same everywhere. Some schools already have good devices and internet connectivity, while others still face limitations.”

This finding indicates that infrastructure readiness is one of the factors influencing the capacity of educational institutions to implement digital transformation policies. Differences in access to devices and connectivity may result

in varying levels of AI implementation across educational institutions. Therefore, digital transformation needs to be accompanied by efforts to ensure equitable infrastructure and access to technology.

AI Governance

Governance emerged as one of the most prominent themes in the study. The findings indicate that AI use has begun to enter educational practices but is not yet fully supported by specific regulations and operational guidelines. One informant stated:

“We know that AI is already being used by teachers and students, but there are no rules that clearly explain the limits of its use. For example, how AI may be used for assignments, how it should be handled in assessment, and how student data should be protected.”

The excerpt indicates that the development of AI use at the practical level is occurring more rapidly than the establishment of its governance framework. The absence of clear guidelines may lead to differences in understanding regarding the boundaries of AI use, particularly in learning, assessment, academic integrity, and data protection.

Based on this analysis, governance and regulation are issues that require attention in the context of the case under study. Most policies remain oriented toward educational digitalization in general, whereas regulations specifically addressing AI use in learning, academic assessment, data protection, academic integrity, and technology ethics have not yet been comprehensively established. This condition indicates that digital transformation is progressing more rapidly than policy adaptation in Islamic education.

Educational Ethics and Islamic Values

The findings also indicate that Islamic values remain an important consideration in the use of technology. However, their application in the context of AI has not yet been supported by a structured ethical framework. One informant explained:

“Technology may be used to support learning, but students must still be guided to be honest and responsible and not submit all of their work to AI. These values must remain the foundation.”

This statement shows that AI use in Islamic education is considered not only in terms of its technological benefits but also in terms of its implications for students' character and moral development. Values such as honesty, responsibility, and trustworthiness provide a foundation for guiding AI use so that it remains consistent with the objectives of Islamic education.

Overall, the case study findings indicate that these five aspects are interconnected. Limitations in regulation are related to the lack of clear guidelines for AI use, while teacher readiness, curriculum, infrastructure, and the ethical framework also determine how the technology is implemented in educational practices. Therefore, the readiness of Islamic education to address AI and Society 5.0 cannot be understood solely in terms of technology adoption but also in terms of the readiness of the education system to guide its use.

The findings indicate that the transformation of Islamic education policy cannot be separated from the changing educational paradigm in the Society 5.0 era. In the concept of Society 5.0, technology is positioned as an instrument for improving the quality of human life rather than replacing human roles. Therefore, Islamic education policies should be directed toward developing digital competencies while maintaining an orientation toward character development, morality, and Islamic values. This finding is consistent with the view of UNESCO that the use of AI in education should prioritize the principles of inclusivity, transparency, accountability, and protection of learners' rights (Al-Jaghoub et al., 2025; Al-kfairy et al., 2024; Azer & Oran, 2023).

The findings also show that AI implementation offers significant opportunities to improve the quality of Islamic Education through personalized learning, automated assessment, the development of interactive learning media, and enhanced access to learning resources. However, these opportunities are accompanied by various risks, including academic plagiarism, algorithmic bias, technological dependence, misuse of personal data, and declining critical-thinking abilities among students if AI use is not supported by adequate policies (Lutfiani et al., 2026; Muslimin, 2024; Perkins et al., 2024).

From the perspective of public policy theory, the findings demonstrate that policy effectiveness is determined not only by the quality of regulations but also by implementation capacity, interinstitutional coordination, resource availability, and mechanisms for continuous evaluation. In the context of this case study, the gap between technological development and regulatory readiness indicates the need for a more adaptive policy approach (Al-kfairy et al., 2024). Islamic education policies need to provide space for the use of emerging technologies while establishing clear boundaries and monitoring mechanisms.

These changes include the development of AI-use regulations, the establishment of digital ethics standards, the enhancement of teachers' competencies, and the strengthening of data-based education governance. In Islamic education, such policies should also ensure that the use of technology remains within the framework of educational objectives that place moral development, responsibility, and integrity at the center of the educational process (Alsayd et al., 2025; Lutfiani et al., 2026).

Compared with previous studies, most research has focused on AI implementation in learning processes, the effectiveness of digital learning media, or the technological readiness of educational institutions. This study offers a different perspective by placing Islamic education policy at the center of the analysis. Through a case study approach, the research demonstrates the interconnectedness of regulation, implementation, governance, ethics, and the direction of Islamic education development in addressing AI and Society 5.0. Thus, the findings not only demonstrate the presence of digital transformation but also reveal the gaps that emerge when these policies are implemented in educational contexts (Kasheem et al., 2025; Kassymova et al., 2025).

Overall, the findings indicate that the transformation of Islamic education in the AI and Society 5.0 era requires integration among policy, human-resource readiness, infrastructure, governance, and Islamic values. Strengthening regulations and guidelines for AI use needs to proceed alongside improving teachers' competencies, ensuring equitable digital infrastructure, and developing an ethical framework for AI use. Such an approach enables digital transformation to function not merely as a process of technology adoption but as part of the development of Islamic education that remains oriented toward pedagogical objectives, character development, and Islamic values.

CONCLUSION

This study shows that the response of Islamic education policy to the development of *Artificial Intelligence* (AI) and Society 5.0 remains in a transitional stage. Policy directions have supported digital transformation, but implementation has not yet fully kept pace with the rapid development of AI. This condition indicates the need to strengthen policies that not only support technology adoption but also provide clear guidance for its use within the context of Islamic education.

The findings further demonstrate that digital transformation in Islamic education needs to be situated within a framework that integrates educational readiness, AI governance, and Islamic values. Policy implications include

strengthening regulations and guidelines for AI use, continuously developing teacher competence, ensuring equitable digital infrastructure, and establishing an AI ethics framework grounded in Islamic values. Such an approach is important to ensure that AI development can support pedagogical objectives and character development without compromising integrity, responsibility, and the principles of Islamic education.

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