



Integrating Islamic Values and Technology Ethics into Digital Learning in the Society 5.0 Era

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Abstract

The rapid advancement of digital technology in education has created significant opportunities for learning innovation while simultaneously raising ethical challenges that may weaken the integration of moral and spiritual values in educational practices. This study aims to analyze the integration of Islamic values and ethical principles in educational technology and to develop a conceptual framework relevant to education in the Society 5.0 era. A qualitative approach was employed using content analysis of scholarly publications and academic sources published between 2018 and 2026. The data were analyzed through categorization, interpretation, and thematic synthesis to identify the relationships among Islamic values, technology ethics, and digital learning. The findings reveal that the integration of Islamic values and ethics in educational technology is constructed through three main dimensions: philosophical foundations, ethical technology governance, and pedagogical implementation. The values of tawhid, amanah, honesty, and ihsan serve as the foundation for developing humanistic educational technologies, while the principles of responsibility, justice, and public benefit guide the ethical use of digital technologies. This study proposes an integrative framework that connects technological, ethical, and pedagogical dimensions to support learning that promotes not only academic achievement but also character and spiritual development. These findings contribute to the development of value-oriented educational technology in the Society 5.0 era.

INTRODUCTION

The rapid advancement of information and communication technologies has significantly transformed educational systems worldwide (Adhikari & Pandey, 2025; Kalyani, 2024). Learning is no longer confined to conventional classrooms but has evolved into digitally mediated environments supported by online platforms, artificial intelligence (AI), big data, and adaptive learning technologies (Alouzi et al., 2026). This transformation has been further accelerated by the emergence of Society 5.0, a human-centered paradigm that emphasizes the integration of advanced technologies into various aspects of human life to enhance societal well-being.

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Within this context, digital literacy has become an essential competency for learners at all educational levels. Educational institutions are increasingly expected to prepare students not only with technological skills but also with the capacity to navigate digital environments responsibly and ethically (Baroud et al., 2025; Engkizar, Jaafar, Hamzah, Syafril, Febriani, et al., 2026).

The growing adoption of educational technologies has generated substantial benefits for teaching and learning processes. Digital platforms enable flexible access to educational resources, facilitate collaborative learning, and support personalized learning experiences through data-driven approaches (Irhamni & Ashari, 2023; Kesuma et al., 2025). The integration of AI-powered tools, learning management systems, and interactive digital media has enhanced instructional effectiveness and expanded educational opportunities beyond geographical and temporal constraints. However, alongside these advantages, the increasing reliance on digital technologies has also introduced complex ethical challenges, including academic dishonesty, plagiarism, cyberbullying, privacy concerns, misinformation, and the misuse of AI-generated content (Engkizar et al., 2018). These issues suggest that technological advancement does not automatically correspond with moral and ethical development.

Recent studies have increasingly emphasized the importance of incorporating ethical considerations into educational technology. Scholars have argued that the effectiveness of digital learning should not be assessed solely through technological efficiency or academic achievement but also through its impact on learners' moral development and responsible digital behavior (Kassymova et al., 2025; Rambe et al., 2025). Ethical frameworks in educational technology have therefore become essential for addressing concerns related to data governance, digital citizenship, algorithmic fairness, and responsible technology use. These discussions highlight the need for educational approaches that balance technological innovation with ethical accountability.

From the perspective of Islamic education, moral and spiritual development constitutes a fundamental objective of the educational process. Islamic educational philosophy emphasizes the holistic development of individuals by integrating intellectual, moral, spiritual, and social dimensions. Core Islamic values such as *tawhid* (belief in the oneness of God), *amanah* (trustworthiness), honesty, justice, and *ihsan* (excellence and benevolence) provide a comprehensive ethical foundation for guiding human behavior in both physical and digital environments (Engkizar et al., 2023, 2024). These values offer relevant principles for addressing contemporary ethical challenges arising from the widespread use of educational technologies.

Previous studies have examined the integration of Islamic values in educational practices and the role of ethics in technology-enhanced learning. Nevertheless, these studies have generally addressed educational technology, digital ethics, and Islamic values as separate domains of inquiry (Al-Zahrani & Alasmari, 2025; Sani & Abdulmumini, 2025). Limited attention has been devoted to developing an integrative conceptual framework that systematically connects Islamic ethical principles, educational technology, and pedagogical practices within the context of Society 5.0. Consequently, there remains a conceptual gap regarding how Islamic values can be embedded in the design, implementation, and governance of educational technologies to support holistic learner development (Engkizar et al., 2025; Engkizar et al., 2026; Nufus et al., 2022; Wadkar et al., 2021).

Addressing this gap, the present study aims to analyze the integration of Islamic values and ethical principles within educational technology and to formulate a conceptual framework that connects technological, ethical, and pedagogical dimensions in contemporary learning environments. By synthesizing insights from educational technology, digital ethics, and Islamic educational thought, this study

seeks to contribute to the development of value-oriented educational technology that promotes not only academic achievement but also character formation and spiritual growth. The proposed framework is expected to provide theoretical guidance for researchers and practical implications for educators, policymakers, and educational technology developers in fostering humanistic learning in the Society 5.0 era.

METHODS

This study employed a qualitative approach using content analysis to examine the integration of Islamic values and ethical principles in educational technology. Content analysis was selected because it enables the systematic examination, interpretation, and synthesis of textual data derived from scholarly literature (Hafezi et al., 2023; Kyngäs, 2020; Lindgren et al., 2020). Through this approach, the study sought to identify conceptual patterns, thematic relationships, and key dimensions linking Islamic values, technology ethics, and digital learning practices.

The data sources consisted of scholarly publications, including peer-reviewed journal articles, academic books, conference proceedings, and relevant educational policy documents published between 2018 and 2026. The selection of sources was based on relevance to the research topic, academic credibility, and contribution to discussions on educational technology, ethics, Islamic education, and Society 5.0. Literature was retrieved from major academic databases, including Scopus, Google Scholar, DOAJ, and institutional repositories (Mayring, 2015; Neuendorf, 2019; Roller, 2019; Trigiyatno et al., 2023).

Data analysis was conducted through three stages: categorization, interpretation, and thematic synthesis. In the categorization stage, relevant information was identified and organized according to recurring concepts related to Islamic values, ethical principles, and educational technology. The interpretation stage focused on examining relationships among identified categories and understanding their implications within contemporary educational contexts. Finally, thematic synthesis was employed to integrate findings into broader conceptual themes and construct an integrative framework connecting technological, ethical, and pedagogical dimensions.

To guide the analysis, this study adopted the Technology Ethics Pedagogy (TEP) framework, which emphasizes the interrelationship between technological innovation, ethical considerations, and pedagogical practices. The framework served as an analytical lens for exploring how Islamic values can be embedded within educational technology to support humanistic learning in the Society 5.0 era. The trustworthiness of the study was enhanced through source triangulation by comparing findings across multiple academic sources and perspectives. In addition, researcher reflexivity was applied throughout the analytical process to minimize interpretive bias and strengthen the credibility of the findings.

RESULT AND DISCUSSION

Islamic Values in Education

Islamic values represent foundational principles derived from the Quran and the Hadith, encompassing monotheism (*tawhid*), trustworthiness (*amanah*), honesty, justice, and excellence (*ihسان*) (Bingham, 2023; Lemon & Hayes, 2020; Sanjani, 2024). These values form an interconnected worldview that guides human behavior in all aspects of life, including education and the use of technology (Numan et al., 2025; Wahyuni et al., 2025). Rather than functioning as isolated ethical principles, Islamic values operate as an integrated moral system that shapes knowledge construction, behavioral orientation, and technological engagement.

The principle of *tawhid* establishes a fundamental epistemological framework in which all knowledge and technological development are understood as manifestations of divine signs. Within this perspective, science and technology are

not value-neutral instruments but forms of responsibility that must be directed toward human welfare and spiritual development. In the context of educational technology, this implies that digital learning systems should be designed and utilized to support holistic human development and align with the broader purpose of human stewardship on earth.

Amanah emphasizes moral accountability in the use of knowledge and technology. In digital learning environments, this principle requires educators, developers, and learners to exercise responsibility in managing information, ensuring academic integrity, and avoiding misuse of technology such as plagiarism, data manipulation, and misinformation. The rapid expansion of digital platforms intensifies the relevance of this value, as technological accessibility increases both opportunities and ethical risks.

Islamic values must be internalized within the entire educational process in an integrated manner, covering cognitive, affective, and psychomotor dimensions. Previous research indicates that such internalization can be achieved through Islamic-based instructional design that embeds moral principles into learning objectives, activities, and assessments (Anggraini et al., 2025). However, effective implementation requires systematic integration between pedagogical design and technological infrastructure to ensure that ethical and spiritual dimensions are not separated from learning processes.

The value of *ihsan*, which emphasizes excellence and sincerity in action, directly influences the quality of learning in digital environments. In educational technology contexts, *ihsan* encourages educators to design meaningful, engaging, and learner-centered digital experiences, while also motivating students to engage in authentic learning processes rather than superficial achievement or technological shortcuts. This principle reinforces the importance of ethical engagement with technology as part of character development in the digital era.

Educational Technology and Its Ethical Challenges

Educational technology refers to the utilization of technological tools and systems to support teaching and learning processes, including electronic learning environments, interactive multimedia, and learning management systems. The evolution of educational technology has progressed from simple audiovisual media to adaptive and personalized learning systems supported by artificial intelligence. These developments have increased learning flexibility, interactivity, and data-driven decision-making in educational settings (Yani et al., 2026).

In the Society 5.0 era, educational technology has become increasingly integrated into everyday life through interconnected digital devices, augmented learning environments, virtual simulations, and advanced artificial intelligence applications. These innovations offer significant opportunities to improve educational quality, accessibility, and learning effectiveness. However, technological advancement also generates ethical concerns that require critical attention. The effectiveness of educational technology should therefore be evaluated not only in terms of technical performance but also through its social, moral, and educational consequences.

Several ethical challenges emerge from the widespread adoption of educational technology. These include academic plagiarism, cyberbullying in online learning environments, the dissemination of harmful digital content, and threats to student privacy resulting from extensive data collection and analysis. The increasing use of learning analytics and artificial intelligence systems has intensified concerns regarding data security, transparency, and informed consent. These issues demonstrate that technological innovation must be accompanied by ethical safeguards that protect learners' rights and well-being.

Another significant challenge is the digital divide, which reflects unequal access

to technological devices, internet connectivity, and digital learning opportunities. Such disparities may reinforce existing educational inequalities, particularly among learners from disadvantaged socioeconomic backgrounds and remote regions (Fukuda, 2020; Karamustafaoglu, 2011; Sentleng & King, 2012). From an Islamic perspective, the principle of justice requires that educational technology be developed and implemented in ways that promote equitable access and inclusive participation for all learners.

The impact of technology on students' mental health also deserves serious consideration. Excessive engagement with digital platforms has been associated with increased levels of anxiety, social comparison, technological dependency, and psychological distress among adolescents. These challenges highlight the necessity of integrating ethical and spiritual values into technology-enhanced learning environments. Consequently, educational technology requires a moral framework capable of balancing technological innovation with human well-being and character development.

Technology Ethics from an Islamic Perspective

Technology ethics refers to the moral principles that guide the development and use of technology, including responsibility, honesty, privacy, accountability, and justice. From an Islamic perspective, technology ethics is grounded in the objectives of Islamic law, namely the protection of religion, life, intellect, lineage, and property. These principles provide a comprehensive framework for evaluating the ethical implications of technological innovation and its impact on individuals and society (Hukubun et al., 2024; Juhairiah et al., 2024).

The protection of religion implies that educational technology should support rather than undermine religious values and spiritual development. Digital platforms can facilitate broader access to religious knowledge, promote meaningful learning experiences, and strengthen moral awareness among learners. Therefore, technology should function as a medium that reinforces ethical and spiritual growth rather than merely transmitting information.

The protection of life emphasizes the responsibility to safeguard learners' physical and psychological well-being (Ibrahim et al., 2022; Voon et al., 2022; Wang & Kanungo, 2020). In educational contexts, this includes promoting healthy technology use, preventing exposure to harmful content, and ensuring learning environments that support mental health. Ethical technology use requires educators and institutions to recognize that human well-being remains the primary objective of educational innovation.

The protection of intellect is particularly relevant to educational technology because learning technologies are intended to enhance critical thinking, creativity, and intellectual development. However, excessive dependence on digital tools may weaken learners' capacity for independent reasoning and reflective thinking. Therefore, educational technologies should be designed to stimulate active engagement and intellectual growth rather than replace cognitive processes.

Within the context of Society 5.0, Islamic ethics requires technology developers, educators, and policymakers to consider the broader social, moral, and spiritual implications of technological innovation (Elmahjub, 2021; Ismail, 2016; Mustapha et al., 2025). Technology should be understood as a trust that carries responsibility toward both God and humanity. Accordingly, the development and implementation of educational technology must be guided by ethical evaluation and value-based decision-making to ensure that technological progress contributes to human flourishing and societal well-being.

Integrative Framework of Technology, Ethics, and Pedagogy

The findings indicate that the integration of Islamic values and educational technology can be understood through an integrative framework consisting of three

interconnected dimensions: philosophical foundations, ethical technology governance, and pedagogical implementation. These dimensions operate as a unified system that ensures technological innovation remains aligned with educational objectives, ethical responsibility, and spiritual values (Bali & Fadilah, 2019).

The first dimension, philosophical foundations, is rooted in Islamic values such as *tawhid*, *amanah*, honesty, justice, and *ihسان*. These values provide the normative basis for understanding technology as a means of serving human development rather than as an end in itself. Within this perspective, educational technology should contribute to the formation of knowledgeable, ethical, and spiritually conscious learners. The integration of these values ensures that technological advancement remains connected to broader educational and societal goals.

The second dimension, ethical technology governance, emphasizes the responsible development and use of educational technologies. This dimension encompasses principles such as accountability, privacy protection, fairness, transparency, and public benefit. From an Islamic perspective, technological innovation should be evaluated not only according to its efficiency and effectiveness but also according to its social, moral, and spiritual consequences. Ethical governance therefore functions as a mechanism for ensuring that educational technologies contribute positively to learners and society.

The third dimension, pedagogical implementation, focuses on the practical integration of Islamic values within learning processes. This includes curriculum development, instructional design, digital learning resources, assessment practices, and online interactions. The findings suggest that effective integration occurs when ethical and spiritual values are embedded throughout the learning experience rather than being presented as isolated content. Such an approach enables learners to develop technological competence alongside moral awareness and character formation (Engkizar et al., 2026).

The relationship among these three dimensions demonstrates that technology, ethics, and pedagogy should not be treated as separate components. Instead, they function as mutually reinforcing elements within a holistic educational ecosystem. This framework contributes to the development of value-oriented educational technology capable of addressing contemporary ethical challenges while supporting meaningful learning in the Society 5.0 era.

Implications and Relevance in the Indonesian Educational Context

The findings of this study have significant implications for the development of education in Indonesia, particularly in responding to the challenges of digital transformation in the Society 5.0 era (Defyanti Khairunnisak et al., 2023; Hasnah et al., 2023; Mutaqin, 2025). As the country with the largest Muslim population in the world, Indonesia possesses considerable potential to develop educational models that effectively integrate technology, ethics, and Islamic values. The integrative framework proposed in this study can serve as a conceptual foundation for developing learning systems that not only emphasize technological competence but also foster character development and spiritual growth among learners.

At the policy level, the integration of Islamic values and technology ethics can support the implementation of the national curriculum, which emphasizes twenty-first-century competencies while strengthening the character profile of learners. The findings suggest that the development of educational technology should be accompanied by ethical governance grounded in the values of responsibility, justice, honesty, and public benefit. Consequently, digital transformation in education should not focus solely on technological innovation but also on preserving humanistic and moral values (Rajapathirana & Hui, 2018; Riza et al., 2024; Suhendi, 2024).

At the institutional level, madrasah and pesantren occupy a strategic position in implementing learning models that integrate technology and Islamic values. The

educational traditions that have long been cultivated within these institutions provide a strong foundation for internalizing religious values in digital learning environments. Therefore, madrasah and pesantren can serve as centers of innovation for developing educational practices that connect spiritual, ethical, and technological dimensions in an integrated manner.

Furthermore, Islamic higher education institutions play a crucial role in strengthening the development of knowledge and value-based educational practices. Institut Agama Islam Negeri and Universitas Islam Negeri can contribute through research, curriculum development, teacher training, and the creation of learning resources that promote the integration of Islamic values and technology. Collaboration among higher education institutions, government agencies, educational organizations, and local communities is essential for building a digital educational ecosystem that is not only innovative but also ethical and sustainable.

More broadly, this study highlights that the success of digital transformation in Indonesian education is determined not only by the availability of technological infrastructure but also by the capacity of educational institutions to integrate philosophical foundations, ethical technology governance, and pedagogical implementation simultaneously. The integration of these three dimensions has the potential to create a humanistic, inclusive, and value-oriented learning environment that supports the holistic development of learners in intellectual, moral, and spiritual aspects.

CONCLUSION

This study demonstrates that the integration of Islamic values and ethical principles into educational technology is essential for fostering humanistic learning in the Society 5.0 era. The findings indicate that Islamic values, including *tawhid*, *amanah*, honesty, justice, and *ihسان*, can serve as philosophical foundations for the responsible use of technology in education. Furthermore, Islamic technology ethics, grounded in the objectives of Islamic law, provides a comprehensive framework for guiding technological development and utilization in ways that promote accountability, fairness, and human well-being. The study proposes an integrative framework consisting of three interconnected dimensions: philosophical foundations, ethical technology governance, and pedagogical implementation. These dimensions collectively support the development of learning environments that balance technological innovation with moral and spiritual development.

The proposed framework contributes to the advancement of value-oriented educational technology by connecting technological, ethical, and pedagogical dimensions within a unified conceptual model. Its implementation has implications for curriculum development, teacher professional development, digital learning resource design, and educational policy, particularly in Islamic educational institutions. Future studies are encouraged to empirically examine the effectiveness of this framework in diverse educational settings and to explore its applicability in responding to emerging technological developments, including artificial intelligence and data-driven learning systems.

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