



## AI and Digital Spirituality: The Transformation of Islamic Religious Education Learning in the Era of Disruption

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**Abstract**

The era of technological disruption has brought about significant changes in learning processes, including Islamic Religious Education. The integration of Artificial Intelligence (AI) in education not only provides easy access to learning resources but also creates a new phenomenon known as digital spirituality, a form of religious experience formed through interaction with digital media. This research aims to analyze the role of AI in transforming PAI learning and its impact on the development of students' digital spirituality. The method employed is library research using a PRISMA approach to ensure the selection, analysis, and synthesis of literature are conducted systematically and transparently. The results show that AI contributes positively through personalization of religious learning, virtual spiritual mentoring, expanded access to Islamic knowledge sources, and strengthening digital religious practices. However, on the other hand, AI also potentially weakens spiritual dimensions through risks of fragmentation of religious narratives, reduction of contemplative depth, decreased teacher-student interaction, and the emergence of a hybrid Islamic phenomenon that is not entirely coherent with Islamic traditional values. This research confirms that optimizing AI in PAI learning must be accompanied by ethical policies, religious digital literacy, and teacher mentoring to ensure that the formation of digital spirituality remains within the corridor of authentic Islamic values. Thus, AI integration can become a strategic opportunity to build a generation of digitally intelligent, critically-minded, and spiritually strong Muslims in the era of disruption.

**Keywords:**

Artificial Intelligence; Islamic Religious Education; Learning Media; Digital Spirituality; Era of Disruption.

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**A. INTRODUCTION**

The era of technological disruption has brought about fundamental changes in various aspects of life, including in the field of education. The presence of Artificial Intelligence (AI) as one manifestation of cutting-edge technological development has entered learning spaces and offers new models of interaction between students, educators, and sources of knowledge. In the context of Islamic Religious Education, AI is not merely viewed as a technical instrument to facilitate learning access (Adedo et al., 2024), but also brings far more complex implications regarding the process of value internalization, character formation, and spiritual development of students (Cahyanto et al., 2024).

This transformation raises fundamental questions about how Islamic religious values and spirituality can be preserved, developed, and deeply internalized amid the penetration of artificial intelligence in the educational process. The emergence of digital spirituality, the practice of religiosity that develops through interaction with digital media, has become a new reality that cannot be avoided by today's generation of students (Campbell & Tsuria, 2021)

Digital disruption represents a condition in which innovation and change occur on a large scale and are fundamentally transformative (Gunawan et al., 2022). Phenomena such as the internet, artificial intelligence, platforms, and big data have brought significant changes, including in education and teaching. As a system with a long tradition, Islamic Education certainly requires adaptation to the various challenges presented in this new reality (Fahmi Aziza, 2024).

Students increasingly obtain religious knowledge, spiritual guidance, and even spiritual inspiration through applications, social media, and AI-based platforms. Artificial Intelligence (AI), also known as machine intelligence, has become one of the technological products that now dominates various aspects of human life. AI is one of the technological advances that has a significant impact on various aspects of human life (Cahyanto et al., 2024; Pramana et al., 2023).

The presence of AI brings convenience and new possibilities. As a tool, AI becomes both a medium and method in contemporary learning. Sholehah and Rachman (2023) revealed that the integration of AI in Islamic education can strengthen understanding of religion and moral values if utilized optimally. These research results suggest that the positive impacts of AI include the ability to foster spirituality in individuals through various conveniences provided.

However, this condition presents both opportunities and challenges simultaneously. Policies regarding the use of AI in Islamic Religious Education learning are important to achieve the main goal, namely, the implementation of Islamic teachings in one's life without losing moral and spiritual (Noor et al., 2025). On one hand, AI can enrich religious learning experiences through personal, interactive, and adaptive material presentation. On the other hand, dependence on technology and the development of instant culture potentially shift the spiritual development process that has traditionally emphasized depth, contemplation, and direct guidance from the teacher as a central figure in Islamic education.

The change in the learning ecosystem due to AI development demands a reconstruction of the paradigm of Islamic Religious Education. As a manifestation of Islamic teachings, Islamic Religious Education is a key subject that plays an important role in shaping students' spirituality. It encompasses not only how to believe in monotheism but also helping students develop good character and pursue knowledge. The integration of Islamic values and morality in life becomes the main goal outlined in the teaching of the Qur'an, Islamic Creed (Aqidah), Hadith, Islamic Jurisprudence (Fiqh), and Islamic History (Rahmasari et al., 2024).

Islamic Religious Education can no longer be understood merely as a process of transferring religious knowledge but must also play a role in directing students to build critical, reflective spiritual awareness that aligns with Islamic values while being able to adapt to digital reality. Thus, the transformation of PAI learning in the era of disruption is not enough to merely utilize AI as a medium or pedagogical innovation, but needs to examine how AI can play a role in shaping students' digital spirituality, to what extent AI influences the quality of their religious experience, and how educators can ensure that the process of spiritual development remains intact.

Prior research on AI in PAI generally has focused on technical and methodological aspects of learning, while the spiritual dimension as the core of Islamic education has not received significant attention. Therefore, this research is important to deeply examine how the use of AI in Islamic Religious Education learning can provide transformative impact not only on cognitive aspects but also on strengthening faith, character development, and the digital spirituality of students.

## **B. METHODS**

This research employs the library research method, which involves systematic collection and analysis of data from various literatures such as books, journal articles, research reports, and academic documents relevant to the keywords artificial intelligence, Islamic Religious Education (PAI), and digital spirituality. This method was chosen to deeply understand various perspectives, theories, and findings from previous research in the context of Islamic religious education in the digital era (Basri, 2023; N. P. Sari, 2021).

The approach used for literature review is PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). PRISMA helps improve the transparency of the process of

identifying, selecting, and synthesizing literature used in research. The process encompasses several main stages, namely (1) Identification through literature search conducted via leading scientific databases (Google Scholar and ResearchGate), which contain relevant content using three keywords: Artificial Intelligence in Islamic Religious Education, Digital Spirituality of students, and Learning Transformation in the Era of Disruption. (2) Selection, where identified literature is screened using inclusion criteria such as topic relevance, currency of publication, and publication quality. Exclusion criteria include irrelevant literature, duplication, and non-scientific publications. (3) Eligibility Assessment, where selected literature is further analyzed based on abstract and full content to ensure quality and appropriateness with research objectives. (4) Data Analysis, where sources that pass selection are analyzed using content analysis or thematic analysis approaches to obtain synthesis of findings from various perspectives. (5) Findings Report, where all stages are systematically documented and results are presented in scientific narrative form and literature selection flowcharts as recommended by PRISMA guidelines (Moher et al., 2009).

The use of library research method with PRISMA approach in this research aims to ensure that the process of information collection and analysis proceeds systematically, transparently, and can be replicated. This supports the integrity of research findings and strengthens the theoretical foundation of research concerning the utilization of AI in Islamic Religious Education learning and its impact on students' digital spirituality.

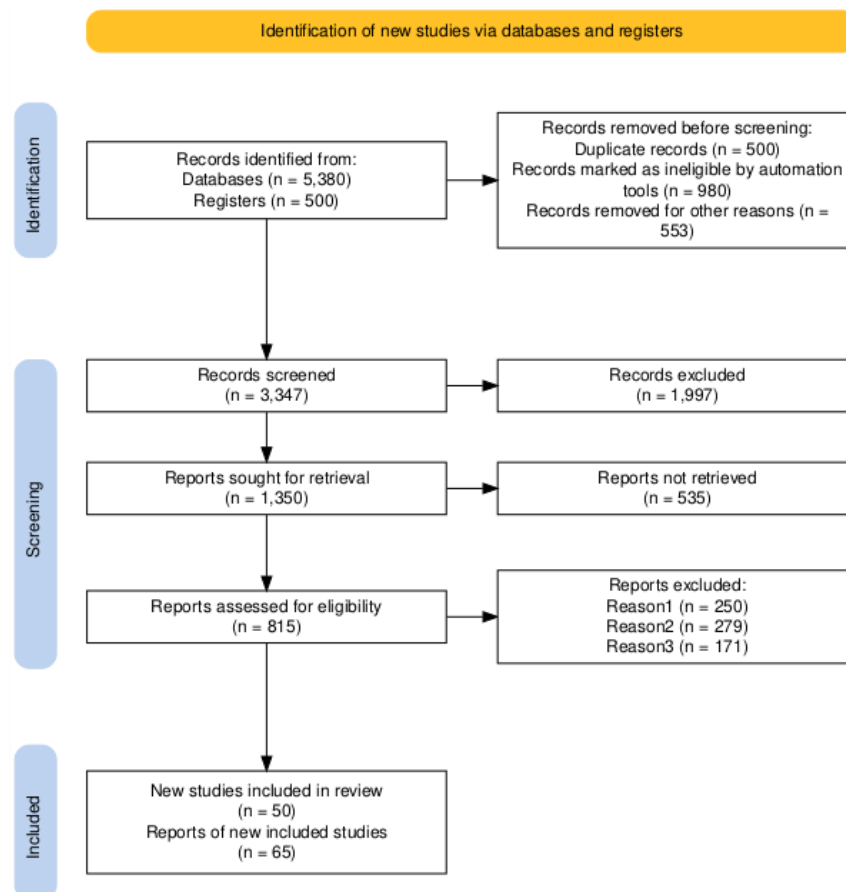


Table 1. PRISMA Table

### C. RESULT & DISCUSSION

## **The Concept of AI and Its Relation to Islamic Education**

Technological advancement brings broad impacts across various life sectors, including the educational field, which experiences quite significant changes. Among numerous technologies, Artificial Intelligence (AI) stands as one technological advancement that will provide both opportunities and challenges to Islamic Education itself.

Artificial intelligence presents a major opportunity for both students and educators in providing a contemporary learning environment that is more engaging and innovative in designing learning plans. AI plays quite a substantial role in education in assisting students' learning processes.

AI, commonly known as artificial intelligence, is a computer technology system that has been programmed with intelligent behaviour, thereby possessing communication capabilities similar to ordinary humans. AI itself is considered a branch of computer science that focuses on developing systems and machines to perform general tasks similar to how humans accomplish them (Ramadhan, 2022).

Thus, artificial intelligence can be understood as a system of capabilities possessed by machines as an effort to complete tasks based on previous learning and experience by imitating or employing intellectual abilities similar to humans in general to solve problems, provide reasoning, and understand language.

As a digital innovation, AI naturally receives varied responses, ranging from viewing it as an opportunity to considering it as a threat to human survival, which would gradually be replaced by machines. Thus emerged the Call for an AI Ethics as an effort to ensure that various forms of technological advancement that will arrive in the future will provide support to humanity rather than displace and replace human roles.

Some key principles contained in this document include: (a) Transparency means that AI systems need to have a level of clarity allowing users to understand how they work. (b) Inclusivity requires that the needs of all people be considered so that every individual can obtain fair benefits and have space to develop and express themselves. (c) Responsibility is an important principle for AI designers and users to always act ethically, transparently, and responsibly for the impacts created. (d) Impartiality emphasizes that AI systems must be free from bias to maintain justice and human values. (e) Reliability requires AI to function consistently and be trustworthy. (f) Security and privacy assert that AI systems must operate safely and protect user data confidentiality (Rome Call for AI Ethics, 2020).

As a technology that appears subsequently, it is quite possible that AI will intersect with sacred texts that serve as guidelines for religious adherents. AI's expertise in processing substantial information does not preclude the possibility of processing information related to religious interpretation and providing spiritual guidance. The presence of AI can open other opportunities for enhancing the spirituality of religious adherents, though it also cannot be ruled out that it may generate various negative speculations about this new technological development.

Being a religion with openness to various developments, Islam certainly continuously encourages its followers to continuously seek knowledge from its legal sources—the Quran and Hadith. The development of religious knowledge in the present time focuses not only on religious aspects but also encompasses progress in science and technology that continues to evolve with the pace of the digital age. Islam, as a religion open to advancement, has never been a barrier to the development of civilization or the creation of various innovations across different life sectors.

Rather, Islamic teachings encourage that innovation results bring broad benefits to humanity, whether in terms of spirituality, social welfare, or material prosperity. In the process of improving human quality of life, religion plays an important role as a moral guide that emphasizes the importance of upholding universal ethical values to maintain human dignity and life sustainability. One concrete manifestation of modern civilization's advancement is the emergence of artificial intelligence (AI), a technological breakthrough reflecting humanity's ability to create and develop intelligent systems in the current digital era.

Artificial Intelligence is also expected to have quite significant implications for Islamic Education itself. Some potential outcomes include: (1) Helping make religion an accessible belief

for all segments through AI-based online learning platforms, providing widespread access to Islamic education that certainly facilitates users. (2) AI offers more personalized learning, allowing students and the general public to independently plan their learning by adjusting it based on individual needs and religious knowledge levels. (3) Although presenting various positive possibilities, ethical oversight must still be conducted so that searches remain within Islamic parameters. (4) AI can help understand sacred texts that may still be difficult to translate. (5) With processing development across various languages, AI can assist scholars in understanding Arabic as the primary language of Islamic teachings and in Islamic Religious Education (A. K. Sari et al., 2024)

The utilization of AI for understanding Islam will certainly be a challenge providing significant benefits (Thohir et al., 2023), though it must go through several stages from planning to management conducted wisely to ensure the technology supports the implementation and understanding of religion maximally. The paradigm of education involves significant change in individuals from a state of not knowing to understanding.

### **Digital Spirituality**

Spirituality is understood as spirit or soul, derived from the Hebrew language word "ruach." This meaning provides broad understanding, including breath and wind. Spirit can be defined as something that provides energy and life to believers. Spirituality becomes the outer fortress of individuals in their real lives, through which they can be protected from negative things that could disturb their faith. In the digital era, self-control becomes an extremely important part of individuals' lives at present; through spirituality becomes the fortress in guiding toward better spiritual life. Spirituality becomes a necessity for individuals (Dionisius Barai Putra & Firmanto, 2023).

In the digital context, spirituality is not the same as formal religious activities. In this concept, spirituality refers to a spiritual dimension of humanity that is related to meaning, life purpose, peace, and relationship with the transcendent. Nevertheless, the approach to spirituality in digital spaces is not free from various challenges. One such challenge is the commodification of spirituality, where spiritual values are wrapped in content merely to meet algorithmic popularity demands for welfare reinforcement (Nurlaili et al., 2025).

Digital advancement provides quite high dominance in providing spiritual experience. Major transformation in understanding and practicing spirituality increasingly develops through social media and educational applications integrated with religious content and technology. As social reality, individuals in the present era tend to spend considerable time browsing the digital world, which would potentially divert attention from spirituality aspects. Nevertheless, other research shows that technology use in education can also provide learning convenience, and this must be balanced with spiritual values (Sufyan & Ghofur, 2022).

The existence of digital resources enables easier access to religious knowledge; however, it also carries risks of causing shifts in how spirituality is viewed. Therefore, balance is necessary to strengthen spirituality that can promote religious character reinforcement. Research conducted by Arrazin and Surawan (2025) shows that the majority of respondents view technology as a supporting means for spirituality. Some platforms like online lectures, worship applications, and digital preaching exist. Nevertheless, some challenges are emerging, such as time management, digital distraction, and inconsistency in filtering religious content.

The phenomenon of digital spirituality can be analyzed through the perspective of the mediatization of religion theory advanced by Stig Hjarvard (2008). This theory explains that modern media not only serve as channels for religious communication but also shape how individuals experience, understand, and express religious values. In this context, Islamic applications, preaching social media, and religious chatbots represent new forms of spiritual mediation that enable students to build religious relationships through digital space. Thus, spirituality is no longer confined to physical worship spaces but also develops through symbolic and algorithmic interaction generated by digital technology. This process reflects a paradigm shift

in religiosity from ritualistic forms toward more personal, flexible, and digital-experience-based forms.

Additionally, the concept of digital religion developed by Heidi Campbell is also relevant in understanding this phenomenon. Campbell, in Saputra et al. (2022), asserts that digital space has become a new arena for forming religious identity and community, where spiritual practices can occur virtually yet remain meaningful for individuals practicing them. In the student context, interaction with digital religious content can cultivate a sense of connection to Islamic values even without always involving direct guidance from teachers or formal institutions. However, if not properly directed, this situation can produce shallow religiosity because spiritual experience is constructed through algorithms that emphasize speed and convenience over contemplation and deep meaning-making.

From the perspective of Islamic education theory, the digital spirituality phenomenon can also be examined through the concept of tarbiyah ruhaniyah—a process of spiritual nurturing emphasizing balance among knowledge, faith, and practice. In this view, technology is merely a means (wasilah), not an end (ghayah). Therefore, AI-based religious learning must be directed toward strengthening students' transcendental awareness rather than merely facilitating the consumption of instant religious information. Integration between tarbiyah ruhaniyah and digital technology becomes both a challenge and opportunity for modern Islamic education: how to present innovation without losing the substance of spirituality that forms the core of PAI itself (Alfarisi & Hanifudin, 2025; Fauzan & Gusmaneli, 2025; Jihad et al., 2025).

Thus, this theoretical analysis demonstrates that digital spirituality is a complex phenomenon at the intersection of technology, religiosity, and pedagogy. AI and digital media have potential to expand the reach of Islamic preaching and learning but can also shift spiritual meaning if not accompanied by value guidance, critical reflection, and deepening of religious teachings. Therefore, a holistic theoretical approach that combines perspectives from communication, theology, and Islamic education is necessary to understand and direct the development of digital spirituality so it remains aligned with authentic Islamic values.

### **The Role of AI in Building Digital Spirituality Through Islamic Religious Education Learning**

Artificial Intelligence (AI) has marked a significant turning point in Islamic religious education, particularly in forming students' digital spirituality. With its ability to process and adapt learning materials, AI brings personalized learning experiences so that each student can deepen Islamic values according to their learning speed and style. This personalization increases student engagement and spiritual sensitivity by providing learning pathways more relevant and contextual to individual needs (Rahmah et al., 2025; A. K. Sari et al., 2024).

Muhammad Iqbal (2024) discusses the "Techno-Spiritual Paradigm." In his work, he expresses that this paradigm begins from the premise that technology, especially AI, is not an entity separate from Islamic spirituality. Rather, the presence of technology becomes a manifestation for accessing intellectual potential more broadly as part of God's blessing to humans as His vicegerents on earth. As stated by Allah the Almighty:

وَسَخَّرَ لَكُمْ مَّا فِي السَّمَوَاتِ وَمَا فِي الْأَرْضِ جَمِيعًا مِنْهُ ۗ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَتَفَكَّرُونَ ١٣

*"He 'also' subjected for you whatever is in the heavens and whatever is on the earth—all by His grace. Surely in this are signs for people who reflect." QS Al-Jatsiyah:13*

This verse is often interpreted as a manifestation of the concept of 'taskhir'—the concept of empowerment of the universe that Allah has given to humans for use in meeting needs and worshiping Allah. This includes intellect used for the benefit of humanity. AI development can be understood as a form of worship to the Almighty as long as it is done with correct intentions and

righteous purposes as Islam has outlined. However, within this paradigm emerges other potential risks, where misused technology likely generates dangers to human and Islamic values. The Techno-Spiritual Paradigm becomes one urgent necessity for immediate implementation as an effort to save Islam in the future (Iqbal, 2024).

The interaction between AI and Islam provides a new path in developing dynamic Islamic intellectual development within Islamic thought tradition. Digital integration in Muslim life is not merely about adopting new technology; rather, it is far more about utilizing and enhancing the quality of worship and overall spiritual life. Not only adaptation but also significant contribution to shaping the ethical landscape of technology in the future.

Muslim spirituality in the technological era is built largely on what appears on digital feeds. George Herbert Mead's Symbolic Interaction Theory demonstrates that an individual's spirituality can be understood based on the results of social interaction between individuals and religious symbols they encounter in digital media. This creates a shift in religious meaning from normative and institutional toward personal and symbolic. In the digital era, individuals learn religion not only from sacred texts like the Quran and Hadith or other sources but more from visual religious symbols appearing in digital visual media such as preaching quotes, Muslim influencers, and others, thus producing a new paradigm in self-formation that adjusts to others' perceptions or what is known as the generalized other within a digital framework (Rohia et al., 2025).

One of the primary objectives in Islamic Religious Education is to internalize Islamic teaching values into students so they become life guidelines underpinning each student's actions. The integration of AI in PAI learning provides quite significant impact. Through various conveniences provided, AI is capable of building the spiritual dimension through digital spaces it presents. Several aspects visible from AI utilization in PAI learning and its connection to spirituality internalization through digital spaces include:

**a. Spiritual Learning Personalization**

AI enables learning materials and spiritual experiences to be customized individually, so students can strengthen their religious understanding and practices according to their needs and personal comprehension levels. Furthermore, AI enables development of interactive learning media based on chatbots and virtual assistants that can provide spiritual guidance directly, anytime, and without time limitations. This facility helps students conduct reflection and discussion regarding Islamic values while answering questions they might hesitate to ask directly. Such digital interaction strengthens spiritual consciousness and cultivates emotional closeness to religious teachings (Hakim & Anggraini, 2023; Rozaanah, 2024).

**b. Virtual Interaction and Spiritual Guidance**

The use of AI-based chatbots and virtual assistants provides timeless spiritual guidance, helping students ask questions, discuss, and receive guidance on Islamic values interactively and without time constraints. AI also expands student access to digital religious knowledge sources, so they are no longer limited to conventional print or face-to-face sources. Through AI tools capable of integrating Quranic interpretation, hadith, and religious literature, students can explore and understand religious teachings in more engaging and interactive ways. This encourages more independent and deeper spiritual development (Hamruni & Suwartini, 2025; Suryadi Nasution, 2025).

Additionally, AI helps students overcome spiritual dilemmas and guide moral decision-making based on Islamic values. However, this positive impact of AI must be balanced with careful ethical approaches. Researchers emphasize the need for content oversight and AI implementation so that religious values conveyed remain authentic, undistorted by overly mechanical or shallow digital approaches. Collaboration among educators, religious scholars, and technology developers is essential to ensure quality of resulting digital spirituality (Mahbuddin, 2020; Suwahyu, 2025)

**c. Open Access to Digital Religious Knowledge Sources**

AI facilitates integration of various religious references such as digital Quran, hadith, interpretation, and other Islamic literature that students can access easily, thus broadening spiritual vision and depth. The big data managed by AI enables in-depth evaluation of student spiritual development both quantitatively and qualitatively. Through analysis of learning patterns and student responses, AI can identify spiritual areas needing reinforcement and dynamically adjust learning strategies. This model ensures that digital spiritual development is more measurable and sustainable (Rahmah et al., 2025)

**d. Data-Based Spiritual Evaluation and Development**

With sophisticated data analysis, AI can measure student spiritual development, identify weaknesses, and provide targeted and measurable learning recommendations. Additionally, AI can facilitate consistent digital worship practices, such as prayer time reminders, worship tracking, and prayer guidance through smart applications. These features not only enhance worship discipline but also instill the values of supplication and remembrance as spiritual rituals integral to students' daily lives. With digital support, spirituality becomes more structured and integrated into students' routines (Mahbuddin, 2020; Suwahyu, 2025)

**e. Strengthening Digital Worship Practices**

Prayer time reminder features, prayer guidance, and automated worship activity tracking help students build spiritual discipline and internalize worship in daily activities. AI supports the formation of virtual spiritual communities connecting students with discussion groups and online religious activities. These communities function as spaces for sharing experiences, motivation, and spiritual values reinforced in social contexts, though physically separated. This social dimension is crucial in maintaining students' spiritual continuity in the digital world (Rahmah et al., 2025; Rozaanah, 2024)

**f. Adaptive and Contextual Curriculum Design**

AI facilitates the creation of learning curricula that integrate technology and traditional Islamic values in balance and according to contemporary context. Concluding, AI plays an important role as a facilitator and catalyst in building students' digital spirituality through Islamic Religious Education learning. However, the success of this transformation greatly depends on ethical consciousness, content integrity, and collaborative synergy between technology and deep religious values. This holistic approach promises a generation of digitally-aware Muslims who are not only technologically intelligent but also spiritually rich (Rahmah et al., 2025).

**Impact of AI on Digital Spirituality in Islamic Religious Education Learning Transformation**

Digital transformation has become an unavoidable phenomenon in the education world, including Islamic Religious Education. The presence of Artificial Intelligence (AI) in the Islamic education ecosystem brings fundamental change in how students interact with religious knowledge, interact with one another, and develop their spiritual lives. However, this AI presence does not always produce positive results. There are encouraging aspects of renewal, but there are also profound concerns about how this technology might alter the meaning and depth of Islam's spirituality in digital context.

Digital spirituality from Islamic Religious Education perspective is not merely about accessing religious content through smartphone or computer screens. Beyond that, digital spirituality refers to students' ability to integrate Islamic spiritual values into their digital lives, build authentic relationships with Islamic teachings amid torrents of information, and develop spiritual independence unshaken by algorithms or digital trends. The question that emerges is: does AI truly support healthy digital spirituality development, or does it create superficial spirituality easily swayed?

As a technology, AI in Islamic Religious Education transformation will provide several opportunities and challenges or positive and negative impacts particularly concerning digital

spirituality development. Several forms of positive impacts felt with AI's presence in PAI transformation and its connection to building spirituality in the digital realm include:

**1. Enhanced Authenticity of Religious Content Accessibility**

One of AI's most tangible benefits is opening access to high-quality Islamic knowledge previously available only to certain groups. Students in remote areas, who previously could only rely on local teachers with limited knowledge, can now access Quranic interpretation from renowned scholars, complete hadith with advanced search systems, and digitized classical Islamic literature. This means Islamic religious education quality is no longer determined by geographic location. AI-based digital platforms enable asynchronous learning where students learn whenever and wherever comfortable. This aligns with Islamic values about *thalabul 'ilm* (continuous journey in seeking knowledge) without temporal or spatial limitations. Students can contemplate religious material more deeply without feeling rushed by rigid class schedules.

Research conducted by Zuhriyeh (2025) demonstrates that digital transformation in Islamic Religious Education cannot be done arbitrarily. To achieve optimal results, learning modules utilizing artificial intelligence technology must develop five important components systematically. These five components are specifically designed to achieve several primary objectives: first, enhance students' ability to utilize digital literacy with strong religious perspective; second, increase students' intrinsic motivation in learning religion; third, develop students' critical and analytical thinking at higher levels; and fourth, ensure access to high-quality Islamic knowledge becomes more open and easily accessible to all student groups.

**2. Enhanced Motivation and Learning Engagement**

AI, particularly through gamification and adaptive learning technology, has proven to increase students' intrinsic motivation for learning Islamic religion. Gamification transforms learning from boring activity into engaging and interactive experience. Students can collect points, earn badges, and engage in healthy competition with peers in mastering religious material.

This engagement increase is important because engaging learning creates strong foundation for spiritual value internalization. When students are motivated and entertained, they are more likely to deeply reflect on the spiritual meaning of what they learn and connect it to daily life. For example, learning applications using gamification for hadith memorization have shown memory improvement up to 45%, a remarkable achievement in education (Suryana et al., 2025b)

**3. Personalization of Digital Spiritual Experience**

Each student is a unique individual with different spiritual needs, learning styles, and backgrounds. AI enables personalized learning where systems learn from behavior patterns and preferences of each student then automatically adapt learning content. Students more interested in practical aspects can focus on jurisprudence and living according to Islamic law, while those interested in spiritual dimensions can receive more focus on Islamic mysticism and belief. This personalization is important because it allows students to develop authentic and context-relevant digital spirituality, not uniformly or top-down imposed spirituality. This reflects Islamic principles about *ijtihad* and contextualization in understanding religion (Rosyidah et al., 2025).

**4. Formation of Collaboration and Digital Islamic Brotherhood**

AI has facilitated development of a global learning community connecting students from various countries and cultural backgrounds. Digital platforms enable Indonesian students to directly discuss complex religious issues with students from Egypt, Saudi Arabia, or other Muslim countries. This creates a new dimension in collaborative learning aligned with Islamic values about *ukhuwah islami* (Islamic brotherhood) (Nugroho & Astutik, 2024; Suryana et al., 2025b).

During the COVID-19 pandemic, platforms like Zoom and Microsoft Teams supported by AI technology enabled cross-border dialogue among Islamic boarding

schools for bahtsul masail (Islamic jurisprudential discussions) previously difficult due to geographic barriers. Students directly experienced how scholars from various world regions jointly sought solutions to contemporary religious problems, providing them rich and meaningful learning experiences.

Meanwhile, as technological and communication development occurs, the presence of AI also brings less appropriate or more negative impacts on digital spirituality. Several negative impacts felt include:

**a. Fragmentation of Spiritual Narratives and Theological Oversimplification**

Contemporary students face unique challenges in building coherent religious understanding. When they are exposed to various Islamic information sources from different AI platforms, they frequently receive conflicting perspectives without consistent guidance from trusted religious authority. Consequently, students tend to take important elements from various sources without understanding overall context or systematic relationships connecting Islamic concepts.

This problem is further worsened by AI's inherent characteristic of tending to simplify complex theology concepts into algorithmically digestible forms. This simplification process results in shallow Islamic understanding where important nuances and historical context are lost in the digital transformation. A student might perfectly repeat a concept's definition yet not understand the deep philosophy behind it or how to apply it in complex situations full of ambiguity.

AI creates emotional distance and fragmentation in students' spiritual narratives while simultaneously simplifying theological concepts that should be studied deeply. Students experience what is called "hybrid Islam," where they integrate technological logic with Islamic values in ways not always coherent. Teachers even experience polarization between those accepting technological change and those rejecting it. Spirituality in Islamic Religious Education context is no longer understood as a static entity limited to rituals and doctrine but moves in a space shaken between humanity and artificial intelligence, an encounter that erases authentic spiritual experience (Sholihah, 2025).

**b. Reduction in Quality of Khushoo' (Spiritual Devotion) and Spiritual Depth**

Khushoo', a fundamental Islamic term referring to true devotion, profound spiritual concentration, and genuine engagement in worship, is significantly affected. When students learn about the Quran through AI applications, they unconsciously shift focus from spiritual dimension to purely technical aspects. They become concentrated on reading speed, number of verses successfully read daily, or quiz scores achieved rather than experiencing deep spiritual concentration on the meaning and wisdom of verses.

The difference between intellectually understanding prayer meaning and truly feeling it in one's heart is profoundly significant. A student can perfectly use AI translation to translate every word in prayer recitation, but if they don't spiritually and emotionally embrace this meaning deeply, their prayer becomes mere mechanical movement losing its soul and essence.

Although AI can support knowledge and technical skill aspects, this technology cannot replace educators' role in forming student character and spiritual consciousness. Rather, some tendency toward students focusing on technical efficiency rather than genuine spiritual development is found.

This limitation is particularly evident in Quranic and Hadith learning contexts where text comprehension must be accompanied by deep spiritual contemplation, authentic personal reflection, and integration of Islamic values into students' daily lives. AI is not fully capable of developing spiritual practices like khushoo' (devotional focus) in prayer, full contemplative engagement with Quranic verses, and transformation of religious knowledge into genuinely lived spiritual practice (Kahfi et al., 2025).

**c. Reduction in Human Interaction and Relational Dimension of Spirituality**

In classical Islamic tradition, religious learning concerned not only knowledge transmission but also transmission of spiritual and moral values through strong personal relationships between teacher and student. A teacher's role transcends mere information transmission, teachers are exemplars of virtue (*uswah hasanah*), spiritual guides (*murabbi*), and mentors in students' spiritual journey. This relational significance is profound because students learn not only from what teachers say but also how teachers live and apply Islamic values in genuine daily life context.

When learning becomes overly dependent on digital platforms and AI mediation, this deep relational connection significantly diminishes. Students receive information yet lose opportunity to experience direct example from a teacher fully committed to spiritual values. Emotional interaction, genuine empathy, and personal touches that form integral parts of spiritual learning become neglected in digital ecosystems.

Research shows that excessive AI dependence can cause reduced meaningful interaction between teachers and students, which is central to holistic Islamic Religious Education approaches. The teacher's role as moral and spiritual guide can significantly reduce if AI systems are not implemented with careful and thoughtful consideration. In Islamic education context, teacher role is not merely information transmission but also living moral example, spiritual mentor, and guide in students' spiritual journey. When learning occurs primarily through digital platforms and AI intervention, the relational and emotional dimensions of religious education become reduced, potentially causing decreased internalization of religious values at deeper meaningful levels (Suryana et al., 2025b)

**d. Risk of "Religious Hybridity" and Spiritual Value Inconsistency**

The concept of "hybrid Islam" refers to the complex phenomenon where students integrate technological logic with Islamic values in ways not always coherent or consistent (Suryadi Nasution, 2025). For concrete example, a student can quickly find fatwa answers on an issue through AI systems, but these answers may originate from different Islamic schools of thought the student doesn't understand why differences exist or how to choose solutions most suitable to their specific life context (Mainuddin et al., 2025).

This situation creates conditions where students possess broad yet unstructured religious knowledge, understanding many things yet lacking consistent framework for integrating all knowledge into holistic spiritual life (Razak, 2025). Consequently, student spirituality becomes fragmentary and easily shaken by various external influences coming from constantly changing algorithms.

Research by Nasution et al. (2025) shows students experience hybrid Islam, integrating technological logic with Islamic values possibly incoherently or inconsistently with traditional Islamic pedagogy. This phenomenon demonstrates AI is not merely passive tool in Islamic Religious Education; rather, AI is active actor shaping students' religious subjectivity. AI expands students' religious understanding scope yet narrows their perspective in ways not always realized. Spirituality emerging from human-AI interaction may be more rational and measurable yet sacrifices genuine emotional and transcendental richness characterizing authentic Islamic spirituality.

**e. Potential Reduction in Spirituality in Worship Practice**

Excessive reliance on technology in daily worship can reduce spiritual quality of worship itself. When students always depend on mobile applications for prayer time reminders, accurate direction indicators for prayer, or prayer translation and guidance, they might lose opportunity to develop deep internal spiritual consciousness. They become technologically dependent for worship execution rather than developing personal spiritual discipline and consistent awareness of God's presence in all life aspects (Mubarak, 2025; Nurhabibah et al., 2025).

Additionally, digital technology increases accessibility and efficiency in worship execution, particularly in areas with limited formal education access; however, real risk

exists that spiritual quality in worship can significantly reduce if technology is not used with proper wisdom. This creates paradoxical situation where technology originally designed to support spirituality actually erodes the deep spiritual meaning of traditional practices (Kahfi et al., 2025). Therefore, balanced and wise technology use is necessary to ensure its benefits are fully realized without diminishing essential spiritual values in worship.

**f. Technological Dependence and Loss of Spiritual Independence**

One fundamental principle in Islamic spirituality is independence in spiritual thinking and acting. Muslims are expected to make moral and spiritual decisions based on personal understanding of Islamic teachings rather than merely following AI recommendations. However, when students become accustomed to relying on AI for instant answers to religious questions they encounter, they can lose valuable opportunity to develop their own spiritual reasoning abilities (Berliana et al., 2025; Kahfi et al., 2025; Suryana et al., 2025a).

Consequence of this condition is loss of *taklif syar'i* (individual spiritual responsibility) and decreased sense of personal accountability for moral and spiritual decisions (Nasution et al., 2025). Students gradually transform into passive consumers of AI-generated content rather than becoming active agents who critically evaluate and integrate religious information into their authentic spiritual lives (Rosyidah et al., 2025)

Excessive AI dependence negatively impacts students' critical thinking ability and spiritual autonomy because they frequently accept without question instant solutions provided by this technology without deeper reflection or critical evaluation. This spiritual dependence phenomenon raises significant concerns because Islamic spirituality emphasizes individual accountability and personal agency in moral decision-making. When AI becomes primary spirituality mediator, students can lose opportunities to develop their own spiritual reasoning abilities and sharpen mature and independent moral judgment (Berliana et al., 2025; Mubarak, 2025; Nasution et al., 2025)

The presence of AI sufficiently raises caution, particularly for educators. Among these is the risk of emergence of religiously untested religious content, becoming one of the most serious challenges in AI utilization for Islamic Religious Education. Because functioning based on data patterns rather than scholarly authority, AI potentially generates information appearing accurate yet misaligned with Islamic creed, jurisprudence, or ethics principles, thus producing interpretive errors and religious understanding deviations. Numerous studies show that without reinforcement of godly values and adequate ethical frameworks, AI use can impact weakening of morals, spiritual independence, and personal relationships between teachers and students (Sholihah, 2025)

The mismatch between AI and Islamic core values increasingly likely occurs if technology integration is not based on Sharia-guided frameworks. Therefore, various studies affirm the necessity of specific strategies ensuring AI-based learning systems remain grounded in Islamic values through integration of Islamic frameworks or development of technology oriented toward religious ethics (Kahfi et al., 2025)

From post-humanist perspective, AI is understood as active actor shaping students' religious subjectivity rather than merely technical tool. AI possesses ability to expand religious vision yet simultaneously narrow it through algorithmic interaction patterns not always recognized by students. Consequence is spirituality form resulting from human-AI interaction tends more rational and measurable yet loses emotional depth and transcendental dimension long characterizing authentic Islamic spirituality. These findings show Islamic Religious Education in artificial intelligence era faces not merely technical issues but profound identity crisis regarding how to form Muslims spiritually mature amid increasingly dominant algorithmic mediation (Nasution et al., 2025).

**D. CONCLUSION**

Digital transformation through Artificial Intelligence (AI) development has brought profound change in Islamic Religious Education learning ecosystem. Based on literature analysis results, it can be concluded that AI possesses great potential to enrich religious learning experiences while forming students' digital spirituality in more personal, adaptive, and contextual ways. AI facilitates open access to Islamic knowledge sources, provides AI-based spiritual chatbot guidance, strengthens learning motivation through gamification, and assists educators in designing curricula more responsive to contemporary needs. Thus, AI serves as important catalyst in expanding Islamic education reach.

However, this research also reveals serious challenges requiring anticipation. The emergence of hybrid Islam phenomenon, theological understanding fragmentation, and spiritual depth reduction become real risks when students become overly technologically dependent. AI tends to oversimplify religious concepts that should be understood deeply, potentially causing shallow and instant spiritual experiences. Additionally, reduced teacher role in spiritual guidance functions and potential algorithmic dependence for religious decision-making threaten student spiritual autonomy.

Therefore, AI integration in PAI learning must be conducted wisely, purposefully, and based on ethical principles and Islamic values. AI must be positioned as means (*wasilah*), not replacement for teachers' spiritual guidance role. Religious digital literacy strengthening, content oversight, and collaboration among educators, religious scholars, and technology developers become essential conditions ensuring PAI learning transformation maintains authenticity of values and Islamic spiritual depth. Ultimately, appropriate AI utilization will enable emergence of a generation of digitally-aware Muslims who are not only adaptive to technology but also possess firm, reflective spirituality aligned with Islamic teachings.

## REFERENCES

- Adedo, E., Deriwanto, D., & others. (2024). *Perkembangan Media Digital Dan Pemanfaatannya Dalam Pembelajaran Pendidikan Agama Islam*. Institut Agama Islam Negeri Curup.
- Alfarisi, S., & Hanifudin. (2025). Konsep Tarbiyah dalam Perspektif Pendidikan Islam Modern. *Silampari Lubuklinggau*, 8(1), 11–21. <https://doi.org/10.37092/ej.v8i1.1140>
- Arrazin, M. Z. (2025). *Dinamika Keseimbangan Spiritualitas dan Teknologi di Kalangan Mahasiswa PAI pendidikan dapat meningkatkan kualitas pembelajaran dan pengalaman spiritual mahasiswa . Analisis mendalam menunjukkan bahwa mahasiswa PAI sering kali terjerat dalam kebingungan m. 03(03)*, 1771–1778.
- Basri, M. (2023). Eksplorasi penelitian Pendidikan Agama Islam melalui kajian kepustakaan. *Edukasi*, 15(2), 91–105.
- Berliana, C. I., Nurkhasanah, S., Purnomo, & Rohmah, D. (2025). Integrating Islamic Values and AI-Based Deep Learning: Implementation at SMK Negeri 1 Kebumen Towards Achieving Educational SDGs. *Profetika: Jurnal Studi Islam*, 26(1), 33–48. <https://doi.org/10.23917/profetika.v26i01.10632>
- Cahyanto, B., Srihayuningsih, N. L., Nikmah, S. A., & Habsia, A. (2024). Implementasi Model Pembelajaran Problem Based Learning (PBL) Berbantuan LKPD Untuk Meningkatkan Literasi Sains Siswa. *Jurnal Ibriez: Jurnal Kependidikan Dasar Islam Berbasis Sains*, 9(2), 263–278.
- Campbell, H. A., & Tsuria, R. (2021). *Digital religion: Understanding religious practice in digital media*. Routledge.
- Dionisius Barai Putra, & Firmanto, A. D. (2023). Spiritualitas Kaum Muda di Tengah Perkotaan dalam Era Digital. *Missio Ecclesiae*, 11(2), 50–62. <https://doi.org/10.52157/me.v11i2.187>
- Fahmi Aziza, I. (2024). REFORMULASI KURIKULUM PENDIDIKAN ISLAM DALAM ERA DISRUPSI DIGITAL. *Jurnal Pendidikan*, 3(1), 1–15.
- Fauzan, M., & Gusmaneli. (2025). Integrasi Spiritualitas dan Kecerdasan Digital dalam Desain Pembelajaran Pendidikan Agama Islam di Perguruan Tinggi. *TSAQOFAH*, 5(6), 6452–6463. <https://doi.org/10.58578/tsaqofah.v5i6.7737>
- Gunawan, N., Permata, R. R., & Amirulloh, M. (2022). Pengaruh Disrupsi Teknologi Digital

- terhadap Press Publisher Right pada Platform Digital di Indonesia Berdasarkan Hukum Positif Indonesia. *Humani (Hukum Dan Masyarakat Madani)*.
- Hakim, A., & Anggraini, N. (2023). Artificial intelligence dalam pembelajaran PAI: Efektivitas dan tantangan. *Tasqif: Journal of Islamic Education*, 15(1), 67–90.
- Hamruni, A., & Suwartini, R. (2025). Integrasi Artificial Intelligence dalam Pembelajaran Pendidikan Agama Islam. *Indo-MathEdu Intellectuals Journal*, 6(1), 1271–1285. <https://ejournal.indo-intellectual.id/article/view/1234>
- Hjarvard, S. (2008). The mediatization of religion: A theory of the media as agents of religious change. *Northern Lights: Film & Media Studies Yearbook*, 6(1), 9–26. [https://doi.org/10.1386/nl.6.1.9\\_1](https://doi.org/10.1386/nl.6.1.9_1)
- Iqbal, M. (2024). *Islam dan Teknologi Kecerdasan Buatan*. Universitas Bina Bangsa Getsempena (UBBG). <https://bbg.ac.id/islam-dan-teknologi-kecerdasan-buatan/>
- Jihad, M., Wibowo, S., & Widyasari. (2025). Kurikulum tarbiyah ruhiyah perspektif Said Hawwa. *Tawazun: Jurnal Pendidikan Islam*, 18(2), 393–414. <https://doi.org/10.32832/tawazun.v18i2.19125>
- Kahfi, N. S., Reyza, F. A., Arrosikha, M., Nasrullah, M., & Aisyah, N. H. (2025). Artificial Intelligence in Islamic Religious Education: Balancing Learning Efficiency And Safeguarding Spiritual Integrity In Indonesian Higher Education. *INJECT (Interdisciplinary Journal of Communication)*, 10(1), 643–660. <https://doi.org/10.18326/inject.v10i1.4325>
- Mahbuddin, A. N. G. (2020). Model Integrasi Media dan Teknologi dalam Pembelajaran Pendidikan Agama Islam. *Mudarris: Jurnal Ilmiah Pendidikan Islam*, 3(2), 98–115. <https://mudarrisjournal.com/article/view/202>
- Mainuddin, Hermawansyah, Irfan, M., Junaidin, & Zulkifli, M. (2025). Artificial intelligence in Islamic studies courses: Opportunities and limitations in Islamic higher education from student perspectives. *Al-Hayat: Journal of Islamic Education*, 10(2), 234–256.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, 6(7), e1000097. <https://doi.org/10.1371/journal.pmed.1000097>
- Mubarok, Z. (2025). Model Pembelajaran Terjemah Dzikir dan Do'a Bacaan Salat di Sekolah Dasar Islam Khoiru Ummah Malang. *Karakter: Jurnal Riset Ilmu Pendidikan Islam*, 2(2), 281–293. <https://doi.org/10.61132/karakter.v2i2.608>
- Nasution, S., Pohan, A. J., Hayati, N., Khairurrijal, K., & Nur, K. (2025). Islamic Religious Education in the Post-Human Era: Embracing Artificial Intelligence through Transformative Spirituality. *Jurnal Penelitian Pendidikan Islam*;, 13(01). <https://riset-iaid.net/index.php/jppi/article/view/2170>
- Noor, H., Muhandi, Kartika, G. N., & Herlinawati. (2025). Peluang Dan Tantangan Pendidikan Agama Islam Di Era Artificial Intelligence. *Sibatik Journal*, 4(6), 801–810.
- Nugroho, A., & Astutik, A. P. (2024). Digital transformation of Islamic boarding school education. *Indonesian Journal of Islamic Studies*, 12(2), 10–21070.
- Nurhabibah, P., Ayubi, M. N., Ismiyanti, Y., Madisson, M., Info, A., Teknologi, P., Islam, P., Agama, P., Informasi, T., Acceptance, T., Education, I., & Technology, I. (2025). Pemanfaatan Teknologi Digital dalam Memfasilitasi Ibadah dan Pendidikan Islam Utilization of Digital Technology in Facilitating Islamic Worship and. *Alfabet Jurnal Wawasan Agama Risalah Islamiah, Teknologi Dan Sosial (Al-Waarits)*, 2(1), 1–11.
- Nurlaili, S., Suriyana, E., & Hariry, S. (2025). *Spiritualitas di Era Digital : Studi Literatur tentang Kesejahteraan Psikologis dan Konsumsi Konten Religius di Aplikasi TikTok*. 01(03), 1088–1097.
- Pramana, P., Priastuty, C. W., Utari, P., Aziz, R. A., & Purwati, E. (2023). Beradaptasi dengan perubahan teknologi: Kecerdasan buatan dan evolusi komunikasi interpersonal. *Jurnal Ilmiah Dinamika Sosial*, 7(2), 214–225.
- Rahmah, R. D., Hamami, T., & Sukiman. (2025). The Use of Artificial Intelligence Innovation in Islamic Religious Education. *Jurnal Pendidikan Agama Islam*, 11(2), 125–136. <https://jurnalpai.id/article/view/3456>

- Rahmasari, R., Rahmasari, R., Gimri, F. D., Dewianti, A. F., & others. (2024). Penanaman nilai-nilai islam dalam upaya Pembentukan karakter melalui pendidikan Agama Islam. *El-Darisa: Jurnal Pendidikan Islam*, 2(2), 19–30.
- Ramadhan, G. D. (2022). *Perlindungan Hukum Atas Inovasi Artificial Intelligence di Era Revolusi Industri 4.0 & Society 5.0*.
- Razak, Y. (2025). Agama dan kecerdasan buatan (AI) di persimpangan zaman. *Jurnal Sosiologi Agama, UIN Syarif Hidayatullah Jakarta*.
- Rohia, E., Jefri, M., Anisa, N., & Hariry, S. (2025). Pengaruh Media Digital terhadap Spiritualitas Remaja Muslim. *Jurnal Penelitian Ilmiah Multidisipliner*, 1(03 SE-Articles), 386–390. <https://ojs.ruangpublikasi.com/index.php/jpim/article/view/617>
- Rome Call for AI Ethics (2020).
- Rosyidah, A., Annisa, D., & Bashith, A. (2025). Model evaluasi kompetensi spiritual digital peserta didik pada pembelajaran Pendidikan Agama Islam di era industri 4.0. *TARLIM Jurnal Pendidikan Agama Islam*, 8(2), 251–261.
- Rozaanah, R. (2024). Reconstructing Islamic Religious Education in the Era of Artificial Intelligence. *Tasqif: Journal of Islamic Education*, 16(1), 23–35. <https://tasqifjournal.org/article/view/9876>
- Saputra, I., Syahriyan, M., & Tamarin, R. (2022). Religious Moderation Technology in Digital (Remote Id): Teknologi Aplikasi 5.0 Dalam Upaya Pengembangan Moderasi Beragama Pada Komunitas Remaja. *Lembaran Masyarakat*, 8(1), 161–178.
- Sari, A. K., Amin, K., & Isnanimataka, M. I. (2024). Etika Artificial Intelligence (AI) dalam Pendidikan Islam: Mengatasi Tantangan Distorsi dan Misinterpretasi. *Proceeding International Conference on Tradition and Religious Studies*, 3(1), 350–359. <https://proceedings.radenfatah.ac.id/index.php/lc-TiaRS/article/view/1211>
- Sari, N. P. (2021). Metode Penelitian Kepustakaan dalam Pendidikan Islam. *Edua*, 8(1), 65–74.
- Sholehah, C. A., & Rachman, P. (2023). Dinamika Transformasi Pendidikan Agama Islam: Sinergitas Artificial Intelligence Dalam Peningkatan Pemahaman Keagamaan. *BAHTSUNA: Jurnal Penelitian Pendidikan Islam*, 5(2), 169–177. <https://doi.org/10.55210/bahtsuna.v5i2.317>
- Sholihah, N. M. (2025). The Impact of AI on the Spiritual Values and Character of Students: A Survey of the Qur'an and Tafsir Quraish Shihab. *Proceeding of International Conference on Islamic Boarding School*, 2(1).
- Sufyan, Q. A., & Ghofur, A. (2022). Pemanfaatan digitalisasi pendidikan dalam pengembangan karakter peserta didik. *MUBTADI: Jurnal Pendidikan Ibtidaiyah*, 4(1), 62–71.
- Suryadi Nasution, S. (2025). Islamic Religious Education in the Post-Human Era: Embracing Artificial Intelligence through Transformative Spirituality. *JPPI*, 13(1), 55–69. <https://jppi.org/article/view/1597>
- Suryana, A., Mustaqim, I., & Rois, A. (2025b). AI-Driven Innovation In Islamic Schools: Impacts, Opportunities And Ethical Challenges. *Al-Abshar: Journal of Islamic Education Management*, 4(1), 76–92. <https://doi.org/10.58223/al-abshar.v4i1.467>
- Suwahyu, I. (2025). Kontribusi Artificial Intelligence dalam Pembelajaran PAI yang Responsif terhadap Spiritualitas Digital. *Journal Lontaradigitech*, 9(3), 201–212. <https://lontaradigitech.id/article/view/8665>
- Thohir, M., Reditiya, V. E., Sari, N. I. P., & others. (2023). Refleksi mahasiswa dalam berkeadaban digital melalui ChatGPT. *Intelektual: Jurnal Pendidikan Dan Studi Keislaman*, 13(2), 109–128.
- Zuhriyeh, S., Ali, M., & Hidayat, A. (2025). Digital Transformation of Islamic Education: An Artificial Intelligence-Based Teaching Module Development Study. *Edunesia: Jurnal Ilmiah Pendidikan*, 6(2), 1113–1126. <https://doi.org/10.51276/edu.v6i2.1255>