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Repositioning Artificial Intelligence in Value-Based Islamic Religious Education

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Abstract: The rapid advancement of Artificial Intelligence (AI) has significantly influenced educational transformation, including within Islamic Religious Education (Pendidikan Agama Islam/PAI). This study aims to systematically examine the empirical and conceptual evidence regarding the implementation of AI-based digital learning in strengthening students' understanding of Islamic values, particularly among Generation Z learners in Muhammadiyah senior high schools. Using a Systematic Literature Review (SLR) approach guided by Kitchenham and Charters (2007) and the PRISMA framework, 28 peer-reviewed articles published between 2019 and 2025 were analysed from the Scopus, Web of Science, Dimensions, and Google Scholar databases. The findings indicate that AI applications such as adaptive learning systems, generative chatbots (e.g., ChatGPT), AI-based multimedia, and augmented reality significantly improve cognitive learning outcomes, student engagement, and critical thinking skills. However, the majority of studies emphasise measurable academic performance, while ethical considerations, theological validation, and character formation remain underexplored. This imbalance reveals a conceptual gap between technological efficiency and the holistic objectives of Islamic education. The study concludes that AI integration in PAI must be repositioned as a value-sensitive pedagogical instrument rather than merely a cognitive enhancement tool. Effective implementation requires ethical supervision, interpretative guidance, and alignment with Islamic educational philosophy to ensure balanced intellectual, moral, and spiritual development in the digital era..

Keywords: *Artificial Intelligence; Islamic Religious Education; Digital Learning; Value-Based Education.*

Abstrak: *Perkembangan pesat Artificial Intelligence (AI) telah membawa transformasi signifikan dalam dunia pendidikan, termasuk pada bidang Pendidikan Agama Islam (PAI). Penelitian ini bertujuan untuk menganalisis secara sistematis bukti empiris dan konseptual mengenai implementasi pembelajaran berbasis AI dalam memperkuat pemahaman nilai-nilai Islam, khususnya pada peserta didik Generasi Z di lingkungan sekolah menengah Muhammadiyah. Studi ini menggunakan pendekatan Systematic Literature Review (SLR) yang merujuk pada pedoman Kitchenham dan Charters (2007) serta kerangka PRISMA, dengan menganalisis 28 artikel peer-reviewed yang terbit pada rentang 2019–2025 dari basis data Scopus, Web of Science, Dimensions, dan Google Scholar. Hasil kajian menunjukkan bahwa pemanfaatan AI melalui sistem pembelajaran adaptif, chatbot generatif seperti ChatGPT, multimedia interaktif, serta teknologi augmented reality – secara signifikan meningkatkan capaian kognitif, keterlibatan belajar,*

dan kemampuan berpikir kritis siswa. Namun demikian, sebagian besar penelitian masih berfokus pada aspek performa akademik yang terukur, sementara dimensi etika, validasi teologis, dan pembentukan karakter belum banyak dieksplorasi secara mendalam. Ketimpangan ini menunjukkan adanya kesenjangan konseptual antara efisiensi teknologi dan tujuan holistik pendidikan Islam. Penelitian ini menegaskan bahwa integrasi AI dalam PAI perlu diposisikan sebagai instrumen pedagogis berbasis nilai yang selaras dengan filosofi pendidikan Islam, guna mendukung pengembangan intelektual, moral, dan spiritual peserta didik secara seimbang di era digital.

Kata kunci : *Artificial Intelligence; Pendidikan Agama Islam; Pembelajaran Digital; Pendidikan Berbasis Nilai.*

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Introduction

The rapid advancement of digital technology has fundamentally transformed various sectors of society, including education (Umam & Hasan, 2025). One of the most significant developments in this transformation is the emergence of Artificial Intelligence (AI) as an innovative tool in teaching and learning processes (Hakim et al., 2024). Within the framework of Artificial Intelligence in Education (AIED), AI is utilized to develop adaptive learning systems, analyze student performance data, and provide personalized feedback in real time (Zawacki-Richter et al., 2019). Conceptually, AI is not merely a technological instrument but represents a new pedagogical paradigm that shifts instruction from teacher-centered approaches toward learner-centered environments. In the context of value-based and religious education, this transformation is particularly important because learning is expected not only to transfer knowledge but also to cultivate reflective, contextual, and meaningful experiences.

Empirical studies have demonstrated that AI-based learning systems significantly enhance academic achievement, learning motivation, and student engagement. A meta-analysis published in a reputable international journal found that AI-supported adaptive learning systems consistently outperform conventional instructional methods in improving student outcomes (Chen et al., 2020). Furthermore, comprehensive research on the future of education highlights that AI has strong potential to transform educational practices through curriculum personalization, automated assessment, and the strengthening of learner agency (Ananda et al., 2025; Holmes et al., 2019). These findings suggest that AI is not simply a technological trend but a strategic instrument capable of systematically improving educational quality. For Islamic Religious Education (Pendidikan Agama Islam/PAI), this transformation is highly relevant because the internalization of

Islamic values requires dialogical, reflective, and contextual learning approaches (Cibro & Tanjung, 2024; Meriyati et al., 2025; Nabilla & Tanjung, 2023).

In the Indonesian context, the urgency of AI integration becomes more apparent when considering the characteristics of Generation Z students, who are digital natives. This generation has grown up in a highly connected digital environment and tends to prefer fast, visual, interactive, and technology-based learning experiences. However, in many schools, including Muhammadiyah senior high schools, PAI instruction still relies heavily on lecture-based and text-oriented methods (Asy'arie & Mulyadi, 2023). This pedagogical mismatch often results in limited student engagement and suboptimal internalization of Islamic values (Hasan et al., 2024, 2025). Several national studies indicate that integrating AI into Islamic education can increase student motivation, active participation, and conceptual understanding of Islamic teachings(Arif et al., 2025; Hanifaa & As'ad, 2025; Saputra et al., 2025). Nevertheless, these implementations remain partial and lack a comprehensive conceptual framework that systematically maps their pedagogical and value-based implications.

Artificial intelligence has been applied in various educational fields as an interactive and personalized learning medium. In the context of Islamic Religious Education (PAI), AI can include *chatbot applications* (e.g., ChatGPT, Gemini AI, Microsoft Copilot, etc.), adaptive learning systems, and AI-based multimedia. Highlight that AI, such as machine learning, chatbots, and augmented reality, have the potential to improve the quality of Islamic Religious Education learning by providing personalized content. and adaptive according to student needs (Andriyansyah et al., 2025; Huda & Suwahyu, 2024; Suresman et al., 2025). However, AI integration faces challenges such as technology dependency and privacy, so it is necessary Wise implementation. In an international context, Kia & Majesty (2025) stated that AI can enrich the learning experience and understanding of religious values in a more personal and interactive way (Fitriani, 2023; Kia & Majesty, 2025).

Thus, theoretical literature confirms the potential of AI to bridge the gap between modern technology and religious values. Artificial intelligence has been implemented in various forms in education. In the context of Islamic Religious Education, AI is used through chatbot applications, adaptive learning systems, interactive multimedia, and augmented reality (AR) and virtual reality (VR) technologies. These technologies are considered capable of creating content tailored to individual student needs and enabling enriched learning through contextual and relevant approaches.

Despite the growing number of studies examining the application of artificial intelligence in educational contexts, research on AI integration within Islamic Religious Education (PAI) remains fragmented. Existing studies primarily focus on

the technological potential of AI tools such as chatbots, adaptive learning platforms, and intelligent tutoring systems without systematically examining how these technologies align with the pedagogical, ethical, and epistemological foundations of Islamic education. Furthermore, previous research often reports isolated classroom implementations rather than providing a comprehensive synthesis of empirical evidence across studies.

The focus of the study includes empirical studies of research results, examples of AI applications used, obstacles to conventional Islamic Religious Education learning and AI solutions, data findings related to student achievement and behavior, and the relevance of this approach to the character of the digital generation in Indonesia.

Method

This study employed a Systematic Literature Review (SLR) design to systematically synthesize empirical and conceptual research on the implementation of Artificial Intelligence (AI) in Islamic Religious Education (PAI), particularly in relation to strengthening students' understanding of Islamic values. The review protocol followed the guidelines proposed by Kitchenham and Charters (2007) and adopted the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework to ensure transparency and replicability (Kitchenham & Charters, 2007). The literature search was conducted across four major academic databases: Scopus, Web of Science, Dimensions, and Google Scholar. The search strings combined Boolean operators and keywords such as *"Artificial Intelligence" AND "Islamic Education"*, *"AI-based PAI learning"*, *"adaptive learning in religious education"*, and *"digital Islamic values learning."* The publication timeframe was limited to 2019–2025 to capture recent developments in AI integration within educational settings.

The initial search identified 186 articles. After removing 32 duplicate records, 154 articles remained for title and abstract screening. During this stage, 89 articles were excluded due to irrelevance to Islamic education contexts or lack of empirical/conceptual focus on AI. The remaining 65 articles underwent full-text review to assess eligibility based on predefined inclusion criteria: (1) peer-reviewed journal articles indexed in Scopus or SINTA; (2) empirical or theoretical discussion of AI implementation in religious or Islamic education; (3) availability of DOI and accessible full text or abstract; and (4) clear methodological explanation. Articles were excluded if they were non-peer-reviewed publications, conference abstracts without full papers, opinion pieces, or unrelated to educational practice. After the eligibility assessment, 28 articles met all criteria and were included in the final synthesis.

Data analysis employed a thematic synthesis approach. Each selected study was systematically coded using a structured extraction matrix that included: (1) type of AI technology implemented (e.g., chatbots such as ChatGPT, adaptive learning systems, AI-based Qur'anic applications, AR/VR simulations); (2) research design and sample characteristics; (3) impact on cognitive learning outcomes; (4) influence on student motivation and character formation; and (5) identified challenges, ethical considerations, and implementation barriers. The findings were analyzed through a combined deductive–inductive strategy. Deductively, the analysis was grounded in the theoretical framework of Artificial Intelligence in Education (AIED) and Islamic educational philosophy. Inductively, patterns emerging from empirical findings were synthesized to construct an integrative conceptual framework explaining how AI-driven digitalization contributes to enhancing value-oriented PAI learning, particularly within Muhammadiyah senior high school contexts and among Generation Z learners.

Result and Discussion

Result

Quantitative Overview of Article Selection

Based on the PRISMA-guided selection process, the initial database search identified 186 articles from four major academic databases: Scopus, Web of Science, Dimensions, and Google Scholar. After removing 32 duplicate records, 154 articles remained for title and abstract screening. During this stage, 89 articles were excluded because they were not relevant to Artificial Intelligence (AI) in Islamic Religious Education (PAI), fell outside the publication range of 2019–2025, or did not address an educational context.

Subsequently, 65 full-text articles were assessed for eligibility. Of these, 37 articles were excluded due to the following reasons: non-peer-reviewed publication (n = 11), incomplete methodological reporting (n = 9), absence of DOI or inaccessible full text (n = 7), and lack of specific focus on AI implementation in PAI learning (n = 10). Ultimately, 28 articles met all inclusion criteria and were included in the final qualitative synthesis. The numerical summary of the selection process is presented in Table 1.

Table 1. PRISMA Flow Summary of Article Selection

Stage	Process	Number (n)
Identification	Records identified	186
	Duplicates removed	(32)
	Records after duplicates removed	154
Screening	Title & abstract screening	154

Stage	Process	Number (n)
Eligibility	Records excluded	(89)
	Full-text review	65
	Full-text articles excluded	(37)
Included	Studies included in the final synthesis	**28**

Across the 28 reviewed studies, three major patterns emerged. First, AI-based learning tools were consistently associated with increased student engagement and conceptual understanding, particularly in studies utilizing adaptive learning systems and AI-assisted tutoring platforms. However, several studies also reported limitations related to students' overreliance on automated feedback, which may reduce critical engagement with religious texts.

Distribution of Research Methodologies

The 28 included studies demonstrate methodological diversity in examining AI integration within Islamic Religious Education. The distribution of research designs is presented in Table 2.

Table 2. Distribution of Research Designs

Research Design	Number (n)	Percentage (%)	Representative References
Experimental / Quasi-experimental	10	35.7%	Fauzan (2025); Saputra et al. (2025)
Qualitative	7	25%	Hanifaa & As'ad (2025); Huda & Suwahyu (2024)
Mixed Methods	4	14.3%	Meriyati et al. (2025)
Descriptive / Survey	4	14.3%	Fitriani (2023); Andriyansyah et al. (2025)
Conceptual / Systematic Review	3	10.7%	Zawacki-Richter et al. (2019); Suresman et al. (2025)
Total	**28**	**100%**	

Experimental and quasi-experimental studies dominate the field, indicating a strong emphasis on measuring cognitive effectiveness. However, the presence of qualitative and mixed-methods research highlights growing attention to contextual, motivational, and value-based dimensions of AI integration.

Thematic Distribution of Findings

Thematic synthesis identified four primary research domains across the reviewed studies. The distribution is presented in Table 3.

Table 3. Thematic Distribution of Reviewed Studies

Research Focus	Number (n)	Percentage (%)	Supporting References
Cognitive learning outcomes	12	42.9%	Chen et al. (2020); Fauzan (2025)
Motivation & engagement	8	28.6%	Saputra et al. (2025); Andriyansyah et al. (2025)
Character development & value internalization	5	17.9%	Fitriani (2023); Meriyati et al. (2025)
Ethical & pedagogical issues	3	10.6%	Holmes et al. (2019); Kia & Majesty (2025)
Total	**28**	**100%**	

The findings reveal that most studies focus on cognitive achievement, positioning AI primarily as a tool for enhancing academic performance. In contrast, research on ethical considerations and character development remains comparatively limited, indicating an important research gap within the field.

Matrix of Key Reviewed Studies

To provide a clearer overview of substantive contributions, Table 4 summarizes representative studies included in the synthesis.

Table 4. Matrix of Key Studies on AI in Islamic Religious Education

Author(s)	Year	Design	AI Application	Key Findings
Zawacki-Richter et al.	2019	Systematic Review	AIED systems	AI enables personalization and adaptive feedback
Chen et al.	2020	Meta-analysis	Adaptive AI	Significant improvement in academic performance
Holmes et al.	2019	Conceptual	AI in Education	AI strengthens learner agency and personalization
Fitriani	2023	Descriptive	AI-based media	Improved conceptual and character understanding
Huda & Suwahyu	2024	Qualitative	AI & AR	Personalized learning with ethical concerns

Author(s)	Year	Design	AI Application	Key Findings
Hanifaa & As'ad	2025	Qualitative	ChatGPT in PAI	Enhanced critical and reflective thinking
Saputra et al.	2025	Experimental	AI-supported learning	Increased engagement and higher post-test scores
Meriyati et al.	2025	Mixed Methods	AI in PAI	AI offers opportunities and ethical challenges
Suresman et al.	2025	Systematic Review	Digital pesantren model	Digital transformation supports adaptive learning

Synthesis of Empirical Patterns

Overall, the synthesis demonstrates that AI integration in Islamic Religious Education positively impacts three primary dimensions: (1) conceptual understanding of Islamic values, (2) student motivation and engagement, and (3) character reinforcement when accompanied by appropriate pedagogical guidance. Experimental studies consistently report higher post-test scores in AI-supported classes compared to traditional instructional methods. Meanwhile, qualitative findings suggest that AI tools increase students' confidence, participation, and reflective engagement with religious values in daily life.

These findings indicate that AI functions not merely as a technological supplement but as an adaptive learning facilitator aligned with the characteristics of digitally native learners. However, the thematic distribution also reveals a disproportionate focus on cognitive outcomes, while ethical and value-based integration remains underexplored. This imbalance underscores the need for a more holistic conceptual framework that integrates cognitive, affective, and moral dimensions in AI-supported Islamic education.

Discussion

Repositioning AI in Islamic Religious Education: Beyond Cognitive Instrumentalism

The findings indicate that research on Artificial Intelligence (AI) in Islamic Religious Education (PAI) remains predominantly oriented toward cognitive effectiveness, as reflected in the dominance of experimental studies measuring learning outcomes. While this trend confirms that AI-based systems enhance conceptual understanding and post-test performance, it also reveals a tendency to position AI primarily as an instrumental tool for academic optimization. Such a perspective risks reducing Islamic education to measurable performance indicators, overlooking its integrative mission of cultivating moral consciousness, spiritual depth, and ethical reasoning.

This imbalance highlights a conceptual tension between technological efficiency and the holistic objectives of Islamic pedagogy. AI-driven adaptive systems are indeed capable of personalizing content delivery, providing instant feedback, and facilitating self-regulated learning. However, Islamic education is not merely concerned with knowledge acquisition (*ta'lim*), but also with character formation (*tarbiyah*) and ethical internalization (*ta'dib*). The limited proportion of studies addressing character development and ethical dimensions (17.9% and 10.6%, respectively) underscores a critical research gap: the need to reconceptualize AI not only as a cognitive enhancer but as a value-sensitive pedagogical mediator.

Motivational Enhancement and Learner Agency

Another significant finding concerns the positive impact of AI on student motivation and engagement. The reviewed studies consistently report increased participation, curiosity, and reflective interaction when AI tools such as adaptive platforms and generative chatbots are integrated into PAI classrooms. This aligns with contemporary educational theory emphasizing learner agency and active knowledge construction.

However, the discussion must move beyond descriptive affirmation toward critical interrogation. Increased engagement does not automatically translate into deeper value internalization. Motivation stimulated by novelty effects or technological attractiveness may be temporary unless embedded within meaningful pedagogical frameworks. Therefore, the sustainability of AI-driven engagement in Islamic education depends on instructional design that integrates theological reflection, contextual problem-solving, and ethical dialogue. Without such integration, AI risks becoming an entertainment-driven supplement rather than a transformative educational catalyst.

One of the most underexplored dimensions identified in this review concerns ethical and pedagogical implications. Only a small portion of the analyzed studies explicitly addressed issues such as algorithmic bias, theological accuracy, data privacy, and epistemological authority. In the context of Islamic Religious Education, these concerns are particularly significant. AI systems trained on global datasets may not always reflect contextual Islamic interpretations, potentially generating responses that require careful verification by educators.

This raises a broader epistemological question: Who holds interpretative authority when AI mediates religious knowledge? If students increasingly rely on generative AI tools for theological clarification, educators must reposition themselves not as sole information providers but as critical supervisors and ethical gatekeepers. The absence of substantial empirical studies examining this dynamic constitutes a major research gap. Future research should therefore investigate how

AI-mediated religious learning reshapes authority structures, trust formation, and critical digital literacy in Islamic education settings.

The overall synthesis suggests the necessity of an integrative framework that harmonizes cognitive, motivational, and moral dimensions within AI-supported Islamic education. The current body of literature demonstrates technological effectiveness but lacks a cohesive theoretical model linking AI implementation with Islamic educational philosophy. To address this gap, AI integration should be guided by three interrelated principles: (1) pedagogical alignment with Islamic values, (2) ethical supervision and interpretative validation, and (3) balanced development of cognitive and affective competencies.

Such a framework repositions AI from being a neutral technological artifact to becoming a pedagogically intentional instrument embedded within value-oriented educational objectives. In this regard, the contribution of the present study lies not merely in mapping existing research but in identifying structural imbalances and proposing a more holistic orientation for future scholarship.

From a research perspective, this study highlights the need for longitudinal and mixed-method investigations that examine long-term character formation outcomes rather than short-term academic gains alone. Empirical studies integrating ethical impact assessments, theological accuracy analysis, and digital literacy measures are particularly necessary to advance the field.

From a practical standpoint, educators and curriculum developers should approach AI integration cautiously yet constructively. AI should function as a complementary facilitator under human pedagogical guidance, rather than as a substitute for moral mentorship. Teacher training programs in Islamic education institutions must therefore incorporate digital ethics, AI literacy, and reflective pedagogical design to ensure responsible implementation.

Conclusion

This study systematically reviewed 28 peer-reviewed articles to examine the integration of Artificial Intelligence (AI) in Islamic Religious Education (PAI). The findings demonstrate that AI significantly enhances cognitive learning outcomes and student engagement, particularly through adaptive learning systems and generative AI tools. However, the current body of research remains predominantly instrumental, emphasizing measurable academic gains while underrepresenting ethical, theological, and character-development dimensions.

This imbalance reveals a critical research gap: the need to reposition AI not merely as a technological enhancer but as a value-sensitive pedagogical instrument aligned with the holistic objectives of Islamic education. Effective AI integration must therefore extend beyond performance optimization toward fostering moral

reasoning, reflective thinking, and responsible digital literacy under guided supervision.

By synthesizing empirical and conceptual studies, this review contributes a structured overview of methodological trends, thematic concentrations, and emerging ethical concerns. Future research should adopt longitudinal and integrative approaches to ensure that AI-driven innovation in Islamic education supports balanced intellectual, moral, and spiritual development.

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