

Strategic Management of Digital-Based Learning in Enhancing Religious Literacy and Critical-Contextual Understanding of Islamic Teachings in Madrasah

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Abstract

The integration of digital technology into Islamic education has created new opportunities for enhancing students' religious literacy while simultaneously presenting challenges related to the management of learning processes. This study examines how digital-based learning is strategically managed in a madrasah located in North Lampung, Indonesia, with a particular focus on its role in fostering critical and contextual understanding of Islamic teachings. Employing a qualitative case study design, the research explores institutional planning, classroom implementation, and evaluative practices as interconnected processes shaping digital learning. The findings reveal that digital learning is most effective when supported by structured management, where leadership plays a central role in aligning technological use with educational objectives. In classroom practices, digital media facilitates more interactive and participatory learning, enabling students to engage with religious content beyond rote memorization. Furthermore, evaluative practices emphasize students' ability to interpret, relate, and critically respond to Islamic teachings in contemporary contexts. The study highlights that digital learning, when systematically managed, contributes not only to improved access to knowledge but also to the development of deeper and more reflective understanding. These findings underscore the importance of integrating managerial strategies with pedagogical practices to ensure the sustainability and effectiveness of digital learning in Islamic educational institutions.

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INTRODUCTION

The rapid advancement of digital technology has significantly transformed educational practices across the globe, including within Islamic educational institutions. The increasing penetration of internet access and mobile devices in Indonesia has reshaped how students engage with knowledge, including religious content (Andok, 2023; Nauvaldi, 2023; Pratiwi & Krisnawati, 2021). According to national statistics, internet usage among students has continued to rise, with digital platforms becoming a primary source of information and learning resources (Maulia, 2024; Rajput, 2025;

Rajput & Chaudhary, 2025). This shift presents both opportunities and challenges for madrasah, which are expected to maintain the integrity of Islamic teachings while adapting to contemporary learning environments. In practice, many Islamic educational institutions have begun integrating digital media into their instructional processes; however, such integration often occurs without a structured managerial framework (Arifah & Fawait, 2025; Hamdani et al., 2025; Malizal, 2025). As a result, the use of digital media tends to be fragmented, inconsistent, and dependent on individual teacher initiatives rather than institutional strategies (MacCallum, 2025; Suve, 2025; Wanyong JIANG, 2025). This condition raises critical concerns regarding the effectiveness of digital learning in fostering not only access to religious knowledge but also deeper, critical, and contextual understanding among students.

Recent studies have highlighted the growing role of digital media in enhancing student engagement and learning outcomes in religious education contexts (Akhter, 2025; Saraswat, 2024; Tick & Ling, 2025). Research indicates that multimedia-based learning, including instructional videos and interactive platforms, can improve students' motivation and comprehension (Mahfudi & Shohib, 2025; Sun, 2024; Ulfaa et al., 2025). Similarly, digital applications such as Qur'an-based platforms have been found to facilitate flexible access to Islamic knowledge, enabling students to explore religious content beyond classroom boundaries (Syihabudin, 2024). Other studies emphasize that online discussion forums and digital communities can foster critical thinking by encouraging students to interpret and debate religious issues within contemporary contexts (Aderibigbe et al., 2023; Hidayat, 2025; Schmidt, 2025). In addition, Cai (2024) highlights the effectiveness of blended learning approaches in increasing student engagement in Islamic education. While these studies collectively demonstrate the pedagogical potential of digital media, they predominantly focus on instructional outcomes and student behavior, with limited attention to how such practices are systematically managed at the institutional level.

Despite the growing body of research on digital learning in Islamic education, there remains a notable gap concerning the role of management in shaping the effectiveness and sustainability of digital integration. Existing studies tend to treat digital learning as a pedagogical tool rather than as part of a broader organizational process that involves planning, coordination, and evaluation. Consequently, little is known about how leadership, institutional policies, and structured management practices influence the success of digital learning initiatives in madrasah. This gap is particularly significant in developing contexts such as North Lampung, Indonesia, where disparities in infrastructure, teacher competence, and access to reliable digital resources may affect implementation. This study addresses this gap by positioning digital learning not merely as a teaching strategy but as a managed institutional practice. The novelty of this research lies in its focus on the intersection between educational management and digital learning within Islamic education, offering a contextually grounded analysis that integrates leadership, instructional practice, and evaluative processes.

The primary objective of this study is to examine how digital-based learning is strategically managed in madrasah to enhance students' religious literacy and foster critical and contextual understanding of Islamic teachings. Specifically, the study seeks to explore how planning processes are formulated at the institutional level, how digital learning is enacted within classroom practices, and how evaluation mechanisms are used to assess students' understanding. By addressing these aspects, the study aims to contribute to the development of a more comprehensive framework for managing digital learning in Islamic educational settings. The findings are expected to provide both

theoretical and practical insights, particularly in informing school leaders and policymakers on how to design and implement more coherent and sustainable digital learning strategies that align with the values and objectives of Islamic education.

This study is grounded in the argument that the effectiveness of digital learning in Islamic education is not solely determined by the availability of technology but by how it is managed within an institutional framework. Digital tools can facilitate access to knowledge, but without structured planning and evaluation, they may fail to produce meaningful learning outcomes. Therefore, this study focuses on understanding the processes through which digital learning is organized, implemented, and assessed in a madrasah context. By exploring these processes, the study seeks to uncover how digital learning can support the development of students who are not only knowledgeable but also capable of critically engaging with Islamic teachings in relation to contemporary social realities. The following section outlines the methodological approach used to investigate these processes in depth.

RESEARCHS METHOD

This study adopts a qualitative research design situated in a real educational setting to explore how digital-based learning is managed within Islamic educational practices (Gürsoy, 2025; Khairunnisa & Dartim, 2024; Sithole, 2025). The research was conducted in a madrasah located in North Lampung, Indonesia, a region that reflects the evolving integration of digital technology in Islamic education within a developing context. A case study type is employed to allow an in-depth exploration of institutional practices, focusing on how management processes shape the use of digital media in learning (Crabtree & Fogel, 2022; Suresh, 2021; West et al., 2021). This design is particularly relevant as it enables the researcher to examine complex interactions between leadership, instructional practices, and technological adaptation within a bounded system. The qualitative approach is grounded in an interpretive perspective, emphasizing the understanding of meanings constructed by participants in their daily educational practices (Moon, 2024; Zhang, 2025). This approach supports the investigation of how digital learning is not only implemented but also managed as part of institutional strategies in strengthening students' religious literacy.

Data were generated through in-depth engagement with participants, supported by direct examination of classroom activities and institutional documents related to digital learning practices. These methods were selected to capture the interplay between managerial decisions and instructional implementation within the madrasah context. The researcher acted as the primary instrument, engaging with participants in a flexible yet focused manner to explore their experiences and perspectives (Grenier, 2023; Schuster, 2023; Yoon & Uliassi, 2022). The study was conducted over a period of three months in North Lampung, allowing the identification of recurring practices and institutional patterns. To strengthen the credibility of the findings, triangulation across different data sources and reflective confirmation with participants were applied, ensuring that interpretations accurately represent the realities of the setting. Informants were purposively selected based on their roles in managing and implementing digital learning practices.

Data analysis was conducted through an interactive process inspired by the framework of Miles and Huberman, involving data condensation, data organization, and interpretative conclusion drawing (Bingham, 2023; Laari, 2025; Lochmiller, 2021). This approach was selected because it allows for systematic handling of qualitative data while preserving the depth and context of participants' experiences. The analysis began

by identifying significant statements and patterns emerging from the data, which were then organized into meaningful categories reflecting managerial processes and instructional practices. These categories were further interpreted to construct a coherent understanding of how digital-based learning is managed within the madrasah. To enhance credibility, the analysis involved continuous comparison across data sources and iterative reflection to ensure consistency in interpretation (Kłopotek & Kłopotek, 2023). This process enabled the researcher to move beyond surface descriptions and develop insights that reflect the complexity of digital learning management. The analytical approach ensures that findings remain grounded in empirical realities while offering a nuanced understanding relevant to the study's focus.

RESULT AND DISCUSSION

Result

Planning of Digital-Based Learning

Planning in digital-based learning management refers to a structured process through which educational institutions formulate strategic directions, allocate resources, and design instructional frameworks that integrate digital media into Islamic Religious Education. In the context of madrasah, planning is not merely administrative but reflects institutional awareness in responding to technological developments while maintaining the integrity of Islamic values. This process involves leadership orientation, goal formulation, and alignment between curriculum objectives and digital learning strategies. Planning also encompasses the selection of appropriate digital platforms, preparation of teacher competencies, and anticipation of potential challenges in implementation. Within this framework, planning becomes the foundational stage that determines how digital learning is systematically organized and sustained. It reflects how madrasah leadership translates institutional vision into actionable programs that support the development of students' religious literacy and their ability to understand Islamic teachings in a critical and contextual manner.

The direction of digital-based learning planning is strongly influenced by institutional leadership, particularly in determining policies and priorities related to technology integration. Informants emphasized that planning is not incidental but consciously designed to respond to students' learning needs in the digital era. This indicates that digital learning is positioned as a strategic agenda rather than a complementary activity. As expressed by one informant: "The use of digital media in our madrasah has been planned through coordination meetings, where we determine which platforms are suitable for Islamic subjects and how they align with learning objectives (I_Principal_2025)." Similarly, another informant stated: "Before applying digital learning, we prepare lesson plans that integrate videos and online resources, so students can understand the material more contextually (I_Teacher_2025)."

The statements above illustrate that planning is not limited to technical preparation but involves deliberate institutional decision-making. The involvement of leadership in coordinating the use of digital platforms shows that planning operates at a managerial level rather than being left to individual teacher initiatives. Through the interviews, it becomes evident that digital integration is framed as part of a broader instructional strategy that aligns with curriculum objectives. The preparation of lesson plans incorporating digital media also indicates that teachers are not merely users of technology but active designers of learning experiences. This suggests a shift from spontaneous use of digital tools toward structured pedagogical planning. Furthermore,

the emphasis on contextual understanding highlights that digital media is selected not only for accessibility but for its relevance in helping students interpret Islamic teachings within contemporary realities. Overall, planning reflects a conscious effort to ensure that digital learning contributes meaningfully to students' religious literacy.

The conditions found in the field show that planning of digital-based learning is carried out through formal and informal institutional mechanisms. Coordination meetings between the madrasah principal and teachers are routinely conducted to determine the direction of digital integration, including the selection of platforms such as learning videos, online applications, and digital Qur'an resources. In addition, teachers prepare instructional documents that incorporate digital components into lesson plans, indicating a structured approach to implementation. It was also found that the availability of internet access and digital devices is considered during the planning stage, ensuring that the designed strategies can be effectively executed. In several learning contexts, digital media has been aligned with specific learning objectives, particularly in subjects such as fiqh and aqidah. These conditions demonstrate that planning is not abstract but grounded in actual institutional practices that connect leadership decisions with classroom realities.

Based on the field findings, digital-based learning management in madrasah is implemented through a systematic and cyclical process involving leadership, planning, implementation, evaluation, and impact. This process reflects a continuous improvement mechanism in managing digital learning. The model is presented in **Figure 1**.

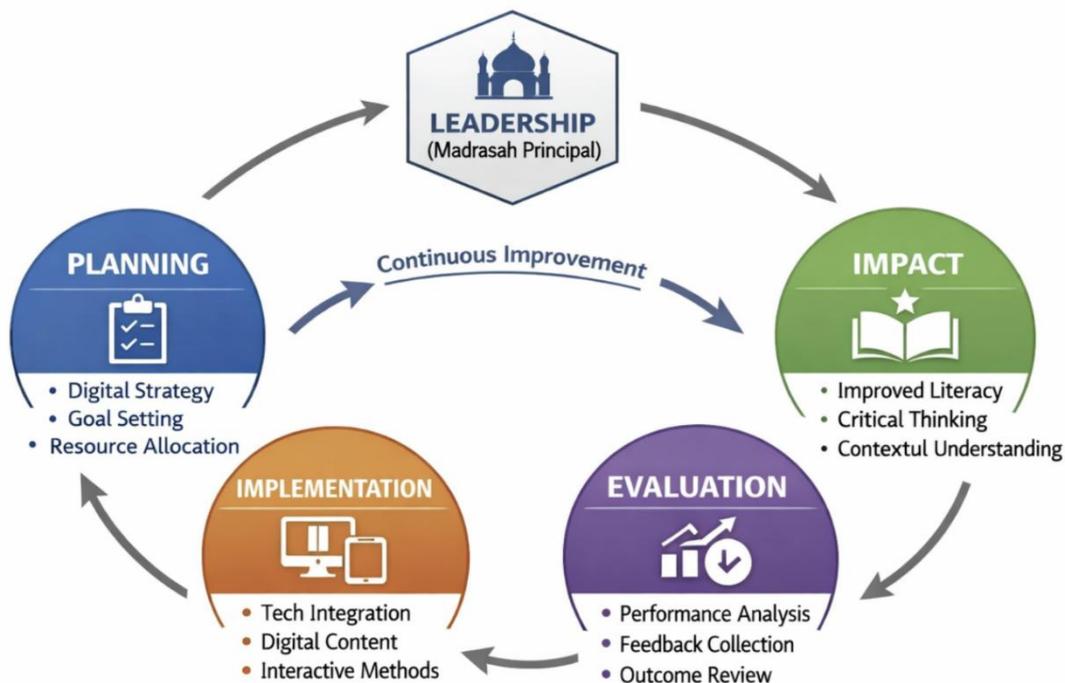


Figure 1. Digital Learning Management Model in Madrasah

The model presented in **Figure 1** reflects a systemic pattern in managing digital-based learning within madrasah, where leadership functions as the central driving force that shapes the entire process. Rather than depicting a linear sequence, the model emphasizes a cyclical mechanism in which planning, implementation, evaluation, and

impact are interconnected and continuously influence one another. Planning is positioned as the initial stage where strategic directions are formulated, including goal setting and resource allocation. This is followed by implementation, where digital tools and instructional approaches are operationalized in classroom practices. The presence of an evaluation stage indicates that learning processes are subject to ongoing review, allowing institutions to assess effectiveness and make necessary adjustments. The impact component highlights the expected outcomes, particularly the improvement of students' religious literacy, critical thinking, and contextual understanding of Islamic teachings. The circular flow connecting these components signifies that the process does not end at evaluation but feeds back into planning, creating a continuous improvement loop. This model demonstrates that digital learning management in madrasah operates as a dynamic and adaptive system rather than a static instructional approach.

Implementation of Digital-Based Learning

The implementation of digital-based learning in madrasah reflects a dynamic interaction between instructional practices and students' engagement with religious content. In several learning sessions, teachers utilized digital media such as instructional videos, Qur'an applications, and online discussion platforms to facilitate understanding of Islamic teachings. Students were observed actively engaging with these resources, particularly when multimedia content was used to explain abstract concepts in fiqh and aqidah. In addition, classroom practices showed that digital tools were not only used for content delivery but also to encourage participation through question-and-answer sessions and collaborative discussions. The use of smartphones and school-provided internet access supported this process, enabling students to explore additional references independently. These conditions indicate that digital learning has been integrated into instructional routines, shaping how students access, interpret, and respond to religious knowledge in a more interactive manner.

The implementation of digital learning is closely related to how teachers structure classroom activities and guide student engagement with digital resources. Informants highlighted that the use of digital media has shifted learning patterns from passive reception to active participation. This shift suggests that digital tools are not merely supplementary but have become integral to instructional delivery. As expressed by one informant: "When I use learning videos, students tend to ask more questions because they can see real examples, not just explanations from the textbook (I_Teacher_2025)." This perspective is reinforced by another statement: "Students are more interested in accessing Islamic content through applications because it is easier and more flexible compared to printed materials (I_Student_2025)." These statements illustrate that implementation is characterized by increased engagement and accessibility. It shows that digital media facilitates more responsive and participatory learning experiences. Building on these findings, the patterns of digital-based learning utilization are presented in **Table 1**.

Table 1 demonstrates that digital-based learning in madrasah is implemented through varied and structured practices that go beyond basic media usage. Each practice reflects a deliberate effort by teachers to connect digital tools with specific learning objectives in Islamic education. The integration of videos, applications, and online discussions indicates that learning activities are designed to foster engagement, interpretation, and independent exploration. Furthermore, the contributions identified

in the table show that digital media not only improves access to religious sources but also supports deeper comprehension and critical engagement. Students are not positioned as passive recipients but as active participants who interpret, question, and relate Islamic teachings to real-life contexts. Overall, the table highlights that digital learning practices contribute significantly to shaping a more interactive, reflective, and literacy-oriented learning environment in madrasah.

Table 1. Patterns of Digital Learning Practices

| Digital Learning Practices | Description of Implementation in Madrasah Context | Contribution to Religious Literacy |
|--|---|--|
| Integration of instructional videos in fiqh and aqidah lessons | Teachers utilize contextual video content to explain abstract religious concepts, often followed by guided discussion sessions | Students demonstrate better conceptual understanding and are able to relate theoretical concepts to real-life situations |
| Use of Qur'an-based digital applications during learning sessions | Students access digital Qur'an platforms to explore verses, translations, and interpretations independently during class activities | Enhances students' ability to connect textual sources with meaning, fostering deeper engagement with Islamic teachings |
| Facilitation of online discussion forums within classroom activities | Teachers encourage students to participate in structured digital discussions, responding to questions and sharing interpretations | Develops interpretative skills and encourages students to articulate their understanding critically |
| Application of interactive quizzes using digital platforms | Digital quizzes are used at the end of lessons to assess comprehension and stimulate active participation | Reinforces students' retention of material and encourages active involvement in the learning process |
| Assignment of independent digital exploration tasks | Students are directed to search for relevant Islamic content through trusted digital sources and present their findings | Promotes autonomous learning and strengthens students' ability to evaluate and interpret religious information |

Evaluation of Digital-Based Learning

Evaluation of digital-based learning refers to a systematic process of assessing the extent to which instructional objectives are achieved through the use of digital media in Islamic Religious Education. This process involves examining students' comprehension, interpretative ability, and their capacity to relate Islamic teachings to contemporary contexts. In the madrasah setting, evaluation is not limited to summative assessment but includes continuous monitoring of students' learning progress through various digital and non-digital methods. It encompasses the use of interactive tools, reflective discussions, and performance-based assessments that capture deeper levels of understanding. Evaluation also reflects how teachers interpret students' responses and provide feedback that supports further learning development. Within this framework, evaluation serves as a critical mechanism for identifying the effectiveness of digital learning practices and ensuring that students develop a meaningful, critical, and contextually grounded understanding of Islamic teachings.

The evaluation of digital-based learning in madrasah is carried out through both formal assessment practices and reflective classroom interactions. Teachers assess students' understanding not only through written tests but also through their ability to explain, interpret, and respond to religious issues discussed during learning activities. In several instances, students were asked to relate Islamic teachings to contemporary social contexts after engaging with digital content. It was also found that digital platforms such as quizzes and discussion forums were used to monitor students'

comprehension in real time. Teachers observed how students responded to questions, the depth of their arguments, and their ability to connect textual sources with contextual situations. Additionally, feedback was provided directly during or after digital activities, allowing students to refine their understanding. These conditions indicate that evaluation is integrated into the learning process and focuses on measuring students' critical engagement with Islamic teachings rather than mere memorization.

The interview findings reveal that evaluation practices are oriented toward capturing students' cognitive and interpretative development rather than simply measuring factual recall. Teachers actively design assessment activities that require students to articulate their understanding, relate religious concepts to everyday experiences, and engage in reasoned discussion. This indicates that evaluation is embedded within the learning process and functions as a tool for observing how students construct meaning.

The use of digital platforms further enhances this process by providing immediate insight into students' responses and participation patterns. Teachers are able to identify variations in students' levels of understanding based on the depth of their explanations and arguments. This suggests that evaluation is not static but adaptive, allowing teachers to adjust instructional approaches based on observed learning outcomes. Overall, evaluation reflects a shift toward a more reflective and analytical assessment model that supports the development of critical understanding in Islamic education.

Drawing on the field findings, the patterns of evaluation practices in digital-based learning are summarized in **Table 2**.

Table 2. Evaluation Practices and Indicators of Critical Understanding in Digital Learning

| Evaluation Practices | Description of Implementation in Madrasah Context | Indicators of Critical Understanding |
|------------------------------------|--|--|
| Contextual explanation tasks | Students are asked to explain religious concepts after engaging with digital content, linking them to real-life situations | Ability to interpret and contextualize Islamic teachings |
| Digital discussion assessment | Teachers evaluate students' participation and arguments in online discussion forums | Ability to construct arguments and respond critically |
| Interactive digital quizzes | Quizzes are used to assess comprehension and identify misconceptions during learning sessions | Ability to differentiate concepts and apply knowledge |
| Reflective questioning by teachers | Teachers pose open-ended questions based on digital materials to stimulate deeper thinking | Ability to analyze and elaborate on religious issues |
| Feedback-based evaluation | Teachers provide immediate feedback on students' responses during digital activities | Ability to refine understanding and improve reasoning |

The evaluation of digital-based learning in madrasah demonstrates a transition toward more reflective and analytical assessment practices. The findings indicate that evaluation is not limited to measuring factual knowledge but extends to assessing students' ability to interpret, contextualize, and critically engage with Islamic teachings. Teachers play a central role in facilitating this process by designing assessment activities that encourage explanation, discussion, and reflection. The use of digital platforms further supports evaluation by enabling real-time monitoring of students' responses and

participation. This allows for more responsive and adaptive assessment practices that align with students' learning needs. In addition, evaluation contributes to the development of critical understanding by encouraging students to connect religious knowledge with contemporary realities. Overall, evaluation functions as a key mechanism in ensuring that digital learning not only enhances access to information but also fosters deeper and more meaningful engagement with Islamic teachings.

Discussion

The findings of this study indicate that digital-based learning management in madrasah operates through an integrated and cyclical process that begins with structured planning, followed by adaptive classroom implementation, and culminates in evaluative practices that emphasize critical understanding. Leadership plays a central role in shaping institutional direction, ensuring that digital integration is aligned with educational goals and Islamic values. At the instructional level, digital media transforms learning dynamics by encouraging active student engagement, interpretative exploration, and contextual understanding of religious teachings. Furthermore, evaluation practices extend beyond factual recall and focus on students' ability to articulate meaning, relate concepts to contemporary realities, and construct reasoned arguments. These findings suggest that digital learning is not merely a technological enhancement but represents a shift in how Islamic education is organized and delivered. The integration of digital tools contributes to the development of a more reflective and participatory learning environment, where students are positioned as active interpreters of knowledge rather than passive recipients.

The findings contribute to existing scholarship on digital learning and Islamic education by demonstrating how management-oriented approaches shape the effectiveness of technology integration. Previous studies have emphasized the role of digital media in increasing motivation and engagement (Çoban & Göktaş, 2023; Nur Nasution et al., 2023; Schubatzky et al., 2023), yet they often focus on instructional outcomes without addressing institutional processes. This study extends such work by highlighting the importance of leadership-driven planning and continuous evaluation as integral components of digital learning success. In line with Li & Zeng (2025), the findings confirm that blended approaches enhance learning Engagement, but they further reveal that such effectiveness depends on systematic coordination rather than individual teacher initiative. Moreover, the emphasis on critical and contextual understanding aligns with Abidin (2025), who argue that digital platforms can foster interpretative thinking. However, this study identifies a gap in previous literature by showing that without structured management, digital learning risks becoming fragmented and inconsistent across instructional contexts.

This study offers a significant contribution to the field of Islamic educational management by positioning digital learning as a managed institutional practice rather than a purely pedagogical activity. It advances understanding by demonstrating how leadership, strategic planning, and evaluative mechanisms interact to sustain digital integration in madrasah settings. In particular, the study highlights the role of institutional leadership in translating technological opportunities into structured educational practices that align with religious and contextual objectives. This expands prior research that tends to focus on teacher-level implementation by introducing a broader organizational perspective. Additionally, the study contributes to the

development of a contextual model of digital learning management that reflects the specific characteristics of Islamic education, including the need to balance technological innovation with doctrinal integrity. Practically, the findings provide a framework for policymakers and school leaders to design more coherent digital learning strategies. Future research may explore how variations in leadership styles influence the sustainability of such practices across different institutional contexts.

The study concludes that digital learning in Islamic education should be approached as a comprehensive management process that integrates planning, implementation, and evaluation within a continuous improvement cycle. The findings demonstrate that effective digital integration requires more than access to technology; it depends on institutional coherence, leadership commitment, and pedagogical alignment. By fostering critical and contextual understanding, digital learning helps form students who are not only knowledgeable but also capable of interpreting Islamic teachings in relation to contemporary challenges. The broader implication of this study lies in its potential to inform policy and practice in Islamic educational institutions, particularly in navigating the complexities of digital transformation. The study also highlights the need for sustained professional development and institutional support to ensure the long-term effectiveness of digital learning initiatives. Ultimately, this research reinforces the view that meaningful educational innovation must be grounded in both organizational structure and contextual relevance.

CONCLUSION

The rapid expansion of digital technology in education has created both opportunities and challenges for Islamic educational institutions in maintaining the relevance and depth of religious learning. This study addressed the need to understand how digital-based learning can be systematically managed to enhance students' religious literacy and foster a more critical and contextual engagement with Islamic teachings. The findings demonstrate that effective integration of digital media is not incidental but relies on structured institutional processes that include strategic planning, adaptive classroom practices, and reflective evaluation. Leadership emerges as a central element in ensuring coherence between technological adoption and educational objectives, while instructional practices show a shift toward more participatory and interpretative learning environments. In this context, digital learning contributes not only to improved access to religious knowledge but also to the development of students' capacity to interpret and relate Islamic teachings to contemporary life.

These insights carry important implications for the development of Islamic educational management in the digital era. Strengthening institutional commitment to structured digital integration can support more sustainable and meaningful learning practices across madrasah settings. The findings suggest that future efforts should prioritize the alignment between leadership strategies, teacher capacity, and the selection of credible digital resources to avoid fragmented implementation. At a broader level, this study highlights the need for policies that support digital literacy while safeguarding the integrity of Islamic teachings. Further research may explore how variations in institutional context influence the effectiveness of digital learning management, particularly in under-resourced environments. By situating digital learning within a coherent managerial framework, Islamic education can better respond to contemporary challenges while preserving its foundational values.

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