



Digital Leadership of *Madrasah* Principals in Enhancing Institutional Reputation through Educational Digitalization

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Abstract

Purpose – This study aims to examine the digital leadership of *madrasah* principals in enhancing institutional reputation through educational digitalization. It addresses how principals formulate digital vision, guide technology adoption, strengthen teacher capacity, and use digital systems to improve service quality, transparency, and public trust.

Design/methods/approach – This study employed a qualitative case study design. Data were collected through in-depth interviews, observation, and documentation involving the *madrasah* principal, vice principals, teachers, administrative staff, students, and parents. The data were analyzed using thematic analysis through data organization, reduction, coding, theme development, and interpretation. Source and technique triangulation were applied to strengthen credibility.

Findings – The findings show that digital leadership was reflected in four main practices: formulating digital vision and policy, strengthening teachers' digital competence and learning innovation, developing digital information systems and public communication, and managing digitalization challenges. Educational digitalization supported institutional reputation by improving learning services, administrative efficiency, information transparency, stakeholder communication, digital branding, and public trust. However, implementation was constrained by limited infrastructure, uneven teacher digital competence, budget limitations, and resistance to change.

Research implications/limitations – This study implies that *madrasah* principals need strategic, adaptive, and value-based digital leadership to enhance institutional reputation. However, the study is limited to a qualitative case study and does not quantitatively measure the direct impact of digitalization on reputation indicators.

Originality/value – This study links digital leadership, educational digitalization, teacher digital competence, public trust, and institutional reputation in the *madrasah* context.

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INTRODUCTION

Digital transformation has become an important agenda in contemporary educational management. Schools and *madrasahs* are increasingly required to use digital technology not only for teaching and learning, but also for administration, communication, public services, institutional branding, and stakeholder engagement. In this context, educational digitalization is not merely the adoption of technological tools, but a broader institutional change that affects governance, learning culture, teacher competence, service quality, and public trust. For *madrasahs*, digitalization presents both an opportunity and a challenge. On the one hand, it can strengthen learning innovation, administrative efficiency, transparency, and institutional visibility. On the other hand, *madrasahs* must ensure that digital transformation remains aligned with Islamic educational values and does not weaken their moral and religious identity.

The role of *madrasah* principals becomes crucial in managing this process. Digital transformation requires leadership that is able to formulate a clear digital vision, mobilize teachers and staff, develop digital infrastructure, build a culture of innovation, and ensure that technology is used meaningfully for institutional improvement. This leadership capacity is commonly referred to as digital leadership. Hidayat & Patras (2024) emphasize that school principals in Indonesia need strategic digital leadership to guide institutional adaptation in the digital era. Okunlola (2025) also shows that digital leadership contributes to school effectiveness, particularly when principals are able to connect technology use with organizational goals and educational improvement. However, digital leadership is not easy to implement because school leaders often face challenges related to infrastructure, digital competence, institutional culture, and resistance to change (Johari et al., 2023).

In *madrasah* contexts, digital leadership has distinctive characteristics because it must integrate technological innovation with Islamic educational identity. *Madrasah* principals are not only expected to lead digital change, but also to ensure that the process supports religious values, character formation, and public confidence in Islamic education. Tahir et al. (2025) explain that digital leadership requires measurable competencies such as digital vision, communication, innovation, resource management, and change leadership. These competencies are highly relevant for *madrasah* principals because the success of digitalization depends on the principal's ability to align technology, human resources, institutional policy, and the mission of Islamic education.

Educational digitalization also has implications for institutional reputation. Reputation is formed through public perceptions of institutional quality, service reliability, communication, transparency, innovation, and stakeholder experience. In the digital era, reputation is increasingly shaped through online visibility, digital communication, social media presence, institutional websites, and the speed of information services. Nagib & Hamzah (2026) argue that digital reputation management in *madrasahs* can be strengthened through transformational leadership and digital branding strategies. Similarly, Mahmud et al. (2024) highlight the importance of public relations management in improving the image of Islamic educational institutions. These studies suggest that reputation is not built only through academic achievement, but also through how institutions communicate their values, services, and innovations to the public.

Digital communication plays a strategic role in connecting *madrasahs* with parents, students, alumni, and the wider community. Websites, social media, digital newsletters, online

admission systems, and learning management platforms allow *madrasahs* to present institutional programs, student achievements, religious activities, and service innovations more widely and transparently. Adzimah & Yaqin (2024) show that digital communication can strengthen public trust and engagement in Islamic educational institutions. In this regard, digitalization becomes part of institutional branding because it helps *madrasahs* construct a more modern, responsive, accountable, and trustworthy image in society.

Teacher digital competence is another important dimension of educational digitalization. Digital leadership will not strengthen institutional reputation if teachers are not able to use technology effectively in learning and communication. Teachers are the main actors who translate digital policy into classroom practice. Therefore, principals need to support teachers through training, mentoring, supervision, and professional development. Rasdiana et al. (2024) show that principals' instructional e-supervision can support teachers' professional digital competence, while Skantz-Åberg et al. (2022) explain that teachers' professional digital competence includes pedagogical, technological, reflective, and professional dimensions. These perspectives indicate that digital leadership should not focus only on infrastructure, but also on the development of teachers' capacity to use technology pedagogically and ethically.

In Islamic education, digitalization must be managed as a transformative process that balances innovation and tradition. Warisno et al. (2025) argue that transformative Islamic education management requires the integration of religious tradition, institutional quality, and digital innovation. This is important because *madrasahs* need to respond to technological change while preserving their Islamic character and educational mission. Digitalization should therefore be understood as a strategic instrument for improving institutional quality, not merely as a technical response to modern trends. Hadi et al. (2025) also show that learning management systems can support Islamic education practices when they are implemented according to pedagogical needs and institutional readiness.

Although studies on digital leadership, educational digitalization, teacher digital competence, and institutional branding have grown, research that specifically examines how *madrasah* principals use digital leadership to enhance institutional reputation remains limited. Many studies discuss technology integration or digital administration separately, while others focus on public relations or institutional image. However, fewer studies explain how digital vision, teacher competence, digital information systems, public communication, and reputation building are integrated through the leadership of *madrasah* principals. This gap is important because institutional reputation is not shaped by technology alone, but by the principal's ability to manage digital transformation as a coherent institutional strategy. Therefore, this study addresses the gap by examining the digital leadership of *madrasah* principals in enhancing institutional reputation through educational digitalization, with particular attention to how principals formulate digital vision and policy, strengthen teachers' digital competence and learning innovation, develop digital information systems and public communication, and manage the challenges associated with implementing educational digitalization in *madrasahs*.

METHOD

This study employed a qualitative approach with a case study design to examine the digital leadership of *madrasah* principals in enhancing institutional reputation through educational digitalization. This design was selected because the study aimed to understand leadership practices, digital policy implementation, stakeholder experiences, and institutional reputation-building processes in a natural *madrasah* context. The research was conducted at a *madrasah* that had implemented educational digitalization in learning, administration, institutional communication, and public information services. The research site was selected purposively based on several criteria: the existence of digital learning practices, the use of digital administration or information systems, active institutional communication through digital platforms, and indications of improved public trust or institutional image.

The participants consisted of the *madrasah* principal, vice principals, teachers, administrative staff, students, and parents who were selected through purposive sampling based on their involvement in or knowledge of digitalization practices in the *madrasah* (Creswell & Creswell, 2017). Data were collected through in-depth interviews, observation, and documentation. Interviews were conducted to explore the principal's digital vision and policy, strategies for strengthening teachers' digital competence, implementation of digital learning and administration, use of digital platforms for public communication, and challenges in educational digitalization. Observations were used to examine digital learning practices, administrative services, the use of learning management systems, digital communication between the *madrasah* and stakeholders, and the institutional use of websites or social media. Documentation was used to review school profiles, digital policy documents, activity archives, learning platform records, website content, social media publications, achievement reports, and institutional communication materials.

The data were analyzed using thematic analysis through data organization, reduction, coding, theme development, and interpretation. The analysis focused on identifying patterns related to digital vision and policy, teacher digital competence, learning innovation, digital information systems, public communication, institutional reputation, and challenges in digitalization (Miles et al., 2014). To strengthen the credibility of the findings, this study applied source triangulation by comparing information from the principal, vice principals, teachers, administrative staff, students, and parents. Technique triangulation was conducted by comparing interview, observation, and documentation data. Ethical considerations were maintained by informing participants about the purpose of the study, ensuring voluntary participation, preserving confidentiality, and presenting the findings responsibly for academic purposes.

RESULTS AND DISCUSSION

Formulating Digital Vision and Policy

The findings show that the *madrasah* principal played a central role in formulating digital vision and policy as the foundation of educational digitalization. Digitalization was not understood merely as the use of technological devices, but as a strategic effort to improve learning services, administrative efficiency, institutional communication, and public trust. The principal positioned digital transformation as part of the *madrasah*'s institutional development

agenda, especially in responding to the expectations of parents and the wider community for more transparent, modern, and accessible educational services.

The principal explained that digitalization needed to be directed by clear institutional policy:

“Digitalization cannot run only because teachers use applications. It must become part of the madrasah’s policy. We need to decide what systems are used, how teachers are prepared, how information is delivered to parents, and how digital services can improve the image of the madrasah.”

This statement indicates that the principal understood digital leadership as a process of setting direction, aligning resources, and ensuring that technology supported institutional goals. This finding is consistent with Sari et al. (2025), who emphasize that digital leadership in *madrasahs* requires principals to guide technology use, manage institutional adaptation, and strengthen digital culture. Zarkasi et al. (2025) also show that principals have a strategic role in managing human resources in Islamic digital-based educational institutions.

The principal’s digital vision was reflected in several policy directions, including the use of digital learning platforms, digital administration, online communication with parents, and institutional publication through digital media. These policies were intended to improve service quality and strengthen the *madrasah’s* public image. Tabroni & Musyaffa (2025) explain that digital administration in *madrasahs* is closely related to transformational leadership because it requires changes in work culture, service systems, and institutional governance. In this study, the principal acted as a change leader who encouraged teachers and staff to gradually adapt to digital systems.

However, the findings also indicate that digital policy implementation required internal alignment. Some teachers and staff initially perceived digitalization as an additional workload. The principal therefore used a persuasive approach by explaining the benefits of digital systems for teachers, students, parents, and the institution. This shows that digital leadership is not only technical but also cultural. Robbaniyah & Babatunde (2025) emphasize that technology-based administrative innovation in Islamic schools requires leadership commitment, staff readiness, and institutional support.

Overall, the principal’s digital vision and policy became the starting point for educational digitalization. Digital leadership was expressed through the ability to formulate direction, build commitment, and connect technology use with institutional reputation. This finding suggests that digitalization in *madrasahs* requires leadership that is strategic, adaptive, and value-oriented.

Strengthening Teachers’ Digital Competence and Learning Innovation

The second finding concerns the strengthening of teachers’ digital competence and learning innovation. The principal recognized that digital transformation would not improve institutional reputation if teachers were not able to use technology effectively in teaching and learning. Therefore, teacher development became an important part of digital leadership. The *madrasah* organized training, mentoring, and informal assistance to help teachers use learning platforms, digital media, online assessment tools, and communication applications. One teacher stated:

“At first, not all teachers were familiar with digital learning platforms. Some of us needed guidance. The principal encouraged us to learn together, attend training, and ask for help when we had difficulties.”

This statement shows that teachers’ digital competence was developed gradually through support and collaboration. Xu et al. (2025) highlight the relationship between principal leadership, ICT competence, and teacher professional competence. Similarly, Ma & Ismail (2025) explain that digital pedagogy is influenced by leadership support, infrastructure, professional training, and teacher readiness. In the *madrasah* studied, the principal’s support helped teachers become more confident in using digital tools for learning.

Learning innovation was also visible in the use of Learning Management Systems, digital teaching materials, online assignments, multimedia-based learning, and digital evaluation. Teachers used digital platforms not only to distribute materials, but also to increase student participation and facilitate communication outside classroom hours. One student explained:

“When teachers use digital media, learning becomes easier to follow. We can access materials again at home, submit assignments online, and receive information more quickly.”

This finding indicates that digitalization contributed to learning flexibility and student engagement. Hadi et al. (2025) show that Learning Management Systems can support Islamic education learning practices when they are implemented based on pedagogical needs. Rasdiana et al. (2024) also emphasize that principals’ instructional e-supervision can support teachers’ professional digital competence. In this study, digital leadership was linked to teacher supervision and learning improvement because the principal monitored how technology was used in teaching.

However, the development of teachers’ digital competence still faced challenges. Some teachers experienced difficulties due to limited digital literacy, lack of confidence, or differences in technological experience. Administrative staff also needed adaptation in using digital systems. These findings are consistent with Al-Motrif et al. (2025), who identify academic and technical obstacles in digital education, including infrastructure gaps and limited technological competence. Therefore, digital leadership requires continuous professional development rather than one-time training.

Overall, strengthening teachers’ digital competence was essential for improving educational quality and institutional reputation. When teachers were able to use technology more effectively, the *madrasah* could provide better learning services, demonstrate innovation, and build a more positive image among parents and the community.

Developing Digital Information Systems and Public Communication

The third finding shows that digital information systems and public communication played an important role in enhancing institutional reputation. The *madrasah* used digital platforms to manage academic information, administrative services, student data, learning activities, announcements, and communication with parents. These systems helped improve service efficiency, reduce delays in information delivery, and increase transparency in institutional management. An administrative staff member explained:

“Digital administration helps us provide faster services. Parents can receive information more easily, and school data can be managed more neatly. This makes the madrasah look more professional.”

This statement indicates that digital information systems supported both internal management and external reputation. Rahmatullah & Mubarak (2025) emphasize the urgency of education management information systems in improving institutional data management. Munadi (2026) also argues that digital administration can improve school service quality when supported by proper management. In this study, digital administration helped the *madrasah* become more responsive and accountable.

Public communication was strengthened through websites, social media, online announcements, and digital documentation of school activities. The *madrasah* used these platforms to publish student achievements, religious programs, learning innovations, institutional events, and admission information. A parent stated:

“Before enrolling my child, I often saw information about the madrasah from social media. The activities, achievements, and learning programs were clearly shown. It made us more confident that the madrasah was active and well managed.”

This finding shows that digital communication influenced parental perception and trust. Maulana et al. (2025) explain that technology-based public relations can strengthen institutional brand identity. Agus R & Nafi'ah (2024) also show that digital platforms can support the formation of *madrasah* brand image. In the present study, digital communication helped the *madrasah* increase visibility and communicate institutional quality to the wider public.

Digital branding was not limited to posting activities online. It was also related to the consistency of institutional messages, visual identity, responsiveness to public inquiries, and transparency of information. Sukarji & Zuhri (2024) emphasize that digital branding in Islamic schools can strengthen institutional image when communication is consistent with school values and services. Trisnantari et al. (2024) also show that public relations contributes to public trust when institutions build meaningful relationships with stakeholders. These findings are relevant because the *madrasah's* reputation was shaped not only by digital presence, but also by stakeholder experience.

The findings suggest that digital information systems and public communication became strategic instruments for reputation building. Through digital platforms, the *madrasah* could show institutional achievements, strengthen communication with parents, and build an image as a modern and responsive Islamic educational institution. Shalicha & Alghiffary (2025) argue that digital system integration in Islamic education management can support institutional effectiveness when it is implemented strategically. In this study, digital systems strengthened both management quality and public confidence.

Enhancing Institutional Reputation and Managing Digitalization Challenges

The fourth finding concerns the relationship between educational digitalization, institutional reputation, and the challenges faced in implementation. The data show that digitalization contributed to reputation building by improving service quality, communication transparency, learning innovation, and public visibility. Parents perceived the *madrasah* as

more modern, responsive, and trustworthy when digital systems were used consistently in learning, administration, and communication. The principal stated:

“When parents can access information quickly, see student activities, and communicate easily with the madrasah, their trust increases. Digitalization helps us show that the madrasah is not left behind, but continues to improve.”

This statement indicates that digitalization functioned as a reputational strategy. Nagib and Hamzah (2026) argue that digital reputation management in *madrasahs* can be strengthened through digital branding and transformational leadership. Adzimah and Yaqin (2024) similarly show that digital communication can strengthen public trust and engagement. In the *madrasah* studied, reputation was built through the combination of service improvement and digital visibility.

Institutional reputation was also strengthened by the *madrasah's* ability to present itself as innovative while maintaining Islamic values. Digitalization did not replace religious identity; rather, it was used to support Islamic educational services, religious programs, and communication of institutional values. Warisno et al. (2025) argue that transformative Islamic education management should integrate religious tradition and digital innovation. Syarip et al. (2026) also emphasize that transformative management innovation is important for improving institutional adaptability in Islamic education.

Nevertheless, the implementation of digitalization faced several challenges. The main challenges included limited infrastructure, uneven teacher digital competence, budget constraints, and resistance to change. One teacher explained:

“The challenge is that not all facilities are complete, and not all teachers adapt at the same speed. Some need more time and assistance. But gradually, with support and training, we can follow the system.”

This finding indicates that digital transformation requires gradual implementation and continuous support. Bahri et al. (2026) show that technology integration in *madrasahs* requires governance, infrastructure, and institutional commitment. Rahman et al. (2026) also emphasize that digitalization can improve *madrasah* quality, but its effectiveness depends on readiness, resources, and leadership commitment.

The findings also show that digitalization required cultural change. Some teachers and staff were accustomed to conventional administrative and learning practices. Therefore, the principal needed to build motivation, provide guidance, and encourage collaboration. This confirms that digital leadership involves managing both technological and human dimensions. Digital transformation may fail if it focuses only on platforms without addressing people, culture, and institutional readiness.

Overall, educational digitalization contributed to enhancing institutional reputation when it was implemented through clear leadership, teacher development, digital systems, public communication, and stakeholder engagement. However, digitalization also required the principal to manage challenges related to infrastructure, funding, competence, and resistance. Thus, digital leadership of *madrasah* principals is essential in ensuring that

digitalization becomes a strategic instrument for institutional improvement and reputation building.

CONCLUSION

This study shows that the digital leadership of *madrasah* principals plays an important role in enhancing institutional reputation through educational digitalization. The findings indicate that digital leadership is reflected in the principal's ability to formulate digital vision and policy, guide teachers and staff in adapting to technology, develop digital learning and administrative systems, and strengthen institutional communication through digital platforms. Educational digitalization was not implemented merely as a technical innovation, but as a strategic effort to improve service quality, learning innovation, administrative efficiency, transparency, and public trust.

The study also reveals that institutional reputation is strengthened when digitalization is connected to stakeholder experience. The use of learning management systems, digital learning media, school information systems, websites, social media, and online communication channels helped the *madrasah* present itself as a modern, responsive, and accountable Islamic educational institution. Digital platforms enabled the *madrasah* to communicate programs, achievements, religious activities, and institutional services more widely and transparently. However, the success of digitalization depended on teacher digital competence, leadership support, infrastructure readiness, and the ability of the principal to manage resistance to change while maintaining the Islamic identity and educational mission of the *madrasah*.

This study has several limitations. First, it was conducted using a qualitative case study design, so the findings provide contextual understanding but cannot be generalized to all *madrasahs*. Second, the study focused on leadership practices and stakeholder perceptions, without quantitatively measuring the direct impact of digitalization on reputation indicators such as enrollment growth, public satisfaction, or institutional ranking. Third, the data were limited to interviews, observations, and documents within a specific fieldwork context. Future research is recommended to involve multiple *madrasahs*, apply comparative or mixed-method designs, and examine more specifically the relationship between digital leadership, teacher digital competence, digital service quality, public trust, and institutional reputation in Islamic educational institutions.

DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The author(s) utilized ChatGPT during the manuscript preparation process to assist with improving grammar, academic expression, and the overall readability of the text. All AI-assisted outputs were subsequently checked, edited, and approved by the author(s), who accept full responsibility for the final version of the manuscript.

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