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Digital Leadership for Educational Transformation: Experiences of Madrasah Principals

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Abstract : *This study aims to explore the experiences of madrasah principals in implementing digital leadership as an effort to transform education in madrasas. The approach used was qualitative with a phenomenological design to understand the meaning of digital leadership experiences in the context of institutional change. Data were collected through in-depth interviews, observations, and documentation studies, then analyzed using Interpretative Phenomenological Analysis (IPA). The results of the study show three main findings. First, digital transformation begins with the development of a digital vision that serves as the foundation for institutional change. Second, the implementation of digital leadership is carried out through empowering human resources and strengthening collaboration between stakeholders. Third, digital transformation faces various challenges such as limited infrastructure, unequal digital competencies, resistance to change, and budget constraints, but these are overcome through adaptive and gradual strategies. This study concludes that digital leadership in madrasas is a strategic leadership process that integrates vision, empowerment, collaboration, and adaptation in facing digital change. The contribution of this study lies in enriching the study of digital leadership in the context of Islamic education and providing practical implications for the development of digital transformation strategies in madrasas.*

Keywords : *Digital Leadership, Educational Transformation, Educational Leadership.*
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INTRODUCTION

The development of digital technology has fundamentally transformed various aspects of education delivery, from administrative systems and learning processes to institutional governance. The emergence of innovations such as artificial intelligence, cloud computing, data analytics, and digital learning platforms is encouraging educational institutions to adapt to an increasingly dynamic environment (Dwivedi et al., 2021; Ramadhan, 2022). Educational transformation in the digital era is no longer understood solely as the use of technology in learning activities, but also encompasses shifts in leadership paradigms, organizational culture, data-driven decision-making, and strengthening human resource capacity (Song et al., 2023). Therefore, the success of educational transformation is largely determined by the ability of leaders to direct change strategically, adaptively, and sustainably.

In this context, digital leadership has become a concept gaining increasing attention in educational management studies. Digital leadership refers to a leader's ability to integrate digital technology into the organization's vision, develop a culture of innovation, enhance collaboration among stakeholders, and utilize technology as an instrument to improve the effectiveness and quality of educational services (Fomba et al., 2023; Nadeem, 2023). Unlike conventional leadership, which focuses more on administrative aspects, digital leadership positions leaders as agents of change capable of managing organizational transformation through the strategic use of technology (Dodd et al., 2022; Zhai & Ma, 2023). Therefore, digital leadership is seen as a key factor in creating educational organizations that are adaptive to current developments while maintaining the quality of educational services.

For Islamic educational institutions, particularly madrasas (Islamic schools), digital transformation presents both unique opportunities and challenges (Schmitz et al., 2023). On the one hand, digitalization opens up opportunities for madrasas to improve governance efficiency, expand access to learning, strengthen communication with various stakeholders, and enhance the quality of educational services (Örücü & Kutlugün, 2022). On the other hand, the implementation of digital transformation often faces various obstacles, such as limited technological infrastructure, low digital competency among educators, resistance to change, limited funding, and the need to maintain a balance between technological innovation and the Islamic values that underlie the institution's identity (Santoso et al., 2022). These conditions make the leadership experience of madrasah principals in leading digital transformation an important aspect to understand more deeply.

Various previous studies have shown that digital leadership contributes to increasing the effectiveness of educational organizations (Bunjak et al., 2022). Digital leadership has been shown to improve teachers' readiness to integrate technology into learning, strengthen a culture of innovation, encourage collaboration among school members, and improve the quality of data-driven decision-making (Baharun et al., 2025; Colombari et al., 2023). Other research also explains that the digital competence of school principals influences the successful implementation of digital transformation and improves the performance of educational

organizations (Gkrimpizi et al., 2023; Nicolás-Agustín et al., 2022). Furthermore, several studies highlight the role of leadership in building a digital learning ecosystem that supports improved educational quality.

Despite this, studies on digital leadership are still dominated by research in public schools and universities, using a quantitative approach. Most studies primarily measure the relationship between digital leadership and variables such as digital competence, technological readiness, organizational innovation, or institutional performance (Kuhlmann & Heuberger , 2023; Wang et al., 2023). This approach provides insight into the effectiveness of digital leadership, but fails to explain the experiences of madrasah principals in implementing the digital transformation process in an institutional environment characterized by religious characteristics, a distinctive organizational culture, and demands to integrate Islamic values with technological developments. As a result, the dimensions of leaders' experiences in navigating the dynamics of digital transformation in madrasahs remain relatively underexplored.

This research gap highlights the need for a more in-depth study of madrasah principals' experiences in practicing digital leadership. Understanding these experiences is crucial because educational transformation in madrasahs is influenced not only by technological readiness but also by the leader's ability to develop a digital vision, manage organizational change, empower teachers and education staff, build collaboration with various stakeholders, and overcome challenges that arise during the transformation process. Experience-based studies also allow for a more comprehensive understanding of digital leadership practices that align with the characteristics of Islamic educational institutions.

Based on the above description, this study aims to explore the experiences of madrasah principals in leading educational transformation through the application of digital leadership. This research focuses on how madrasah principals build a digital vision, implement technological innovation, develop an adaptive organizational culture, empower human resources, and face various challenges in the institutional transformation process. The results of this study are expected to contribute to the development of digital leadership theory in the context of Islamic education, as well as serve as practical recommendations for madrasah principals, policymakers, and educational stakeholders in designing educational transformation strategies that are effective, sustainable, and aligned with Islamic values.

METHOD

This study uses a qualitative approach with a phenomenological design, which aims to deeply understand the lived experiences of madrasah principals in implementing digital leadership as an effort to transform education in madrasahs. The phenomenological approach was chosen because it allows researchers to explore the meanings constructed by participants regarding their experiences in leading digital change, including decision-making processes, implementation strategies, challenges faced, and reflections on the impact of the transformation that occurred. Through this approach, the study not only describes digital

leadership practices but also reveals the essence of the experiences that underlie successes and obstacles in educational transformation.

The research was conducted at several Islamic schools (madrasas) that have implemented various forms of digital transformation in their institutional governance and learning processes. Site selection was conducted purposively, taking into account the characteristics of madrasas actively developing digital innovation, such as the use of madrasa information systems, online learning platforms, digital-based administration, and the use of technology in decision-making. Participants were selected using a purposive sampling technique, namely individuals with direct experience in leading and implementing digital transformation in madrasas. The primary participants consisted of madrasah principals, while supporting participants included vice-principals, teachers, education staff, information technology operators, and madrasah supervisors. The number of participants was determined based on the principle of data saturation, which occurs when the data obtained shows repetition of information and no significant new themes are found.

Data collection was conducted through three main techniques: in-depth interviews, observation, and documentation study. Interviews were conducted semi-structured using flexible interview guidelines to allow participants to comprehensively describe their experiences. Interview questions focused on experiences building a digital vision, leadership strategies in implementing transformation, teacher empowerment, the use of technology in madrasah management, challenges faced, and efforts to maintain Islamic values amidst digitalization. Observations were conducted to directly observe digital leadership practices, the use of technology in administrative and learning activities, interactions between madrasah members, and the organizational culture that developed during the transformation process. Meanwhile, documentation studies were conducted on various institutional documents, such as madrasah strategic plans, digital transformation policies, activity reports, information system implementation documents, activity photos, and other supporting documents relevant to the research focus.

Data analysis was conducted using Interpretative Phenomenological Analysis (IPA) developed by Smith, Flowers, and Larkin. The analysis began with repeated reading of all interview transcripts to gain a comprehensive understanding of the participants' experiences. An initial notation process was then conducted, identifying key statements related to digital leadership experiences. The next stage was developing initial themes (emergent themes), which were then grouped into main themes based on the meaningful connections between participants' experiences. After all participants were analyzed individually, a cross-case analysis was conducted to identify common and unique patterns of experience. The results of the analysis were then interpreted in depth by linking the empirical findings to the concepts of digital leadership, educational transformation, and relevant educational leadership theories.

Data validity is maintained through the application of the four trustworthiness criteria proposed by Lincoln and Guba: credibility, transferability, dependability, and confirmability.

Credibility is achieved through triangulation of data collection techniques, source triangulation, member checking, and intensive researcher involvement in the field. Transferability is maintained by presenting a detailed description of the research context to enable readers to assess the applicability of the research results to other similar contexts. Dependability is achieved through an audit of the entire research process, from data collection to analysis, while confirmability is achieved by maintaining an audit trail, conducting researcher reflection (reflexive journaling), and documenting the entire analysis process so that the resulting findings are truly derived from empirical data, not merely subjective interpretations of the researcher.

The entire research process was conducted in accordance with ethical research principles. Prior to data collection, each participant received an explanation of the research objectives, implementation procedures, benefits, and their right to withdraw at any time without any consequences. Approval for participation was provided through informed consent, while the identities of all participants were kept confidential using codes or pseudonyms. All data obtained were used solely for academic purposes and stored securely to maintain the privacy and confidentiality of information provided by participants. With these procedures, the research is expected to produce valid and credible findings and provide an in-depth overview of the experiences of madrasah principals in leading educational transformation through digital leadership.

RESULT AND DISCUSSION

Results

1. Building a Digital Vision as the Foundation for Educational Transformation

The research findings indicate that the experience of madrasah principals in leading educational transformation begins with the development of a digital vision as a strategic direction for institutional development. All participants emphasized that digital transformation does not begin with the procurement of technology, but rather with a shift in mindset among all madrasah members regarding the importance of digitalization in improving educational quality. Madrasah principals play a key role in formulating a digital vision, aligning it with Islamic values, and communicating this vision to teachers, education staff, students, and other stakeholders. These findings demonstrate that a digital vision serves as a foundation for the implementation of various innovations in governance and learning.

Table 1. Experience of Madrasah Principals in Building a Digital Vision

Category	Data Evidence
Formulating a digital vision	*"Before implementing various digital applications, we first established the direction of the madrasah's policies so that all programs share the same goals. Digitalization isn't just about purchasing equipment; it's about building a new work culture."*(KM-1)
Alignment with madrasa values	*"We always emphasize that technology is only a tool. Islamic values remain the foundation of every digital policy we implement."*(KM-2)

Socialization to teachers	*"We held several discussion forums to help teachers understand that digital transformation is a shared need, not just a principal's policy."*(WG-1)
Building a shared commitment	*"Each digital program is designed through collaborative meetings so that all teachers feel a sense of responsibility for its success."*(KM-3)
Implementation of the vision	The Madrasah Strategic Plan document shows the existence of a digitalization program for administration, Learning Management System (LMS)-based learning, the use of electronic archives, and a digital communication system with students' parents.
Observation results	Observations show that the digital vision has been realized through the use of school administration applications, digital platform-based meetings, electronic attendance, and online communication media that are used consistently by all madrasah residents.

Based on this data, it is clear that the madrasah principal's experience in developing a digital vision proceeds through several interrelated stages. The first stage is formulating a transformation direction that places digitalization as part of the strategy for improving educational quality. The second stage involves internalizing the vision to all madrasah members through intensive communication to create a shared perception of the urgency of digital transformation. The third stage is building collective commitment through the involvement of teachers and education personnel in the planning, implementation, and evaluation of various digital programs. Furthermore, this vision is realized through various concrete policies, such as digitalizing administration, utilizing learning platforms, and strengthening technology-based communication systems.

Interpretation of these findings suggests that digital leadership in madrasas is not understood solely as the ability to operate technology, but rather as the leader's ability to establish a direction for organizational change that is accepted and implemented by all members of the madrasah community. The experiences of madrasah principals demonstrate that successful educational transformation begins with the formation of a clear digital vision, aligned with the characteristics of the institution, and supported by the collective commitment of all stakeholders. Thus, a digital vision serves as the primary foundation connecting technological innovation with organizational cultural transformation, ensuring that the digitalization process is not partial but develops into systematic and sustainable institutional change.

2. Experience Managing Digital Transformation through Empowerment and Collaboration

The research results show that madrasah principals' experiences in managing digital transformation focus not only on technology implementation but also on empowering human resources and strengthening collaboration between stakeholders. All participants stated that the success of educational transformation is largely determined by the readiness of teachers and education staff, as well as the support of various parties in implementing digital innovation. Therefore, madrasah principals prioritize empowerment as a primary

strategy for improving digital competency and building a work culture that is adaptive to change.

Based on the interview results, the madrasah principals explained that they regularly hold various capacity building programs, such as training on the use of digital learning platforms, mentoring in developing technology-based learning media, and workshops on the use of madrasah administration applications. One madrasah principal stated, *"We cannot immediately demand that teachers master technology. What we do is accompany them gradually through training and sharing good practices so that they feel confident using technology in learning."* (KM-2). This statement indicates that improving digital competence is seen as a continuous learning process, not just a short-term training event.

Teachers participating in the study also revealed that the principal provides ample space for them to innovate in utilizing technology. One teacher said, *"The principal always gives us the opportunity to try new applications. If we run into difficulties, the digital team assists us so we don't feel like we're working alone."* (G-3). Furthermore, observations indicate the formation of a digital transformation team tasked with providing technical assistance, managing the school's information system, and assisting teachers in overcoming various obstacles that arise during technology implementation.

Furthermore, this study found that collaboration is an integral part of digital leadership practices. Madrasah principals actively collaborate with madrasah committees, the Ministry of Religious Affairs office, universities, educational communities, and technology service providers to support infrastructure development and improve the competency of madrasah residents. One madrasah principal explained, *"We realize that digital transformation cannot be done alone. Therefore, we build partnerships with various parties so that madrasahs receive mentoring, training, and access to various technological innovations."* (KM-1). This form of collaboration not only expands access to resources but also accelerates the process of madrasahs adapting to technological developments.

Observations reinforce these findings by demonstrating a more collaborative work culture than before. Teachers share experiences in using digital media, educational staff collaborate on information system-based administrative management, and madrasah principals act as facilitators, connecting various resources to support educational transformation. Activity documentation also reveals regular internal training, forums for sharing best practices, and regular evaluations of digital program implementation involving all elements of the madrasah.

Interpretation of these findings indicates that the experience of madrasah principals in leading digital transformation is characterized by a shift in leadership orientation, from an administrative pattern to a collaborative and empowering leadership style. Madrasah principals no longer act as sole decision-makers, but as facilitators who create a learning environment for teachers and education personnel to develop digital competencies

sustainably. Empowering human resources, supported by internal and external collaboration, is a crucial factor in enabling effective digital transformation, strengthening a culture of innovation, and enhancing organizational readiness to face educational changes in the digital era.

3. Facing Challenges and Building Sustainability in Digital Education Transformation

The research findings indicate that madrasah principals' experiences in leading digital transformation face complex and multidimensional challenges. These challenges include limited technological infrastructure, low digital literacy among some teachers, resistance to change, budget constraints, and the need to maintain a balance between digital innovation and Islamic values, the madrasah's institutional identity. These conditions demonstrate that the digital transformation process is not linear but dynamic, requiring a high level of leadership adaptability.

Based on the interview results, the madrasah principal revealed that limited facilities are one of the main obstacles in implementing digitalization. One informant stated, *"We still face obstacles with internet networks and devices that are not evenly distributed in every classroom, so the digitalization process cannot run optimally."* (KM-1). In addition, there are also challenges from the human resources aspect, especially in terms of teacher readiness to face change. This is evident from the teacher's statement, *"Not all teachers are immediately ready to use technology, some still need guidance because they are not yet used to digital systems."* (G-2). This data indicates a gap in digital readiness that affects the speed of transformation in madrasahs.

In addition to technical and competency challenges, this study also found resistance to change at the beginning of the digital transformation implementation. One madrasah principal stated, *"At first, some teachers felt burdened by the new system, but over time they began to adapt after being given understanding and training."* (KM-2). This indicates that changing organizational culture requires a gradual process and a persuasive approach. On the other hand, budget constraints are also a inhibiting factor, as expressed in an interview, *"Digital development requires a lot of money, while the madrasah's budget is limited, so we have to determine program priorities."* (KM-3).

To address these challenges, madrasah principals employ a number of adaptive strategies. One key strategy is the gradual implementation of digital transformation in line with the institution's priority needs. Furthermore, madrasah principals foster an organizational learning culture through ongoing training, internal mentoring, and forums for sharing best practices among teachers. Another strategy involves making decisions based on real-world needs, rather than simply following technology trends. One informant stated, *"We don't immediately implement all technologies, but rather choose those most needed by teachers and students first."* (KM-1).

Observations also show that madrasas are gradually building digital systems, starting with basic administration, then progressing to digital platform-based learning, and

ultimately integrating more complex madrasa information systems. Activity documentation demonstrates regular evaluations of digital program implementation and the integration of Islamic values into technology use, such as strengthening digital ethics and using learning media that adheres to Islamic etiquette and moral values.

Table 2. Challenges and Strategies of Digital Leadership in Madrasahs

Category	Interview Statement	Code Informant
Infrastructure limitations	"*We are still facing challenges with internet networks and devices that are not evenly distributed across every classroom.*" (KM-1)	INF-01
Teacher readiness	"*Not all teachers are immediately ready to use technology, they need guidance*." (G-2)	HR-02
Resistance to change	"*At first, there were teachers who felt burdened by the new system*." (KM-2)	RES-03
Budget constraints	"*Digital development requires large costs, while the budget is limited*." (KM-3)	FIN-04
Phased strategy	"*We don't implement all the technologies straight away, but rather choose the ones that are most needed first*." (KM-1)	STR-05
Strengthening learning culture	"*Teachers continue to be given training and forums to share good practices*." (G-3)	DEV-06
Integration of Islamic values	Observation: the use of technology is still accompanied by strengthening digital ethics and manners.	VAL-07

The table 2, that the success of digital transformation in madrasas is largely determined by the principal's ability to manage the tension between technological innovation and the limitations of the institutional context. The challenges that arise are not only technical, but also structural and cultural, thus requiring an adaptive, gradual, and participatory leadership approach. The implemented strategy demonstrates that the sustainability of digital transformation depends not on the speed of technology adoption, but on the organization's ability to build readiness, a culture of learning, and the integration of Islamic values into every digitalization process. Thus, digital leadership in the madrasah context plays a crucial role in maintaining the balance between technological modernization and the sustainability of institutional identity.

Discussion

This study aims to explore the experiences of madrasah principals in implementing digital leadership as an effort to transform education in madrasas. The results of the study reveal three major findings: 1) building a digital vision as the foundation for transformation, 2) managing transformation through empowerment and collaboration, and 3) addressing challenges through sustainable digital transformation strategies. These findings demonstrate that digital leadership in the madrasa context is not merely a technological initiative but a strategic, collaborative, and adaptive leadership process that responds to institutional limitations while maintaining the unique identity of Islamic education. Collectively, these findings illustrate that successful digital transformation depends on the leader's ability to

integrate organizational vision, human resource development, and continuous adaptation into a coherent transformation strategy.

The first finding shows that digital transformation in madrasas begins with the development of a clear and directed digital vision. The madrasa principal acts as a visionary leader, not only introducing technology but also shaping the direction of organizational change. This digital vision is then internalized by all members of the madrasah, becoming a collective consciousness in the transformation process (Raimo et al., 2023). Rather than viewing technology as an end in itself, principals position digitalization as a long-term institutional agenda that guides decision-making, resource allocation, and educational innovation (Anglani et al, 2023; Munawwaroh & Baharun, 2022). Such a shared vision encourages teachers and staff to perceive digital transformation as a collective responsibility rather than an externally imposed policy.

These findings align with the concept of digital leadership, which emphasizes the importance of strategic vision in guiding technology-based organizational change (Avolio et al., 2014). Digital leadership is not only related to technical capabilities but also the ability to construct meaning for change (sense-making) within educational organizations. These findings also support previous studies suggesting that the success of digital transformation is largely determined by visionary leadership capable of aligning technology with institutional goals (Subrahmanyam, 2023). The present findings extend these perspectives by demonstrating that strategic vision functions not only as a managerial instrument but also as a mechanism for reducing uncertainty during organizational change. Through continuous communication and shared commitment, principals create an environment in which technological innovation becomes part of the institutional culture rather than an isolated project.

In the context of madrasas, the digital vision also has an additional dimension: the integration of Islamic values. This demonstrates that digitalization is not neutral but is constructed in accordance with the institutional identity. Thus, the digital vision serves as a bridge between technological modernization and the sustainability of religious values. The integration of Islamic principles ensures that technology adoption is guided by ethical considerations, responsibility, and character development, allowing digital transformation to strengthen rather than diminish the educational mission of the madrasa. Consequently, technological advancement is interpreted as a means to improve educational quality while preserving the institution's religious identity.

The second finding shows that the implementation of digital leadership in madrasas is achieved through empowering human resources and strengthening collaboration. Madrasah principals act not only as guides but also as facilitators, providing learning spaces for teachers to improve their digital competencies (ElSayary, 2023; Stofkova et al., 2022). Various forms of professional development, peer mentoring, and collaborative learning activities enable teachers to gradually adapt to digital innovation. This indicates that leadership effectiveness is

reflected not simply in directing change but in creating opportunities for teachers to actively participate and develop confidence in using digital technologies within the teaching and learning process.

These findings are consistent with transformational leadership theory, particularly the aspects of individualized consideration and intellectual stimulation, which emphasize the importance of developing individual capacity within an organization (Anjilus et al., 2019). Furthermore, these research findings reinforce previous studies indicating that the success of digital transformation in education is highly dependent on teachers' digital competence and the support of professional communities (OECD, 2020; Yakin et al., 2025). Beyond improving technical skills, the findings demonstrate that empowerment strengthens teachers' motivation, professional autonomy, and willingness to experiment with innovative pedagogical practices. This suggests that sustainable digital transformation requires continuous organizational learning rather than one-time technology training.

The collaborations established in this research are not only internal but also external, involving madrasa committees, government agencies, and other educational institutions. This demonstrates that digital transformation cannot be carried out by individual leaders but requires network leadership capable of connecting various resources. External partnerships provide access to technological infrastructure, financial support, training opportunities, and policy guidance that may not be available within the institution itself. Thus, digital leadership in madrasas evolves into ecosystem-based collaborative leadership, where institutional success is increasingly determined by the ability to mobilize diverse stakeholders toward shared educational goals.

The third finding shows that digital transformation in madrasas faces various challenges, including limited infrastructure, low digital literacy, resistance to change, and budget constraints. However, madrasa principals are able to develop adaptive strategies through phased implementation, strengthening the organization's learning culture, and integrating Islamic values into the use of technology. Instead of perceiving these obstacles as barriers to innovation, principals adopt gradual and context-sensitive approaches that prioritize capacity building and organizational readiness. This adaptive process enables institutions with limited resources to continue progressing toward digital transformation without creating excessive organizational disruption.

This finding aligns with Fullan, (2007) study, which states that educational change always faces systemic complexity requiring adaptive leadership. In this context, the madrasah principal acts as a change agent, not only overcoming technical obstacles but also managing organizational cultural change. The findings indicate that adaptive leadership involves continuous evaluation, flexibility in decision-making, and the ability to adjust transformation strategies according to institutional conditions. Such adaptive practices strengthen

organizational resilience and ensure that digital transformation remains sustainable despite ongoing internal and external challenges.

Furthermore, the integration of Islamic values into digital transformation demonstrates the unique characteristics of madrasah leadership that are not commonly found in general education contexts. This reinforces the view that digital transformation must be contextual and inseparable from local and religious values (Dieguez et al., 2021; Khoiroh et al., 2025). Ethical principles derived from Islamic teachings provide moral guidance in the responsible use of technology while fostering accountability, discipline, and integrity among educators and students. Therefore, digital leadership in madrasas reflects a holistic approach that integrates technological innovation with spiritual and moral development.

The three findings demonstrate that digital leadership in madrasas occurs in stages and is interconnected. The process begins with the development of a digital vision, continues with implementation through empowerment and collaboration, and concludes with adaptive strategies to address emerging challenges. This pattern demonstrates that educational transformation is not linear but dynamic and cyclical, where each stage continuously influences the next. Strong leadership vision encourages collaboration, collaboration enhances organizational capacity, and adaptive responses to challenges reinforce institutional commitment to continuous improvement. These interrelated processes collectively form a sustainable model of digital transformation suitable for Islamic educational institutions.

Theoretically, this research expands the concept of digital leadership by adding an experiential dimension to the context of Islamic education. While previous studies have primarily emphasized organizational performance and technological capability, this study highlights the importance of cultural values, institutional identity, and contextual adaptation in shaping leadership practices. Practically, the findings illustrate that successful digital transformation in madrasas depends on the integration of visionary leadership, continuous human resource empowerment, collaborative governance, and adaptive capacity to address institutional limitations. These findings may serve as practical references for policymakers, educational leaders, and teacher development programs seeking to strengthen digital transformation in Islamic educational institutions.

This research is limited to a phenomenological approach with a limited number of participants from several madrasas, which may restrict the transferability of the findings to broader educational settings. In addition, the study focuses primarily on the perspectives of madrasa principals and does not fully capture the experiences of teachers, students, or other stakeholders involved in digital transformation. Future research is therefore recommended to employ mixed-methods, longitudinal, or comparative designs across different educational institutions and regions to provide more comprehensive evidence regarding the implementation and sustainability of digital leadership in diverse educational contexts.

CONCLUSION

This study concludes that digital leadership in educational transformation in madrasas occurs through three main, interconnected processes: building a digital vision, empowerment and collaboration, and adaptive capacity to face challenges. Madrasah principals act as visionary leaders and facilitators capable of guiding organizational change through technology integration, strengthening teacher competencies, and establishing a collaborative work culture. Furthermore, the success of digital transformation is also determined by the madrasah's ability to balance technological innovation with Islamic values as its institutional identity, so that digitalization is not only technical but also cultural and spiritual.

In terms of contribution, this research enriches the study of digital leadership by presenting an empirical perspective in the context of madrasahs, which has been relatively limited in the digital education literature. This research also provides a practical contribution in the form of an overview of leadership strategies that can be applied in managing digital transformation in a gradual, collaborative, and adaptive manner in Islamic educational institutions. The limitations of this research lie in its limited scope to a few madrasahs and its qualitative phenomenological approach, which is not intended for broad generalization. Therefore, further research is recommended to use a comparative or mixed methods approach to broaden the validity of the findings and deepen the analysis in more diverse contexts.

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