

Technology-Based Transformation of Islamic Education Management in Facing the Challenges of the 21st Century

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Abstract

Technology-based transformation of Islamic education management is an urgent need to face the challenges of the 21st century, marked by digitalization and shifting educational paradigms. Islamic educational institutions are required to integrate Islamic values with the use of technology to improve the quality of educational services. This study aims to analyze the technology-based transformation of Islamic education management, identify its implementation, and examine its implications for facing 21st-century challenges at MA Hidayatul Mubtadiin. The research method used is a qualitative approach with a case study, through data collection techniques such as in-depth interviews, observation, and documentation. Data analysis uses the interactive model of Miles and Huberman, which includes data reduction, data presentation, and drawing conclusions. The results show that technology-based transformation of education management has been implemented through management functions that include digital planning, organizing, implementation, and evaluation, which has resulted in increased management efficiency, teacher professionalism, and an adaptive and innovative organizational culture. In conclusion, technology-based transformation of Islamic education management plays a significant role in improving the quality of education and the competitiveness of institutions in the digital era, while remaining grounded in Islamic values.

Keywords

21st Century, Islamic Education, Management Transformation, Technology, Quality of Education.



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INTRODUCTION

Technology-based transformation of Islamic education management is an urgent need to face the challenges of the 21st century, marked by digital developments, globalization, and shifting learning paradigms. Islamic educational institutions are required not only to uphold Islamic values but also to adapt to technological advances to improve the quality of educational services. In this context, Islamic education management plays a strategic role in integrating technology into the institution's management system effectively, efficiently, and

with a quality focus. Therefore, a study of technology-based transformation of Islamic education management is crucial to address the increasingly complex demands of the times.

Conceptually, technology-based Islamic education management combines Islamic management principles based on the values of the Quran and Hadith with the use of information and communication technology in educational management. Principles such as trustworthiness, transparency, accountability, and deliberation form the foundation for technology implementation, ensuring that the transformation is not merely technical but also spiritual. Furthermore, modern management theory emphasizes the importance of digital leadership, organizational innovation, and adaptation to change as keys to the success of educational institutions in the digital age.

Several previous studies have shown that the use of technology in Islamic education management can improve administrative effectiveness and learning quality. A study by (Mulyanti, 2025) found that the use of digital-based management information systems can improve the efficiency of data management and academic services. However, this study has not yet examined in depth how this technology integration impacts overall managerial transformation. Therefore, there is a gap in understanding the relationship between technology and comprehensive transformation of Islamic education management. Other research by (Pratiwi et al., 2022) Studies have shown that the digitalization of Islamic education contributes to improving the quality of learning and access to information. However, this research focuses more on the learning aspect and has not yet highlighted the role of management in managing this transformation. This research gap indicates the need for studies that integrate management and technology aspects within a comprehensive analytical framework. Furthermore, research by (Tamami et al., 2024) revealed that technology-based innovation in Islamic education faces various challenges, such as limited human resources, infrastructure, and resistance to change. Although this study provides an overview of implementation barriers, it does not yet offer a systematic and applicable management transformation model. Therefore, research capable of formulating a comprehensive transformation strategy is needed. Cape, (2025) highlights the importance of digital leadership in supporting the transformation of Islamic education. Meanwhile, research (Son, 2024) shows that the use of technology in educational management can increase the transparency and accountability of institutions. Other research by (Sholeh & Efendi, 2023) also emphasizes the importance of technology integration in improving educational quality. However, these studies are generally partial and have not specifically examined the transformation of Islamic education management within the context of specific institutions such as madrasas. This presents an important research gap that requires further exploration.

Based on these various studies, it can be identified that there is a research gap in the form of a lack of studies that integrate technological innovation with the transformation of Islamic education management comprehensively, especially in the context of implementation in educational institutions such as MA Hidayatul Mubtadiin. The novelty of this research lies in the integrative approach that examines the transformation of technology-based Islamic

education management from the aspects of planning, organizing, implementing, and evaluating comprehensively, and linking it to the 21st-century challenges faced by educational institutions. The objectives of this research are to (1) analyze the concept of technology-based Islamic education management transformation, (2) identify the forms of technology implementation in education management at MA Hidayatul Muhtadiin, and (3) examine the implications of this transformation in facing the challenges of the 21st century. Thus, this research is expected to provide theoretical and practical contributions in the development of adaptive, innovative, and technology-based Islamic education management.

METHODS

This research method uses a qualitative approach with a case study research type that aims to examine in depth the process of transformation of technology-based Islamic education management in facing the challenges of the 21st century at MA Hidayatul Muhtadiin. The research was conducted in a naturalistic manner with the researcher as the main instrument directly involved in data collection and analysis. Data sources consist of primary and secondary data, where primary data was obtained through in-depth interviews with the madrasah principal, teachers, education staff, and information system operators, as well as participatory observation of technology-based management practices in the madrasah environment. Meanwhile, secondary data was obtained from official documents such as madrasah work plans, digital archives, activity reports, and policies related to the use of technology in educational management. Data collection techniques were carried out through method triangulation including observation, interviews, and documentation to increase data validity. Data analysis used the interactive model of Miles and Huberman which includes the stages of data reduction, data presentation, and continuous drawing of conclusions/verification. To ensure the validity and reliability of the data, this study employed source triangulation, technical triangulation, and member checking techniques, which involved reconfirming the interview results with informants. The analysis focused on four technology-based educational management functions: planning, organizing, implementing, and evaluating, to obtain a comprehensive picture of the forms of management transformation and their implications for improving the quality and competitiveness of Islamic educational institutions in the digital era.

RESULTS AND DISCUSSION

Results

Technology-Based Transformation of Islamic Education Management at MA Hidayatul Muhtadiin

The technology-based transformation of Islamic education management at MA Hidayatul Muhtadiin began with a systematic and visionary planning stage. The madrasah developed a digital-based strategic plan that integrates technology into all aspects of education management, from administration to teaching. This planning is oriented not only towards

work efficiency but also towards improving the quality of educational services based on Islamic values. In this regard, technology is positioned as a tool to strengthen the implementation of the principles of trustworthiness, transparency, and accountability in education management.

During the organizational stage, the madrasah has clearly divided tasks related to technology management, such as appointing information system operators, IT teams, and those responsible for administrative digitalization. The organizational structure has been adjusted to the needs of digital transformation, thus creating effective coordination between departments. Furthermore, the madrasah has also increased human resource capacity through training and workshops related to the use of technology in educational management. This demonstrates the institution's awareness of the importance of digital competency in supporting management transformation. In terms of implementation, technology has been effectively implemented in various managerial activities, such as digital-based student data management, the use of school administration applications, and online communication systems between teachers, students, and parents. Furthermore, the use of digital platforms in the learning process has also become an integral part of this transformation. This implementation not only improves work efficiency but also accelerates the flow of information and decision-making within the madrasah.

The research results show that technology-based transformation also has an impact on increasing transparency and accountability in institutional management. Digitally documented data and information facilitates the monitoring and evaluation process and increases stakeholder trust in the institution. Furthermore, digital systems enable more effective oversight of teacher and educational staff performance, thereby encouraging increased professionalism in their work. However, several obstacles remain in this transformation process, such as limited technological infrastructure, uneven distribution of teachers' digital competencies, and resistance to change from some educators. These obstacles represent challenges that must be overcome in the process of technology-based educational management transformation. Nevertheless, the madrasah continues to make gradual adaptation and improvement efforts to overcome these obstacles.

Overall, the research results indicate that the technology-based transformation of Islamic education management at MA Hidayatul Mubtadiin has progressed quite well and is showing a positive trend. The integration of Islamic values and the use of technology is a key driver in creating an effective, efficient, and adaptive management system. This transformation represents a strategic step in improving the quality and competitiveness of Islamic educational institutions in the digital era.

Implications of Technology-Based Transformation of Islamic Education Management in Facing the Challenges of the 21st Century

Technology-based transformation of Islamic education management has significant implications for facing 21st-century challenges, particularly in improving the quality of

educational services. The use of technology enables madrasas to provide faster, more accurate, and more transparent services, thereby increasing stakeholder satisfaction, including students, parents, and the community. This demonstrates that digital transformation impacts not only the internal aspects of the institution but also the image and public trust in madrasas. Another implication identified is the improvement in the digital competence of teachers and education staff. Through training and hands-on practice, teachers become more accustomed to using technology in the learning and administrative processes. This results in improved learning quality, making it more innovative, interactive, and tailored to the needs of students in the digital age. Thus, technology-based management transformation contributes to the improvement of the professionalism of educators.

This transformation also has implications for the formation of an adaptive and innovative organizational culture. A technology-based work environment encourages all members of the madrasa community to be more open to change and continuously learn to keep up with the times. This culture is a crucial asset in facing the challenges of the 21st century, which demand flexibility, creativity, and a high level of adaptability. In the context of students, the use of technology in educational management also impacts the quality of the learning experience. Students have easier access to information, interact with teachers, and develop digital skills that are highly needed in the modern era. This demonstrates that the transformation of educational management not only impacts administrative aspects but also directly improves the quality of learning.

The research also shows that the positive implications of this transformation depend heavily on the readiness of the human resources and infrastructure of the madrasah. Limited technological facilities and a lack of ongoing training can hinder the optimal use of digital transformation. Therefore, a sustainable strategy is needed to develop human resource capacity and provide adequate infrastructure. Overall, the technology-based transformation of Islamic education management at MA Hidayatul Mubtadiin has proven to be able to address most of the challenges of the 21st century, such as the need for efficiency, transparency, and innovation in education. This transformation not only improves management quality but also positively impacts all aspects of education, from teacher performance and organizational culture to student learning outcomes. Therefore, technology-based transformation is a strategic step that must be continuously developed to ensure the sustainability and competitiveness of Islamic educational institutions in the future.

Discussion

The research results show that the technology-based transformation of Islamic education management at MA Hidayatul Mubtadiin has progressed through systematic managerial stages, namely planning, organizing, implementing, and evaluating. This finding aligns with studies of modern educational management theory, which emphasize the importance of management functions as the basis for managing educational institutions. Hartadi & Nasrip, (2025) from an Islamic educational perspective, these functions are not merely technical but

also grounded in spiritual values such as trust and accountability. This reinforces the view that integrating modern management theory with Islamic principles can produce a more comprehensive and valuable management model.

In terms of planning, the research results show that madrasas have developed visionary digital-based strategies. This finding aligns with digital leadership theory, which emphasizes the importance of vision and leadership skills in guiding technological transformation in educational institutions (Setiawan & Lestari, 2025). Study Sudiansyah, (2025) also shows that the success of digital transformation is largely determined by careful planning based on organizational needs. However, this study provides an additional contribution by demonstrating that such planning is not solely oriented toward efficiency but also toward strengthening Islamic values in educational management.

At the organizational stage, research results indicate the formation of an organizational structure that is adaptive to the needs of digitalization. This aligns with modern organizational theory, which emphasizes flexibility and collaboration in the face of change (Ambarwati, 2021). Study (Mulyanti, 2025) also revealed that the success of technology implementation is greatly influenced by human resource readiness and clear division of tasks. However, this study expands on these findings by demonstrating that organizing in the context of Islamic education must also consider the values and ethics of work interactions, thereby creating an organizational environment that is not only effective but also harmonious.

In terms of implementation, research results show that the use of technology has increased the efficiency and effectiveness of education management. This finding aligns with research (Suaeb, 2022) which states that digitalization can accelerate administrative processes and improve the quality of educational services. Furthermore, educational innovation theory also emphasizes that the use of technology can encourage more interactive and responsive learning to student needs (Sarnoto & PdI, 2025). However, this study adds a new dimension by showing that the implementation of technology in Islamic education also serves as a means to strengthen religious values in educational practice.

Furthermore, in terms of implications, the research results show that technology-based management transformation contributes to improving the overall quality of education, including teacher performance, organizational culture, and student learning experiences. This is in line with research. Salasiah, (2022) which confirms that effective leadership and management directly impact educational quality. However, this study places greater emphasis on the formation of an adaptive and innovative organizational culture as a result of digital transformation, which is a crucial indicator in facing the challenges of the 21st century.

However, the research also revealed various obstacles, such as limited infrastructure and uneven digital competency. These findings are consistent with previous research showing that the main obstacle to digital transformation in education lies in the readiness of human resources and infrastructure. Therefore, a sustainable strategy is needed to develop human resource capacity and provide technological facilities. Overall, this discussion shows that technology-based transformation of Islamic education management has significant potential

to improve the quality of education, but its success depends heavily on the institution's ability to integrate technology with Islamic values and the readiness of its resources.

This study has several limitations that require attention when interpreting the results. First, the study used a case study approach at a single institution, namely MA Hidayatul Mubtadiin, so the findings are contextual and cannot be broadly generalized to all Islamic educational institutions. Second, the limited timeframe meant that observations of the technology-based management transformation process were unable to capture the dynamics of change longitudinally. Third, the data obtained relied heavily on interviews and observations, potentially containing subjectivity from informants. Furthermore, the limited infrastructure and digital documentation available at the research site also affected the depth of analysis of technology implementation in educational management. Therefore, future research is expected to use a broader approach, involve more institutions, and utilize quantitative data to strengthen the research results.

The novelty of this research lies in its integrative approach, which comprehensively examines the transformation of technology-based Islamic education management through four management functions: planning, organizing, implementing, and evaluating, within the real-life context of madrasas. Unlike previous studies, which tended to be partial and focused solely on the digitalization of learning or administration, this study directly links the use of technology to managerial transformation based on Islamic values. Furthermore, this study offers a new perspective by positioning technology not merely as an administrative tool but as a strategic instrument in building an adaptive, innovative, and religious organizational culture to face the challenges of the 21st century. Thus, this research provides theoretical and practical contributions to the development of Islamic education management relevant to the digital era.

CONCLUSION

The results of the study indicate that the technology-based transformation of Islamic education management at MA Hidayatul Mubtadiin has been implemented through the integration of management functions including digital strategic planning, technology-based organization, implementation of digital-based administration and learning systems, and more transparent and accountable evaluation. This transformation has had a positive impact on improving the quality of education, such as increased management efficiency, teacher professionalism, an adaptive organizational culture, and the quality of students' learning experiences in the digital era. Based on these findings, it can be concluded that the use of technology in Islamic education management is a key factor in facing the challenges of the 21st century, especially in creating innovative, effective, and competitive educational institutions. Therefore, it is recommended that madrasahs continue to improve human resource capacity through ongoing technology training, strengthening digital infrastructure, and developing managerial policies that are adaptive to technological developments. In addition, it is important for institutional leaders to integrate Islamic values in every digital transformation

process to maintain the character and identity of Islamic education. Further researchers are advised to conduct comparative and longitudinal studies to expand on the findings and test the sustainability of technology-based management transformation in various educational institution contexts.

REFERENCES

- Ambarwati, A. (2021). *Perilaku dan teori organisasi*. Media Nusa Creative (MNC Publishing).
- Hartadi, A., & Nasrip, M. (2025). *Pengantar Ilmu Manajemen: Teori, Prinsip dan Implementasi*. PT. Sonpedia Publishing Indonesia.
- Mulyanti, D. (2025). Strategi Manajemen Pendidikan di Era Digital: Optimalisasi Infrastruktur, SDM, dan Pembelajaran Berbasis Teknologi. *Jurnal Pelita Nusantara*, 2(4), 376–383.
- Pratiwi, S. N., Wastuti, S. N. Y., & Jamila, J. (2022). Kepemimpinan Transformasional dalam Menghadapi Era Digitalisasi. *Biblio Couns: Jurnal Kajian Konseling Dan Pendidikan*, 5(1), 101–108.
- Putra, S. P. (2024). Pengaruh Pengembangan SDM, Gaya Kepemimpinan dan Teknologi Terhadap Efektivitas Kerja Pegawai Di Puskesmas Meninting. *Nusantara Hasana Journal*, 3(11), 67–74.
- Salasiah, S. (2022). Kepemimpinan Inovatif Kepala Madrasah Dalam Meningkatkan Daya Saing Madrasah. *SENTRI: Jurnal Riset Ilmiah*, 1(2). <https://doi.org/10.55681/sentri.v1i2.236>
- Sarnoto, A. Z., & PdI, M. (2025). *Manajemen Pendidikan Islam: Integrasi Nilai Spiritual dan Inovasi Institusional*. Takaza Innovatix Labs.
- Setiawan, A., & Lestari, M. (2025). Digital Learning Leadership: Tantangan Dan Strategi Kepala Sekolah Di Masa Kini. *Jurnal Dinamika Pendidikan Islam*, 1(2), 24–34.
- Sholeh, M. I., & Efendi, N. (2023). Integrasi teknologi dalam manajemen pendidikan islam: meningkatkan kinerja guru di era digital. *Jurnal Tinta: Jurnal Ilmu Keguruan Dan Pendidikan*, 5(2), 104–126.
- Suaeb, S. (2022). Penerapan Prinsip Continuous Improvement Dalam Total Quality Management Untuk Meningkatkan Mutu Pendidikan. *Jurnal PenKoMi: Kajian Pendidikan Dan Ekonomi*.
- Sudiansyah, S. (2025). Total Quality Management Transformation in Digital Education: Towards Adaptive Schools and Learning Organizations 5.0: Transformasi TQM dalam Pendidikan Digital: Menuju Sekolah Adaptif dan Organisasi Pembelajar 5.0. *COSMOS: Jurnal Ilmu Pendidikan, Ekonomi Dan Teknologi*, 2(4), 914–931.
- Tamami, A. G., Murhayati, S., & Zaitun, Z. (2024). Inovasi Media Pembelajaran Pendidikan Agama Islam Berbasis Teknologi. *Indonesian Research Journal on Education*, 4(4), 2412–2419.
- Tanjung, B. N. (2025). Kepemimpinan Adaptif dalam Menghadapi Transformasi Digital: Kajian Konseptual terhadap Kinerja Organisasi Modern. *Jurnal Manajemen*, 1(1), 18–25.