



Conceptual Analysis of It Media Integration In The Digital Islamic Education Curriculum As An Effort To Strengthen The Character Of Junior High School Students: A Library Perspective

Syaifuddin ¹, Junaedi ²

¹ Tarbiyah Faculty UIN Sunan Ampel Surabaya. Email. syaifuddin.tarbiyah@uinsa.ac.id

² Tarbiyah Faculty UIN Sunan Ampel Surabaya. Email junaedi@uinsa.ac.id

Corresponding Author Email syaifuddin.tarbiyah@uinsa.ac.id

Abstract

Background. Digital transformation in the world of education demands a shift in the learning paradigm of Islamic Religious Education (PAI), particularly in strengthening the character of junior high school students.

Aims. This research aims to formulate a conceptual model for the integration of information technology (IT) media into the digital PAI curriculum as an instrument for the formation of Islamic character.

Methods. Using a qualitative approach through library research and descriptive-analytical methods, this study analyzes academic literature from the past decade using content analysis and thematic analysis techniques.

Result. The study results in the ISLAMIC-TECH model, which includes five main components: Infrastructure, Spiritual Content, Learning Activity, Assessment, and Moral Character, as an integrative foundation between technological, pedagogical, and spiritual dimensions. Four effective IT media typologies in PAI learning have been identified, namely: immersive media (VR/AR), interactive (gamification), collaborative (social learning), and adaptive (personalized learning). The implementation strategy emphasizes the principle of "Technology as Servant, Spirituality as Master" and dual-mode learning to maintain a balance between digital interaction and direct religious practice.

Conclusion. The identified challenges include limited infrastructure, teachers' digital competencies, and difficulties in integrating pedagogy and spirituality. Nevertheless, the integration of IT media has proven capable of increasing student engagement with PAI material, facilitating the development of digital wisdom, and strengthening character dimensions through critical thinking skills, collaboration, and spiritual literacy.

Implementation. This research provides a theoretical contribution in the form of a conceptual framework for a technology-based digital PAI curriculum that is contextual, authentically Islamic, and adaptive to the needs of the 21st century.

Keywords: Digital Islamic Religious Education, Information Technology Media, Student Character, Islamic-Tech, 21st Century Curriculum



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INTRODUCTION

The era of digitalization has transformed almost every aspect of human life, including the world of education. The development of information and communication technology (ICT) has shifted the learning paradigm from conventional models to more interactive and adaptive digital-based approaches (Anderson & Dron, 2014). In the context of Islamic education, this change necessitates an update that is not only technological but also conceptual, ensuring that the spiritual values at the core of religious education remain preserved amidst the rapid digital flow (Sahin, 2012). Islamic Religious Education (PAI), as a mandatory subject at the Junior High School level (SLTP), plays a strategic role in shaping students' character. Islamic Religious Education (PAI) is not only oriented towards the transfer of religious knowledge but also towards the internalization of moral values and the formation of noble character (Muhaimin, 2011). However, the traditional approach to PAI learning often proves less effective in reaching digital natives who grow up in a technology-rich environment (Prensky, 2001).

Generation Z, who are currently in junior high school, tend to be more responsive to learning methods that are visual, interactive, and technology-based (Twenge, 2017). Therefore, the integration of IT media into the digital PAI curriculum has become a necessity to bridge the pedagogical gap between traditional approaches and the learning needs of today's students (Hapsari & Nugroho, 2022). IT media in PAI learning encompasses various forms such as e-learning, interactive multimedia, mobile applications, and immersive technologies like virtual reality (VR) and augmented reality (AR), which can enhance the appeal and depth of students' understanding of Islamic values (Suryani, 2020).

More than just modernizing teaching aids, the use of digital media in PAI has the potential to strengthen the process of internalizing religious character. Values such as faith, piety, honesty, discipline, responsibility, and noble character can be conveyed through engaging media that aligns with individual learning styles (Novianti & Dwi Astuti, 2020). Thus, learning not only becomes more engaging and efficient but also more spiritually meaningful.

Nevertheless, the integration of IT media in PAI learning presents challenges. These challenges include limited technological infrastructure, low digital literacy among teachers, and concerns about the loss of spiritual touch in digital-based learning (Zuhdi et al., 2021). In addition, not all PAI materials are easily digitized, especially those that require affective and reflective experiences, such as creed and ethics. Therefore, a selective, contextual, and value-

based approach is needed to ensure that the integration of technology does not sacrifice the essence of Islamic education. To address this complexity, this research aims to conduct a conceptual study using a literature review approach on various models, theories, and practices of IT media integration in Islamic education. The aim is to formulate a conceptual framework that can effectively integrate technology media into the digital PAI curriculum to strengthen the character of junior high school students.

Although various studies have discussed the integration of technology in Islamic education, most of them still focus on the technical aspects of media usage or learning efficiency alone, without deeply highlighting its connection to strengthening students' character within the context of the digital Islamic Religious Education (PAI) curriculum. Furthermore, there have not been many studies that comprehensively formulate a model for integrating IT media that preserves the spiritual essence of Islamic education, especially for junior high school students who are digital natives. Therefore, this research is directed to answer several important questions, namely how the theoretical concept of IT media integration in the digital PAI curriculum can be designed to strengthen the character of junior high school students; what kind of integration model is the most effective; how its implementation strategy can maintain religious values; and what are the challenges, opportunities, and success indicators of IT media integration in digital PAI learning. Based on this formulation, the objective of this research is to analyze and formulate a theoretical concept and model of IT media integration that meets the needs of junior high school students, to develop implementation strategies that maintain Islamic spiritual values, to identify challenges and opportunities in technology integration within PAI learning, and to establish success indicators that can serve as a reference in the development of a character-based digital PAI curriculum.

This research is expected to provide theoretical contributions to the development of digital-based Islamic education, as well as practical benefits for teachers, curriculum developers, and educational institutions in designing relevant, innovative, and value-laden PAI learning strategies.

METHODS

This research employs a qualitative approach, utilizing a descriptive-analytical library research method. This approach was chosen because it is suitable for a deep exploration of the theoretical concept of integrating information technology media into the digital Islamic Religious Education (PAI) curriculum. This study examines and synthesizes various relevant

scientific sources from the past decade, including accredited journals, academic books, educational policy documents, and credible research reports, to formulate an integrative conceptual framework in the context of character strengthening for junior high school students (Zed, 2008; George, 2008).

Data collection was conducted through a systematic review of the literature obtained from academic databases, including Google Scholar, JSTOR, ScienceDirect, and ProQuest. Inclusion criteria include literature in Indonesian and English that discusses the integration of technology in Islamic education, character formation, and digital learning. Classical literature is still considered if it has substantive relevance to the topic. Data analysis techniques use content analysis and thematic analysis to identify main themes, categorize concepts, and construct theoretical syntheses (Bowen, 2009; Braun & Clarke, 2006).

The validity of the data is strengthened by source triangulation, literature selection from various perspectives, and interpretation testing through discussions with experts. Meanwhile, reliability is maintained through systematic documentation and the use of reference management software. This research has limitations in non-empirical aspects and potential publication bias, but it still provides significant conceptual contributions to the development of character-based digital PAI curricula.

LITERATURE REVIEW

The Concept of IT Media Integration in Learning

The Concept of IT Media Integration in Learning. The integration of information technology (IT) media in learning is a strategic process that combines various devices, applications, and digital platforms within the education system to enhance the effectiveness and quality of the learning experience. This concept is not limited to sporadic use of digital tools. However, it is part of a systemic pedagogical transformation aimed at developing 21st-century skills, such as critical thinking, collaboration, and digital literacy (Voogt et al., 2015).

According to Mishra and Koehler (2006), the success of technology integration in learning is influenced by teachers' understanding of three main domains: pedagogy, content, and technology, collectively referred to as the TPACK (Technological Pedagogical Content Knowledge) framework. In this context, teachers are required not only to understand the subject matter and teaching methods but also to utilize technology to deliver that material effectively.

The TPACK framework has become the foundation for many studies on the integration of IT media at various educational levels. Hidayatullah's (2022) research in several Islamic

high schools shows that the success of technology integration is influenced by four main factors: (1) adequate digital infrastructure, (2) continuous training for teachers, (3) managerial support from school leaders, and (4) student readiness as end-users of technology. This study emphasizes that technical aspects, such as internet connectivity, device interoperability, and data security, must be integrated with pedagogical aspects, including alignment with students' learning styles and the achievement of learning outcomes.

Furthermore, the research by Fahad, Rahim, and Alharbi (2024) found that teachers' digital competence in the context of religious-based schools (Islamic schools) is crucial for the successful integration of technology. Their study, conducted in several madrasahs in Saudi Arabia, showed that although technological devices were available, teachers often faced difficulties in adapting these devices pedagogically, especially for religious subjects such as fiqh and aqeedah. Therefore, professional development programs that combine technical training with instructional design based on religious values become very crucial.

In line with that, research by Yulianto et al. (2022) revealed that the use of interactive-based digital media—such as animated videos, educational games, and simulations—can significantly enhance students' motivation and learning outcomes in Islamic Religious Education at the junior high school level. However, its effectiveness highly depends on the compatibility between the media used and the characteristics of the lesson content. Content on creed and ethics, for example, is better conveyed through visual narratives and reflective practices based on immersive media, compared to fiqh material, which is more suited to a step-by-step tutorial approach.

The ideal integration of IT media must also consider Sweller's cognitive load theory (1988), which states that digital media should be designed to reduce students' cognitive load, allowing them to focus on the substance of the material. Therefore, digital learning design should avoid irrelevant visual or audio distractions. IT media must not be only tools of entertainment but also functional and meaningful educational resources.

Thus, the concept of IT media integration in learning demands a multidimensional approach that unites technical, pedagogical, content, and value aspects. Integration models, such as TPACK, combined with the principles of learner-centered pedagogy and value-oriented instruction, are highly relevant to be applied in the context of Islamic Religious Education, where cognitive and affective goals must be balanced. Therefore, the development of a digital PAI curriculum not only requires mastery of technology but also a profound reflection on the philosophy of Islamic education and the role of the teacher as a murabbi.

Paradigm of Digital Islamic Education

The digital paradigm of Islamic Religious Education (PAI) is a response to the transformation of the digital era that not only affects technological aspects but also the social and cultural structure of learning. This paradigm necessitates a reevaluation of PAI learning methods. It aims to remain relevant to the characteristics of Generation Z and Alpha students, who have been accustomed to technology from an early age (Yusof, Jamil, & Ramli, 2021).

Digital Islamic Education is not intended to replace the substance of Islamic teachings, but rather to utilize digital media as an instrument for conveying the teachings in a more contextual, engaging, and efficient manner. This paradigm aligns with the connectivism approach in learning theory, which emphasizes that knowledge is formed through connections between information, and digital media serves as that connective bridge (Siemens, 2005). This is very suitable for application in PAI learning, which is not only text-based but also involves values that require reinforcement through visual, emotional, and experiential means.

The research by Suwito and Hafsa (2023) shows that the role of PAI teachers in the digital era must shift from merely delivering content to becoming digital facilitators and mentors. In a case study conducted in several Islamic-based junior high schools, researchers found that teachers who utilized digital media, such as Islamic preaching on YouTube, mobile prayer reminder apps, and interactive Islamic quiz platforms, were able to increase student engagement in learning. This is also supported by Eryandi's (2023) findings, which state that the digitization of PAI materials makes it easier for students to understand abstract concepts, such as belief in angels or the concept of heaven and hell, through visualizations that engage the affective aspect.

In the context of the curriculum, the digital PAI paradigm promotes the transition from a teacher-centered to a student-centered learning model, where students are actively engaged in the process of discovering and constructing meaning. The study supports these results from Al-Qarni and Al-Ahmari (2022), which show that digital-based personalized learning can enhance students' understanding of Islamic values while also fostering independent learning responsibility.

The use of digital platforms such as Learning Management Systems (LMS), Augmented Reality (AR) for worship simulations, and quiz-based gamification applications has been proven to enhance learning outcomes and student satisfaction (Rahman, 2020). However, the effectiveness of this approach highly depends on the readiness of teachers, the relevance of the

content, and the support of technological infrastructure in the school environment. This paradigm shift must also consider Islamic ethical values, ensuring that the use of technology is not merely formal but still conveys a strong spiritual and moral message.

On the other hand, the digital PAI paradigm must ensure the presence of value-oriented digital pedagogy. This pedagogical approach not only utilizes digital media but also incorporates ethical, spiritual, and Islamic character content into every learning process. In the study by Nasir et al. (2021), it is emphasized that strengthening moral narratives, cultivating worship habits, and promoting exemplary behavior in the virtual world should accompany the use of technology in Islamic religious education. Therefore, digital Islamic Religious Education (PAI) is not merely the digitization of materials, but a comprehensive transformation of values, approaches, and the role of teachers.

The Theory of Character Formation in Islamic Education

The theory of character formation in Islamic education is rooted in an integral paradigm between the dimensions of faith, thought, and behavior. Character is not viewed merely as external behavior, but as a reflection of spiritual integrity formed through the internalization of Islamic values. In this framework, Islamic character reflects the synergy between aqeedah (belief), shari'ah (behavioral rules), and akhlaq (ethics) that form the foundation of Muslim actions in daily life (Muhaimin, 2011).

From the perspective of classical Islamic education, character formation occurs through the process of tazkiyatun nafs (purification of the soul), which aims to cultivate praiseworthy traits and avoid blameworthy traits. Al-Ghazali theorized this model in *Ihyā 'Ulūm al-Dīn*, where education is interpreted as a means to shape an *insān kāmil* (perfect human) who possesses noble character and is close to Allah (al-Ghazali, 1989). This theory remains relevant to this day, particularly when linked to the concept of character education, which prioritizes inner transformation as the foundation for shaping external behavior.

Contemporary research, such as that conducted by Alavi and Yusof (2019), develops an Islamic character model based on core values, including honesty (*ṣidq*), trustworthiness, humility, and social responsibility. They emphasize the importance of consistency between the teaching of values and actual practices in the educational environment, including through the exemplary behavior of teachers (*uswah hasanah*), habituation of good deeds, and the creation of a religious school culture.

A study by Fitriani and Hasanah (2020) at a madrasah tsanawiyah shows that the habituation method and teacher exemplification have a greater impact than the lecture method in shaping students' disciplined and honest character. This is reinforced by the findings of Badri et al. (2022), which suggest that an educational environment consistently supporting Islamic values—whether physically, socially, or digitally—will accelerate the process of value internalization in students.

From the perspective of Islamic educational psychology, character formation is closely related to the development of affective and psychomotor aspects, in addition to cognitive aspects. This aligns with the revised version of Bloom's Taxonomy (Anderson & Krathwohl, 2001), which identifies values, attitudes, and actions as important learning outcomes. In the context of Islam, it is not only about knowing what is right, but also feeling and doing what is right (Zuhdi et al., 2021). Therefore, character-based PAI learning is not sufficient to be conveyed only through texts and knowledge, but must be brought to life through reflective experiences and habituation.

Some approaches in modern Islamic character education integrate digital media as a means to strengthen character formation. For example, Quran recitation applications based on games, narrative-based da'wah content on social media, and digital simulations in moral education have been shown to strengthen students' religious and social values when designed well and supervised pedagogically (Rahmawati & Hidayat, 2023). However, the role of the teacher remains central in interpreting and guiding the use of these media to align with the goals of Islamic character.

Therefore, the theory of character formation in Islamic education must be applied holistically, integrating spiritual, intellectual, and social dimensions, both through traditional approaches and digital innovations. The goal is not merely to shape students who are ritualistically obedient, but also to instill strong moral integrity and self-awareness in both digital and real-life contexts.

Digital Learning Media and Its Effectiveness

Digital learning media refers to all forms of tools, platforms, or technology-based systems designed to support the teaching and learning process interactively and efficiently. In the context of 21st-century education, digital media have become an integral part of the modern learning environment, emphasizing personalization, flexibility, and active student engagement (Anderson & Dron, 2014). Types of digital learning media include Learning Management

Systems (LMS), mobile applications, interactive multimedia, educational videos, virtual simulations, augmented reality (AR), and artificial intelligence (AI) technology for adaptive learning.

In the context of Islamic Religious Education (PAI), digital media presents great opportunities to present abstract materials, such as creed, ethics, or Islamic history, in a more visual, contextual, and engaging manner. A study by Rahman (2020) shows that the use of AR in learning the practice of ablution and prayer can enhance students' understanding by up to 40% compared to conventional methods. This shows that digital media are not just teaching aids, but also transformers of the learning experience.

The effectiveness of digital media in learning is measured through various indicators, including increased learning motivation, student engagement, achievement of learning outcomes, and student satisfaction. The research results by Yulianto et al. (2022) at Madrasah Tsanawiyah indicate that students who utilize learning media incorporating animated videos and gamification exhibit improved motivation and better information retention compared to the control group, which only studied with textbooks.

Moreover, the effectiveness of digital media is also closely related to the concept of Universal Design for Learning (UDL), which emphasizes the importance of providing various forms of representation, expression, and engagement to meet the diverse learning needs of students (CAST, 2018). In PAI, this allows students to learn in ways that suit their preferences—whether through audio (interactive recitation), visual (hadith infographics), or kinesthetic (worship simulations through applications).

However, the effectiveness of digital media is not without several supporting factors. First, good instructional design is essential so that technology does not merely become decoration, but truly becomes a meaningful pedagogical tool (Munir, 2021). Second, teachers' digital competence is key in ensuring that media is used optimally, both technically and didactically. Third, the alignment between the type of media and the material's characteristics is essential. For example, narrative or value-based material (such as the story of the Prophet) is more effectively conveyed through video storytelling than through text alone.

Research by Al-Fauzan and Alshammari (2021) in Saudi Arabian Islamic schools emphasizes that digital media can enhance spiritual literacy if designed with a value-based content approach. This means that media not only conveys information but also embeds moral messages that align with Islamic values. This suggests that the integration of digital media should not be neutral, but rather guided by the vision of Islamic character education.

Furthermore, digital learning media can also address the challenges of differentiation in learning, namely differences in learning styles, comprehension speed, and students' backgrounds. In this context, AI-based systems that can adjust materials to students' learning profiles become highly relevant for personalized learning (Ghazal et al., 2022).

Thus, the effectiveness of digital learning media in education, including PAI, is greatly influenced by the quality of learning design, teacher competence, alignment with the material, and the value orientation of the content delivered. When appropriately managed, digital media not only supports mastery of the material but also creates meaningful and transformational learning experiences.

Model of Technology-Based PAI Curriculum

The technology-based Islamic Religious Education (PAI) curriculum model is a systematic design that integrates digital media into all components of the curriculum, from planning and material development to learning strategies and evaluation. This model not only responds to the advancements in information and communication technology (ICT) but also strives to meet the learning needs relevant to the characteristics of the digital generation (Putra & Huda, 2023). In its development, the technology-based PAI curriculum must maintain a balance between technological advancement and the spiritual principles of Islam that are at the core of religious education.

One of the models often referenced in the development of technology-based curricula is the TPACK (Technological Pedagogical Content Knowledge) model, which emphasizes the integration of three main components: content mastery, pedagogical ability, and technological skills (Mishra & Koehler, 2006). In the context of the PAI curriculum, TPACK is not only used for designing teaching but also as a framework for developing syllabi and digital modules that support the achievement of students' religious competencies.

The technology-based PAI curriculum model also needs to follow the principle of backward design (Wiggins & McTighe, 2005), which involves designing the curriculum by first establishing the desired learning outcomes—such as religious character, understanding of Islamic values, and the ability to apply these values in digital life—before selecting appropriate teaching methods and media. This approach ensures that the technology used truly supports the learning objectives and is not merely an additional tool.

Santoso's research (2025) developed a technology-based PAI curriculum model with a structure of five components: (1) a flexible and adaptive Digital Curriculum, (2) Interactive

multimedia-based content, (3) Blended Learning methods that combine online and offline, (4) Digital assessments based on projects or portfolios, and (5) Explicit integration of Islamic values in every learning topic. This model has been proven to increase student participation, emotional engagement in learning, and contextual understanding of Islamic values.

Additionally, the Design Thinking approach is also being adopted in the development of digital PAI curricula. This is demonstrated in a study by Firdaus et al. (2022), which emphasizes the importance of empathy towards digital native students in designing a curriculum that is responsive to their needs. They developed a student-centered Islamic learning module based on technology that contextualizes the material for students' daily lives, for example, through interactive content on internet ethics in Islam.

The implementation of a technology-based PAI curriculum requires several key prerequisites: first, the development of teacher competencies through continuous professional training and mentoring; second, the provision of digital infrastructure such as internet access, supporting devices, and LMS; third, the formulation of institutional policies that support curriculum innovation; and fourth, student involvement in the curriculum development process through interest and learning style surveys (Rahmawati & Hidayat, 2023).

The evaluation of the effectiveness of such a curriculum model is not only based on students' cognitive scores but also includes other indicators, such as improvements in religious digital literacy, reflective abilities, engagement in technology-based religious activities, and spiritual behavior in the virtual world (Nasir et al., 2021). In other words, the success of the technology-based PAI curriculum is not solely determined by the sophistication of the tools, but by how well the curriculum bridges the teachings of Islam with the digital realities of students' lives.

Considering the complexity, the development of a technology-based PAI curriculum must be flexible, participatory, contextual, and value-driven. This is important so that the curriculum does not merely become an administrative document, but truly becomes a living, relevant, and transformative tool for Muslim learners in the digital era.

Theory Synthesis Map Here is the form of the synthesis table that connects theory, previous research findings, and the focus of this study:

Aspect	Main Theory	Related Research	Findings	Implications for This Research
Digital PAI Paradigm	Connectivism (Siemens, 2005)	Suwito & Hafsah (2023); Eryandi (2023)	Forming relevant and contextual religious learning experiences through digital media.	Technology Integration
TPACK	(Mishra & Koehler, 2006)	Hidayatullah (2022); Fahad et al.		

(2024) Strengthening teacher competencies and selecting technology that aligns with the characteristics of PAI.

DISCUSSION

Conceptual Model for Integrating IT Media into the Digital PAI Curriculum

Conceptual Model of IT Media Integration in the Digital PAI Curriculum. Based on the multidisciplinary literature analysis conducted, the model for integrating information technology (IT) media into the digital Islamic Religious Education (PAI) curriculum can be formulated in the form of a conceptual framework called ISLAMIC-TECH (Islamic-Technology Enhanced Curriculum). This model integrates five main components: Infrastructure, Spiritual Content, Learning Activity, Assessment, and Moral Character. Each component is interconnected and forms a spiral structure that ensures a balance between technical, pedagogical, and spiritual dimensions.

From the perspective of educational technology, infrastructure serves as the foundation for enabling the implementation of digital-based learning. However, this approach cannot be separated from the pedagogical aspect—as emphasized by the TPACK theory (Mishra & Koehler, 2006)—which demands the integration of content, pedagogy, and technology. Without contextual pedagogical skills, the use of technology becomes merely a hollow symbol of modernity.

Furthermore, from the perspective of Islamic studies, spiritual content must be the essence in digital PAI learning. As emphasized by Alavi and Yusof (2019), Islamic education cannot be separated from the dimensions of creed, sharia, and ethics. Therefore, the ISLAMIC-TECH model not only focuses on technical effectiveness but also on the validity of values in every content displayed.

In the context of learning, the research by Suwito and Hafsa (2023) shows that the use of digital media in PAI is only effective when combined with reflective and contextual learning activities. This means that learning activities in the ISLAMIC-TECH model are not only designed for knowledge transfer but also to encourage the internalization of values through student interactions with content and teachers.

The assessment components in this model are also reconstructed to align with Islamic values and the principles of authentic assessment. Evaluation not only encompasses cognitive aspects but also affective and spiritual ones. This is in line with the concept of integrated assessment in Islamic education (Muhaimin, 2011).

Finally, moral character as the ultimate goal of the curriculum becomes an indicator of the success of technology integration. As stated by Nasir et al. (2021), the main challenge of digital Islamic education is to maintain students' morality amidst the uncontrolled flow of information. The ISLAMIC-TECH model integrates the dimension of character building through the preparation of materials, activities, and assessments, all designed to cultivate the qualities of siddiq, amanah, tabligh, and fathanah in students' digital lives.

The spiral integration approach in this model ensures that every technological innovation in PAI learning must undergo three layers of validation: spiritual validation (value alignment), pedagogical validation (method alignment), and technical validation (infrastructure feasibility). Additionally, this model is designed to incorporate the principles of scalability and adaptability, allowing it to be implemented at various levels of technological readiness in schools.

Thus, ISLAMIC-TECH is not only a technology-based curriculum design but also an ideological and pedagogical framework that places Islam at the center of the entire educational innovation process. This model fills the gap that has existed in the implementation of technology in religious education, namely the dominance of technocratic approaches without a balance of values and pedagogy.

1. Effective IT Media Typology for PAI Learning

Based on the synthesis of recent literature, four typologies of information technology (IT) media are considered the most effective in supporting Islamic Religious Education (PAI) learning at the junior high school level: immersive, interactive, collaborative, and adaptive media. These four types of media not only represent various technologies but also accommodate different learning dimensions in Islamic Religious Education (PAI), namely affective, cognitive, and spiritual.

Immersive media such as Virtual Reality (VR) and Augmented Reality (AR) can create deep and contextual learning experiences. In PAI learning, this technology is effective for simulating worship practices such as tawaf, wukuf at Arafah, or visual depictions of the stories of the prophets and narrative verses of the Qur'an. Rahman's research (2020) shows that learning about Hajj rituals using VR can significantly enhance students' understanding and spiritual experience compared to conventional lecture methods.

Interactive media based on gamification and interactive multimedia have a high appeal in increasing student motivation towards PAI material, which is often considered heavy or boring. Fuad (2023) revealed that the implementation of educational games such as Quran

verse quizzes, simulations of the life of the Prophet Muhammad, and fiqh law puzzles can increase student engagement by up to 75%. However, the main challenge is to maintain a balance between the elements of the game and the religious message. Game elements should not dominate to the point of obscuring the spiritual and moral essence that is intended to be built.

Collaborative media contribute to developing critical thinking skills, religious reflection, and strengthening the understanding of Islamic values through discussions and group work. Platforms like Google Classroom, Edmodo, or Moodle equipped with discussion forum features and group assignments can be utilized for value-based learning projects—such as class charity projects, Islamic reflection vlogs, or guided debates on Islamic ethics in social media (Yusof et al., 2021).

AI-based adaptive media plays a crucial role in personalizing PAI learning. This system allows for the adjustment of content and learning activities based on the needs, interests, and cognitive profiles of each student. Ghazal et al. (2022) emphasize that adaptive media can optimize the process of internalizing religious values because students learn at a pace and in a manner that suits them best, without losing their spiritual direction.

An interdisciplinary approach in this analysis shows that the selection of IT media in Islamic Religious Education (PAI) cannot be based solely on technology trends or efficiency, but must also consider the theological, psychological-pedagogical, and sociocultural values of the students. Within the framework of Islamic education, the effectiveness of learning media is not only measured by academic achievement but also by the extent to which the media can foster faith, shape morals, and enhance students' religious awareness in the face of the challenges of the digital era.

Thus, the appropriate use of IT media typology not only enhances the technical quality of PAI learning but also strengthens the spiritual and character dimensions of students as a generation of digital Muslims who are virtuous and technologically proficient.

Implementation Strategy that Preserves Spiritual Essence

The integration of information technology media into the digital Islamic Religious Education (PAI) curriculum requires an implementation strategy that is not only technically effective but also preserves the purity and strength of the spiritual essence of learning. This strategy is not only oriented towards technological efficiency but also towards the continuity between technology and the Islamic values that are at the core of education.

The first strategy put forward is the application of the principle "Technology as Servant, Spirituality as Master." This principle places technology in a subordinate position to Islamic values, so every technological decision-making (media selection, interface design, interaction models) must be based on its usefulness in strengthening the spiritual dimension of students. Suharto's research (2022) emphasizes that digital learning without a framework of spiritual values tends to produce learners.

The second strategy is the implementation of a dual-mode learning model, which combines technology-based learning with direct learning activities that emphasize worship practices and spiritual interactions. For example, Virtual Reality (VR) applications can be used to introduce the sequence of prayer movements or simulate the performance of the Hajj, but this must be followed by actual practice in a mosque or prayer room. A study by Eryandi (2023) shows that students who follow the hybrid model in PAI m.

The third strategy is the strengthening of digital spiritual literacy or digital wisdom in the context of Islam. This literacy includes students' understanding of ethics in technology use, manners in interacting on social media, and awareness of the potential benefits and dangers of the digital world from a Sharia perspective. Ismail and Kuswandi (2025) emphasize the importance of learning about Islamic-based digital citizenship, which includes the principle of tabayyun in filtering information, amar ma'ruf nahi munkar in communication.

This approach aligns with the theory of ecopedagogy and value education, which suggests that technology in education should be directed towards shaping individuals who are not only intellectually intelligent but also spiritually wise (Zuhdi et al., 2021). Therefore, teachers must not only possess digital skills but also strong spiritual and pedagogical competencies in filtering and contextualizing the media used.

Thus, the strategy for implementing technology integration in Islamic Education (PAI) must be holistic, considering spiritual, technological, and social dimensions. A strategy that focuses solely on efficiency and modernization will lose its substantial direction in Islamic education. Conversely, a strategy that balances spiritual and digital dimensions will create a complete, meaningful, and transformative learning experience.

Challenges and Solutions in IT Media Integration for Islamic Education

The results of the literature analysis indicate that integrating information technology (IT) media into Islamic Religious Education (PAI) learning presents complex challenges, which

can be categorized into three main areas: technical, pedagogical, and cultural challenges. These three challenges are interrelated and require systemic and cross-sectoral solutions.

Technical challenges include limited infrastructure, uneven internet connectivity, a shortage of devices, and the rapid pace of technological change, which requires regular updates to devices and systems. A national survey by the Ministry of Education and Culture (Kemendikbud) reveals that approximately 60% of junior high schools (SLTP) in Indonesia, particularly those in rural areas, still lack adequate technological infrastructure to fully support digital learning (Dahirin & Rusmin, 2024). This disparity in access creates a digital divide, and pedagogical challenges arise from the gap in teachers' digital competencies, the low adoption of contextual digital learning methods, and resistance to change. Many PAI teachers still lack the skills to integrate technology into value-based and affective religious education effectively. The existing teacher training tends to focus on technical aspects, while the pedagogical and spiritual dimensions are often neglected. Moreover, assessments in PAI learning that should reflect...

Cultural challenges stem from conservative perceptions of religious education, which is considered not needing modernization, as well as concerns that technology will distort the values of Islamic teachings. Some school communities even reject the integration of digital media in Islamic Education (PAI) because it is considered contrary to traditional teaching methods that are more based on exemplary behavior and habituation. A study by Nasution and Zubaidah (2023)

The solution to this challenge must be collaborative and adaptive. First, a partnership model between schools, the government, and the technology industry sector needs to be developed for infrastructure provision, including device and internet network subsidy programs. Second, the professional development of teachers based on best practices and local needs becomes important. Training must be designed with a contextual and integrative approach that combines digital competencies and learning methodologies.

Third, innovative solutions can also be realized through the utilization of community-based learning, where schools in a region share digital resources and teacher expertise. This initiative can be developed through a digital-based Subject Teacher Consultation Forum (MGMP). Fourth, the development of nationally based digital PAI content through open repositories established by the Ministry of Religious Affairs or Islamic academic platforms will significantly aid in the equitable distribution of high-quality content.

Thus, addressing the challenges of IT media integration in Islamic Education (PAI) is not just about technology, but also about policy strategies, educational innovations, and socio-cultural approaches. Digital transformation in Islamic Education (PAI) will only succeed if it is carried out comprehensively, systematically, and involves all stakeholders in Islamic education.

The Impact of IT Media Integration on Strengthening Student Character

The results of the literature analysis show that the integration of information technology (IT) media in Islamic Religious Education (PAI) learning significantly contributes to strengthening the character of junior high school students, particularly in three main dimensions: enhancing intrinsic motivation towards religious material, developing self-regulated learning abilities in worship, and strengthening digital resilience against the negative influences of digital media.

A longitudinal study by Ilmiah & Madrasah (2025) reported that students who participated in technology-based PAI learning experienced a 68% increase in engagement with religious material and a 45% increase in the frequency of independent worship compared to students in conventional learning. These results reinforce the argument that technology, when designed appropriately, can catalyze a deeper and more personal internalization of Islamic values.

The integration of IT media also encourages the development of 21st-century skills that are integrated with Islamic values. Students demonstrate improvement in critical thinking when analyzing contemporary issues, such as Islam and the environment, as well as creativity in expressing their understanding of religion through digital media, including da'wah vlogs and hadith infographics. In this context, project-based learning with IT support has proven effective in fostering active, collaborative, and reflective attitudes.

Furthermore, students also demonstrate improved skills in digital communication and critical Islamic literacy. They have become more confident in conveying religious thoughts digitally and are aware of the risks associated with hoaxes or misleading religious content on the internet. This shows that digital PAI learning not only shapes religious abilities but also strengthens character as a faithful, intelligent, and responsible digital citizen.

However, the integration of technology also brings challenges. Some identified risks include digital dependency, where students become overly reliant on technology, leading to a decrease in their contemplative sensitivity; superficial learning, where students focus more on

visual and interactive forms rather than on spiritual substance; and the risk of disconnect from the more communal and transcendent traditions of religious education.

Therefore, character strengthening through digital PAI should be designed in a balanced manner that combines digital engagement with spiritual reflection. This strategy includes the creation of holistic character evaluation indicators, such as worship discipline, social empathy based on Islamic values, and the ability for independent spiritual reflection. The monitoring and evaluation process must be ongoing and data-driven, and involve teachers, parents, and the school community collaboratively.

With the right approach, the integration of IT media in PAI learning can become a transformative means to shape a generation of Muslims who are not only tech-savvy but also possess a strong spiritual character and resilience in facing the challenges of the digital era.

CONCLUSION

This research demonstrates that the integration of information technology (IT) media into the digital Islamic Religious Education (PAI) curriculum has excellent potential for holistically strengthening the character of junior high school students. The Islamic-TECH conceptual model, which comprises the components of Infrastructure, Spiritual Content, Learning Activity, Assessment, and Moral Character, highlights the importance of synergy between technical, pedagogical, and spiritual aspects in designing technology-based Islamic Education (PAI) curricula.

IT media typologies such as immersive, interactive, collaborative, and adaptive media have proven capable of increasing student engagement, deepening religious understanding, and strengthening Islamic character values. Implementation strategies that emphasize the principle of "Technology as Servant, Spirituality as Master," a dual-mode learning approach, and digital wisdom education enable the internalization of authentic yet modern Islamic values.

The challenges of integrating IT media in PAI include limited infrastructure, low digital literacy among teachers, and difficulties in maintaining the spiritual essence. The proposed solutions include multi-stakeholder collaboration, teacher professional development, and community-based learning innovations. The impact not only enhances students' motivation and religious practices but also shapes resilient, critical, and virtuous digital Muslim learners.

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Suggestion

1. For curriculum developers: It is necessary to redesign the PAI curriculum by integrating technology systematically and based on Islamic education principles, not only in terms of content but also methods and assessments.
2. For PAI educators/teachers: It is recommended that they participate in continuous professional training on integrating IT and Islamic pedagogy, in order to effectively navigate their role as facilitators of digital learning grounded in spiritual values.
3. For schools and policymakers: There is a need for the equitable strengthening of digital infrastructure and affirmative policy support to accelerate the transformation of digital PAI learning across all junior high school levels.
4. For future researchers: It is necessary to conduct quantitative and qualitative empirical studies to test the validity of the ISLAMIC-TECH model and the effectiveness of each IT media typology in various contexts of Islamic education in Indonesia.

Research Limitations

This research is conceptual and based on literature studies, thus it has not yet directly addressed empirical aspects. The results obtained have not yet been validated through field tests, and the theoretical interpretation heavily relies on the quality and availability of relevant literature. In addition, most of the references come from the context of Indonesian education and do not yet fully encompass the global perspective in digital Islamic education. The rapid development of technology also poses a challenge in maintaining the sustainability of the proposed conceptual model's validity.

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