

# ISLAMIC EDUCATION IN THE AGE OF ARTIFICIAL INTELLIGENCE: TRANSFORMATION, SHIFTING AUTHORITY, AND DIGITAL ETHICS CHALLENGES

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**Abstract:** *The development of digital technology and Artificial Intelligence (AI) has brought fundamental changes to educational practices, including Islamic education. These changes affect not only the technical aspects of learning but also the epistemological, ethical, and institutional dimensions of Islamic education. This article aims to analyze the opportunities and challenges of integrating digital technology and AI into Islamic Religious Education (PAI) through a literature review and conceptual analysis approach. The findings indicate that digital technology and AI have the potential to enhance the effectiveness, personalization, and inclusivity of learning. Adaptive systems, online platforms, and data-driven analytics enable broader access to educational materials and provide more responsive learning support tailored to students' needs. However, this integration also presents ethical and epistemological challenges, such as the risk of shifting scholarly authority, technological dependency, algorithmic bias, and the potential reduction of spiritual dimensions and moral character formation. Therefore, the utilization of technology in Islamic education must be guided by the framework of tawhid values, maqāṣid al-sharī'ah, and digital ethics. Technology should be positioned as a means to strengthen the quality of learning and character development, not as a substitute for the educator's role in guiding students' moral and spiritual growth.*

**Keywords:** *Islamic Education, Digital Transformation, Artificial Intelligence, Digital Ethics*

## Introduction

The development of digital technology has transformed the way people learn and construct knowledge, expanding the educational sphere from physical classrooms to boundless virtual spaces (Nur Fadhilah & Mansur, 2025). In the context of Islamic education, this transformation has become an unavoidable reality as Islamic educational institutions begin

adopting online platforms, Learning Management Systems (LMS), and interactive media aligned with the characteristics of the digital generation (Nasruns et al., 2025). Madrasahs, pesantren, and Islamic higher education institutions have started integrating digital technology not only into the learning process but also into educational management (Yahya, 2025). Digitalization creates opportunities to enhance the quality of learning and expand da'wah outreach through flexible learning media and creative content; however, it also poses challenges in maintaining adherence to Sharia values and preserving scholarly authority in an increasingly digital era (Widodo, 2025).

The emergence of Artificial Intelligence (AI) has further accelerated these changes through personalized learning, automated feedback, and rapid, extensive access to Islamic references (Pratama & Muhammad, 2025). Nevertheless, the integration of AI into Islamic education also presents significant challenges, as the Islamic scholarly tradition is founded upon chains of transmission (sanad), academic legitimacy, and moral exemplarity—elements that cannot be replaced by algorithmic systems (Walisongo et al., 2025). The use of AI without critical guidance risks fostering technological dependency and shifting the orientation of education from moral character formation to mere quantitative achievement, particularly if it is not accompanied by a deep understanding of Sharia values and digital ethics (Pratama & Muhammad, 2025).

Ultimately, Islamic education remains committed to forming individuals who are faithful, knowledgeable, and of noble character. Therefore, technology and AI must be positioned as supportive instruments, while teachers continue to serve as moral and spiritual guides. The primary challenge lies not in the use of technology itself, but in the direction and values that underpin it. Through a reflective and value-based approach, Islamic education can adapt to digital advancement without losing its divine identity.

## Literature Review

### The Transformation of Islamic Education in the Digital Age

The transformation of Islamic education in the digital age is a direct result of developments in information technology that have changed the way we learn, teach, and interact. The learning system, which was previously centered on conventional classrooms, has now shifted to a more flexible model through digital platforms. Digitalization opens up opportunities to improve the quality of learning and expand da'wah, but it also presents challenges in maintaining the internalization of Sharia values (Latifah, 2024). The use of e-learning, video conferencing, and interactive platforms in madrasahs, Islamic boarding schools, and Islamic universities demonstrates an adaptive response to the needs of the modern generation, although it still needs to be directed towards deepening Islamic understanding (Balika, 2024).

In terms of curriculum, Islamic education is required to integrate religious literacy with digital literacy. Mastery of the Qur'an, hadith, fiqh, aqidah, and akhlak remains the foundation, but it must be complemented by the ability to respond to digital issues critically and ethically so that graduates remain relevant to the dynamics of the times (Sulistiyorini & Efendi, 2024). This transformation also shifts the role of educators to become facilitators and moral guides who help students select and critique Islamic information in the digital space (Suwahyu, 2024).

In addition to strengthening institutional systems through LMS and hybrid learning, attention to digital ethics is a crucial aspect. The principles of tabayyun and amar ma'ruf nahi munkar are relevant as a moral foundation in responding to the flow of information. Thus, the

transformation of Islamic education in the digital age is not only a technical change, but also a process of moral and spiritual renewal to shape a generation of Muslims who are superior and have integrity (Yahya, 2023; Ilyas & Sukari, 2024).

### **Digital Technology in Islamic Education**

The development of digital technology in the last decade has significantly changed the education system, including Islamic Religious Education (IRE). Technology has now become a strategic instrument that makes learning more flexible, interactive, and adaptive (Muzakky et al., 2023). Historically, the use of educational technology in Indonesia began in 1951 through audiovisual media (Ali, 2023). In Islamic tradition, the integration of science and technology also has strong roots, as reflected in the scientific dynamics at Bait al-Hikmah and the contributions of Muslim scientists to empirical methods. This shows that technological innovation is in line with the spirit of scientific development in Islam.

Theoretically, educational technology is understood as a tool and a systematic process to improve learning effectiveness (Nasution, 1987; Miarso, 1986). In the context of Islamic education, digital technology expands access to religious resources, facilitates the learning process, and supports more contextual methods through LMS, interactive multimedia, and AI-based applications (Azyumardi Azra, 2012; Khosyiin & Khoiiri, 2024). In the era of globalization, these innovations are necessary for the education system to remain relevant and responsive to the times (Dede Rosyada, 2017).

However, the use of technology must remain grounded in sharia principles and digital ethics. The principle of *maslahah* emphasizes that technology can be used as long as it brings benefits and does not violate religious values. Without guidance from teachers and moral supervision, the orientation of education risks shifting from character building to mere technical efficiency. Therefore, technology needs to be positioned as a tool guided by faith, manners, and moral responsibility in order to remain in line with the main objectives of Islamic education.

### **Artificial Intelligence (AI) in Islamic Education**

Artificial Intelligence (AI) is a rapidly developing branch of technology that is capable of mimicking human cognitive functions, such as decision making, logical reasoning, natural language processing, and the ability to learn from data. Its development has influenced various sectors, including education (Suharmawan, 2023). In the world of education, the use of AI is not new. Adaptive learning systems and automated assessment have been used for decades, and are now becoming increasingly complex as technology advances (Hakim et al., 2024).

In the context of Islamic education, the integration of AI has great potential to improve the quality of learning, expand access, and provide a more personalized learning experience. AI enables adaptive learning systems, where materials can be tailored to the abilities and needs of students. This technology also supports inclusive learning through text-to-speech conversion, sign language translation, and interactive interfaces that assist learners with special needs. In addition, AI reinforces the concept of lifelong learning, allowing people to access Islamic materials anytime and anywhere (Supriatin et al., 2025).

However, the integration of AI in Islamic education is not without challenges. The digital divide, data privacy protection, and content quality are issues that require serious attention. The implementation of AI requires infrastructure support, improved teacher competence, and

strengthened digital literacy and ethics so that its use does not deviate from educational objectives (Annisa et al., 2024).

Substantively, Islamic education aims to shape students who have strong faith, noble character, and intellectual and professional readiness. Islamic Religious Education (PAI) not only serves to transfer knowledge but also to internalize values through the development of cognitive, affective, and psychomotor aspects (Muhammad Hatim, 2018). However, in practice, PAI learning is still often oriented towards memorization and reproduction of material, so it does not fully encourage critical and reflective thinking skills (Gunagraha et al., 2025). In this situation, AI has the potential to be an instrument of transformation through a personalized learning approach. With data analysis and machine learning algorithms, AI can recognize student learning patterns and provide appropriate feedback in real time. Such models have been proven to increase engagement and learning outcomes (Holmes et al., 2019). However, their implementation must still take into account the principles of fairness, privacy protection, and freedom of learning for students.

From a Sharia perspective, the use of AI requires ethical oversight to ensure that it remains in line with the principle of *maslahah* (public interest) and avoids *mudarat* (harm). The *Maqāṣid Syarī'ah*-based approach which includes the protection of religion, reason, life, lineage, and property can serve as a normative basis for evaluating technology. Strengthening AI literacy among teachers and students is also important so that its use is not merely technical, but accompanied by moral and religious awareness (Akbar et al., 2025).

Thus, AI has the strategic potential to transform Islamic education to be more inclusive, adaptive, and relevant. However, the success of its integration greatly depends on the readiness of the educational ecosystem, including teacher competence, ethical regulations, and supervision based on Islamic values. AI must be positioned as a tool that strengthens the internalization of values, not replacing the role of educators as moral and spiritual guides.

Critically, the integration of AI in Islamic education should be understood not merely as technological innovation, but as a momentum to reformulate the PAI learning paradigm to be more transformative. Technology will only be meaningful if it is directed towards strengthening character, digital literacy, and ethical awareness. Without a clear foundation of values, AI risks becoming merely an instrument of technical efficiency that contributes little to the formation of students' personalities.

## **Ethical Challenges and Future Prospects for Islamic Education in the Digital Age and Artificial Intelligence**

### **1. Digital Transformation and Reconfiguration of Islamic Education**

Digital transformation in Islamic education cannot be understood solely as the adoption of technology, but rather as a process of structural and epistemological reconfiguration. These changes affect policy, institutional governance, curriculum, and pedagogical practices in the classroom. Recent literature shows a significant increase in studies on the integration of Artificial Intelligence (AI) in Islamic education. Salim and Aditya (2025) note a surge in academic attention since 2018, which peaked in 2023, while Azzukhruf's (2025) bibliometric analysis shows a trend of increasing publications until 2024.

In the context of Islamic higher education, digital transformation is not only related to the use of online platforms, but also the restructuring of academic policies and institutional

strategies to respond to globalization (Sumiati & Tekke, 2024). At the pesantren level, AI integration is understood as an effort to bridge spirituality and technology without sacrificing value orientation (Suncaka, 2024). Thus, digital transformation is a historical inevitability, but it still leaves ethical and epistemological issues that need to be critically examined.

## 2. AI and the Shift in Knowledge Authority

One of the fundamental implications of AI integration is the potential shift in knowledge authority. AI does improve learning effectiveness and administrative efficiency (Djazilan & Rulyansah, 2024), but in the Islamic scientific tradition, scientific authority is built through sanad, academic legitimacy, and moral integrity. Knowledge is not born solely from data computation, but from a continuous intellectual and spiritual process. In this context, AI should be positioned as an analytical instrument, not an epistemic subject.

Pohan and Nasution (2025) criticize the disproportionate use of AI in academic publications in Islamic universities. Excessive dependence risks blurring the line between technological assistance and the delegation of intellectual responsibility. This phenomenon raises a fundamental question: to what extent can AI be integrated without shifting the foundations of scientific authority based on tradition and ethics?

## 3. Ethical Challenges in AI Integration

Islamic education is oriented towards the formation of morals and awareness of monotheism, not merely the transfer of cognitive knowledge. Therefore, the integration of AI must be accompanied by ethical awareness so that it does not reduce learning to a technical activity oriented solely towards results. Without normative supervision, the use of AI has the potential to ignore the relational dimension in character building and erode the social and religious sensitivity of students. On the other hand, over-reliance on AI in argumentation and analysis can weaken critical and reflective thinking skills, even though the Islamic intellectual tradition places *ijtihad* and deepening of meaning at the core of the scientific process. Therefore, AI should strengthen, not replace, the analytical capacity of students.

Furthermore, AI is built on data and algorithms that do not always represent the diversity of Islamic schools of thought and scholarly traditions. Without rigorous academic verification, interpretive bias can affect the validity of Islamic content. Although technologies such as deep learning open up opportunities for innovation in Qur'anic learning, their application still requires scientific supervision to ensure alignment with Islamic scientific methodologies and principles. Thus, the issue of algorithmic bias is not only technical in nature, but also relates to theological and academic legitimacy.

## 4. Character Education and Value-Based Digital Literacy

AI integration has an impact on the character formation of students. AI can support personalized learning, but character in Islam is formed through role models, teacher-student relationships, and the instilling of values (Apriyoza, Zedri, & Ihsan, 2025). Therefore, digital literacy in Islamic education must be built within a monotheistic ethical framework.

- a. Value-based digital literacy includes the ability to:
- b. Verify the validity of information.
- c. Use AI proportionally and responsibly.

d. Understand the ethical implications of every digital activity.

This approach is important so that the Muslim generation remains globally competitive without losing its identity of values (Rismawati & Anirah, 2025).

## 5. Strategic Management and Future Directions

The success of AI integration is highly dependent on transformative institutional policies. Warisno, Anshori, and Hidayah (2025) emphasize the importance of Islamic education management that is capable of synergizing tradition and digital innovation. This requires a reformulation of the curriculum that incorporates AI literacy and digital ethics, continuous teacher training, and transparent and accountable guidelines for AI use.

Muthmainnah, Bachtiar, and Yassin (2025) view the future of Islamic education as a space for synthesis between technological advancement and moral commitment. Thus, digital and AI-based Islamic education must be built on a balance between innovation and normative values so that the transformation that occurs is not only technical but also substantive.

## Method

This study employs a library research methodology with a descriptive-critical and hermeneutic-conceptual approach to examine various theories, concepts, and regulations related to the transformation of Islamic education through digital technology and artificial intelligence. Through systematic and critical analysis of relevant literature, this research explores how digital learning platforms, Learning Management Systems (LMS), and artificial intelligence can enhance the effectiveness, quality, and relevance of Islamic education in the digital era. The study is grounded in Islamic values such as *itqan*, *amanah*, and *ihsan* as ethical foundations for the responsible use of technology. Data were collected from books, scientific journals, government regulations, and prior relevant studies using systematic literature review techniques covering identification, classification, critical analysis, interpretation, and conceptual synthesis while data validity was ensured through source triangulation, resulting in a conceptual model of “Digital Technology and Artificial Intelligence-Based Islamic Education Transformation” that highlights the synergy between technological innovation, Islamic pedagogy, and spiritual values in developing an adaptive and globally competitive Islamic education system (Nursapia Harahap, 2020).

## Result and Discussion

The transformation of Islamic education through digital technology and Artificial Intelligence (AI) represents changes that are not merely technical but also structural and pedagogical. The integration of AI into learning environments has shifted instructional practices from conventional lecture-based models toward more flexible and technology-supported systems. This shift affects curriculum design, assessment methods, and the relationship between teachers and students. In the context of Islamic Religious Education (PAI), digital platforms and AI-based applications enable more interactive and personalized learning experiences. On the one hand, this development increases accessibility, allowing students to engage with materials anytime and anywhere. On the other hand, there is a risk that learning may become overly focused on measurable academic outcomes driven by data analytics. Therefore, digital

transformation in Islamic education should be understood as a systemic change that requires careful value-oriented management.

From a curricular perspective, AI integration requires the alignment of religious literacy with digital literacy. Islamic education can no longer focus solely on the mastery of the Qur'an, hadith, fiqh, and akhlak, but must also equip students with critical thinking skills and ethical awareness in digital environments. AI provides rapid access to a wide range of Islamic references and scholarly materials. However, ease of access does not necessarily guarantee accuracy or methodological reliability. In the Islamic scholarly tradition, knowledge is acquired through validated sources, structured learning processes, and qualified teacher guidance. When students rely excessively on AI without verification, there is a risk of misunderstanding and a gradual shift in knowledge authority. This situation highlights the continued importance of educators in supervising and guiding the responsible use of technology.

Ethical considerations also emerge as a significant challenge in AI implementation. Islamic education fundamentally aims to nurture faith, moral character, and spiritual awareness. If AI usage emphasizes speed and efficiency alone, the character-building dimension of education may be overlooked. Technology-based systems tend to measure success through numerical performance indicators, while moral development cannot always be quantified. Furthermore, AI systems may contain inherent biases depending on the datasets used in their development. Such biases can influence how Islamic content is presented and may not fully reflect the diversity of Islamic schools of thought. For this reason, ethical supervision grounded in Islamic values and the strengthening of value-based digital literacy are essential in the integration of AI within Islamic education.

At the same time, AI offers significant potential to enhance learning quality. It can assist teachers in organizing materials systematically, providing timely feedback, and identifying students' learning needs more effectively. AI also supports inclusive education by offering accessibility features for students with special needs. Nevertheless, the convenience provided by AI should not diminish students' independent thinking abilities. The Islamic intellectual tradition emphasizes deep reflection, disciplined inquiry, and serious engagement in the pursuit of knowledge. Without proper guidance, excessive reliance on AI may lead to passive learning habits and reduced analytical skills. Consequently, AI utilization should be balanced with instructional approaches that encourage discussion, reflection, and character development.

Looking ahead, the future of digital- and AI-based Islamic education largely depends on institutional readiness and human resource capacity. Curriculum reform must be accompanied by teacher training programs that promote responsible and critical technology use. Clear ethical guidelines based on the principles of maqāṣid al-sharī'ah are also necessary to ensure that AI aligns with Islamic values. Technology should function as a supportive tool that enhances educational quality rather than replacing the essential role of teachers. When properly managed, AI can expand educational access and improve learning effectiveness. However, without clear direction and supervision, technology may shift the core objectives of Islamic education. Therefore, this transformation must remain grounded in commitments to faith, moral integrity, and social responsibility.

## Conclusion

The transformation of Islamic education through digital technology and artificial intelligence (AI) is an inevitable reality within the dynamics of global development. The integration of digital technologies, online learning platforms, and AI-based systems has created significant opportunities to enhance the effectiveness, personalization, accessibility, and inclusivity of Islamic Religious Education (IRE). AI enables the provision of adaptive learning materials, real-time feedback, and more accurate analysis of learners' educational needs. At the institutional level, this transformation also encourages the reconfiguration of curricula, educational governance, and the improvement of educators' competencies to become more responsive to contemporary developments.

Nevertheless, this transformation is not merely technical in nature but also touches upon epistemological and ethical dimensions. The Islamic scholarly tradition, which is built upon the principles of sanad (chains of transmission), scholarly authority, and moral exemplarity, cannot be replaced by algorithmic systems. Excessive reliance on AI risks shifting the orientation of education from the cultivation of moral character and tawhidic consciousness toward a narrow focus on data-driven academic achievement. Moreover, issues such as algorithmic bias, the validity of Islamic content, and data privacy protection constitute serious challenges that require strict normative and academic oversight.

Therefore, the utilization of digital technology and AI in Islamic education must be situated within the framework of tawhidic values, maqāṣid al-sharī'ah, and responsible digital ethics. Technology should be positioned as a supportive instrument that strengthens the quality of learning and the internalization of values, rather than as a substitute for the role of teachers as intellectual, moral, and spiritual guides. Through a balanced integration of innovation and normative commitment, Islamic education can transform adaptively and progressively without losing its identity and divine orientation.

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