


## Digital Transformation in Indonesian Religious Education: A Case Study of Madrasah Management at Kemenag Sleman

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Article Info	Abstract
<p><b>Article history:</b> Received: 06/23/2023 Revised: 06/30/2023 Accepted: 07/16/2023</p>	<p><b>Purpose</b> – The purpose of this study is to analyze comprehensively the impact of digital transformation on the data processing system within the Madrasah Education section at the Ministry of Religious Affairs (Kemenag) in Sleman district, Indonesia. It focuses on assessing how digital transformation enhances efficiency, accuracy, and connectivity in managing crucial educational data.</p>
<p><b>Keywords:</b> <i>Data Management, Digital Transformation, Religious Education</i></p>	<p><b>Design/methods</b>– The research employed a qualitative methodology, emphasizing descriptive analysis to explore the integration of digital technologies into the management practices of religious education institutions. Data collection combined structured interviews with key educational figures and an extensive review of relevant documents and digital artifacts, including policy documents, implementation reports, and analytics from digital platforms such as EMIS, SIMPATIKA, SIMSARPRAS, and SEDAKEP.</p> <p><b>Findings</b> – The study uncovered that digital transformation significantly improves the management of educational data, enhancing efficiency, accuracy, and connectivity within the Madrasah Education section of Kemenag Sleman. Through the deployment of digital tools and platforms, the institution has seen substantial advancements in its operational capabilities, reflecting a broader trend towards digitalization in educational management.</p> <p><b>Research implications/limitations</b> – This research contributes to the understanding of digital transformation in the educational sector, particularly within settings where cultural and religious factors are prominent. However, its focus on a single institution within a specific cultural and administrative context may limit the generalizability of the findings. Future studies are encouraged to explore digital transformation across various educational environments and cultures.</p> <p><b>Practical implications</b> – The findings offer valuable insights for policymakers, educators, and administrators in religious education institutions considering or undergoing digital transformation. Strategic planning and stakeholder engagement are emphasized as crucial for the successful implementation of digital tools in educational settings.</p> <p><b>Originality/value</b> –This study provides a unique contribution to the literature by examining digital transformation in the context of Indonesian religious education, a sector where digital adoption intersects significantly with cultural and religious considerations. It highlights the potential of digital strategies to revolutionize traditional educational management practices, offering a model for similar institutions navigating the digital era.</p>
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## Introduction

The rapid evolution of digital technology has ushered in a new era for educational institutions worldwide. This digital revolution is not just a trend but a pivotal shift, necessitating adaptation and transformation across various sectors, including religious education. In the context of the Ministry of Religious Affairs (Kemenag) in Sleman district, the digital transformation of the Madrasah Education section marks a significant step in enhancing the management of educational data. This transformation aims to improve service quality through enhanced connectivity, efficiency, and accuracy, addressing the inherent challenges of manual data processing systems.

Previous research has extensively explored digital transformation in educational settings. For instance, studies have shown the strategic importance of appointing tech-savvy leaders in government education departments (Nobuhiro, 2023), and the impact of digital tools like augmented reality in primary education (Tan & Lim, 2019). Similarly, digital technology's integration in early school education, as seen in North Macedonia (Connell & Taleski, 2023), and the influence of teachers' demographics on technology adoption in Saudi Arabia (Alosaimi et al., 2023) highlight the multifaceted nature of digital transformation in education.

In addition, the implementation of advanced digital learning environments, such as the 'classrooms of the future' in Portugal (Martins et al., 2022), and the global shift to digitalization in higher education during the COVID-19 pandemic (Strielkowski et al., 2022) demonstrate the widespread impact of digital technology in educational settings. The integration of digital tools, ranging from wearable sensors in Vietnam (Huy et al., 2022) to AI systems in Indonesia (Gaol, 2021), further exemplifies this trend. These advancements are not limited to higher education, as seen in the Russian education system's focus on digital transformation (Goncharova & Daineko, 2023; Starichenko & Sardak, 2020).

However, despite these advancements, there remain gaps and challenges in the digital transformation of education. Studies have identified limitations such as the need for more strategic implementation (Schaefer et al., 2021; Smajic et al., 2023), challenges in maintaining educational continuity during crises (Ait Si Ahmad et al., 2021; Giang et al., 2021), and the critical role of stakeholder engagement in inclusive education (Ari et al., 2022). These studies highlight the complexity and multifaceted challenges of digital transformation in the educational sector.

This study aims to address these gaps by focusing on the digital transformation of the Madrasah Education section at Kemenag in Sleman. It seeks to analyze the impact of digital technology on data processing efficiency, accuracy, and connectivity. The research is anchored in the belief that digital transformation can significantly enhance the quality of educational services provided by religious institutions. By exploring the specific case of Kemenag in Sleman, this study contributes to a deeper understanding of digital transformation in the context of religious education, offering insights that can be applied to similar institutions worldwide.

## Methods

The study on "Digital Transformation in Indonesian Religious Education: A Case Study of Madrasah Management at Kemenag Sleman" employed a qualitative research methodology, emphasizing descriptive analysis to thoroughly investigate how digital technologies are being incorporated into the management practices of religious education institutions. This approach was essential for gaining a deep understanding of the intricate dynamics, perceptions, and the operational shifts occurring within these institutions due to

digital transformation. By focusing on the Madrasah in the Kemenag Sleman district, the research aimed to uncover the nuanced impacts of digital adoption, highlighting how these technologies are reshaping traditional educational frameworks. Data collection was achieved through two main avenues: structured interviews with key educational figures, such as the heads of Madrasah Education, and a comprehensive review of relevant documents and digital artifacts. The face-to-face interviews provided valuable firsthand insights into the journey of digital transformation, encapsulating the challenges, strategies, and outcomes experienced by these educational leaders. A set of predetermined questions guided these interviews, which were enhanced by the use of digital recording tools to capture the discussions accurately for later analysis.

Concurrently, the review of documentation allowed for the validation of interview narratives, presenting a well-rounded view of the digital transition efforts. This included an analysis of policy documents, implementation reports, and analytics from digital platforms used within the Madrasah, enabling a thorough triangulation of data sources. The analytical phase employed thematic analysis to sift through the collected data, identifying key themes and insights that reflect the broader landscape of digital transformation in religious education. This process was marked by a stringent commitment to analytical rigor and objectivity, ensuring the study's findings authentically represented the observed realities. To maintain the reliability and validity of the research, several strategies were implemented, including methodological triangulation and the careful selection of data collection tools. The study meticulously addressed potential researcher biases to uphold the integrity of the research process. This methodological framework not only facilitated a detailed exploration of digital transformation in Madrasah management but also significantly contributes to the discourse on integrating technology into religious education, offering pertinent insights for a wide range of stakeholders, including policymakers, educators, and scholars.

## Results

### 1. Profile of the Ministry of Religious Affairs, Sleman Regency

#### a. History, Position, and Function of Kemenag Sleman

The Ministry of Religious Affairs, initially established as the Department of Religion, holds a vital connection with the spiritual development history of Indonesia. This establishment, in line with Article 29 of the 1945 Constitution, was notably influenced by proposals from Islamic leaders, accepted by the government not only as a realization of constitutional mandates but also as a token of appreciation and respect for the religious community, particularly Muslims. This acceptance symbolized their commitment to implementing Islamic law as a manifestation of belief in God during the preparatory meetings for Indonesian independence on August 18, 1945.

The Sleman Regency office of the Ministry of Religious Affairs, located on Dr. Radjimin Street, Ngemplak Caban, Tridadi, Sleman, operates under the regional head of the Ministry of Religious Affairs. It is tasked with executing the Ministry's functions and duties within the regency, in accordance with provincial policies and legal regulations. These functions include formulating and establishing vision, mission, and technical policies in religious life services for the Sleman community; services, guidance, and development in the areas of Hajj and Umrah; services, guidance, and development in Madrasah education, religious education, and faith-based training; fostering religious harmony; implementing technical policies in administrative and informational processing; coordinating, planning, controlling, supervising, and evaluating programs; and maintaining relations with local government, relevant institutions, and community organizations for the Ministry's tasks in Sleman Regency.

#### b. Vision and Mission

The Vision is to realize a community in the Special Region of Yogyakarta that is devout, harmonious, intelligent, and prosperous both spiritually and materially, contributing to a sovereign, independent, and cooperative-based Indonesia. The Mission is Enhancing understanding of religious life; Strengthening intra- and interfaith harmony; Providing equitable and high-quality religious life services; Improving the utilization and management quality of religious economic potential; Realizing quality and accountable Hajj and Umrah services; Enhancing access and quality of general education with religious characteristics, religious education in general education units, and religious training; Establishing clean, accountable, and trustworthy government administration.

## **2. Madrasah Education Section**

### **a. Services and Programs of Madrasah Education**

The Madrasah Education Section in Sleman Regency is responsible for providing services, technical guidance, data management, and information, as well as planning and reporting in the field of education for Raudhotul Athfal, Madrasah Ibtidaiyah, Madrasah Tsanawiyah, and Madrasah Aliah. The functions of this section include; Providing services in the fields of curriculum, educational staff, infrastructure, student affairs, and institutional management; Offering guidance in curriculum, educational staff, infrastructure, student affairs, and institutional management; Implementing development in curriculum, educational staff, infrastructure, student affairs, and institutional management.

Various programs are conducted by the Madrasah Education Section, including development for supervisors, headmasters, teachers, and students, as well as programs in religious moderation, tolerance, and digital transformation. These programs are implemented through initiatives like the Merdeka Belajar Kampus Merdeka (MBKM), Technical Guidance (Bimtek), curriculum development, assessment, and the Pancasila Student Profile. The goal is to enhance the quality of Madrasah education through regular coordination meetings and encouraging diversification and uniqueness in Madrasah programs, such as academic, literacy, and SKS-based Madrasahs.

Additionally, to improve Madrasah curriculum quality, Kemenag collaborates in competency enhancement with training centers, campuses, service providers, and digital application providers, as well as with Kemenag and professional organizations. Examples include collaborations in KKG, MGMP, PGMI, KKM including KKMI, MGSSMA, Madrasah head workgroups, and the education office. To ensure smooth program operation, Madrasah supervisors are appointed to oversee all work programs, ensuring that mandates in religious moderation, tolerance, and digital transformation are effectively implemented. Reports on administration and other aspects are also required from each Madrasah.

## **3. Madrasah Education Data Management**

Kemenag Sleman administers data and information management through online applications. This encompasses all aspects of Madrasah Education, from teaching implementation and educational reporting to daily activity reports, which are now digitally based. Student data are managed through systems such as EMIS, SIMPATIKA, SIMSARPRAS, and SEDAKEP, specifically for Sleman, encompassing employee/educational staff performance management and more.

### **a. EMIS**

Madrasah, as an Islamic educational institution under the Directorate of Islamic Education (Pendis) of the Ministry of Religious Affairs, utilizes EMIS (Education Management Information System). This system offers field data sourced from Madrasah and Islamic Education teachers. The availability of EMIS data, as both initial and field data, is crucial for policy-making within the Ministry of Religious Affairs (Aziz, 1970).

## **b. SIMPATIKA**

SIMPATIKA, owned by the Directorate General of Islamic Education (Ditjen Pendis) of the Ministry of Religious Affairs, manages the interests of educators and educational staff, primarily for the management of Teacher Professional Allowance (TPG). Initially released on May 20, 2013, as Padamu Negeri by Kemendikbud, it was later developed by Kemenag and renamed SIMPATIKA on August 17, 2015. The number of recipients and allocation of TPG funds have increased annually, correlating with the growing number of users. Despite updates since its launch, SIMPATIKA has not undergone performance evaluation since 2013. Such evaluation is considered essential to avoid user attrition, as seen with other government information systems (Rosyidah et al., 2018).

## **c. SIMSARPRAS**

The Management Information System for Facilities and Infrastructure (SIMSARPRAS), managed by the Sub Directorate of Facilities and Infrastructure under the Directorate of Curriculum, Facilities, Institutional Affairs, and Student Affairs (KSKK) Madrasah, Directorate General of Islamic Education, Ministry of Religious Affairs, is used by Madrasahs across Indonesia to apply for government aid proposals online. The website-based application facilitates the submission, selection, and granting of government aid to private and public Madrasah (Septa et al.). In 2017, over three thousand proposals were submitted, drastically increasing to over twenty thousand in 2018 (Septa et al.). Therefore, research was conducted to evaluate the quality of the SIMSARPRAS website from a user satisfaction perspective.

The SIMSARPRAS website serves as a platform for Madrasahs to access government aid for facilities and infrastructure, with proposals selected by respective budget owners. Hence, it is necessary to analyze the quality of the SIMSARPRAS website to provide optimal services to the community, given its significance for the educational quality of Madrasahs.

## **d. SEDAKEP**

Originating from the digital smile website, which offered information services for internal staff but had several shortcomings, Kemenag Sleman introduced an updated service, the SEDAKEP (Electronic Data and Staff Needs System). Launched in June 2022 through the official website and YouTube channel of the Ministry of Religious Affairs, Sleman Regency, SEDAKEP was specifically designed to fulfill the administrative needs of all employees under the Ministry. Unlike the Website Smile, SEDAKEP provides a one-stop solution for various services. It includes 14 services: leave applications, dispositions, duty letters, employee agendas, retirement proposals, promotion requests, study leave, title inclusion, Satyalancana requests, Taspen card applications, employee card requests, spouse card applications, and BPJS requests. These services are accessible on the SEDAKEP Web Application via the link [sleman.kemenag.go.id/sedakep](http://sleman.kemenag.go.id/sedakep) and can be accessed anywhere, anytime, easily, practically, and quickly using only the NIP PNS and password (Audinalupita & Oktariyanda, 2023).

## **Discussion**

The research aimed to explore the impact of digital transformation on the data processing system in Madrasah Education at Kemenag, Sleman, a topic of growing relevance in the digital era. This exploration is crucial, considering the pivotal role of digital transformation in enhancing educational management systems worldwide. The significance of this transformation has been evidenced in various contexts, from augmented reality in Malaysian education (Tan & Lim, 2019) to the integration of digital technologies in North Macedonian schools (Connell & Taleski, 2023). The study's context, set within the Indonesian religious educational sector, provides a unique perspective on digital transformation, paralleling global shifts towards digitalization in educational administration (Nobuhiro, 2023).



The main findings from Kemenag Sleman indicated a substantial shift towards digital processes in managing educational data. This shift aligns with global trends where educational institutions are increasingly adopting digital tools for efficiency and effectiveness (Martins et al., 2022; Strielkowski et al., 2022). The transformation at Kemenag Sleman involved the implementation of various digital systems, like EMIS and SIMPATIKA, echoing similar initiatives in other countries to enhance educational management through technology (Gaol, 2021; Huy et al., 2022).

Comparing these results with previous studies underscores the universal trend of digital transformation in education. The initiatives in Kemenag Sleman resonate with the strategic shifts observed in other educational contexts, such as the development of a universal network communication system in Russian educational organizations Starichenko & Sardak (2020) and the digitization efforts in Slovakian education (Habanik et al., 2019). However, the study also reveals unique aspects of digital transformation in an Indonesian religious educational context, offering insights distinct from those in other countries.

The findings suggest that digital transformation in Kemenag Sleman has been instrumental in enhancing data management efficiency, mirroring trends in other educational settings et al., 2021; Smajic et al., 2023). The adoption of applications like EMIS and SIMPATIKA facilitated more streamlined and accurate data handling, reflecting the global move towards digitalization in educational institutions (Yarmak et al., 2021; Yim et al., 2023).

However, it is essential to interpret these findings cautiously. While digital transformation shows promise in enhancing educational management, it also brings challenges, such as the need for continuous training and potential resistance to change, as observed in similar contexts (Diogo et al., 2021; Krishnamoorthy et al., 2022). The uniqueness of the religious educational context in Indonesia also adds layers of complexity that must be considered.

The significance of these findings lies in their contribution to understanding the dynamics of digital transformation in a unique educational setting. They provide valuable insights into how religious educational institutions in Indonesia, such as Kemenag Sleman, are navigating the digital era, which can inform future strategies in similar contexts (Ari et al., 2022; Giang et al., 2021).

Implications of this study are broad and multifaceted. They highlight the potential of digital transformation to revolutionize educational data management in religious institutions, aligning with global educational trends (Chavdarova-Kostova, 2023; Huang, 2023). These findings also underscore the need for strategic planning and stakeholder engagement to ensure the effective implementation of digital tools in educational settings, considering both technological and socio-cultural aspects (Klinedinst & Wolf, 2022; Lira Camargo et al., 2022).

## Conclusion

The primary objective of this research was to thoroughly analyze the impact of digital transformation on the data processing system within the Madrasah Education section of the Ministry of Religious Affairs in Sleman district. This study effectively highlighted how the incorporation of digital strategies has significantly enhanced efficiency, accuracy, and connectivity in managing vital educational data. Through an in-depth examination of the Ministry's history, operational scope, and the application of various digital tools such as EMIS, SIMPATIKA, SIMSARPRAS, and SEDAKEP, the research provided profound insights into the complexities and nuances of digitalization in an educational context intertwined with religious and cultural aspects. These findings underscore a global trend towards digitalization in educational management, while uniquely reflecting the specific needs and challenges of the Indonesian religious education sector.

The implications of these findings extend beyond the immediate context of Kemenag Sleman, offering valuable insights for similar religious educational institutions navigating the digital era. This study contributes to the broader understanding of digital transformation in

education, particularly in settings where cultural and religious factors play a significant role. However, the research also recognizes its limitations, including the focus on a single institution and the specific cultural and administrative context of Indonesia, which may affect the generalizability of the findings. Future research should expand on these findings, exploring digital transformation across various educational environments and cultures to gain a more comprehensive understanding of its impacts. Such studies could further delve into the long-term effects and sustainability of digital initiatives in the educational sector, contributing to a richer and more nuanced understanding of the intersection between technology, education, and culture.

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