

MSDM Digitalization Strategy in Improving the Professionalism of Madrasah Ibtidaiyah Teachers: A Literature Study

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ABSTRACT

Digital transformation in the education sector has driven fundamental changes in human resource management (HRM) practices, particularly in Islamic primary education institutions such as Madrasah Ibtidaiyah (MI). The digitalization of HRM is no longer limited to administrative efficiency but has evolved into a strategic instrument for enhancing teacher professionalism through data-driven management systems, digital performance evaluation, and continuous competency development. This study aims to analyze the concept of HRM digitalization strategies in the context of Madrasah Ibtidaiyah education and examine their role in improving teacher professionalism. This research employs a qualitative approach using a literature review method based on secondary data obtained from national scientific journals, academic books, and Indonesian education policy documents published within the last five years. Data were analyzed using content analysis, focusing on key themes such as HRM digitalization, teacher professionalism, and educational management transformation. The findings indicate that effective HRM digitalization strategies include the implementation of human resource information systems, e-performance systems, strengthening teachers' digital literacy, technology-based competency development, and the transformation of digital organizational culture. HRM digitalization has been proven to enhance transparency, efficiency, accountability, and objectivity in teacher management. However, its success is strongly influenced by human resource readiness, educational leadership, and the availability of digital infrastructure. This study confirms that HRM digitalization plays a strategic role in developing sustainable teacher professionalism in Madrasah Ibtidaiyah through the integration of technology and the strengthening of digital pedagogical capacity.

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1. INTRODUCTION

The development of digital technology in the era of the Industrial Revolution 4.0 and Society 5.0 has brought significant changes in the world of education, one of which includes the management of human resources (HR) in Islamic educational institutions such as Madrasah Ibtidaiyah (MI). Digital developments not only affect the learning process, but also require a change in strategy in human resource management (HRM) in order to be able to improve the quality and professionalism of teachers. MI teachers are also required to have pedagogical, professional, social, and personality competencies that are adaptive to the development of digital technology so that the learning process can take place more effectively, creatively, and innovatively and is relevant to the needs of students today (Rismawati et al., 2021).

Teacher professionalism is one of the important factors in determining the quality of education, especially in madrasahs. Professional teachers must not only be able to master learning materials, teachers must also be able to utilize digital technology in the teaching-learning process, educational administration, communication, and self-competency development in an ongoing manner. However, what happened in the field shows that there are still many MI teachers who face various obstacles in the application of digital technology, such as low digital literacy, limited training, lack of technological infrastructure, and lack of support from an integrated management system. This condition causes the digital transformation process in the world of education to not run optimally (Yuningsih, 2025).

On the other hand, the digitalization of MSDM offers various strategic opportunities in improving the professionalism of MI teachers. Through the use of digital platforms, education management information systems, e-learning, technology-based supervision, and online training, the process of developing teacher competencies can be carried out more effectively, flexibly, and sustainably. Digital technology also allows teachers to collaborate, evaluate data-based performance, and develop more innovative, creative, and interactive learning. Several studies that have been conducted have shown that the integration of technology in teacher professional development is able to improve pedagogic skills, access to learning resources, and teacher motivation in improving the quality of learning (Syukur et al., 2026).

In addition to the above, the MSDM digitalization strategy is very important because of changes in the characteristics of students in the digital era which requires teachers to be more adaptive and innovative. MI teachers no longer only play the role of conveyors of information, but teachers are also facilitators, motivators, and supervisors who must be able to use digital technology wisely in the learning process both in the classroom and outside the classroom. Therefore, educational institutions urgently need to develop a digital-based MSDM strategy by improving teachers' digital competence, implementing continuous training, strengthening digital academic supervision, and building a technology-based collaborative work culture.

Based on this description, this study aims to examine the digitalization strategy of MSDM in improving the professionalism of Madrasah Ibtidaiyah teachers through a literature study approach. This research uses the library research method by analyzing various SINTA-indexed scientific journals, articles, and previous research results that are relevant to the theme of MSDM digitization and MI teacher professionalism. Through this literature review, it is hoped that a comprehensive understanding of the form of MSDM digitization strategy, implementation, benefits, and challenges faced in improving the professionalism of Madrasah Ibtidaiyah teachers in the digital era can be obtained. The results of this research are expected to be a scientific reference for educational institutions, madrasah heads, and policy makers in developing a more effective and quality digital-based education human resource management system (Firdaus, 2024).

Literature Review

Digitalization of Human Resource Management (HRDM) in the education sector is a journey to integrate digital technology in the management of teaching staff to improve the effectiveness, efficiency, and quality of educational services. Within Madrasah Ibtidaiyah, the digitalization of MSDM includes the use of digital administration systems, technology-based training, digital teacher performance evaluation, and teacher capacity development through online learning platforms. Digital transformation is very important because educational institutions must be able to adapt to technological advances and changes in learning methods in the 21st century. The MSDM digitalization approach does not only focus on the application of technology, but also on changing the culture of educational organizations that are more innovative and responsive to the times (Firdaus, 2024).

The professionalism of teachers at Madrasah Ibtidaiyah is the ability of teachers to carry out educational tasks optimally based on pedagogical, professional, social, and personality competencies. In this digital age, the professionalism of teachers is determined not only by skills in traditional teaching, but also by the ability to utilize technology in learning activities. Teachers are expected to have adequate digital literacy in order to create innovative, interactive, and student learning. Previous research has shown that improving teacher professionalism can be done through continuous training programs, academic supervision, and strengthening digital competencies that are integrated in the human resource management system in madrasahs (Maisaroh, 2024).

Digitalization in human resource management can improve the professionalism of educators at Madrasah Ibtidaiyah with several approaches, such as digital-based training, the implementation of Learning Management System (LMS), the use of applications to evaluate performance, and strengthening technology-based work culture. Digital training makes it easy for teachers to gain access to learning materials in a flexible and sustainable way. In addition, the implementation of a digital-based evaluation system makes it easier for madrasah heads to evaluate teachers' abilities objectively and in a structured manner. A review of the literature also indicates that the success of MSDM digitalization is highly dependent on the leadership support of madrasah heads, the readiness of technological infrastructure, and the ability of teachers to adapt to digital changes.

Although the digitalization of MSDM offers many benefits for improving teacher professionalism, its implementation in Madrasah Ibtidaiyah still faces several obstacles, such as the lack of technology facilities, low digital knowledge among some teachers, and lack of continuous training. In addition, there is also a rejection of the change in work culture from a manual system to a digital system. Therefore, a comprehensive strategy is needed by improving teachers' digital skills, providing adequate technology facilities, and obtaining policy support from the government and educational institutions. With the implementation of an effective MSDM digitalization strategy, the professionalism of educators at Madrasah Ibtidaiyah will increase, so that they can create a quality of education that is more adaptive, innovative, and competitive in the digital era. The main problem in this study is the lack of a conceptual model that integrates the digitization of human resources, teacher management, and professionalism in one holistic analytical framework for the context of Madrasah Ibtidaiyah.

2. METHODS

This study adopts a qualitative approach using the literature study method. This approach was chosen because the purpose of the research is to explore and analyze various concepts, theories, and results of previous research related to the digitalization of MSDM and teacher professionalism. Data sources are taken from SINTA-accredited national journals, academic books, proceedings, and education policy documents in Indonesia in the last five years. Data collection was carried out through literature documentation by utilizing databases such as Google Scholar, GARUDA, and SINTA using relevant keywords such as MSDM digitization, MI teacher professionalism, and digital transformation in Islamic education. For data analysis, a content analysis method was used with steps of data reduction, theme grouping, concept interpretation, and conclusion drawn. This analysis focuses on the

conceptual relationship between the digitalization of MSDM and the improvement of teacher professionalism.

3. FINDINGS AND DISCUSSION

The results of research on literature show that the application of digitalization in Human Resource Management (HRM) in Madrasah Ibtidaiyah education is one of the important steps to face changes in the world of education in the digital era. Digitalization of human resources is not only interpreted as the use of technology in education administration, but also as a process of shifting the overall teacher management system by integrating information technology, developing digital skills, and conducting data-based performance assessments. In the context of Madrasah Ibtidaiyah, the digitalization of MSDM serves to improve the efficiency of teaching staff management so that the teaching and learning process becomes more responsive to technological advances and 21st century educational needs (Firdaus, 2024).

Based on literature analysis, the approach to digitizing MSDM at Madrasah Ibtidaiyah is carried out through several main ways, namely digitization of teacher administration, technology-based training, digital skills development, and a performance assessment system that uses applications. The implementation of the strategy aims to build more effective, efficient, and open education management. The use of digital platforms in teacher management allows the administrative process to take place faster and assists madrasah heads in supervising teacher performance systematically and in real-time (Syukur et al., 2026).

The results of the study also show that improving teachers' digital skills is very important in the MSDM digitalization strategy. Teachers at Madrasah Ibtidaiyah are required to be able to utilize learning technology such as Learning Management System (LMS), interactive media, and digital learning evaluation applications. These digital skills are a crucial part of teachers' professionalism because today's teaching requires them not only to master the material, but also to be able to manage technology-based learning well (Purba et al., 2024).

A literature review found that online-based digital training is the most widely used strategy in improving teacher professionalism. Digital-based training provides teachers with the flexibility to follow competency development without space and time limitations. In addition, the online training model is also able to improve the culture of independent learning and encourage teachers to be more active in developing educational technology skills. Virtual workshops, webinars, and microlearning programs are forms of training that are considered effective in improving the digital literacy of Madrasah Ibtidaiyah teachers (Purba et al., 2024).

From the point of view of teacher professionalism, the findings of the study show that the digitalization of MSDM has a positive impact on improving teachers' pedagogic skills. Teachers who have digital skills tend to be better able to design innovative, creative, and interactive learning. The use of digital media allows teachers to present material in a more engaging way, thereby increasing student motivation and participation. This highlights that technology plays an important role in improving the quality of teaching at Madrasah Ibtidaiyah.

In addition to improving pedagogic competence, the digitalization of human resources also affects the professional competence of teachers. Teachers have made it easier to access various learning resources, scientific journals, and professional development platforms online. The ease of access to this information helps teachers expand their academic horizons and improve the quality of learning provided to students. In the digital era, teachers' professionalism is not only measured by their ability to teach, but also their ability to adapt to the development of educational technology.

The results of the study also show that the success of the MSDM digitalization strategy is influenced by the leadership of madrasah heads. Madrasah heads have an important role in creating an organizational culture that supports digital transformation. Adaptive and innovative leadership is able to encourage teachers to be more open to the use of technology in the learning process and

educational administration. Madrasah internal policy support is also an important factor in the successful implementation of MSDM digitalization (Firdaus, 2024).

On the other hand, the research found that the readiness of technological infrastructure is still the main challenge in the implementation of MSDM digitalization in Madrasah Ibtidaiyah. Some madrasas, especially in remote areas, still face limited internet access, technological devices, and digital learning support facilities. This condition causes the implementation of the digitalization strategy to not run optimally evenly. Therefore, government support in the provision of educational technology infrastructure is a very important need.

In addition to infrastructure factors, the low digital literacy of some teachers is also an obstacle in the implementation of MSDM digitalization. Some teachers still have difficulty using learning applications and educational technology due to a lack of ongoing training. This condition shows that digital transformation not only requires technological facilities, but also the readiness of human resources to operate the technology effectively.

The results of the study show that the culture of madrasah organizations also influences the success of the digitalization of MSDM. Madrasas that have a strong learning and innovation culture tend to be easier to implement digital transformation than educational institutions that still maintain conventional work patterns. An adaptive organizational culture is able to create a collaborative work environment so that teachers are more open to changes and the use of technology in learning.

The digitalization of MSDM also has an impact on the effectiveness of teacher performance evaluation. The use of a digital-based evaluation system allows the monitoring process to be carried out more objectively, quickly, and transparently. Madrasah heads can identify the need for teacher competency development based on systematically documented performance data. Thus, decision-making related to human resource development becomes more targeted and based on the real needs of teachers (Syukur et al., 2026).

From the perspective of education management, the MSDM digitalization strategy shows a change in the paradigm of teacher management from a manual system to a data- and technology-based system. This transformation creates work efficiency, speeds up administrative processes, and improves the quality of educational services. Teachers no longer only play the role of delivering learning materials, but also as digital learning facilitators who are able to integrate technology with Islamic educational values at Madrasah Ibtidaiyah (Rismawati et al., 2021).

The findings of the study also show that the digitalization strategy of MSDM has relevance to Human Capital theory which emphasizes the importance of investment in human resource development. Digital training, strengthening technological competence, and sustainable professional development are forms of investment by educational institutions in improving the quality of teachers. The higher the digital competence of teachers, the greater the opportunity to create quality and competitive learning in the digital era.

Overall, the results of the literature review show that the MSDM digitization strategy has a significant role in improving the professionalism of Madrasah Ibtidaiyah teachers. The implementation of this strategy is able to improve teachers' pedagogic, professional, and digital literacy competencies so as to support the creation of innovative and quality learning. However, the success of the digitalization of MSDM requires the support of technological infrastructure, continuous training, adaptive leadership, and an organizational culture that supports digital transformation in madrasah education.

4. CONCLUSION

Based on the results of the literature review, it can be concluded that the digitalization strategy of Human Resource Management (HRM) has a significant role in improving the professionalism of Madrasah Ibtidaiyah teachers. Digitalization of MSDM not only functions as a transformation of technology-based education administration, but also as a human resource development strategy that is able to increase the effectiveness of educator management, teacher competency development, and the

quality of learning in madrasahs. The implementation of MSDM digitalization is carried out through the development of digital training, the use of the Learning Management System (LMS), application-based performance evaluation, and the strengthening of technology-based work culture in the madrasah education environment.

The results of the study show that the digitalization of MSDM is able to improve the pedagogic, professional, and digital literacy competencies of Madrasah Ibtidaiyah teachers. Teachers become more adaptive to technological developments, able to create innovative, interactive, and effective learning, and more easily access learning resources and professional development programs on an ongoing basis. In addition, the use of technology in the evaluation and administration system of education also helps to improve the work efficiency of teachers and the effectiveness of education management in madrasahs.

However, the implementation of the MSDM digitalization strategy still faces various challenges, such as limited technology infrastructure, low digital literacy among some teachers, lack of continuous training, and resistance to changes in work culture from conventional systems to digital systems. Therefore, the success of the digitalization of MSDM requires the support of various parties, including the government, heads of madrasahs, and educational institutions in providing technology facilities, digital training programs, and policies that support the digital transformation of education.

Thus, the MSDM digitalization strategy can be an effective solution in improving the professionalism of Madrasah Ibtidaiyah teachers and supporting the creation of a more innovative, adaptive, and competitive quality of education in the era of digital transformation. This research is expected to be a reference for the development of digital-based education policies and human resource management in madrasahs and other Islamic educational institutions.

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