

Adaptive Leadership in Islamic Primary Schools: Navigating Digital Transformation and Twenty-First Century Disruption

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Abstract

The rapid advancement of digital transformation has posed significant challenges for Islamic primary schools (Madrasah Ibtidaiyah), requiring school leaders to improve educational quality while preserving Islamic values and institutional identity. These challenges extend beyond technology adoption to include organizational adaptation, leadership capacity, and sustainable school development. This study aims to analyze the strategic role of adaptive leadership in enabling principals to navigate digital transformation and respond effectively to the educational demands of the twenty-first century. The study employed a qualitative library research approach by systematically reviewing peer-reviewed journal articles, academic books, policy documents, and other authoritative publications related to adaptive leadership, digital transformation, and Islamic education. The findings reveal that adaptive leadership strengthens organizational adaptability through collaborative decision-making, continuous professional learning, digital literacy development, innovation-oriented school management, and value-based governance grounded in Islamic principles. Furthermore, adaptive school leaders are better positioned to foster institutional resilience by integrating technological innovation with stakeholder collaboration and sustainable organizational learning. This study concludes that adaptive leadership provides a comprehensive strategic framework for guiding digital transformation in Islamic primary schools while maintaining their Islamic educational identity. The findings contribute to the development of adaptive leadership literature by offering an integrated conceptual perspective that combines organizational adaptation, digital transformation, and Islamic educational values within the context of Madrasah Ibtidaiyah.

Keywords

Adaptive leadership; Digital transformation; Islamic primary schools; Library research; Twenty-first century disruption.



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INTRODUCTION

The rapid advancement of digital technologies has fundamentally transformed educational systems worldwide, affecting not only teaching and learning but also governance, organizational management, and school leadership. According to the UNESCO Global Education Monitoring Report 2023, digital technologies have become an integral component of educational transformation; however, their effectiveness depends largely on leadership capacity, institutional readiness, and equitable access rather than technology alone. Likewise, the OECD Digital Education Outlook 2023 emphasizes that successful digital transformation requires school leaders who are capable of managing organizational change, strengthening digital competence, and fostering collaborative learning cultures instead of merely adopting digital tools. These developments indicate that educational leadership has become a decisive factor in ensuring that digital transformation contributes to sustainable educational improvement rather than temporary technological adaptation.

Within the Indonesian context, the implementation of digital transformation presents greater challenges for Islamic primary schools (*Madrasah Ibtidaiyah*) because educational modernization must be accompanied by the preservation of Islamic values, religious identity, and character education. Data from the Ministry of Religious Affairs indicate that many *madrasahs* continue to experience disparities in digital infrastructure, teachers' digital competence, and institutional readiness, particularly in integrating technology into school management and instructional practices. These disparities demonstrate that the challenges faced by *Madrasah Ibtidaiyah* extend beyond technological provision to include leadership capacity, organizational culture, and sustainable institutional development. Previous studies similarly report that many Islamic schools still encounter limitations in digital governance and organizational readiness despite increasing investment in educational technology (Mahsusi et al., 2024; Nadifa & Ambarwati, 2024).

Addressing these multidimensional challenges requires leadership capable of guiding organizations through uncertainty and continuous change. Adaptive leadership, introduced by Heifetz, Grashow, and Linsky (2009), provides a framework for mobilizing people to address complex adaptive challenges by encouraging organizational learning, shared responsibility, experimentation, and collective problem-solving. Unlike digital leadership, which primarily focuses on technology utilization, or transformational leadership, which emphasizes organizational vision and motivation, adaptive leadership enables educational leaders to respond flexibly to evolving

contexts while continuously aligning institutional strategies with emerging educational needs. In Islamic primary schools, this perspective is particularly relevant because principals are expected to balance technological innovation with the preservation of Islamic educational values and institutional identity (Efrita Norman & Enah Pahlawati, 2024).

Recent research has increasingly highlighted the importance of leadership during digital transformation. Studies have shown that collaborative leadership strengthens organizational innovation (Freser, 2025), adaptive governance improves institutional responsiveness (Uhl-Bien & Arena, 2018), digital leadership enhances teachers' readiness to integrate technology (Sakban et al., 2024), leadership competence influences educational quality during digital transformation (Irmawati Thahir, 2025), and digital transformation contributes to improving madrasah management when supported by organizational culture and leadership (Mahsusi et al., 2024). Although these studies consistently recognize leadership as a critical determinant of successful digital transformation, they primarily examine digital leadership, transformational leadership, instructional leadership, or technology adoption within specific institutional contexts. Consequently, existing evidence remains fragmented and offers limited conceptual understanding of adaptive leadership specifically within Indonesian Madrasah Ibtidaiyah (Laursen, 2024).

Another important limitation concerns the theoretical perspective adopted in previous research. Most studies examine leadership from the perspectives of digital leadership, instructional leadership, or transformational leadership, whereas adaptive leadership has received comparatively limited scholarly attention despite its suitability for managing uncertainty, organizational complexity, and continuous educational change. Furthermore, previous studies predominantly employ empirical approaches focusing on individual schools or regional cases, making it difficult to develop a broader conceptual explanation of how adaptive leadership contributes to digital transformation in Islamic primary schools (Agustina et al., 2025; Assalamah & Hilza, 2025). As a result, there remains no comprehensive synthesis integrating adaptive leadership, digital transformation, organizational adaptation, and Islamic educational values into a unified analytical framework. (Haris & Nuraeni, 2025; Akarsu et al., 2026).

This study addresses these gaps by synthesizing contemporary national and international literature on adaptive leadership in Islamic primary schools through a qualitative library research approach. Rather than examining a single institution, this study develops a comprehensive conceptual understanding of how adaptive leadership supports digital transformation while

maintaining the distinctive educational values of Madrasah Ibtidaiyah. The study contributes to the literature in three ways (Wharton-Beck et al., 2024). First, it positions adaptive leadership as the primary analytical framework instead of digital or transformational leadership. Second, it integrates evidence from educational leadership, digital transformation, organizational change, and Islamic education into a coherent conceptual perspective applicable to Indonesian Islamic primary schools. Third, it proposes an integrated framework explaining how adaptive leadership promotes organizational adaptability, collaborative governance, continuous professional learning, digital innovation, and institutional resilience while preserving Islamic educational values. Therefore, this study aims to analyze the strategic role of adaptive leadership in supporting digital transformation in Madrasah Ibtidaiyah by synthesizing evidence from contemporary literature and developing an integrated conceptual framework that explains how adaptive leadership strengthens organizational adaptability while preserving Islamic educational values.

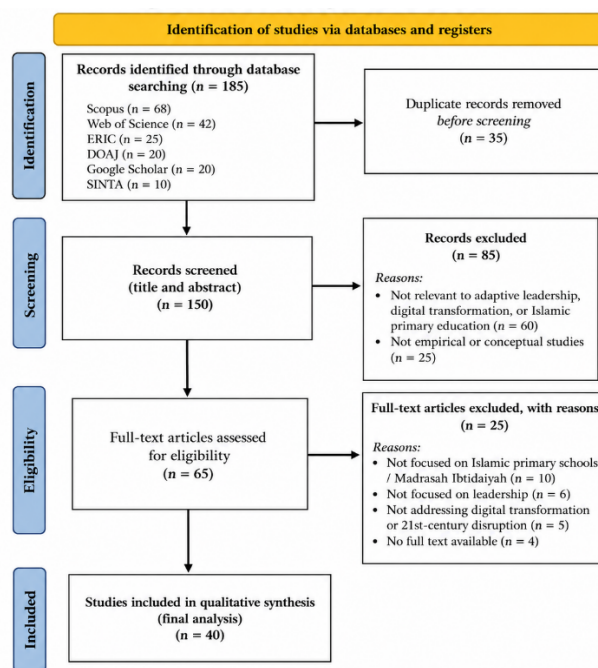
METHOD

This study employed a qualitative library research design to examine adaptive leadership in Islamic primary schools (Madrasah Ibtidaiyah) within the context of digital transformation and twenty-first-century educational disruption. Library research is appropriate for developing conceptual understanding through the critical synthesis of existing scholarly knowledge rather than collecting primary field data (Jonathan et al., 2025; Tobroni et al., 2024). This approach enables researchers to identify patterns, compare findings across studies, and construct broader theoretical explanations regarding adaptive leadership in Islamic education.

The literature analyzed in this study consisted of secondary sources obtained from peer-reviewed journal articles, academic books, conference proceedings, government regulations, policy reports, and publications issued by international organizations, including UNESCO, OECD, and the Ministry of Religious Affairs of Indonesia. Journal articles were retrieved from Scopus, Web of Science, ERIC, DOAJ, Google Scholar, and SINTA databases. To ensure the relevance of the review, the search primarily included publications published between 2020 and 2025, while seminal works on adaptive leadership were retained to provide the theoretical foundation for the analysis.

The literature identification and selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Dinda Febrianti Putri et al., 2024). Literature searching employed combinations of keywords, including *adaptive leadership*, *digital transformation*, *Islamic school leadership*, *Madrasah Ibtidaiyah*, *educational leadership*, *digital disruption*,

and *twenty-first-century education*. The initial search identified 185 publications from Scopus, Web of Science, ERIC, DOAJ, Google Scholar, and SINTA databases. After removing 35 duplicate records, 150 publications remained for title and abstract screening. Subsequently, 65 articles met the eligibility criteria for full-text assessment. Following the application of the predetermined inclusion and exclusion criteria, 40 studies were included in the final thematic analysis. The complete literature identification, screening, eligibility assessment, and inclusion process is presented in Figure 1 (PRISMA Flow Diagram) to ensure the transparency and reproducibility of the review process.



Note. The diagram follows the PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only.

Figure 1. PRISMA Flow Diagram of Literature Selection

The inclusion criteria comprised (1) peer-reviewed publications, (2) studies discussing adaptive leadership, educational leadership, digital transformation, or Islamic education, (3) publications written in English or Indonesian, (4) publications published between 2020 and 2025, and (5) studies providing theoretical or empirical evidence relevant to the objectives of this research. The exclusion criteria included duplicate publications, non-peer-reviewed documents, studies unrelated to Islamic primary education or educational leadership, publications lacking sufficient methodological information, and articles whose full texts were unavailable.

The selected literature was analyzed using thematic analysis following the framework proposed by Waddill and Goad (2023). The analytical process consisted of four stages. First, all selected publications were read repeatedly to obtain a comprehensive understanding of their

content. Second, meaningful information related to adaptive leadership, organizational adaptation, digital transformation, collaborative governance, innovation, professional learning, and Islamic educational values was systematically coded. Third, similar codes were grouped into broader categories to identify recurring patterns across studies. Finally, these categories were refined into overarching themes that represented the dominant characteristics, strategic practices, and challenges of adaptive leadership in Islamic primary schools. The themes were continuously reviewed and compared across the selected literature to ensure conceptual consistency before being synthesized into an integrated framework explaining the contribution of adaptive leadership to digital transformation in Madrasah Ibtidaiyah.

FINDINGS AND DISCUSSION

Findings

A. Characteristics of Adaptive Leadership in Indonesian Islamic Primary Schools

Table 1 presents the dominant characteristics of adaptive leadership identified across the reviewed studies. The characteristics were synthesized from the selected literature and represent the recurring dimensions most frequently associated with adaptive leadership in Islamic primary schools (Madrasah Ibtidaiyah).

Table 1. Characteristics of Adaptive Leadership in Indonesian Islamic Primary Schools

No.	Adaptive Leadership Characteristic	Synthesis of Research Findings	Supporting References
1.	Organizational adaptability	Principals continuously adjust school policies and management practices according to technological developments, educational reforms, and environmental changes.	(Hasanah & Yaqin, 2025)
2.	Collaborative decision-making	School leaders actively involve teachers, administrative staff, parents, and school committees in strategic decision-making processes to improve organizational effectiveness.	(Mahsusi et al., 2024)
3.	Continuous professional learning	Principals facilitate ongoing teacher development through digital literacy	(Keleng et al., 2025)

		training, mentoring, professional learning communities, and reflective practices.	
	Innovation-oriented leadership	Adaptive leaders encourage experimentation, educational innovation, and the utilization of digital technologies to improve teaching quality and institutional performance.	(Syarqowi et al., 2025)
4.			
	Islamic value-based governance	Digital transformation is implemented while maintaining Islamic ethics, character education, and the philosophical identity of Madrasah Ibtidaiyah.	(Maryati, 2025)
5.			

Source: Synthesized by the authors based on the reviewed literature (2020–2025).

The synthesis of the reviewed literature demonstrates that adaptive leadership in Indonesian Islamic primary schools is characterized by a multidimensional set of practices rather than a single leadership attribute. Among the identified characteristics, organizational adaptability emerges as the foundational dimension because it enables school principals to respond to technological developments, policy changes, and evolving educational demands. This adaptability is consistently accompanied by collaborative decision-making, indicating that leadership responsibilities are increasingly distributed among teachers, administrative staff, parents, and school committees to support institutional responsiveness. The findings also reveal that continuous professional learning and innovation-oriented leadership function as complementary dimensions that strengthen schools' capacity to improve digital competence and encourage educational innovation. Furthermore, the integration of Islamic value-based governance distinguishes adaptive leadership in Madrasah Ibtidaiyah from leadership practices in general educational settings, as digital transformation is implemented while maintaining Islamic ethics, character education, and the institutional identity of the school. Collectively, these findings suggest that adaptive leadership in Islamic primary schools operates through the interaction of organizational flexibility, stakeholder collaboration, professional capacity building, innovation, and value-based governance, forming an integrated leadership approach for managing digital transformation.

B. Adaptive Leadership Strategies for Digital Transformation in Islamic Primary Schools

Table 2 presents the adaptive leadership strategies identified in the reviewed literature for supporting digital transformation in Islamic primary schools. The strategies were synthesized from

studies discussing leadership practices implemented during organizational and technological change.

Table 2. Adaptive Leadership Strategies for Digital Transformation in Islamic Primary Schools

No.	Leadership Strategy	Synthesis of Research Findings	Supporting References
1.	Developing digital vision and strategic planning	Principals formulate long-term digital transformation plans aligned with school goals and educational policies.	(Munir et al., 2025)
2.	Strengthening teachers' digital competencies	Continuous professional development, mentoring, and digital literacy training improve teachers' readiness for technology-based learning.	(In et al., 2024)
3.	Encouraging collaborative innovation	Principals establish professional learning communities and involve stakeholders in designing and implementing digital initiatives.	(Nifasri, 2025)
4.	Integrating digital technology into school management	Digital platforms are utilized to improve administrative efficiency, communication, learning management, and institutional transparency.	(Shobri & Jaosantia, 2025)
5.	Maintaining Islamic values in digital transformation	Technological innovation is implemented while reinforcing Islamic ethics, character education, and responsible digital citizenship.	(OECD, 2023)

Source: Synthesized by the authors based on the reviewed literature (2023–2025).

The synthesis of the reviewed literature indicates that adaptive leadership strategies for digital transformation in Islamic primary schools are implemented through a systematic and interconnected process. The identified strategies demonstrate that digital transformation is not limited to the introduction of technological tools but involves coordinated efforts across leadership, professional development, organizational management, and institutional culture. The findings show that the formulation of a clear digital vision provides strategic direction for subsequent initiatives, while strengthening teachers' digital competencies supports the effective implementation of technology in teaching and school administration. Collaborative innovation further expands leadership capacity by encouraging the active participation of internal and external stakeholders in planning and implementing digital initiatives. At the organizational level, the integration of digital technology into school management contributes to more efficient administrative processes, communication, and institutional governance. At the same time, the consistent emphasis on maintaining Islamic values indicates that digital transformation is carried out within a value-based educational framework, ensuring that technological advancement remains aligned with the religious identity and educational mission of Madrasah Ibtidaiyah. Overall, the reviewed literature

suggests that these strategies function as complementary elements of an integrated leadership approach for managing sustainable digital transformation.

C. Challenges and Opportunities of Adaptive Leadership in the Era of 21st Century Disruption

Table 3 presents the major challenges, opportunities, and strategic responses associated with adaptive leadership in Islamic primary schools during the era of digital transformation. These findings were synthesized from studies examining educational leadership in rapidly changing educational environments.

Table 3. Challenges and Opportunities of Adaptive Leadership in Islamic Primary Schools

No.	Aspect	Synthesis of Research Findings	Supporting References
1	Challenges	Limited digital competence, unequal technological infrastructure, resistance to organizational change, and inadequate leadership capacity remain major barriers to digital transformation.	(Lancrin, 2023)
2	Opportunities	Digital innovation improves educational management, communication, collaboration, learning effectiveness, and institutional competitiveness.	("Global Education Monitoring Report 2023: Technology in Education: A Tool on Whose Terms?," 2023)
3	Strategic Response	Adaptive leadership strengthens organizational resilience through continuous learning, collaborative governance, innovation, and value-based decision-making.	(Waddill-Goad, 2023)

Source: Synthesized by the authors based on the reviewed literature (2023).

The synthesis of the reviewed literature demonstrates that the challenges, opportunities, and strategic responses associated with adaptive leadership form an interconnected pattern rather than independent findings. The identified challenges indicate that successful digital transformation is influenced not only by the availability of technology but also by leadership capacity, organizational readiness, and human resource competence. At the same time, the reviewed studies consistently highlight that technological advancement creates opportunities to improve institutional management, communication, collaboration, and learning effectiveness when supported by appropriate leadership practices. These findings further show that adaptive leadership functions as a strategic mechanism for responding to these conditions by promoting continuous organizational learning, collaborative governance, innovation, and value-based decision-making. Collectively, the reviewed literature suggests that the effectiveness of digital transformation in Islamic primary schools depends on the ability of school leaders to balance organizational challenges with emerging opportunities through adaptive and sustainable leadership practices.

Discussion

The findings demonstrate that adaptive leadership provides an appropriate leadership framework for Islamic primary schools in responding to digital transformation and twenty-first-century educational disruption. This result can first be understood through the original adaptive leadership theory proposed by Heifetz, Grashow, and Linsky (2009), which argues that adaptive challenges cannot be resolved solely through technical solutions but require leaders to mobilize people, reshape organizational culture, and facilitate collective learning. In the context of Madrasah Ibtidaiyah, digital transformation represents an adaptive challenge because it involves not only technological adoption but also changes in organizational culture, professional practice, and educational values. Consequently, principals are required to create conditions that enable teachers, students, and other stakeholders to adapt collectively to continuous educational change rather than merely introducing new technologies.

The synthesis identified five dominant characteristics of adaptive leadership, namely organizational adaptability, collaborative decision-making, continuous professional learning, innovation-oriented leadership, and Islamic value-based governance. These characteristics reflect the adaptive leadership process described by Afkarina and Puspita W (2023), in which leaders encourage experimentation, shared responsibility, and organizational learning instead of relying on hierarchical authority. Recent studies by McCarthy et al. (2023) and Anwar and Saraih (2024) similarly emphasize that successful digital transformation depends on collaborative organizational cultures and leadership capable of facilitating continuous learning. However, the present study extends these findings by demonstrating that, within Islamic primary schools, adaptive leadership also requires integrating Islamic educational values into organizational decision-making. Therefore, adaptive leadership in Madrasah Ibtidaiyah encompasses both organizational adaptation and the preservation of the school's religious identity (Ardiansyah Saputra, 2025).

Another important finding concerns the relationship between adaptive leadership and teachers' professional capacity. Previous studies generally argue that leadership contributes to improving teachers' digital competence through training and mentoring (Abu Eyadah & Odaibat, 2025). The present synthesis supports this conclusion but further suggests that professional development alone is insufficient if it is not accompanied by changes in organizational culture. From the perspective of adaptive leadership, teacher learning becomes effective when principals establish an environment that encourages experimentation, reflective practice, collaboration, and continuous

feedback. This finding indicates that adaptive leadership functions not merely as a mechanism for improving technical competence but as a process for strengthening the school's capacity to learn collectively in response to ongoing educational change (Syahidi et al., 2025; (Lasrin et al., 2025).

The findings also reveal a close relationship between adaptive leadership, Islamic school culture, stakeholder participation, and community engagement. Adaptive leadership encourages principals to involve teachers, parents, school committees, and the broader community in educational decision-making, thereby strengthening collective responsibility for school development. This finding aligns with the adaptive leadership principle that complex organizational challenges should be addressed through collaborative problem-solving rather than individual authority (Titi Sartini et al., 2025; Keleng et al., 2025). However, compared with studies conducted in general educational settings, stakeholder collaboration in Madrasah Ibtidaiyah serves an additional function. Beyond improving organizational effectiveness, it reinforces Islamic school culture by fostering shared religious values, mutual trust, and collective commitment among school communities. This distinctive relationship demonstrates that community engagement within Islamic schools is inseparable from their cultural and religious identity (Huang et al., 2023).

A critical comparison with previous studies also reveals an important conceptual difference. Most earlier studies examine digital leadership, transformational leadership, or instructional leadership as separate approaches to educational change (Yukl et al., 2019; Maulana et al., 2024). These perspectives primarily emphasize technological competence, visionary leadership, or instructional improvement. While these approaches remain relevant, they provide limited explanations for how school leaders manage uncertainty, organizational resistance, and the integration of technological innovation with Islamic educational values. The present study therefore argues that adaptive leadership offers a broader analytical perspective because it simultaneously addresses organizational adaptation, collaborative governance, continuous learning, cultural preservation, and institutional resilience. This distinction explains why adaptive leadership appears more suitable for understanding leadership challenges faced by Madrasah Ibtidaiyah during digital transformation (Hasanah & Yaqin, 2025; In et al., 2024).

The findings also differ from empirical studies focusing on individual schools, such as Nuansah et al. (2025), which conclude that adaptive and participatory leadership contribute to building inclusive school culture. While those findings are based on specific institutional contexts, the present study synthesizes evidence from a wider range of national and international literature.

Consequently, this study identifies recurring leadership patterns that extend beyond local practices and demonstrates that adaptive leadership consistently functions as an integrative framework across diverse Islamic primary school contexts. This broader conceptual perspective constitutes the principal contribution of the present study (Kurkan & Çetin, 2024).

The novelty of this research therefore lies not merely in discussing adaptive leadership but in integrating adaptive leadership theory with digital transformation and Islamic educational values into a unified conceptual framework. Unlike previous studies that examine leadership dimensions separately, this synthesis demonstrates that organizational adaptability, collaborative governance, professional learning, technological innovation, and Islamic school culture are interconnected dimensions of adaptive leadership. The findings suggest that successful digital transformation depends on the interaction among these dimensions rather than on technological readiness alone.

The theoretical implication of this study is that adaptive leadership theory proposed by Heifetz, Grashow, and Linsky can be extended to explain leadership practices in Islamic primary education, particularly in contexts characterized by rapid technological change and strong religious values (Heifetz et al., 2009; Uhl-Bien & Arena, 2018). Practically, the findings indicate that leadership development programmes for Madrasah Ibtidaiyah should prioritize adaptive capacity, collaborative governance, stakeholder engagement, continuous professional learning, organizational culture, and digital competence to strengthen schools' readiness for sustainable digital transformation (McCarthy et al., 2023; OECD, 2023). For school principals, these findings emphasize the importance of fostering participatory leadership, promoting continuous teacher professional development, and creating collaborative learning environments that support organizational adaptability and innovation. For policymakers, the findings highlight the need to formulate policies that support equitable digital infrastructure, leadership capacity-building programmes, and governance frameworks that integrate technological advancement with the preservation of Islamic educational values. Accordingly, future digital transformation initiatives should be designed as comprehensive organizational change processes that integrate technological innovation with the cultural and educational identity of Islamic schools rather than focusing exclusively on infrastructure development.

CONCLUSION

The findings of this study indicate that adaptive leadership provides an appropriate leadership framework for supporting digital transformation in Islamic primary schools (Madrasah Ibtidaiyah). Rather than focusing solely on technology adoption, adaptive leadership emphasizes organizational adaptability, collaborative governance, continuous professional learning, digital literacy development, innovation, and value-based decision-making. These leadership characteristics enable school principals to respond effectively to educational change while preserving the distinctive identity and educational values of Islamic primary education. Accordingly, adaptive leadership strengthens institutional resilience and enhances schools' readiness to address the challenges of twenty-first-century educational transformation.

This study contributes to the educational leadership literature by offering a comprehensive conceptual synthesis that integrates adaptive leadership, digital transformation, and Islamic educational values within the context of Indonesian Madrasah Ibtidaiyah. The findings extend the application of adaptive leadership theory by demonstrating that effective digital transformation requires not only technological readiness but also organizational learning, stakeholder collaboration, and the integration of Islamic school culture into leadership practices. Practically, the study provides a conceptual reference for policymakers, educational authorities, and school principals in designing leadership development programmes that strengthen adaptive capacity, collaborative governance, and sustainable digital transformation in Islamic primary schools.

The principal novelty of this study lies in the development of an integrated conceptual framework that positions adaptive leadership as the primary analytical perspective for understanding digital transformation in Madrasah Ibtidaiyah. Unlike previous studies that primarily examined digital, transformational, or instructional leadership independently, this study synthesizes adaptive leadership with organizational adaptability, collaborative governance, continuous professional learning, digital innovation, and Islamic educational values into a unified conceptual model. This contribution extends the application of adaptive leadership theory by demonstrating its relevance to the distinctive context of Islamic primary education, where organizational adaptation and technological transformation must be balanced with the preservation of Islamic identity and educational values.

Future research is recommended to validate the conceptual framework proposed in this study through empirical investigations involving diverse Madrasah Ibtidaiyah across different

regions of Indonesia. Further studies may also examine the influence of adaptive leadership on educational quality, organizational performance, teachers' professional development, and student learning outcomes using qualitative, quantitative, or mixed-method approaches.

REFERENCES

- Abu Eyadah, H., & Odaibat, A. (2025). A Foresighted Vision for the Role of Educational Leadership in Building a Humane Society in the Age of Artificial Intelligence. *International Uni-Scientific Research Journal of Humanities and Social Sciences*, 6. <https://doi.org/10.59271/s45657.025.1053.2>
- Afkarina, M., & Puspita W, D. M. A. (2023). Building Organizational Culture in Islamic Education with Collaborative Leadership as the Key. *AFKARINA: Jurnal Pendidikan Agama Islam*, 8(1). <https://doi.org/10.33650/afkarina.v8i1.9312>
- Agustina, M., Rahmi, R., & Saputra, A. (2025). Enhancing Digital Literacy: An Analysis of Islamic Primary School Prospective Teachers' Competency in Navigating the Digital Era. *Jurnal Ilmiah Sekolah Dasar*, 8(3). <https://doi.org/10.23887/jisd.v8i3.76483>
- Akarsu, O., Bağış, M., & Kurutkan, M. N. (2026). Digital leadership as micro-foundations of digital transformation, technology adaptive capability and financial performance. *Journal of Organizational Change Management*. <https://doi.org/10.1108/JOCM-12-2024-0792>
- Anwar, S., & Saraih, U. N. (2024). Digital leadership in the digital era of education: enhancing knowledge sharing and emotional intelligence. *International Journal of Educational Management*, 38(6). <https://doi.org/10.1108/IJEM-11-2023-0540>
- Ardiansyah Saputra, C. (2025). Paradigma Kepemimpinan Pendidikan di Era Digital: Antara Disrupsi dan Adaptasi Kurikulum Merdeka. *Al-Amin: Jurnal Ilmu Pendidikan Dan Sosial Humaniora*, 3(1). <https://doi.org/10.53398/alaman.v3i1.440>
- Assalamah, T. M., & Hilza, I. F. (2025). Digital Literacy and Cultural Narratives for Social Sustainability in Primary Education Transformation. *Entita: Jurnal Pendidikan Ilmu Pengetahuan Sosial Dan Ilmu-Ilmu Sosial*, 7(1). <https://doi.org/10.19105/ejpis.v7i1.18932>
- Dinda Febrianti Putri, Abdullah, A., Maulidatul Hasanah, Heru, M. J. A., & Bali, M. M. E. I. (2024). Crafting Leaders in the Digital Age: How Adaptive Management Strategies Revolutionize Leadership Development in Islamic Schools. *Communautaire: Journal of Community Service*, 3(1). <https://doi.org/10.61987/communautaire.v3i1.458>
- Efrita Norman, & Enah Pahlawati. (2024). Pengembangan Kepemimpinan yang Adaptif dan Fleksibel: Meningkatkan Ketahanan Organisasi di Era Transformasi Digital. *MES Management Journal*, 3(1). <https://doi.org/10.56709/mesman.v3i1.314>
- Freser, J. (2025). Innovative Approaches to Educational Management in the Digital Era. *ALACRITY: Journal of Education*.
- Global Education Monitoring Report 2023: Technology in education: A tool on whose terms? (2023). In *Global Education Monitoring Report 2023: Technology in education: A tool on whose terms?* <https://doi.org/10.54676/uzqv8501>
- Haris, A., & Nuraeni, N. (2025). Adaptive Leadership In The Era Of Disruption: Integrating Digital Transformation, Organizational Culture, And Teacher Performance (A Case Study Of Muhammadiyah High Schools In Cianjur Regency). *Dinasti International Journal of Education Management And Social Science*, 6(2). <https://doi.org/10.38035/dijemss.v6i2.3961>
- Hasanah, S. N. A., & Yaqin, M. A. (2025a). Principal Strategies to Improve Teachers' Pedagogic Competence in The Digital Era. *Journal of Educational Management Research*, 4(1).

- <https://doi.org/10.61987/jemr.v4i1.755>
- Hasanah, S. N. A., & Yaqin, M. A. (2025b). Principal Strategies to Improve Teachers' Pedagogic Competence in The Digital Era. *Journal of Educational Management Research*, 4(1). <https://doi.org/10.61987/jemr.v4i1.755>
- Huang, J. Y. H., Jiang, R., & Chang, J. Y. T. (2023). The Effects of Transformational and Adaptive Leadership on Dynamic Capabilities: Digital Transformation Projects. *Project Management Journal*, 54(4). <https://doi.org/10.1177/87569728231165896>
- In, K., Dasuki, Q. A., & Nurwahid, A. (2024a). Adaptive Leadership and Institutional Development in Islamic Education: A Case Study of Madrasah Diniyah At-Ta'abud Wonokromo. *JIEMR: Journal of Islamic Education Management Research*, 2(2).
- In, K., Dasuki, Q. A., & Nurwahid, A. (2024b). Adaptive Leadership and Institutional Development in Islamic Education: A Case Study of Madrasah Diniyah At-Ta'abud Wonokromo. *JIEMR: Journal of Islamic Education Management Research*, 2(2).
- Irmawati Thahir. (2025). Digital Leadership of School Principals in Enhancing Technology-Based Learning Quality. *International Journal of Studies in International Education*, 2(4). <https://doi.org/10.62951/ijisie.v2i4.417>
- Jonathan, D., Ansar, A., & Kr. J Tompong, B. T. A. N. (2025). Adaptive Digital Leadership In Learning Transformation In The Era Of Technological Disruptions. *Klasikal: Journal Of Education, Language Teaching And Science*, 7(3). <https://doi.org/10.52208/klasikal.v7i3.1611>
- Keleng, C. A., Ibrahim, A. I., Adam, S., Supu, N. M., Pamoras, N., Fadilah, F., & Rahmawati, S. F. (2025a). A Literature Review: Entrepreneurial Leadership in Indonesia. *International Journal of Health, Economics, and Social Sciences (IJHESS)*, 7(4).
- Keleng, C. A., Ibrahim, A. I., Adam, S., Supu, N. M., Pamoras, N., Fadilah, F., & Rahmawati, S. F. (2025b). A Literature Review: Entrepreneurial Leadership in Indonesia. *International Journal of Health, Economics, and Social Sciences (IJHESS)*, 7(4).
- Kurkan, G., & Çetin, M. (2024). The Perceptions of Educational Administrators towards Digital Leadership in the Age of Artificial Intelligence: A Qualitative Study. *International Journal of Contemporary Educational Research*, 11(3). <https://doi.org/10.52380/ijcer.2024.11.3.602>
- Lancrin, V. (2023). OECD Digital Education Outlook 2023: Towards an Effective Digital Education Ecosystem. *OECD Digital Education Outlook*.
- Lasrin, H., Rubini, B., & Novita, L. (2025). The Effect of Transformational Leadership and Technological Literacy on Increasing Teacher Innovativeness. *International Journal of Scientific Research and Modern Technology*. <https://doi.org/10.38124/ijsrmt.v4i7.664>
- Laursen, R. (2024). Exploring teachers' strategies for navigating compulsory digital transformations in Danish primary and lower secondary schools. *British Educational Research Journal*, 50(5). <https://doi.org/10.1002/berj.4028>
- Mahsusi, Hudaa, S., Fahmi, M., Kusen, Haryanti, N. D., & Wajdi, M. B. N. (2024a). Achieving excellence: the role of digital transformation in madrasah management and Islamic culture. *Cogent Arts and Humanities*, 11(1). <https://doi.org/10.1080/23311983.2024.2304407>
- Mahsusi, Hudaa, S., Fahmi, M., Kusen, Haryanti, N. D., & Wajdi, M. B. N. (2024b). Achieving excellence: the role of digital transformation in madrasah management and Islamic culture. *Cogent Arts and Humanities*, 11(1). <https://doi.org/10.1080/23311983.2024.2304407>
- Maryati, S. (2025). Kepemimpinan Transformasional Kepala Madrasah dalam Meningkatkan Mutu Pendidikan Islam di Era Digital. *IQRO: Journal of Islamic Education*, 8(2). <https://doi.org/10.24256/iqro.v8i2.8384>
- Maulana, I., Sirajuddin, S., Susanti, R., Sari, E., & Karnati, N. (2024). Adaptive Leadership In The Digital Era In Educational Institutions. *Jurnal Edusci*, 2(2).

- McCarthy, A. M., Maor, D., McConney, A., & Cavanaugh, C. (2023). Digital transformation in education: Critical components for leaders of system change. *Social Sciences and Humanities Open*, 8(1). <https://doi.org/10.1016/j.ssaho.2023.100479>
- Munir, M., Zumrotus, I., Adah, S. ', Tinggi, S., Darussalam, A. I., & Nganjuk, K. (2025). Transformasi Digital dalam Manajemen Pendidikan Islam: Studi atas Adaptasi Kepemimpinan di Era Society 5.0. *JIEM: Journal Of Islamic Education and Management*, 6(1).
- Nadifa, M., & Ambarwati, R. D. (2024). Islamic school with digital culture in era society 5.0. *CAHAYA PENDIDIKAN*, 10(1). <https://doi.org/10.33373/chypend.v10i1.5857>
- Nifasri, N. (2025). Adapting Transformative Leadership in Islamic Education: Insights from Madrasah. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 9(1). <https://doi.org/10.33650/al-tanzim.v9i1.10803>
- Nuansah, U., Salam, A., Aspandi, A., Karim, A., & Mazaya El Banna, A. (2025). An Exploration of a Practical Leadership Model for Building Inclusive School Culture: A Case Study of Madrasah Ibtidaiyah (Islamic Elementary School) in Indramayu, Indonesia. *IJORER : International Journal of Recent Educational Research*, 6(6). <https://doi.org/10.46245/ijorer.v6i6.1001>
- OECD. (2023). OECD Digital Education Outlook 2023: Towards an Effective Digital Education Ecosystem. In *OECD Digital Education Outlook*.
- Sakban, S., Lisman, M., Marni, S., & Wismanto. (2024). Islamic Elementary School Marketing Model in Pekanbaru: The Impact of Digitalization of Education. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, 9(3). <https://doi.org/10.31538/ndhq.v9i3.12>
- Shobri, M., & Jaosantia, J. (2025). Digital Transformation in Islamic Education Management and Leadership: Strategies, Challenges, and Opportunities in the Society 5.0 Era. *FAKTA: Journal of Islamic Education*, 1(1).
- Syahidi, F., Subasman, I., Aspandi, A., & Khotimah, M. D. (2025). Enhancing Efficiency in Student Attendance Recording through Implementation of a Digital Presence System: A Field Study in Elementary Schools. *EDUKASIA Jurnal Pendidikan Dan Pembelajaran*, 6(2). <https://doi.org/10.62775/edukasia.v6i2.1772>
- Syarqowi, M., Zuhaery, M., & Hidayati, D. (2025). Jurnal Manajemen Pendidikan Peran Kepemimpinan Digital Dalam Meningkatkan Kinerja Organisasi Pendidikan: Literature Review. *Jurnal Manajemen Pendidikan*, 7(2).
- Titi Sartini, Nini, Hidayati Suhaili, Mona Novita, & Raudlotul Hikmah. (2025). Adaptive Learning Frameworks for Islamic-Based Character Education in Child-Friendly School Leadership. *Journal of Educational Management Research*, 4(2). <https://doi.org/10.61987/jemr.v4i2.883>
- Tobroni, Yunus Abu Bakar, M., Firmansyah, E., & Abdeljelil, M. Ben. (2024). Legal Framework Analysis of Islamic Religious Education Policy Implementation. *International Journal of Law and Society*, 3(3). <https://doi.org/10.59683/ijls.v3i3.143>
- Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *Leadership Quarterly*, 29(1). <https://doi.org/10.1016/j.leaqua.2017.12.009>
- Waddill-Goad, Suzanne. (2023a). Beyond Burnout, Second Edition: Overcoming Stress in Nursing & Healthcare for Optimal Health & Well-Being. 20230414.
- Waddill-Goad, Suzanne. (2023b). Beyond Burnout, Second Edition: Overcoming Stress in Nursing & Healthcare for Optimal Health & Well-Being. 20230414.
- Wharton-Beck, A., Chou, C. C., Gilbert, C., Johnson, B., & Beck, M. A. (2024). K-12 school leadership perspectives from the COVID-19 pandemic. *Policy Futures in Education*, 22(1). <https://doi.org/10.1177/14782103221135620>
- Yukl, G., Gardner III, W., & Gardner, W. (2019). Chapter 12 Strategic Leadership in Organizations.

In Leadership in Organizations, EBook.