

Sustaining Digital Transformation in Faith-Based Schools: The Role of Strategic Leadership and Institutional Readiness

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Abstract:

This study aims to examine Islamic boarding school management strategies for responding to the challenges of the digital era, identify factors influencing technology acceptance and implementation, and explore adaptation experiences among administrators, educators, and students. This study used a multi-site qualitative case study design involving six Islamic boarding schools in Jambi Province, Indonesia. Data were collected through semi-structured interviews, non-participant observation, and document analysis, then analyzed using an interactive model that included data condensation, data presentation, and conclusion verification. The results revealed three main themes: (1) strategic digital management through institutional restructuring and administrative modernization; (2) technology acceptance influenced by policy support, infrastructure readiness, and human resource capacity; and (3) stakeholder adaptation characterized by selective technology integration while maintaining traditional learning methods such as sorogan and bandongan. This study concludes that sustainable digital transformation in Islamic boarding schools depends on strategic leadership that aligns technological advancements with religious identity. This research contributes by developing a holistic management framework that integrates digital transformation, organizational adaptation, and culturally responsive leadership in the context of Islamic educational institutions.

Keywords: *Digital Transformation, Organizational Adaptation, Islamic Strategic Leadership*

Abstrak:

Penelitian ini bertujuan untuk mengkaji strategi manajemen pesantren dalam merespons tantangan era digital, mengidentifikasi faktor-faktor yang memengaruhi penerimaan dan implementasi teknologi, serta mengeksplorasi pengalaman adaptasi pengelola, pendidik, dan santri. Penelitian ini menggunakan desain studi kasus kualitatif multisitus yang melibatkan enam pesantren di Provinsi Jambi, Indonesia. Data dikumpulkan melalui wawancara semi-terstruktur, observasi nonpartisipan, dan analisis dokumen, kemudian dianalisis menggunakan model interaktif yang mencakup kondensasi data, penyajian data, serta verifikasi kesimpulan. Hasil penelitian mengungkapkan tiga tema utama, yaitu: (1) manajemen digital strategis melalui restrukturisasi kelembagaan dan modernisasi administrasi; (2) penerimaan teknologi yang dipengaruhi oleh dukungan kebijakan, kesiapan infrastruktur, dan kapasitas sumber daya manusia; serta (3) adaptasi pemangku kepentingan yang ditandai dengan integrasi teknologi secara selektif sambil tetap mempertahankan metode pembelajaran tradisional seperti sorogan dan bandongan. Penelitian ini menyimpulkan bahwa transformasi digital berkelanjutan di pesantren bergantung pada kepemimpinan strategis yang mampu menyelaraskan kemajuan

teknologi dengan identitas keagamaan. Penelitian ini berkontribusi melalui pengembangan kerangka manajemen holistik yang mengintegrasikan transformasi digital, adaptasi organisasi, dan kepemimpinan responsif budaya dalam konteks lembaga pendidikan Islam.

Kata Kunci: *Transformasi Digital, Adaptasi Organisasi, Kepemimpinan Strategis Islam*

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INTRODUCTION

Islamic boarding schools (*pesantren*) are among the oldest and most influential Islamic educational institutions in Indonesia, functioning not only as centers of religious learning but also as social institutions that shape moral values, leadership, and community resilience (Darwanto et al., 2024; Rusydi, 2025). The rapid development of digital technology, particularly within the context of Industrial Revolution 4.0 and Society 5.0, has transformed educational ecosystems through digital platforms, artificial intelligence, cloud-based learning, and data-driven management (Ibda et al., 2023; Saepurohman et al., 2025). For *pesantren*, digital transformation is not merely a technological issue but also involves institutional governance, learning culture, character education, and the preservation of Islamic traditions (Nurdianzah et al., 2023). Therefore, adaptive management strategies are essential to ensure *pesantren* remain relevant while maintaining their religious identity amid continuous technological change (Ibda et al., 2023).

Despite the potential benefits of digital transformation, many *pesantren* face managerial challenges in technology integration, including organizational readiness, leadership capacity, digital literacy, financial sustainability, policy implementation, and resistance to change (Lateh et al., 2025; Pahrudin et al., 2025). Government initiatives related to digital administration, computer-based assessment, and technology-supported learning have encouraged *pesantren* to modernize their management systems while preserving their educational philosophy (Tantowi et al., 2025). However, unrestricted digital access also raises concerns regarding misinformation, cyber addiction, learning discipline, and moral degradation among students (Arroisi et al., 2025; Bahri et al., 2026). These conditions require *pesantren* to develop strategic approaches that balance technological innovation with Islamic values.

In Jambi Province, *pesantren* demonstrate diverse responses to digital transformation. Some institutions have adopted digital technologies through learning management systems, digital administration, and technology-assisted instruction, while others implement selective digital integration through controlled access and supervised technology use (Darwanto et al., 2024; Wasehudin et al., 2023). These differences are influenced by leadership vision, organizational culture, resource availability, and institutional readiness (Ju' subaidi et al., 2024; Lateh et al., 2025). Understanding how *pesantren* formulate and implement digital management strategies is therefore important for identifying sustainable adaptation models that preserve institutional identity and improve educational effectiveness (Arroisi et al., 2025).

Previous studies have examined digital transformation in Islamic education through digital learning platforms, administrative modernization, digital literacy, and technology adoption (Bashori et al., 2024; Jamil et al., 2025; Saepurohman et al., 2025). These studies highlight that digitalization can improve accessibility, efficiency, transparency, and learning effectiveness when supported by adequate infrastructure and human resources (Ibda et al., 2023; Lathifah et al., 2025). However, previous research has largely focused on technological implementation and educational outcomes rather than examining strategic management processes involving leadership, governance, organizational culture, and institutional adaptation (Rusydi, 2025). Furthermore, limited multi-site studies have explored how different pesantren characteristics influence digital transformation strategies.

Another limitation concerns the fragmented understanding of how pesantren integrate digital innovation while preserving traditional Islamic educational values. Existing studies often examine isolated aspects, such as digital literacy, technology acceptance, online learning, or administrative modernization, without integrating them into a comprehensive management framework (Hadiati et al., 2025; Wardi et al., 2025). Digital transformation in pesantren should therefore be understood as an organizational process requiring strategic leadership, adaptive policies, stakeholder involvement, and sustainable institutional management (Afifah et al., 2025; Fatmawati et al., 2023; Shin et al., 2023).

Based on these gaps, this study employs a multi-site perspective to analyze how pesantren formulate, implement, and evaluate management strategies in responding to digital-era challenges. Unlike previous studies that primarily view technology as an instructional or administrative tool, this research examines digital transformation as a strategic organizational process involving leadership, governance, resource management, institutional culture, and value preservation. By studying six pesantren in Jambi with different levels of digital adaptation, this research aims to identify strategic patterns and best practices for integrating technology while maintaining Islamic educational identity. Accordingly, this study addresses three questions: (1) how pesantren formulate management strategies for digital challenges; (2) what factors influence strategy implementation among leaders, teachers, and students; and (3) how stakeholders experience digital transformation within pesantren. The findings are expected to contribute to a strategic management framework for sustainable digital transformation in Islamic boarding schools.

RESEARCH METHODS

This study employed a qualitative research approach using a multi-site case study design to explore the meanings, processes, and dynamics of pesantren management strategies in responding to digital-era challenges. A qualitative approach was selected because it enables an in-depth understanding of organizational decision-making, implementation processes, and stakeholder experiences within natural settings. The multi-site design facilitated cross-case comparisons among pesantren with different levels of digital transformation, allowing the identification of common patterns, contextual variations, and

transferable management practices.

The research was conducted at six Islamic boarding schools in Jambi Province, Indonesia: Pondok Pesantren Ash-Shiddiqi Jambi, Pondok Pesantren As'ad Jambi City, Pondok Pesantren Darul Arifin Muaro Jambi, Pondok Pesantren Irsyadul Ibad Jambi, Pondok Pesantren Jauharul Falah Al Islamy Jambi, and Pondok Pesantren Saadatudarain Jambi City. The sites were selected purposively based on variations in institutional characteristics, leadership orientation, technological readiness, and digital transformation approaches. These differences provided a suitable context for examining diverse management strategies in integrating technology while maintaining traditional educational values.

Data were collected through semi-structured interviews, non-participant observations, and document analysis. Interviews involved pesantren leaders (mudir), teachers (ustadz/ustadzah), and students (santri) to explore institutional policies, leadership strategies, digital learning practices, and adaptation experiences. Observations focused on technological infrastructure, learning activities, administrative systems, and technology utilization, while documents such as institutional policies, digital learning guidelines, and administrative records were analyzed to support data triangulation.

Data analysis followed the interactive model of Miles, Huberman, and Saldaña, consisting of data condensation, data display, and conclusion drawing and verification. The collected data were coded, categorized, and organized into thematic patterns and cross-case comparisons across the six pesantren. Research trustworthiness was ensured through credibility, transferability, dependability, and confirmability strategies, including triangulation, member checking, contextual description, audit trails, peer debriefing, and systematic documentation.

RESULTS AND DISCUSSION

Results

Management Strategies in Responding to the Challenges of the Digital Era

Management strategies for responding to digital-era challenges refer to the policies, leadership decisions, and institutional initiatives adopted by pesantren to integrate technology while preserving Islamic educational values. Across the six institutions, digital transformation was implemented through diverse approaches influenced by institutional vision, infrastructure readiness, leadership commitment, and organizational culture. Three strategic patterns emerged: (1) institutional innovation through digital governance units and independent technology infrastructure development; (2) controlled digital integration through structured technology-based learning and regulated device usage; and (3) digitalization of administrative and academic systems to improve efficiency, transparency, and accountability. The findings indicate that successful digital transformation depends on proactive leadership, strategic planning, and adaptive governance. Digital transformation in pesantren is therefore not merely a process of technology adoption but a broader organizational strategy that combines innovation, resilience, and value preservation.

Table 1. Management Strategies in Responding to the Challenges of the Digital Era

Informant Position	Interview Excerpt	Indicator
Mudir, Pondok Pesantren Ash-Shiddiqi	"We established an Edutech Team to supervise the use of iPads, provide technical assistance, and ensure that digital learning follows pesantren regulations."	Organizational innovation and digital governance
Mudir, Pondok Pesantren Jauharul Falah Al Islamy	"The pesantren built its own communication tower because internet access is essential for both learning and administrative services."	Independent infrastructure development
Head of Computer Laboratory, Pondok Pesantren Saadatudarain	"Digital learning is scheduled through the computer laboratory, while students' personal smartphones remain restricted."	Controlled technology integration
Teacher, Pondok Pesantren Darul Arifin	"We use Quizizz and digital report systems because assessment results can be generated more quickly and accurately."	Digital academic evaluation
Teacher, Pondok Pesantren As'ad	"Technology is only used according to the learning schedule, while classroom televisions support audiovisual instruction."	Scheduled digital learning
Student (Santri), Pondok Pesantren Irsyadul Ibad	"Although we cannot freely use smartphones, the digital facilities provided by the pesantren are sufficient for learning activities."	Technology acceptance under institutional regulation

Table 1 shows that digital transformation strategies across the six pesantren emphasize structured governance rather than unrestricted technology adoption. The findings indicate that institutional leaders prioritize digital innovation through dedicated governance mechanisms, infrastructure development, and clear technology-use policies aligned with pesantren values. Initiatives such as the establishment of Edutech Teams, independent communication infrastructure, and regulated technology-based learning demonstrate institutional commitment to managed digital integration. Teachers reported improved efficiency in academic evaluation and administration, while students recognized the benefits of digital facilities despite limitations on personal device use. These findings suggest that digital transformation in pesantren is a strategic management process that involves leadership, organizational readiness, governance, infrastructure, and value preservation.

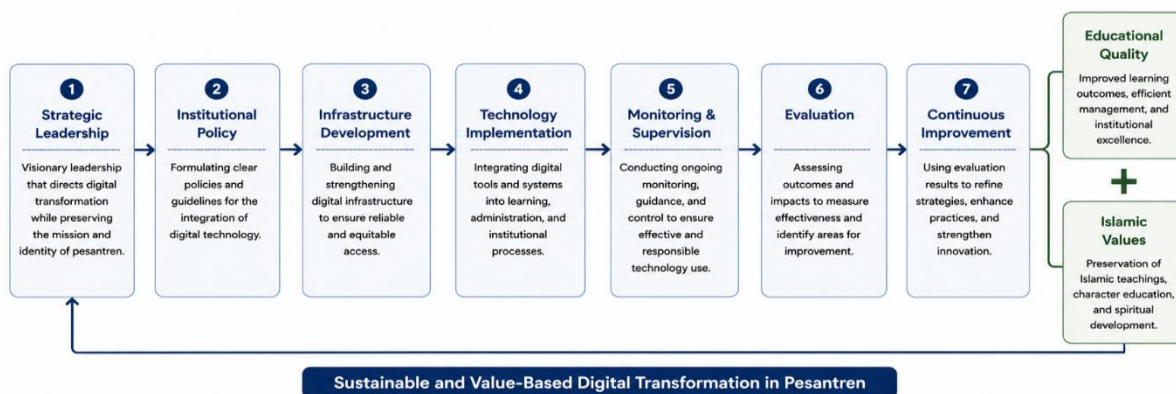


Figure 1. Strategic Digital Governance Framework in Pesantren

Figure 1 illustrates that digital transformation in pesantren is driven by a strategic governance cycle involving leadership vision, policy formulation, infrastructure development, technology implementation, monitoring, evaluation, and continuous improvement. This process ensures that digital innovation enhances educational quality and institutional effectiveness while preserving Islamic values and educational traditions.

The findings reveal three main strategic patterns: institutional transformation through digital governance structures and infrastructure development; controlled digital integration through regulated technology-based learning; and administrative digitalization through digital management systems and academic services. Across the six pesantren, technology adoption was not measured by the extent of digital usage but by the ability of strategic leadership to align innovation with governance, discipline, and Islamic educational identity.

Determinants of Technology Acceptance and Implementation

Technology acceptance and implementation in pesantren refer to the organizational process through which digital technology is adopted, utilized, and sustained. The findings indicate that acceptance is influenced by the interaction among institutional policies, leadership commitment, infrastructure readiness, human resource capacity, and organizational culture, rather than by technology availability alone. Three key determinants emerged: external drivers, including government policies and digital competency demands; infrastructural challenges, such as unstable internet and limited electricity; and variations in educators' digital literacy, requiring continuous professional development.

Institutional leaders highlighted that national policies, particularly computer-based assessments and digital education programs, encouraged pesantren to strengthen technological capacity. The director of Pondok Pesantren Darul Arifin stated that digital transformation is now unavoidable, as it is part of the national education system. This indicates that external regulations function not only as obligations but also as catalysts for strategic digital investment.

However, infrastructure limitations and human resource readiness remain major challenges. The head of Pondok Pesantren Irsyadul Ibad noted that unstable internet connectivity and electricity disruptions frequently affected digital learning activities. Differences in teachers' digital competencies were addressed through internal training, peer mentoring, and professional development programs. These findings demonstrate that technology acceptance in pesantren is a multidimensional organizational process requiring supportive leadership, adequate infrastructure, and continuous capacity building.

Table 2. Interviews on Determinants of Technology Acceptance and Implementation

Informant Position	Interview Excerpt	Indicator
Mudir, Pondok Pesantren Darul Arifin	"The implementation of CBT and ANBK requires us to strengthen our digital infrastructure because these assessments have become mandatory."	Government policy as a driving factor
Mudir, Pondok Pesantren As'ad	"Students must master digital skills because they will compete in universities and future workplaces."	Demand for digital competence

Head of Computer Laboratory, Pondok Pesantren Irsyadul Ibad	"Internet instability and frequent power outages often interrupt online learning and examinations."	Infrastructure limitations
Senior Teacher, Pondok Pesantren Jauharul Falah Al Islamy	"Senior teachers need more time to become familiar with digital applications compared with younger teachers."	Digital literacy gap
Young Teacher, Pondok Pesantren Ash-Shiddiiqi	"Internal workshops and peer mentoring help teachers become more confident in using digital learning platforms."	Professional development and peer support
Student (Santri), Pondok Pesantren Saadatudarain	"Digital learning becomes easier when teachers are confident in operating the technology."	User acceptance and instructional effectiveness

Table 2 shows that digital transformation strategies in pesantren emphasize structured digital governance rather than technology adoption alone. The findings reveal three main patterns: (1) institutional innovation through dedicated digital governance units, such as edutech teams, to manage technology implementation; (2) strategic infrastructure development, including independent communication facilities to support digital services; and (3) controlled technology integration through scheduled digital learning, regulated device use, and digital academic management systems. Students perceived technology use positively when supported by adequate institutional facilities. These findings indicate that successful digital transformation depends on leadership capacity, governance mechanisms, infrastructure readiness, and the ability to balance technological innovation with Islamic educational values.

Field observations supported these findings by showing differences in technological readiness among the six pesantren. Institutions with stronger infrastructure implemented digital learning, attendance systems, and online administration more effectively, while remote institutions faced connectivity and electricity challenges. Differences in teachers' digital competencies were addressed through training, technical support, and peer collaboration. These observations confirm that technology acceptance is shaped not only by infrastructure availability but also by institutional learning culture and leadership support for continuous capacity development.

Adaptation Experiences of Administrators, Teachers, and Students

The adaptation experiences of administrators, teachers, and students demonstrate that integrating digital technology into pesantren education involves cognitive, behavioral, and cultural adjustments extending beyond classroom instruction to pedagogical practices, administrative management, and the preservation of institutional traditions. Across the six participating pesantren, technology was consistently perceived as a complementary instrument rather than a replacement for the educational and spiritual values that define pesantren identity. Students reported that multimedia presentations, educational videos, podcasts, and digital content creation increased learning engagement, encouraged active participation, strengthened independent learning, and fostered creativity by transforming passive knowledge acquisition into collaborative and meaningful learning experiences. Nevertheless, these benefits were not distributed equally

across institutions. Students from pesantren with limited access to digital facilities, such as scheduled weekly computer laboratory sessions, reported that infrequent practice disrupted learning continuity and hindered the development of practical digital competencies, as they often forgot previously learned material before subsequent sessions. These findings indicate that successful technological adaptation depends not only on positive learner attitudes but also on sustained institutional support through adequate digital infrastructure, continuous access to learning resources, sufficient instructional time, and organizational policies that facilitate regular technology use. Therefore, effective adaptation in pesantren is characterized by a balanced integration of technological innovation and cultural preservation, where digital transformation enhances educational quality while maintaining the spiritual interaction, character formation, and religious traditions that remain the core identity of Islamic boarding schools.

Table 3. Interviews on Adaptation Experiences of Administrators, Teachers, and Students

Informant Position	Interview Excerpt	Indicator
Student (Santri), Pondok Pesantren Ash-Shiddiqi	"Digital media such as videos, podcasts, and presentations make learning more interesting and easier to understand."	Increased learning engagement
Student (Santri), Pondok Pesantren As'ad	"Computer laboratory sessions are only held once a week, so we often forget what we learned previously."	Limited access to digital learning
Teacher, Pondok Pesantren Darul Arifin	"Digital report systems and online assessment platforms significantly reduce administrative work, allowing us to focus more on teaching."	Administrative efficiency
Teacher, Pondok Pesantren Ash-Shiddiqi	"Visual learning media simplify complex explanations and encourage students to participate more actively during class."	Pedagogical transformation
Kyai, Pondok Pesantren Irsyadul Ibad	"Technology may assist learning, but it cannot replace direct interaction because blessings (barakah) are transmitted through personal guidance and exemplary conduct."	Preservation of Islamic educational values
Mudir, Pondok Pesantren Jauharul Falah Al Islamy	"Technology supports religious education, but classical learning methods such as <i>sorogan</i> and <i>bandongan</i> remain the foundation of pesantren."	Balanced digital adaptation

Table 3 shows that digital technology adaptation in pesantren varies among students, teachers, and leaders according to their roles. Students perceived digital media as improving learning engagement through more interactive and accessible materials, although limited facilities affected learning continuity. Teachers highlighted that technology enhanced instructional practices and administrative efficiency, particularly in assessment and reporting processes. Meanwhile, leaders emphasized that technology should serve as a supporting tool rather than replace spiritual guidance, moral education, and traditional learning practices. These findings indicate that successful digital adaptation in pesantren involves balancing learning innovation, administrative improvement, and the preservation of Islamic educational identity.

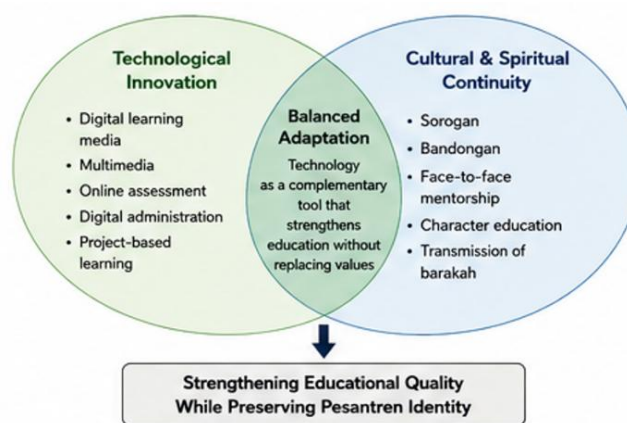


Figure 2. Conceptual Model of Balanced Digital Adaptation in Pesantren

Figure 2 illustrates that successful digital transformation in Islamic boarding schools is achieved through a balanced adaptation process, in which technological innovation and the preservation of Islamic educational values coexist rather than compete. On the one hand, technological innovation supports educational improvement through digital learning media, multimedia resources, online assessments, digital administration, and project-based learning, thereby increasing teaching effectiveness and institutional efficiency. On the other hand, Islamic boarding schools maintain their distinctive educational identity by preserving traditional learning methods such as sorogan and bandongan, while strengthening face-to-face mentoring, character education, and the dissemination of blessings. The combination of these two dimensions constitutes a selective digital integration model, in which technology serves as a complementary tool that enhances educational quality without replacing the philosophical, cultural, and spiritual foundations of Islamic boarding schools. Consequently, this balanced adaptation strengthens institutional quality while preserving the unique identity and religious mission of Islamic boarding schools.

Discussion

These findings indicate that Islamic boarding school management strategies for responding to the challenges of the digital era go beyond adopting technological tools and encompass comprehensive organizational transformation (Lateh et al., 2025; Wahono et al., 2023; Yusuf et al., 2024). Across the six participating pesantren, digitalization was implemented through institutional restructuring, infrastructure development, controlled technology integration, and administrative modernization while maintaining the core values of Islamic education. These findings are consistent with previous studies that emphasize digital transformation as an organizational process requiring adaptive leadership, institutional readiness, and strategic governance rather than simple technological investment (Izzah et al., 2025; Zuhri & Huda, 2024).

However, unlike much of the existing literature, which predominantly examines technology integration from instructional or technological perspectives, this study reveals that pesantren leadership deliberately balances innovation with religious identity by establishing organizational mechanisms, including dedicated

digital management teams, infrastructure investments, and technology governance policies (Basori et al., 2023). This finding extends current knowledge by demonstrating that digital transformation in Islamic educational institutions is shaped not only by technological capability but also by institutional culture, leadership vision, and value-based decision-making (Ghafar, 2023; Muhith et al., 2023). Theoretically, these findings enrich the literature on educational management by positioning digital transformation as a context-dependent organizational adaptation process. In practice, they suggest that policymakers and pesantren administrators should prioritize strategic leadership development, governance mechanisms, and institutional capacity building rather than focusing exclusively on technology procurement.

This study further reveals that the interaction of external and internal organizational factors influences technology acceptance and implementation. Government regulations, increasing societal expectations for digital competence, and institutional commitment function as major driving forces, whereas infrastructure limitations, geographical constraints, and disparities in teachers' digital literacy remain significant barriers (Afifah et al., 2025; Chen et al., 2024). These findings support widely accepted technology acceptance theories, which argue that organizational environments, facilitating conditions, and perceived usefulness significantly influence technology adoption (Baharun et al., 2025; Tantowi et al., 2025).

Nevertheless, the present findings extend these theoretical perspectives by demonstrating that technology acceptance within pesantren is strongly mediated by institutional leadership and organizational support rather than individual willingness alone. The adaptive responses observed across the research sites, including peer mentoring, continuous professional development, and gradual implementation strategies, indicate that organizational learning plays a central role in reducing resistance to technological change (Braojos et al., 2024). From a theoretical standpoint, this study contributes to educational management research by integrating technology acceptance with institutional governance and organizational adaptation. From a practical perspective, the findings imply that sustainable digital transformation requires simultaneous investment in technological infrastructure, human resource development, and supportive leadership to foster continuous institutional learning.

Another important finding concerns the adaptation experiences of administrators, teachers, and students, which illustrate that successful digital transformation depends on balancing educational innovation with the preservation of religious traditions (Salim et al., 2025; Suparjo et al., 2024; Warisno et al., 2025). Students consistently perceived digital learning as more engaging and interactive; teachers acknowledged improvements in instructional efficiency and administrative effectiveness, and institutional leaders emphasized that technology should complement, rather than replace, direct religious instruction (Fatmawati et al., 2023; Taufikin et al., 2025).

These findings are consistent with previous research suggesting that digital technology enhances student engagement and teaching effectiveness; however, they differ from studies advocating extensive substitution of digital for

conventional learning. In the context of pesantren, traditional instructional methods such as sorogan and bandongan continue to play an indispensable role by facilitating spiritual guidance, character formation, and the transmission of barakah through direct interaction between teachers and students (Suresman et al., 2025). Consequently, the findings demonstrate that educational innovation in Islamic boarding schools is not measured by the extent of digitalization but by the institution's ability to integrate technological advancement without weakening its pedagogical philosophy and religious identity (Bahri et al., 2026; Ju'subaidi et al., 2024; Wedi & Mardiana, 2025). This perspective contributes to theoretical discussions on culturally responsive educational innovation while offering practical guidance to Islamic educational institutions seeking to modernize without sacrificing their distinctive traditions.

Overall, this study proposes that successful digital transformation in pesantren should be understood as a multidimensional management process integrating strategic leadership, organizational readiness, technological infrastructure, human resource development, pedagogical innovation, and cultural preservation (Ahmad, 2025; Fauzi et al., 2025). Unlike previous studies that often examine these dimensions separately, the present research demonstrates that they operate as interconnected components within a holistic institutional ecosystem. The multi-site design further strengthens this contribution by identifying recurring patterns across diverse pesantren while recognizing contextual differences in institutional capacity and digital readiness (Abbasi et al., 2024; Braojos et al., 2024).

Theoretically, the study contributes to the development of a contextual model of digital transformation in Islamic educational institutions by illustrating how organizational adaptation is negotiated through the interaction between modernization and religious values. Practically, the findings provide evidence-based recommendations for educational policymakers, pesantren leaders, and stakeholders to formulate adaptive digital transformation strategies that are technologically progressive, organizationally sustainable, and culturally sensitive. Such an integrated approach is expected to enhance institutional resilience, educational quality, and the long-term sustainability of pesantren in responding to the rapidly evolving demands of the digital era.

CONCLUSION

This study concludes that the successful digital transformation of pesantren is determined not by the extent of technology adoption but by the ability of institutional leaders to strategically integrate digital innovation while preserving Islamic educational values and traditions. The most important finding demonstrates that adaptive management, organizational readiness, human resource development, and value-based leadership collectively enable pesantren to respond effectively to the challenges of the digital era without compromising their religious identity. This study contributes to the advancement of educational management literature by proposing a holistic understanding of digital transformation that integrates strategic management, technology acceptance, and culturally responsive educational practices within Islamic boarding schools.

Nevertheless, this study is limited by its focus on six pesantren in Jambi Province, which may not fully represent the diversity of pesantren across Indonesia. Future research is therefore encouraged to employ comparative studies across different regions, mixed-methods approaches, or longitudinal designs to examine the long-term sustainability and broader applicability of digital transformation strategies in Islamic educational institutions.

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