Administrative Transformation Toward Integrated Digital Education Services at Madrasah

M. Khoirul Anam*, Ichsan Iqbal Firdaus, Yuliang Angga Pratama, Lailis Sofia, Kholi Sotus Sariroh, Naimul Khunaifa

Institut Agama Islam Ngawi , Indonesia

Email : khoirul_anam@iaingawi.co.id

ABSTRACT

This study aims to analyze the digital transformation of educational administration at MTs Miftahul Jannah, Ngawi, in order to improve service quality and operational efficiency. In the digital era, educational institutions are required to shift from manual administrative processes to integrated digital systems to ensure transparency and data-driven decision-making. This research employed a qualitative approach using a field research design. Data were collected through in-depth interviews, focus group discussions (FGDs), and field observations involving the principal, administrative staff, and students. Data analysis followed the interactive model of Miles and Huberman, consisting of data reduction, data display, and conclusion drawing. The findings indicate that MTs Miftahul Jannah has successfully initiated digital transformation in financial administration by utilizing digital platforms such as Google Forms and AppSheet, which contributed to improved efficiency, accuracy, and responsiveness of administrative services. However, the transformation has not yet been fully integrated due to challenges related to unstable internet connectivity and limited digital literacy among human resources. The study implies that sustainable digital transformation in madrasah administration requires continuous capacity building, systematic training programs, and strengthened technological infrastructure. These efforts are essential to achieving a fully integrated digital education service system by 2029.

INTRODUCTION

The digital era has fundamentally transformed almost every aspect of social life, including the education sector, which is now required to adapt to rapid technological changes (Afifah, 2025; Basri et al., 2024; Mukarromah et al., 2024; Shofuro & Manshur, 2025). Educational institutions are no longer evaluated

solely based on academic outcomes but also on their ability to manage information efficiently, transparently, and accountably through digital systems (Aini & Wahid, 2024; Alfarisi & Faiz, 2024; Hasani, 2025; Muharromah, 2025). The integration of digital technology in educational administration is therefore not merely a technical adjustment, but a strategic necessity to ensure institutional sustainability and public trust. Evidence from various educational reforms shows that digital-based administration improves service efficiency, data accuracy, and decision-making quality. Consequently, research on digital administrative transformation is crucial for society at large, as it contributes to improving the governance of educational institutions and ensuring equitable access to quality education services in an increasingly technology-driven world.

Despite the growing importance of digital transformation, many educational institutions still face substantial challenges in adapting to digital administrative systems (Hikmah et al., 2025; Jannah & Rizquha, 2025; Makiyah, 2024; Sain et al., 2024). The primary problems include limited technological infrastructure, insufficient digital literacy among educational staff, and resistance to organizational change. These issues are particularly evident in developing regions, where disparities in internet access and technological resources persist. Moreover, the lack of systematic training programs and institutional support further exacerbates the gap between policy expectations and actual implementation of digital administration (Hasanah, Fauzi, et al., 2024; Indayati, 2025). As a result, administrative processes often remain inefficient, fragmented, and heavily reliant on manual procedures, which undermine transparency and responsiveness. These structural problems highlight the urgency of examining how educational institutions, especially madrasahs, can navigate digital transformation while addressing contextual limitations.

Empirical observations in the field reveal that the transition toward digital administration in madrasahs is uneven and often partial (Hasanah, Munawwaroh, & Hasanah, 2024; Kusnanto et al., 2023; Ma'isyah et al., 2024; Nuriyah et al., 2024; Rusdiah, 2024). While some administrative units have begun adopting digital tools such as online forms, spreadsheets, and basic information systems, others continue to rely on conventional paper-based methods. This dual system frequently results in data redundancy, inefficiencies, and administrative overload. Furthermore, disparities in digital competencies among educational staff create dependency on a limited number of technologically skilled individuals, increasing operational risks. In many cases, digital initiatives are confined to financial administration, while academic records, student data, and reporting systems remain manual due to regulatory constraints and limited capacity (Dewi et al., 2025; Putri et al., 2024; Setiawan & Rizal, 2024). These field realities illustrate that digital transformation is not solely a matter of technology

adoption, but also involves leadership, human resource development, and organizational culture.

Previous studies have extensively discussed the role of digitalization in improving educational management and administrative efficiency (Alam & Mohanty, 2023; Hasanah, Munawwaroh, & Qushwa, 2024; Windiasari et al., 2025). Research indicates that digital administrative systems can enhance transparency, accountability, and service quality when supported by adequate infrastructure and human resources (Eliot, 1993; Erwin, 2020). Other studies emphasize the importance of leadership in managing digital change, noting that institutional leaders play a key role in shaping vision, motivating staff, and ensuring effective implementation of technology-based systems (Motivasi, 2024). Additionally, the use of digital platforms for data management and communication has been shown to strengthen collaboration among stakeholders, including teachers, administrative staff, students, and parents (Khotib, 2025).

However, existing literature tends to focus predominantly on technological tools or policy frameworks, often overlooking the contextual dynamics of madrasahs as religious-based educational institutions. Many studies address digital transformation in general schools or higher education, leaving a gap in understanding how madrasahs negotiate modernization while maintaining their institutional identity. Furthermore, prior research rarely examines the specific role of administrative leadership, particularly the head of administration, in facilitating digital transformation at the operational level. This gap is significant, as administrative staff are central to daily school governance and service delivery. Therefore, there is a need for in-depth, context-sensitive research that explores digital administrative transformation in madrasahs from a qualitative, field-based perspective.

This study offers novelty by positioning digital administrative transformation not merely as a technological shift, but as an organizational and cultural change driven by administrative leadership within a madrasah context. By focusing on MTs Miftahul Jannah, the research highlights how digital tools are selectively adopted, negotiated, and integrated into existing administrative practices. The study advances the state of the art by linking digital transformation with leadership roles, human resource empowerment, and long-term institutional vision. Unlike previous studies that emphasize outcomes, this research emphasizes processes, challenges, and adaptive strategies, making it particularly relevant for similar educational institutions facing comparable constraints.

Based on the issues and gaps identified, this study addresses the central research problem: how digital administrative transformation is implemented in MTs Miftahul Jannah and what factors influence its effectiveness. The study

argues that successful digital transformation in madrasah administration depends not only on technological availability, but also on leadership capacity, staff digital literacy, and organizational readiness. By analyzing these dimensions, the research contributes theoretically to the discourse on educational management and practically to policy and institutional development. Ultimately, this study aims to provide a grounded understanding of how madrasahs can optimize administrative services through digital transformation while navigating structural and cultural challenges.

RESEACH METHOD

This study employed a qualitative research design using a case study approach. The qualitative approach was chosen to obtain an in-depth and contextual understanding of the digital administrative transformation implemented at MTs Miftahul Jannah. A case study design is appropriate because the research focuses on a specific institution with distinctive characteristics, particularly its commitment to adopting digital technology in administrative services. This approach allows the researcher to explore processes, experiences, and interactions among stakeholders in their natural setting. By using a case study, the research can comprehensively examine the roles, strategies, challenges, and outcomes of digital administration practices as they occur in real-life contexts.

The research was conducted at MTs Miftahul Jannah Ngledok, Mantingan District, Ngawi Regency, East Java. The field activities took place from October 7 to November 7, 2025, during the Praktik Pengalaman Lapangan (PPL) program. This site was selected due to its demonstrated potential and commitment to utilizing digital technology to improve administrative services, particularly in payment systems. MTs Miftahul Jannah represents a relevant and strategic case for studying digital administrative transformation within a madrasah context, as it has initiated digital service innovations while still facing structural and human resource challenges.

Data collection in this study utilized multiple qualitative techniques to ensure data richness and credibility. Primary data were obtained through in-depth interviews, Focus Group Discussions (FGD), and direct field observations (Abas & Kholidah, 2025; Khoiroh, 2025; Rahmatillah & Andayani, 2025). The main informants included the principal, head of administration, vice principals, and students involved in digital administrative services. Secondary data were collected from institutional documents, such as student records and madrasah statistical data. Additionally, community organization processes were initiated through preliminary mapping activities using field observations and FGDs to identify needs, challenges, complaints, and expectations related to digitalization.

The active involvement of participants in implementing digital administration enabled them to gain practical understanding and mastery of the system.

Data analysis followed the interactive model proposed by Miles and Huberman, consisting of data condensation, data display, and conclusion drawing or verification. Data condensation involved selecting, focusing, simplifying, and transforming raw data obtained from interviews, observations, and documents. Data display was conducted by organizing the condensed data into narrative descriptions and thematic matrices to facilitate interpretation. Finally, data verification was carried out through continuous reflection, comparison across data sources, and validation of emerging patterns to ensure the credibility and consistency of the findings. This systematic analytical process enabled the researcher to draw meaningful conclusions regarding the implementation and impact of digital administrative transformation.

RESULT AND DISCUSSION
Result

The results reveal that the implementation of digital administration at MTs Miftahul Jannah has gradually transformed administrative practices, particularly in terms of efficiency, data accessibility, and service delivery. Digital systems have reduced the reliance on paper-based documentation, minimized repetitive administrative tasks, and enabled faster processing of information. Administrative staff reported that daily tasks such as recording payments, compiling reports, and retrieving data can now be completed in a shorter time. However, despite these improvements, several parents still expressed difficulties in tracking payment statuses through the digital system, which occasionally led to misunderstandings and delays in communication between parents and the school administration.

From the parents' perspective, the digital administrative system provides meaningful benefits that were previously unavailable under manual administration. Parents can now access information about their children online, monitor academic development and school activities, receive important announcements in a timely manner, and communicate directly with administrative staff or teachers when needed. These features indicate a shift toward greater transparency and accountability in school services. Nevertheless, some parents reported limited digital literacy, which affected their ability to fully utilize the system, suggesting that technological access alone is insufficient without adequate user support.

Before the adoption of digital administration, MTs Miftahul Jannah operated entirely using manual systems, including handwritten records, printed documents, and physical archives managed by administrative staff. This

traditional approach resulted in several inefficiencies, such as data duplication, difficulties in document retrieval, and vulnerability to data loss or damage. As the number of students increased and institutional activities expanded, these limitations became more apparent. The administrative workload increased significantly, placing additional pressure on staff and reducing the effectiveness of service delivery.

At present, the implementation of digital administration at MTs Miftahul Jannah remains partial and uneven across administrative domains. Financial administration has been digitized most consistently, particularly in payment processing and financial reporting. In contrast, other areas such as student data management, attendance records, and disciplinary documentation are still managed manually. This imbalance indicates that digital transformation is progressing incrementally rather than holistically. Institutional regulations and technical readiness were cited as factors limiting the expansion of digital systems into these areas.

Initially, the madrasah attempted to collaborate with external service providers to develop a fully integrated digital administrative system. However, evaluation results showed that the proposed systems were not fully compatible with the institutional structure, operational needs, and regulatory framework of the madrasah. Consequently, the school decided to adopt more flexible and accessible digital tools. Platforms such as Google Forms, AppSheet, and Google Scripts are now used to support administrative workflows, allowing the institution to gradually adapt digital solutions to its specific context.

One of the primary motivations for implementing digital administration was to enhance efficiency, accuracy, and simplicity in administrative processes. Digital tools have enabled faster data entry, reduced calculation errors in financial records, and improved documentation accuracy. Despite these advantages, the coexistence of digital and manual systems has created additional coordination challenges. Administrative staff often need to reconcile digital records with manual documents, which can limit the full potential of digital efficiency.

Human resource readiness emerged as a critical factor influencing the effectiveness of digital administration. The madrasah adopted a targeted training strategy by appointing coordinators and responsible personnel who received intensive, hands-on training rather than relying solely on seminars. This approach improved operational competence among key staff members. However, disparities in digital skills remain evident, particularly among staff with limited prior exposure to information technology, highlighting the need for continuous professional development.

Monitoring and evaluation of the digital administrative system are conducted through regular weekly monitoring and incidental evaluations when technical issues arise. These evaluation mechanisms aim to assess system performance, identify obstacles, and inform future improvements. The madrasah has articulated a long-term vision to fully digitalize all administrative services by 2029. This goal reflects a strategic commitment to improving administrative quality, transparency, and accessibility for all stakeholders.

DISCUSSION

The findings support the argument that digitalization offers substantial potential to enhance educational administrative services through faster data processing, improved accessibility, and increased service transparency. Digital systems enable schools to respond more effectively to stakeholder needs while reducing administrative burdens. However, the persistence of parental difficulties in monitoring payment information underscores the importance of user-oriented system design and digital communication strategies. Without sufficient guidance and support, the benefits of digitalization may not be fully realized by all users (Tauhid et al., 2024).

The transition from manual to digital administration at MTs Miftahul Jannah reflects broader trends in educational management, where information systems are increasingly used to improve efficiency and decision-making. Previous studies emphasize that digital administrative systems significantly reduce errors, enhance data accuracy, and streamline workflows. The challenges observed during the transition phase align with existing research indicating that institutions often struggle during the early stages of digital adoption (Yohana et al., 2024).

The concentration of digital implementation in financial administration illustrates a common pattern in educational institutions, where financial accountability drives early adoption of technology. While this approach improves transparency and efficiency in budgeting and reporting, it also highlights structural limitations when digitalization is not applied comprehensively. Research suggests that partial digitalization may create new inefficiencies if not supported by integrated systems across administrative domains (Beras et al., 2024).

Infrastructure constraints and unequal digital skills among staff hinder effective digital transformation, with unstable internet affecting system reliability and limited human resources reducing system use and problem-solving capacity. These challenges reinforce the importance of continuous training and infrastructure investment as essential components of sustainable digital transformation in education (Guru et al., 2022; Mikraj & Fauzi, 2024).

Leadership plays a decisive role in guiding and sustaining digital transformation within educational institutions. The involvement of school leaders in planning, training coordination, and evaluation reflects the importance of managerial leadership in fostering organizational change. Effective leadership facilitates staff adaptation, encourages innovation, and ensures alignment between technological initiatives and institutional goals (Nomor et al., 2024).

Overall, digital administration should be understood as a strategic necessity rather than a temporary trend. Effective digital transformation requires a comprehensive approach that integrates technological infrastructure, human resource development, organizational culture, and continuous evaluation. Applying principles of e-government, administrative innovation, and change management provides a solid foundation for achieving efficient, transparent, and accountable educational administration.

CONCLUSION

The most important finding of this study is that digital administrative transformation in MTs Miftahul Jannah is not merely a technological process, but a social and organizational change driven by community empowerment and leadership support. The implementation of digital administrative systems during the Field Experience Practice (PPL) program significantly enhanced the digital competence of educational staff and reshaped their roles from routine administrative workers into technology facilitators. This transformation improved administrative efficiency, reduced workload, and supported better coordination within the school environment. A key lesson derived from this study is that successful digitalization requires not only technological infrastructure but also active participation, continuous training, and a supportive organizational culture that encourages adaptation to change.

This study contributes academically by enriching the discourse on digital transformation in Islamic educational institutions, particularly madrasahs, through an empirical case grounded in community-based empowerment. It integrates perspectives from digital administration, leadership, and technology acceptance, reinforcing the relevance of frameworks such as TPACK and the Technology Acceptance Model (TAM) in understanding administrative change in education. However, this research is limited by its single-case design and short implementation period, which may restrict the generalizability of the findings. Future research is recommended to adopt comparative or longitudinal designs, involve multiple institutions, and explore the long-term impact of digital administration on educational quality, governance, and stakeholder satisfaction.

REFERENCES

Abas, M. C., & Kholidah, N. D. (2025). Improving brand awareness of educational institutions through educational personnel recruitment management in madrasah. *At-Tarbiyat*, *8*, 1–12.

Afifah, W. (2025). Flashcard learning strategy builds understanding and engagement in Islamic law: Strategi pembelajaran dengan kartu flash meningkatkan pemahaman dan keterlibatan dalam hukum Islam. *Academia Open*, *10*(2), 1–12. https://doi.org/10.21070/acopen.10.2025.12128

Aini, T. N., & Wahid, A. H. (2024). Psychological strategies for building quality human resources in madrasah. *Proceeding of International Conference on Education, Society and Humanity*, *2*(1), 154–160.

Alam, A., & Mohanty, A. (2023). Cultural beliefs and equity in educational institutions: Exploring the social and philosophical notions of ability groupings in teaching and learning of mathematics. *International Journal of Adolescence and Youth*, *28*(1), 2270662. https://doi.org/10.1080/02673843.2023.2270662

Alfarisi, M. S., & Faiz, M. (2024). Implementation of inclusive education curriculum in secondary schools. *Proceeding of International Conference on Education, Society and Humanity*, *2*(2), 1204–1207.

Basri, H., Manshur, U., Zaini, A. W., & Suhermanto, S. (2024). Exploring charismatic leadership and personality competence: Keys to fostering teacher motivation. *Bidayatuna: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, *7*(2), 109–120. https://doi.org/10.54471/bidayatuna.v7i2.2983

Dewi, A. T. A., Najiburohman, & Hefniy. (2025). Virtual school tours: Boosting community interest and attracting prospective students. *Evaluasi: Jurnal Manajemen Pendidikan Islam*, *9*(2), 340–353. https://doi.org/10.32478/3gtzvf72

Hasanah, R., Fauzi, A., & Munir, Z. (2024). Integrating situational leadership and traditional values: Enhancing student discipline in Islamic boarding schools through holistic training programs. *Communautaire: Journal of Community Service*, *3*(2), 138–151. https://doi.org/10.61987/communautaire.v3i2.463

Hasanah, R., Munawwaroh, I., & Hasanah, M. (2024). Fostering inclusivity: Strategies for supporting students with special needs in mainstream classrooms. *FALASIFA: Jurnal Studi Keislaman*, *15*(1), 73–85. https://doi.org/10.62097/falasifa.v15i1.1811

Hasanah, R., Munawwaroh, I., & Qushwa, F. G. (2024). Pengembangan career adaptability melalui inovasi sumber daya manusia. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran*, *5*(1), 169–178. https://doi.org/10.62775/edukasia.v5i1.734

Hasani, N. (2025). Metode eklektik dalam pembelajaran bahasa Arab: Mengintegrasikan qawaid wa tarjamah dan sam'iyah basariyah untuk meningkatkan kemahiran berbicara dan menulis. *AS-SABIQUN*, *7*(2), 336–352. https://doi.org/10.36088/assabiqun.v7i2.5651

Hikmah, U., Kusumawati, I., Kunta, I. H., Khofsah, S., & Mudarris, B. (2025). Strategi pengelolaan visi MTSS dalam mewujudkan mutu pendidikan unggul. *VISIONARIA: Journal of Educational Innovation Management*, *1*(3), 180–189.

Indayati, T. (2025). Pengembangan kemampuan lisan berbahasa Arab: Integrasi operant conditioning dalam lingkungan pembelajaran bahasa yang holistik. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(1), 221–234. https://doi.org/10.23969/jp.v10i01.24662

Jannah, F., & Rizquha, A. (2025). Deconstructing dogmatic narratives: An effort to recontextualize Islamic education material for the critical generation. *Jurnal Islam Nusantara*, *9*(1), 43–56.

Khoiroh, U. (2025). Emotional management in local wisdom: Strategies for enhancing teachers' work resilience in pesantren-based madrasah. *Journal of Educational Management Research*, *4*(5), 2296–2309.

Kusnanto, N., Sukristyanto, A., & Rochim, A. I. (2023). Relevance of national education policies as an effort to improve the quality of Madrasah Tsanawiyah education services. *The Spirit of Society Journal*, *6*(2), 136–151. https://doi.org/10.29138/scj.v6i2.2210

Ma'isyah, M., Rizal, M. S., Iqna'a, F. J., & Setiawan, B. A. (2024). Dynamics of Islamic boarding schools in facing globalization: Integration between tradition and modernity. *Proceeding of International Conference on Education, Society and Humanity*, *2*(2), 71–80.

Makiyah, N. (2024). Enhancing educational excellence: Elevating learning quality through podcast-based arts performances in pesantren. *Journal of Islamic Education Research*, *5*(1), 1–12. https://doi.org/10.35719/jier.v5i1.371

Muharromah, L. (2025). Digital ethics in the perspective of Islamic education: Cultivating religious awareness in cyberspace. *Journal of Educational Management Research*, *4*(3), 1280–1293.

Mukarromah, A., Manshur, U., & Syafaat, I. N. (2024). Between tradition and modernity: The relevance of boarding school values in forming students' obedient behavior. *Proceeding of International Conference on Education, Society and Humanity*, *2*(2), 767–774.

Nuriyah, K., Putri, D. M. S., & Anisa, Z. (2024). Penerapan prinsip psikologi positif dalam kebijakan manajemen sumber daya manusia untuk meningkatkan kinerja dan kepuasan kerja. *Jurnal Educatio FKIP UNMA*, *10*(2), 687–694.

Putri, D. F., Qushwa, F. G., Putri, D. M. S., Widiasari, F., Zahro, F., & Baharun, H. (2024). Behaviour management in the classroom: Improving the quality of education through systematic optimization of the learning environment. *FALASIFA: Jurnal Studi Keislaman*, *15*(1), 35–47. https://doi.org/10.62097/falasifa.v15i1.1787

Rahmatillah, A. N., & Andayani, S. A. (2025). The influence of principal's service quality and teachers' self-concept on emotional regulation in preschool teachers. *Child Education Jurnal*, *7*(1), 26–35. https://doi.org/10.33086/cej.v7i1.7029

Rusdiah, N. (2024). Strategic human resource management: Enhancing competitive advantage in educational institutions. *MANAZHIM*, *6*(1), 129–145. https://doi.org/10.36088/manazhim.v6i1.4343

Sain, Z. H., Huda, S., Manshur, U., & Habibu, M. L. (2024). Enhancing Islamic religious education through IT-based learning: A qualitative study. *Journal of Islamic Education Research*, *5*(2), 88–102.

Setiawan, M. B. A., & Rizal, M. S. (2024). Peran pemimpin dalam pengembangan keprofesian berkelanjutan guru dalam meningkatkan mutu pendidikan. *Tarbiyatuna: Jurnal Pendidikan Islam*, *17*(2), 139–150. https://doi.org/10.54471/tarbiyatuna.v17i2.3437

Shofuro, F. H., & Manshur, U. (2025). Peningkatan penguasaan kosakata Arab dan kemampuan bahasa komunikatif melalui metode communicative language teaching. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(2), 101–119.

Windiasari, K., Rahmatillah, A. N., Rusdiah, N., Agus R, A. H., Ani, E. D., & Maryanto, M. (2025). Implementasi SDM melalui program sekolah penggerak dalam pengembangan guru dan keterlibatan masyarakat. *Al-Mikraj: Jurnal Studi Islam dan Humaniora*, *5*(2), 1–11. https://doi.org/10.37680/almikraj.v5i2.6729

Yohana, R., Subandi, A., & Irsyad, I. (2024). Pengaruh penggunaan sistem informasi manajemen berbasis digital terhadap efisiensi administrasi pendidikan. *AOSSAGCJ*, *4*(1), 21–29. https://doi.org/10.47200/aossagcj.v4i1.2389

Mundzir, M., & Laventia, F. (2025). Transformasi administrasi pendidikan di era digital: Tantangan dan peluang. *Jurnal Manajemen Pendidikan*, *1*(1), 56–62