

Digital Transformation and Islamic Value Integration in Islamic Religious Education: A Case Study at SMAN 1 Pangkalpinang

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Abstract

This study examines the transformation of Islamic Religious Education in the digital age at SMAN 1 Pangkalpinang, focusing on teacher readiness, adaptive teaching strategies, and the role of digital learning in shaping students' character. A qualitative case study approach within an interpretive paradigm was employed. Participants included four Islamic Religious Education teachers, one principal, one vice principal for curriculum affairs, and eight students selected through purposive sampling. Data were collected through semi-structured interviews, non-participant classroom observations, and document analysis. Data analysis followed the Miles and Huberman interactive model, supported by thematic coding. Trustworthiness was established through source triangulation, member checking, peer debriefing, and audit trails. The findings indicate that Islamic Religious Education teachers demonstrate adaptive-transformative readiness characterized by pedagogical resilience, creativity in utilizing limited digital resources, and the integration of Islamic values into digital learning. Teachers implemented adaptive strategies through blended learning, digital content curation, religious digital literacy, and value-oriented instructional practices. Digital learning contributed to students' critical thinking, ethical awareness, independent learning, and responsible digital behavior. The study reveals that successful digital transformation in Islamic education depends not only on technological infrastructure but also on teachers' pedagogical capacity and their ability to internalize Islamic values within digital learning experiences. These findings contribute to the development of Value Based Digital Pedagogy, which integrates technological competence, pedagogical innovation, and Islamic value internalization.

Keywords: Character Education, Digital Transformation, Islamic Religious Education, Learning Strategy

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INTRODUCTION

The development of digital technology has significantly transformed various aspects of human life, including education. Digital transformation affects how individuals communicate, access information, work, and learn through the widespread use of the internet and digital devices. According to Erik Brynjolfsson and Andrew McAfee, the digital age is characterized by the rapid advancement of information and communication technologies that influence nearly every aspect of human activity (Helmi, 2023). Consequently, educational institutions are increasingly

required to adapt their learning systems and pedagogical approaches to prepare students for participation in a digitally connected society. Society must also be equipped with knowledge, character, and relevant competencies to utilize technology wisely and responsibly (Sutarman, A., 2019). In this regard, technology-based education provides broader access to learning while supporting the development of technological, analytical, and creative skills required in the contemporary world (Kwame et al., 2024).

Digital transformation in the global educational landscape has evolved beyond the mere adoption of technological devices, shifting toward a fundamental pedagogical reorientation, particularly in the realm of Islamic Religious Education. In the post-pandemic era, digitalization is no longer merely a temporary trend, but an urgent necessity to ensure the curriculum remains relevant to the characteristics of Generation Alpha, who are deeply connected to technology (Mukarromah et al., 2025). This acceleration demands a harmonious integration between the advancements of Industry 4.0 technology and the preservation of Islamic values to ensure that the essence of spirituality is not diminished by digital materialism (Cecep Nugraha, 2023). In Indonesia, the Merdeka Belajar policy has served as a catalyst for educational institutions, such as SMAN 1 Pangkalpinang, to implement digital transformation as a strategy to strengthen students' character amidst a flood of unfiltered information (Yudi, 2023).

This reality underscores that education plays a vital role in shaping students' character so they can use technology wisely, responsibly, and in a way that adds positive value. The world of education today is required to adapt to technological developments so that the learning process remains relevant and effective (Yulianti, 2025). In this context, Islamic Religious Education (PAI), as one of the subjects that plays a role in shaping students' character, morals, and spirituality, also needs to undergo a transformation in its learning system.

The digitization of learning presents both a challenge and an opportunity for teachers to enhance the effectiveness of their instruction, particularly in Islamic Religious Education. The digitization of learning is not merely about the use of technological devices, but also involves a shift in teaching paradigms to make instruction more interactive, contextual, and meaningful for students (Huda, 2026). The use of digital media technology can boost students' motivation to learn and make learning more engaging and interactive. Additionally, the use of digital media is more time-efficient for educators because it simplifies the delivery and distribution of materials without requiring students to take notes manually.

Blended learning has emerged as a widely adopted approach for integrating digital technology into education by combining face-to-face instruction with online learning activities. This approach enhances learning effectiveness through the complementary use of direct interaction and technology-supported experiences, while promoting student engagement, autonomy, and critical thinking skills (Huda, 2026). Within blended learning environments, interactions may occur synchronously through real-time communication or asynchronously through independent access to learning materials and assignments. The integration of both modes supports learning flexibility, continuous interaction, and the development of digital literacy, including within Islamic Religious Education contexts.

In digital and blended learning environments, learning interactions generally occur through synchronous and asynchronous modes. Synchronous learning refers to

real-time communication between teachers and students through various digital platforms, enabling immediate feedback, discussion, and interaction. In contrast, asynchronous learning allows students to access learning materials, complete assignments, and engage with educational resources independently at different times and locations. The integration of synchronous and asynchronous learning activities has been widely recognized as an effective strategy for enhancing learning flexibility, promoting learner autonomy, and supporting continuous interaction between teachers and students. Within Islamic Religious Education, these approaches provide opportunities for extending learning beyond classroom boundaries while facilitating the development of digital literacy and reflective learning practices.

A review of the literature over the past decade indicates that the success of technology integration in Islamic Education (PAI) is highly dependent on educators' level of readiness and digital literacy. Recent research reveals that although digital infrastructure is widely available, the readiness of PAI teachers still varies significantly, particularly in responding to technology-based learning innovations (Yarun, 2023). Several studies emphasize that teacher competence encompasses not only the technical aspects of device usage but also the ability to design implementation models capable of linking digital content with the depth of Islamic moral values (Suadi, 2025). Current innovations in the Islamic Education curriculum are focused on efforts to prepare a generation with strong character and competent digital literacy through adaptive and inclusive learning (Yansyah, 2024).

Although numerous studies on the digitization of education have been conducted, there is a clear research gap regarding the alignment between technical skills and the internalization of religious values. There is an inconsistency between curricular expectations and on-the-ground realities, where the use of technology is often merely administrative and fails to address students' affective dimensions (Hadi et al, 2025). Furthermore, PAI teachers' management of digital transformation is still often hindered by internal resistance and a lack of specific strategic models that integrate technology with moral values in the context of secondary schools (Apriyani et al, 2025). No study has yet been found that comprehensively explores how exemplary schools in transitional regions such as Pangkalpinang navigate these challenges while taking into account local wisdom and regional sociocultural dynamics.

SMAN 1 Pangkalpinang represents a unique educational context for examining the digital transformation of Islamic Religious Education. As the oldest public senior high school in the Bangka Belitung Islands Province, established in 1958, the school has long been recognized as one of the region's leading educational institutions. The school serves students from diverse social, cultural, and religious backgrounds, creating a multicultural learning environment that requires the integration of digital literacy, character education, and religious values. At the same time, the school operates within a transitional regional context where efforts to implement educational digitalization continue to face infrastructural and technological challenges. These characteristics make SMAN 1 Pangkalpinang an important and relevant case for understanding how digital transformation in Islamic Religious Education is implemented while maintaining the role of Islamic values in shaping students' character.

The main issue in this study centers on how Islamic Religious Education teachers at SMAN 1 Pangkalpinang manage the tension between technological

advancement and the need to reinforce Islamic values within digital learning environments. This study analyzes teachers' readiness for digital transformation, examines the adaptive strategies employed to address digitization challenges, and explores the role of digital learning in shaping students' character. Preliminary observations indicated that teachers had begun utilizing digital media, including presentation software and online communication platforms, despite existing infrastructural constraints. Therefore, SMAN 1 Pangkalpinang provides a relevant context for examining how digital transformation can be implemented while maintaining Islamic values and character formation.

To address the identified research gap and achieve the objectives of the study, the following research questions were formulated: 1) How ready are Islamic Religious Education teachers at SMAN 1 Pangkalpinang to respond to digital learning transformation?, 2) What adaptive strategies do Islamic Religious Education teachers employ to address challenges in implementing digital learning? 3) What is the role of digital learning in shaping students' character within Islamic Religious Education at SMAN 1 Pangkalpinang? These research questions provide the analytical framework for examining digital transformation in Islamic Religious Education while exploring how Islamic values are maintained and strengthened within digital learning environments.

The novelty of this study lies in the development of the concept of Value-Based Digital Pedagogy. While Mukarromah et al. emphasize digitalization as a post-pandemic necessity (Mukarromah et al., 2025) and Mintasih et al. focus on teachers' competencies, this study integrates teachers' digital readiness with the systematic incorporation of Islamic values into digital learning design. Thus, technology is positioned not as a challenge to religious education but as a medium for strengthening Islamic values in contemporary learning environments (Mintasih & Purnama, 2024).

Thus, this article aims to fill a gap in the literature and make both theoretical and practical contributions. Theoretically, this article enriches the study of the integration of Islamic values into digital learning. Practically, this article is expected to provide strategic recommendations for teachers, schools, and policymakers in developing technology-based Islamic Religious Education learning models that are not only pedagogically effective but also robust in instilling Islamic spiritual values in the digital age.

RESEARCH METHODOLOGY

This study employed a qualitative approach within an interpretive paradigm through a case study design to explore the digital transformation of Islamic Religious Education and the integration of Islamic values in educational practices. The interpretive paradigm was adopted to understand social reality as a holistic and dynamic phenomenon, enabling the researchers to explore the subjective meanings associated with teacher readiness, adaptive teaching strategies, and the role of digital learning in shaping students' character within a specific educational context (Mintasih & Purnama, 2024). A case study design was selected because it facilitates an in-depth and comprehensive examination of Islamic Religious Education (PAI) practices at a particular institution, namely SMAN 1 Pangkalpinang, allowing researchers to capture the complexity of interactions between technological innovation and Islamic values in a natural educational setting (Cecep Nugraha, 2023).

The research was conducted at SMAN 1 Pangkalpinang, Bangka Belitung Islands Province, Indonesia. The school was purposively selected because it had begun integrating digital technologies into teaching and learning activities while continuing to strengthen Islamic values within educational practices. As one of the leading secondary schools in the region, SMAN 1 Pangkalpinang provides a relevant setting for examining how digital transformation influences Islamic Religious Education in a transitional educational context (Mukarromah et al., 2025).

Participants were selected through purposive sampling to ensure that they possessed relevant experience and knowledge regarding the phenomenon under investigation. The study involved 18 participants consisting of four Islamic Religious Education teachers, one principal, one vice principal for curriculum affairs, and twelve students representing grades X, XI, and XII. Teachers served as the primary informants because of their direct involvement in implementing digital learning, while school leaders and students provided complementary perspectives regarding educational policies, instructional practices, and learning experiences. This sampling strategy aligns with qualitative inquiry, which prioritizes depth and richness of information rather than statistical generalization (Apriyani et al, 2025).

The study was conducted from August to October 2025 in a natural school setting to capture participants' experiences and document the ongoing process of digital transformation in Islamic Religious Education, including teacher readiness, adaptive teaching strategies, and the role of digital learning in shaping students' character. (Hadi et al, 2025).

Data were collected through methodological triangulation, including semi-structured interviews, non-participant classroom observations, and document analysis. Interviews explored participants' perceptions, experiences, challenges, and strategies related to digital transformation, adaptive teaching practices, the integration of Islamic values, and students' character development. Observations focused on classroom interactions, the use of digital technologies, and the incorporation of Islamic values into learning activities. Document analysis of lesson plans, learning materials, school regulations, and digital education policies was conducted to strengthen data triangulation and credibility (Yansyah, 2024).

Data analysis was carried out concurrently with data collection using the interactive model developed by Miles and Huberman, which consists of data reduction, data display, and conclusion drawing. To enhance analytical rigor, thematic analysis was also employed. First, open coding was conducted to identify meaningful statements related to teacher readiness, adaptive teaching strategies, digital learning practices, students' character development, and the integration of Islamic values. Second, axial coding was used to organize related codes into broader conceptual categories and to identify relationships among emerging concepts. Finally, thematic coding was applied to generate overarching themes that represented the central findings of the study. This iterative analytical process enabled the researcher to identify consistent patterns and develop themes that illustrate the dynamics of digital transformation in Islamic Religious Education, particularly concerning teacher readiness, adaptive teaching strategies, and the role of digital learning in shaping students' character. (Apriyani et al, 2025).

Data collection continued until data saturation was achieved, indicated by the absence of new themes, categories, or meaningful information emerging from subsequent interviews and observations. Saturation was reached during the final

stage of data collection when participants' responses consistently confirmed previously identified patterns concerning teacher readiness, adaptive teaching strategies, the integration of Islamic values, and the role of digital learning in shaping students' character.

To ensure the trustworthiness of the findings, source triangulation, member checking, peer debriefing, and audit trails were employed. Source triangulation involved comparing information obtained from teachers, school leaders, students, observations, and documents. Member checking was conducted to confirm the accuracy of interpretations, while peer debriefing helped minimize subjective bias. Detailed documentation of the research process was maintained through audit trails to enhance transparency and accountability (Hadi et al, 2025).

RESULTS

MAN 1 Pangkalpinang is the oldest secondary school in the Bangka Belitung Islands Province, established in 1958. The learning environment is inclusive and multicultural, supported by 48 teachers and 18 staff serving approximately 900 students. Observations and interviews revealed that, despite strong academic and non academic performance, limited internet connectivity remained one of the primary challenges affecting the implementation of digital learning at the school.

Although the school has achieved strong academic and non academic performance, observations and interviews revealed limitations in technological infrastructure, particularly the availability of internet connectivity, which has not yet operated optimally across the school environment. As a result, limited internet access remains a major challenge to digital learning at SMAN 1 Pangkalpinang.

Readiness of Islamic Religious Education Teachers in Digital Learning Transformation

The research findings indicate that the readiness of Islamic Religious Education teachers at SMAN 1 Pangkalpinang to address the transformation toward digital learning is at the adaptive stage, moving toward a transformative phase. All four Islamic Religious Education teachers hold bachelor's and master's degrees in Islamic Religious Education, providing them with a sufficient academic foundation to understand the urgency of digitalization in learning. The findings further revealed that teachers had begun utilizing various forms of digital technology to support learning activities. Nevertheless, limitations in internet connectivity and technological infrastructure continued to affect the implementation of digital learning within the school environment.

Qualitatively, Islamic Religious Education teachers demonstrated strong readiness to respond to digital learning transformation. Interviews and classroom observations showed that teachers actively utilized educational videos, digital Qur'an applications, PowerPoint presentations, and multimedia materials to support instruction. Teachers also expressed willingness to improve their digital competencies. However, their readiness has not yet been fully operationalized due to limitations in internet connectivity and digital facilities. Limited infrastructure emerged as one of the primary challenges affecting the implementation of digital learning at SMAN 1 Pangkalpinang. Interview and observation data revealed that the school did not yet have a fully operational internet connection, limiting access to online learning resources during instructional activities. As a result, Islamic Religious Education teachers relied on alternative digital platforms and resources to support

learning. Teachers frequently used WhatsApp groups for communication, assignment distribution, and learning coordination, while YouTube served as an additional source of learning materials and educational content. Despite these efforts, the use of digital technology remained relatively basic and had not yet been systematically integrated into lesson planning and classroom instruction.

Despite facing limitations in technological facilities, Islamic Religious Education teachers at SMAN 1 Pangkalpinang demonstrated a strong commitment to maintaining the quality of learning. Interview data indicated that teachers consistently attempted to integrate Islamic values, ethics, and character education into learning activities supported by digital media. Classroom observations also showed that teachers continued to emphasize spiritual values, moral messages, and character development during both digitally supported and face to face learning sessions. Teachers utilized available digital resources not only to deliver instructional content but also to support students' understanding of Islamic values in everyday life.

Strategies for Islamic Religious Education Teachers in Addressing Digital Challenges

The findings indicate that Islamic Religious Education (PAI) teachers at SMAN 1 Pangkalpinang have implemented various adaptive strategies to ensure that the learning process remains effective despite limitations in technological infrastructure. Based on interviews and classroom observations, teachers developed several approaches that enabled the flexible use of digital technology according to the school's conditions. One of the most frequently employed strategies was the offline distribution of digital content. Teachers independently downloaded learning materials from locations with internet access and subsequently distributed them to students through *Google Drive*, *WhatsApp*, or other storage media. This strategy enabled students to access digital learning resources despite the limited availability of internet connectivity within the school environment.

In addition, teachers implemented a basic blended learning approach by combining face to face classroom instruction with the use of digital learning media. Classroom observations revealed that teachers regularly utilized educational videos, digital presentations, and multimedia materials to support the delivery of Islamic Religious Education content. Following the use of digital materials, students were encouraged to participate in classroom discussions and reflective activities to deepen their understanding of the topics being studied. Furthermore, teachers combined in-class learning activities with digital learning tasks outside the classroom.

To support these activities, teachers uploaded learning materials such as presentation slides, learning videos, and supplementary readings to *Google Drive*, allowing students to access and review the materials independently outside classroom hours. In this context, *Google Drive* functioned as a supporting platform that connected face-to-face instruction with students' independent digital learning activities. Students were encouraged to access digital learning resources to reinforce and expand their understanding of previously discussed materials. This approach allowed students to continue learning beyond formal instructional hours while fostering greater learning autonomy and engagement.

School leaders acknowledged that Islamic Religious Education teachers demonstrated considerable creativity and initiative in adapting instructional practices to technological limitations. Despite limited digital facilities, teachers maximized available resources to maintain learning continuity, integrate digital learning

materials into classroom activities, and encourage students to continue learning beyond formal school hours.

Another frequently adopted strategy involved synchronous communication through *WhatsApp* groups. Teachers utilized this platform to share learning information, distribute assignments, answer students' questions, and facilitate religious discussions outside regular classroom hours. Students reported that communication through *WhatsApp* made it easier to interact with teachers and seek assistance when encountering difficulties in understanding learning materials. The findings also revealed that teachers encouraged students to utilize digital Qur'an applications and various electronic reading resources as part of developing digital literacy skills. Through this approach, students were provided with opportunities to learn independently, access broader sources of knowledge, and strengthen their self-directed learning abilities.

Table 1. PAI Teachers' Adaptation Strategies in In-Person Digital Learning

Types of Strategies	Media Used	Implementation Mechanism	Learning Outcomes
Offline Content Distribution	<i>Google Drive & WhatsApp</i>	Teachers download materials independently	Access digital materials without an internet connection
Basic Blended Learning	Videos & Class Discussions	Video viewing followed by reflection	Increased student engagement
Synchronous Communication	<i>WhatsApp</i> Group	Religious discussions outside of school hours	Humanistic teacher-student relationships
Guided Digital Literacy	<i>Quran Apps & E-books</i>	Independent app use	Self-regulated learning

Table 1 summarizes the adaptive strategies employed by Islamic Religious Education teachers in implementing digital learning amid limited technological infrastructure. The data show that teachers utilized various accessible digital platforms and learning resources, including *Google Drive*, *WhatsApp*, educational videos, digital Qur'an applications, and e-books, to support instructional activities, strengthen communication with students, and promote independent learning. The findings further indicate that teachers developed alternative instructional strategies that enabled learning activities to continue effectively despite the limited availability of digital facilities within the school environment.

The Role of Digital Learning in Shaping Students' Character

The findings indicate that digital learning contributed to students' character development within Islamic Religious Education. Teachers utilized educational videos, digital presentations, and online Islamic learning resources to connect religious concepts with contemporary issues and everyday life. Through these activities, students were encouraged to reflect on Islamic values and their practical application.

The principal explained that digital learning initiatives were implemented alongside the school's religious culture, including the practice of the 4S program, congregational Dhuha prayer, Qur'an recitation activities, and other character-building programs. According to the principal, digital learning was not intended to replace existing character education practices but rather to complement and strengthen students' understanding of religious values. Similarly, the vice principal for curriculum affairs stated that digital learning activities provided students with broader opportunities to access educational resources and engage with learning materials independently. The integration of digital resources into Islamic Religious Education learning was considered beneficial in encouraging students to become more responsible and active participants in the learning process.

Interview data from teachers revealed that students were frequently assigned to explore Islamic articles, educational videos, and other digital resources related to moral values, worship practices, and Islamic ethics. Students were then encouraged to discuss, present, and reflect on the information they had obtained. Teachers observed that these activities increased students' participation and encouraged them to connect classroom learning with their daily experiences.

Students reported that educational videos, digital Qur'an applications, and online learning materials helped them understand Islamic Religious Education topics more easily, increased learning motivation, and encouraged independent study beyond classroom hours. The findings further indicate that digital learning supported the development of learning responsibility, independent learning habits, and greater engagement with Islamic Religious Education content. Nevertheless, teachers acknowledged that variations in students' digital literacy skills and limitations in technological infrastructure remained challenges in the implementation of digital learning activities.

DISCUSSION

Readiness of Islamic Religious Education Teachers in Digital Learning Transformation

The findings of this study indicate that the readiness of Islamic Religious Education (PAI) teachers at SMAN 1 Pangkalpinang extends beyond the technical ability to use digital tools. Teacher readiness is reflected in their willingness to continuously adapt, learn, and integrate digital resources into the learning process despite limitations in technological infrastructure. This finding suggests that digital transformation in Islamic education should be understood not merely as a technological transition but as a pedagogical and professional transformation that requires teachers to become lifelong learners capable of responding to educational changes. From an Islamic perspective, the readiness of teachers to continuously improve their knowledge and competencies reflects the spirit of lifelong learning encouraged in Islam. Allah SWT states in Surah Al-Mujadilah verse 11:

يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ

Meaning: "Allah will surely elevate those among you who believe and those to whom knowledge has been given to a certain degree. Allah is fully aware of what you do".

This verse emphasizes the importance of continuous knowledge development as a fundamental principle in Islam. In the context of contemporary education, digital literacy and technological competence can be viewed as part of the knowledge and

skills that educators need to master in order to maintain the relevance of Islamic education in the digital era. This perspective is also supported by the Prophetic tradition that seeking knowledge is an obligation for every Muslim (HR. Ibn Majah). Therefore, the willingness of teachers to adapt to technological developments represents not only professional responsibility but also a commitment to the Islamic value of lifelong learning.

The findings are consistent with previous studies emphasizing the importance of teacher competence in supporting the successful implementation of digital learning. Mintasih and Purnama argue that teachers' ability to design and manage technology-based learning significantly influences the effectiveness of educational innovation (Mintasih & Purnama, 2024). Similarly, Amrulloh et al. found that secondary school teachers increasingly perceive digital technology as an essential pedagogical resource rather than merely an administrative tool. The present study supports these findings by demonstrating that teachers at SMAN 1 Pangkalpinang have shown positive attitudes toward digital learning and have actively sought opportunities to improve their digital competencies through self-directed learning and the utilization of available digital resources (Amrulloh et al, 2025).

However, this study also confirms the challenges identified by Sembiring, who highlights infrastructure limitations as a major obstacle to technology integration in Islamic education. Although teachers at SMAN 1 Pangkalpinang demonstrated strong motivation and professional commitment, limited internet connectivity and technological facilities constrained the implementation of more comprehensive digital learning practices. This finding indicates that teacher readiness alone is insufficient without adequate institutional support and technological infrastructure. (Sembiring, 2025).

A notable contribution of this study is the emergence of what may be termed "Educator Digital Resilience," referring to teachers' capacity to sustain meaningful digital learning practices despite limited technological infrastructure. This concept expands the conventional understanding of digital readiness, which is often measured primarily through access to technology and digital skills. The findings suggest that teacher readiness should also be understood through professional commitment, pedagogical adaptability, and the ability to creatively utilize available resources in addressing educational challenges. In this regard, teachers function not only as users of technology but also as educational innovators who continuously seek solutions to maintain learning quality and preserve the integration of Islamic values within digital learning environments.

The findings further support the argument of Murhayati et al. that the successful implementation of technology-enhanced learning depends not only on technological competence but also on teachers' ability to adapt to institutional constraints (Murhayati et al., 2026). Likewise, Mukarromah et al. emphasize that digital transformation in Islamic education is no longer optional but has become an inevitable necessity that requires innovative and context-sensitive pedagogical approaches. The experiences of teachers at SMAN 1 Pangkalpinang demonstrate that meaningful digital transformation can still occur even in contexts where technological resources remain limited, provided that teachers possess strong motivation, adaptability, and professional commitment (Mukarromah et al., 2025).

From a practical perspective, these findings imply that efforts to strengthen digital transformation in Islamic education should not focus exclusively on

infrastructure development. Equally important are continuous professional development programs, digital pedagogical training, and institutional support mechanisms that enable teachers to effectively integrate technology into learning. Strengthening these dimensions will help teachers become more resilient and better prepared to address future educational challenges while maintaining the core values of Islamic education in an increasingly digital society.

Strategies for Islamic Religious Education Teachers in Addressing Digital Challenges

The adaptive strategies implemented by Islamic Religious Education (PAI) teachers at SMAN 1 Pangkalpinang demonstrate a form of pedagogical resilience in responding to the challenges of digital transformation. Despite limitations in technological infrastructure, teachers were able to develop various instructional approaches that enabled the continuity of digital-based learning. This finding suggests that successful digital transformation in education is not solely determined by the availability of technological facilities but also by teachers' capacity to adapt instructional practices to local contexts and available resources.

From an Islamic perspective, these adaptive efforts reflect the principle of hikmah (wisdom) in educational practice. Allah SWT states in Surah An-Nahl verse 125:

أَدْعُ إِلَى سَبِيلِ رَبِّكَ بِالْحُكْمَةِ وَالْمَوْعِظَةِ الْحَسَنَةِ وَجَادِ لَهُمْ بِالَّتِي هِيَ أَحْسَنُ

Meaning: "Invite (people) to the path of your Lord with wisdom and good instruction and debate with them in the best manner...."

In the context of Islamic education, wisdom can be interpreted as the ability of teachers to select appropriate instructional methods according to students' characteristics and learning environments. The use of educational videos, multimedia presentations, and offline digital resources at SMAN 1 Pangkalpinang represents a contemporary manifestation of this principle. By utilizing accessible technologies, teachers were able to present Islamic teachings in ways that were more relevant and engaging for students who are increasingly familiar with digital media.

The findings support Mintasih and Purnama's argument that teachers' competence in designing technology-supported learning models remains a key determinant of educational effectiveness, even in contexts where technological facilities are limited (Mintasih & Purnama, 2024). Similarly, Ikhwan et al. emphasize that information technology provides opportunities for teachers to expand access to learning resources and enhance instructional quality. The experiences of teachers at SMAN 1 Pangkalpinang demonstrate that instructional innovation can emerge from creative adaptation rather than from technological abundance alone (Ikhwan et al., 2023).

The implementation of a basic *blended learning* approach that combines digital visual stimuli with in-depth classroom discussions creates a transformative learning dynamic. Teachers do not simply show videos; rather, they use them to spark moral awareness and critical discussion.

Another important finding is the implementation of blended learning practices that combine face-to-face instruction with digital learning activities conducted both inside and outside the classroom. Rather than using digital media merely as tools for content delivery, teachers utilized educational videos and digital

materials as triggers for discussion, reflection, and deeper exploration of Islamic teachings. This finding aligns with Sembiring's argument that the meaningful integration of technology can strengthen pedagogical practices and create more contextual learning experiences (Sembiring, 2025). Furthermore, Amrulloh et al. argue that the success of educational digitalization depends largely on the suitability of implementation models to local conditions and institutional readiness. The experience of SMAN 1 Pangkalpinang demonstrates that digital transformation can remain effective even under limited technological conditions when supported by teacher creativity and pedagogical adaptability (Amrulloh et al, 2025).

A notable aspect of the findings is the evolving role of teachers as digital content curators. Teachers were not merely consumers or users of technology; they actively selected, adapted, and organized digital materials that were appropriate for students' learning needs and aligned with Islamic values. This role contributed not only to the effectiveness of instruction but also to teachers' professional development by expanding their access to diverse educational resources beyond conventional textbooks. As noted by Ikhwan et al. the utilization of information technology enables educators to access broader learning networks and enrich their pedagogical practices (Ikhwan et al., 2023).

In addition to functioning as content curators, teachers also acted as moral guardians within digital learning environments. The findings reveal that teachers carefully integrated Islamic values into digital content and learning activities to ensure that technology use remained consistent with the ethical objectives of Islamic education. This finding supports Eryandi's argument that character development in the digital era requires the integration of technological innovation with moral and spiritual values. Rather than viewing technology as a threat to religious identity, teachers at SMAN 1 Pangkalpinang utilized digital media as a vehicle for reinforcing Islamic values through contextual and meaningful learning experiences (Eryandi, 2023).

The integration of Islamic values through digital reflective pedagogy at SMAN 1 Pangkalpinang provides an important contribution to the development of Islamic digital instructional design. The findings indicate that teachers do not merely utilize technology as a medium for content delivery but intentionally integrate religious values into every stage of the learning process. This approach is reflected in the synergy between school culture programs, such as the 4S (Smile, Greet, Salute, and Politeness) initiative and daily Dhuha prayer activities, with digital-based learning tasks and reflective activities. Through this integration, teachers have succeeded in creating a holistic educational ecosystem in which technological innovation remains closely connected to students' spiritual and moral development.

This finding supports the argument of Abdullah, who emphasize that effective digital learning design should not focus solely on technical efficiency but must also facilitate spiritual depth through reflective learning experiences. In the context of SMAN 1 Pangkalpinang, digital media were consistently utilized as instruments for reflection, discussion, and value internalization rather than merely as tools for information transmission. Consequently, the learning process becomes more meaningful because students are encouraged not only to understand Islamic concepts cognitively but also to relate them to their daily lives and religious practices. This approach demonstrates that the successful integration of technology in Islamic education depends not only on technological sophistication but also on the

pedagogical capacity of teachers to connect digital learning with the core values of Islam (Abdullah, 2025).

Another important strategy involved strengthening religious digital literacy through the cultivation of tabayyun (verification) in accessing and evaluating information. This approach is grounded in the teachings of Surah Al-Hujurat verse 6:

يَا أَيُّهَا الَّذِينَ آمَنُوا إِن جَاءَكُمْ فَاسِقٌ بِنَبَأٍ فَتَبَيَّنُوا

Meaning: "O you who have believed, if a wicked person comes to you with news, then verify its truth..."

The principle of tabayyun provides a relevant foundation for developing responsible digital literacy within Islamic education. Teachers encouraged students to critically evaluate digital information, utilize trusted Islamic learning resources, and engage with digital content responsibly. This approach reflects the growing need for Islamic education to prepare learners to navigate increasingly complex digital environments while maintaining ethical and religious awareness.

A significant contribution of this study is the emergence of what may be termed "Value-Based Digital Pedagogy," referring to an instructional approach that integrates digital technology with the systematic reinforcement of Islamic values. The findings indicate that digital learning becomes more meaningful when technological innovation is accompanied by ethical guidance, reflective activities, and value-oriented educational practices. This perspective extends existing discussions on digital pedagogy by highlighting the importance of balancing technological advancement with the moral objectives of Islamic education.

Overall, the adaptive strategies implemented by Islamic Religious Education (PAI) teachers at SMAN 1 Pangkalpinang demonstrate that infrastructural limitations do not necessarily hinder digital transformation; rather, they can serve as catalysts for the emergence of contextual pedagogical innovation. Through the implementation of blended learning, digital content curation, religious digital literacy enhancement, and value-oriented instructional design, teachers have successfully maintained the relevance of Islamic Religious Education within an evolving digital educational landscape. These findings support the emergence of a Value-Based Digital Pedagogy approach, which integrates the use of digital technology with the systematic internalization of Islamic values. Within this approach, technology functions not only as a medium for content delivery but also as a means of strengthening students' moral values, ethical awareness, and spiritual development.

From a practical perspective, these findings imply that efforts to strengthen digital transformation in Islamic education should not be limited to the provision of technological infrastructure alone. Equally important is the enhancement of teachers' pedagogical creativity and their capacity to integrate Islamic values into digital learning practices. The experience of SMAN 1 Pangkalpinang demonstrates that innovative, adaptive, and value-oriented teaching strategies can sustain both the relevance and the meaningfulness of Islamic Religious Education in an increasingly digital educational environment. Therefore, the successful implementation of Value-Based Digital Pedagogy requires not only technological support but also continuous professional development and institutional commitment to strengthening teachers' pedagogical and spiritual competencies.

The Role of Digital Learning in Shaping Students' Character

The findings of this study indicate that the role of digital learning in Islamic Religious Education extends beyond improving access to information and learning resources. More importantly, digital learning contributes to the development of students' character by fostering critical thinking, ethical awareness, self-regulated learning, and responsible digital behavior. The increased student engagement observed through the use of digital media, educational videos, and online learning resources confirms that digital literacy can strengthen students' religious understanding when integrated with appropriate pedagogical guidance. This finding is consistent with Hidayati's argument that digital literacy plays a strategic role in supporting students' religious learning experiences and enhancing their ability to interpret information critically within contemporary educational environments (Hanik Hidayati, 2024). Therefore, technology in Islamic education should not be viewed merely as a learning tool but as a medium that facilitates the development of intellectual and moral competencies simultaneously.

One of the most significant findings of this study is the emphasis placed by teachers on internet ethics (*adab fil-internet*) as part of students' character formation. Teachers consistently guided students to evaluate information critically, verify online sources, and interact responsibly in digital environments. This practice represents a concrete effort to develop ethical digital citizens capable of navigating the complexities of the information age. These findings support the theory proposed by Atikah et al., which argues that technology-based Islamic education should cultivate students' critical thinking skills in responding to contemporary issues (Za'imatul Atikah, Maftuhah, 2026). Similarly, Muniroh emphasizes that Islamic education has a strategic role in developing students' critical attitudes toward the rapidly changing digital world. Through this approach, Islamic Religious Education no longer focuses solely on knowledge transmission but also on the internalization of selective, ethical, and responsible behavior in cyberspace (Muniroh, 2024).

This finding is further supported by Abror and Noviani, who argue that strengthening communication ethics in digital environments contributes significantly to the development of digital wellbeing and social media ethics among Muslim youth. By integrating Islamic values into digital activities, students are encouraged to become agents of positive change who actively combat misinformation, hate speech, and cyberbullying (Abror & Noviani, 2025). Furthermore, Ahmad et al. propose that the principles of *Maqasid al-Shariah* provide a relevant framework for enhancing adolescents' digital competencies, whereby every technological interaction should contribute to the protection of religion, intellect, and human dignity (Ahmad et al., 2025). These perspectives reinforce the argument that character formation in digital learning environments must extend beyond technical competence toward ethical responsibility and moral awareness.

The character-building process identified in this study also reflects the integration of Islamic values into students' daily digital practices. The combination of school religious culture, including the 4S program, congregational Dhuha prayer, Qur'an recitation activities, and digitally supported learning tasks, creates a holistic character education environment. This finding challenges the conventional assumption that religious rituals and digital activities operate in separate domains. Instead, students are encouraged to connect spiritual values with their online behavior through reflective learning activities. Such an approach aligns with Eryandi's

argument that character education in the digital era requires the synchronization of technological innovation and value-based educational environments (Eryandi, 2023). Likewise, Putra highlights that digital learning can effectively cultivate discipline, responsibility, and moral awareness when supported by strong educational values (Putra, 2025).

Another important contribution of digital learning observed in this study is the enhancement of students' analytical skills and independent learning capacities. Through the utilization of digital Qur'an applications, e-books, educational videos, and various online references, students gain broader access to religious knowledge and are encouraged to engage in self-directed learning. However, teachers continue to play a central role as facilitators who guide students in evaluating information critically and responsibly. This finding supports Subakti et al., who argue that digital media can significantly improve analytical and critical thinking skills when accompanied by effective pedagogical support. Consequently, digital learning contributes not only to cognitive development but also to the formation of reflective and responsible learners (Subakti et al., 2026).

However, the effectiveness of technology integration within the Islamic Religious Education curriculum is largely determined by teachers' ability to adopt a comprehensive Technological Pedagogical Content Knowledge (TPACK) framework. Latip et al. emphasize that technological competence alone is insufficient unless accompanied by strong pedagogical and content knowledge. Technical unpreparedness may not only hinder the delivery of learning materials but may also reduce the effectiveness of Islamic value transmission if digital learning is not supported by adequate pedagogical capacity (Latip et al., 2023). Therefore, the role of teachers remains central in ensuring that technology functions as a meaningful educational medium rather than merely a technical tool.

From a theoretical perspective, the findings of this study strengthen the emerging concept of Value-Based Digital Pedagogy by demonstrating that the successful integration of technology in Islamic education depends on the systematic incorporation of Islamic values into digital learning experiences. The findings further contribute to the development of Digital Islamic Pedagogy, an educational approach that seeks to balance technological competence, critical literacy, and spiritual maturity. In line with Warmansyah et al. (2022), teachers' readiness to navigate the digital era must be accompanied by strong self-efficacy in utilizing digital platforms so that educational transformation goes beyond superficial technological adoption. Therefore, strengthening infrastructure, continuous professional development, and value-oriented digital learning policies are essential to ensure that the values of the Qur'an and Sunnah remain a moral compass for students amidst ongoing globalization (Warmansyah et al., 2022). The integration of Islamic values into digital learning is no longer an educational option but a necessity for shaping digitally literate, ethically responsible, and spiritually grounded Muslim learners.

CONCLUSION AND RECOMMENDATIONS

This study concludes that the successful digital transformation of Islamic Religious Education at SMAN 1 Pangkalpinang depends not only on technological infrastructure but also on teachers' readiness, adaptive pedagogical strategies, and the integration of Islamic values into digital learning practices. Despite infrastructural limitations, Islamic Religious Education teachers demonstrated adaptive-transformative readiness through the use of blended learning, digital content curation,

religious digital literacy activities, and value-oriented instructional practices. Digital learning contributed to the development of students' critical thinking, ethical awareness, independent learning, and responsible digital behavior while strengthening the internalization of Islamic values. These findings support the concept of Value-Based Digital Pedagogy, which emphasizes that technology should function not merely as a learning tool but also as a medium for fostering moral, ethical, and spiritual development within contemporary Islamic education.

The findings imply that teachers should continuously strengthen their digital pedagogical competencies and their capacity to integrate Islamic values into digital learning environments. Schools are encouraged to establish supportive ecosystems through improved digital infrastructure, expanded access to learning technologies, and continuous professional development programs. Policymakers should formulate sustainable policies that support value-based digital transformation in Islamic education through infrastructure development, teacher training, and digital literacy initiatives. As this study was limited to a single case study at one public secondary school, future research is recommended to involve broader educational contexts, comparative settings, and mixed-method approaches to further examine the effectiveness of Value-Based Digital Pedagogy in promoting students' digital literacy, character development, and religious competencies.

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