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Implementation of Management Information Systems in Improving the Governance Effectiveness of Madrasah at MI Babussalam Pagelaran

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ABSTRACT

Management Information Systems (MIS) play a strategic role in supporting the effectiveness of educational institution governance by providing accurate, timely, and relevant information as a basis for decision-making. Along with the development of information technology, madrasahs are required to optimize the use of MIS in various management aspects, ranging from administration, academics, and finance, to services for students and parents. This study uses a qualitative approach with a case study research type. Data were collected through in-depth interviews, observation, and document studies with the head of the madrasah, madrasah operators, teachers, and educational staff. Data analysis was carried out through stages of data reduction, data presentation, and drawing conclusions, while data validity was tested using source triangulation techniques and other methods. The research results are expected to show that the implementation of the Management Information System at MI Babussalam has supported the effectiveness of madrasa governance through improved administrative efficiency, easier management of academic and staffing data, faster information delivery, and the provision of accurate data as a basis for decision-making by the principal. On the other hand, the implementation of the MIS still faces some challenges, such as limited information technology skills among some human resources, suboptimal infrastructure, and limited internet access. Therefore, it is necessary to enhance human resource capacity, strengthen technology infrastructure, and continuously evaluate so that the MIS implementation can support more effective, efficient, transparent, and accountable madrasa governance.

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INTRODUCTION

The development of information technology has brought significant changes to organizational management, including in educational institutions. The use of information technology is no longer just limited to administrative tools but has become an important part of supporting planning, organizing, implementation, supervision, and decision-making processes. In the context of education, Management Information Systems (MIS) serve as a system that integrates the processes of collecting, processing, storing, and presenting information, so that it produces accurate, fast, and relevant data to support the effective management of educational institutions.

Madrasahs as Islamic educational institutions are also required to be able to adapt to the development of information technology. Digital transformation in madrasah management has become an unavoidable need, given the complexity of managing data of students, teachers, education staff, finances, facilities and infrastructure, as well as various forms of reporting to the government. The implementation of a Management Information System in madrasahs is expected to improve the quality of educational services through more efficient administrative processes, more accurate information presentation, and data-driven decision making.

Effective madrasah management is one of the indicators of successful education administration. Good management is marked by effective services, efficient use of resources, transparency, accountability, good coordination, and the leader's ability to make accurate decisions based on valid information. In this context, a Management Information System becomes a strategic tool that can provide information quickly, allowing various managerial decisions to be made more objectively and measurably.

Even so, the implementation of Management Information Systems in primary education institutions still faces various challenges. Limitations in the digital competence of human resources, less than optimal information technology infrastructure, and the lack of integration among various administrative systems often become obstacles to achieving effective educational management. On the other hand, some madrasahs have started to use various digital applications, such as student data systems, grade processing, institutional reporting, financial administration, and communication tools with students' parents. However, the use of these applications doesn't necessarily come with integrated Management Information System management, so their benefits for madrasah governance need to be examined more closely.

MI Babussalam is one of the elementary Islamic schools that has started using information technology in various aspects of school management, including administration, academics, communication, and reporting. The various digital systems used are expected to improve the effectiveness of services for the school community while supporting the principal in making the right decisions. However, the extent to which the implementation of the Management Information System has supported the realization of effective school governance still needs to be studied comprehensively. This research is important to get an overview of the SIM implementation process, the benefits experienced, the challenges faced, and the strategies for its development.

Some previous studies have shown that implementing a Management Information System contributes to improving administrative effectiveness, service quality, and the speed of information delivery in educational institutions. However, most studies still focus on high schools or universities, while research on the implementation of MIS in elementary Islamic schools, especially that links MIS implementation with overall school governance, is still relatively limited. Therefore, there is a research gap that forms the important basis for conducting this study.

Based on this description, this study aims to analyze the implementation of the Management Information System at MI Babussalam in achieving effective madrasah governance. Specifically, this research will examine the process of implementing the Management Information System, its role in supporting madrasah governance, the factors that facilitate and hinder its implementation, as well as efforts made to optimize the use of the Management Information System. The results of this study are expected to contribute to the development of Islamic Education Management knowledge, while also

providing practical input for madrasah administrators to improve the quality of governance through the optimal use of the Management Information System.

METHODS

This study uses a qualitative approach with a case study type. This approach was chosen because it aims to gain a deep understanding of the implementation of Management Information Systems (MIS) in achieving effective madrasa governance at MI Babussalam. The case study allows the researcher to examine the phenomenon comprehensively according to the real conditions on the ground. The research location is MI Babussalam, selected purposively because it has utilized various information systems in managing administration, academics, and educational services. The study focuses on the processes of planning, implementation, utilization, and evaluation of the Management Information System, as well as its contribution to the effectiveness of madrasa governance.

The research subjects were selected using purposive sampling, which means choosing informants based on the idea that they have knowledge and direct involvement in the implementation of the Information System. The informants included school principals as policymakers, school operators as system managers, teachers as system users in the teaching and academic administration process, education staff involved in school administration, and some parents as users of school information services.

The research data consists of primary and secondary data. Primary data was obtained through in-depth interviews with informants, observations of the implementation of the Management Information System in the madrasah environment, and monitoring activities related to administration and educational services. Secondary data was obtained through document studies, such as madrasah policy documents, organizational structures, administrative data, digital archives, academic reports, application usage documents, and other documents relevant to the research focus. Data collection was conducted using three main techniques: (1) semi-structured interviews to explore information about the implementation of the MIS, its benefits, challenges, and development strategies; (2) non-participant observation to directly observe the use of the information system in administrative and academic activities; and (3) document studies to support the findings from interviews and observations.

The data analysis used the interactive model of Miles, Huberman, and Saldaña, which includes four stages: data collection, data condensation, data display, and drawing and verifying conclusions. The analysis was carried out continuously from the beginning of data collection until the research was completed, providing a comprehensive understanding of the implementation of the Management Information System at MI Babussalam. The validity of the data was tested using triangulation techniques, which include source triangulation, technique triangulation, and time triangulation. Source triangulation was done by comparing information obtained from the principal, operators, teachers, administrative staff, and parents. Technique triangulation was done by comparing the results of interviews, observations, and documentation, while time triangulation was carried out by collecting data at different times to ensure the consistency of information.

FINDINGS AND DISCUSSION

Implementation of a Management Information System at MI Babussalam

Leadership Research results show that MI Babussalam Pagelaran has implemented a Management Information System (MIS) as part of efforts to improve the effectiveness of madrasah governance. This implementation is realized through the use of several official applications managed by the Ministry of Religious Affairs, namely the Education Management Information System (EMIS) for managing institutional and student data, EMIS-GTK for managing teacher and educational staff data, Student Data Verification (Verval PD) for the process of verifying and validating student data, Madrasah Exam Database (PDUM) as the database for exam administration, and Madrasah Digital Report (RDM) as a system for managing student learning assessment results. Based on interview results, all of these applications are used continuously to support administrative and academic activities in the madrasah.

The informant explained that the use of the Management Information System has been implemented since the school was established and has continued to be adjusted in line with technological advances and government policies. This shows that the implementation of the MIS at MI Babussalam Pagelaran is adaptive to regulatory changes, especially the digitization of education management promoted by the Ministry of Religious Affairs. Regular system updates allow the school to keep meeting data reporting needs accurately and in accordance with national standards.

In everyday practice, the Management Information System has become an inseparable part of madrasah administration. All data on teachers, educational staff, students, and learning outcomes are managed through digital applications, making recording, storing, updating, and reporting processes more systematic. The informant mentioned that having this information system really helps with administrative work because all the data needs can be accessed much faster compared to manual systems. This situation shows that the implementation of the MIS has changed the madrasah administration workflow from managing physical documents to a more efficient digital data-based management.

The findings of this study align with the concept of Management Information Systems put forward by Gordon B. Davis, who stated that MIS is an integrated system that produces timely, accurate, and relevant information to support an organization's planning, control, and decision-making processes. In the context of madrasahs, the integration of various applications such as EMIS, EMIS-GTK, Verval PD, PDUM, and RDM shows that the information produced not only serves as a data storage medium but also forms the basis for overall institutional management.

Furthermore, the implementation of the SIM at MI Babussalam Pagelaran shows integration across related administrative fields. Teacher data stored in EMIS-GTK supports human resource management, while student data in EMIS and Verval PD serves as the basis for preparing various institutional reports. Additionally, this data is connected to RDM in the process of handling students' learning outcomes. This integration shows that information systems are no longer seen as standalone applications, but rather as a digital ecosystem that supports the overall effectiveness of madrasah governance.

Evaluation of Management Information System Implementation

Evaluation is one of the important stages in implementing a Management Information System (MIS) because it helps measure the effectiveness of the system that has been applied and serves as a basis for continuous improvement. Based on the interview results, the evaluation of MIS implementation at MI Babussalam Pagelaran is carried out periodically through the Head of Madrasah Performance Assessment (PKKM). This evaluation is not only focused on the leadership of the head of the madrasah but also includes an assessment of administrative management, educational services, and the use of information technology in supporting the madrasah's governance.

The informant explained that the implementation of PKKM serves as a tool to find out how far the administration system in place has been running according to the standards of madrasah management. Through this evaluation, madrasahs can identify various strengths and weaknesses in applying the Management Information System, so follow-up actions can be taken in the form of system improvements or enhancing the quality of administrative services. Thus, evaluation is not just seen as a supervisory activity, but also as part of the continuous improvement process in managing educational institutions.

Research results show that the evaluation of the implementation of the SIM at MI Babussalam Pagelaran is carried out systematically by utilizing data generated from various applications, such as EMIS, EMIS-GTK, Verval PD, PDUM, and RDM. The digital data stored in these systems becomes an objective source of information in assessing the accuracy of managing teacher data, student data, academic administration, and institutional reporting. Using system-based information makes the evaluation process more accurate compared to evaluations that rely solely on manual documents because all information can be traced back as needed.

These findings show that the implementation of the Management Information System at MI Babussalam Pagelaran has supported the application of evidence-based management, which is a decision-making process based on valid data and information. The information produced by the system allows the school principal and administrative staff to monitor various administrative activities more effectively, from student data completeness, teacher data validity, to the accuracy of academic report preparation. This situation speeds up the problem identification process while also making it easier to develop improvement strategies if any discrepancies are found in administration.

Theoretically, the findings of this study are in line with the controlling function in management theory proposed by George R. Terry. The controlling function is the process of comparing the implementation of activities with established standards, then taking corrective actions if deviations are found. In the context of Management Information Systems, evaluation becomes an important mechanism to ensure that the information generated by the system truly supports the effectiveness of planning, implementation, and decision-making processes in educational institutions.

In addition, evaluating the implementation of the MIS also reflects the application of the Plan–Do–Check–Act (PDCA) cycle in managing the madrasah. After the system is planned and implemented (Plan and Do), the madrasah carries out the Check stage through PKKM to assess how effective the MIS is. The results of this evaluation then form the basis for the Act stage, which involves improving the system, enhancing human resource competencies, and updating information technology support facilities. In this way, implementing the Management Information System isn't static, but continues to evolve according to the organization's needs and changes in government policies.

The findings of this study are also in line with various previous studies that stated that regular evaluation is an important factor in the successful implementation of Management Information Systems in educational institutions. Continuous evaluations can improve data quality, fix administrative processes, and promote more effective, transparent, and accountable educational governance. Therefore, the success of MIS implementation at MI Babussalam Pagelaran is not only determined by the availability of digital applications but also by the school's commitment to continuously evaluate and improve the system.

Common challenges faced

The implementation of the Management Information System (MIS) at MI Babussalam Pagelaran has brought various benefits in supporting the effectiveness of school management. However, based on research findings, there are still some obstacles affecting the optimal use of the system. Interviews revealed that the main challenges faced are limited technological infrastructure, especially an unstable internet connection, and the use of older computers, which affects access speed to web-based applications. Informants explained that internet network disruptions often occur at certain times when many users access the network simultaneously. In addition, inadequate hardware specifications cause data processing to take longer.

This situation shows that the success of implementing a Management Information System isn't just about having digital applications available; it's also influenced by the readiness of IT infrastructure. Applications like EMIS, EMIS-GTK, Verval PD, PDUM, and RDM are online-based systems that heavily rely on internet quality and hardware capabilities. If these aspects aren't optimal, data input, information updates, and administrative reporting can become less effective and may potentially hinder services to teachers, students, and other stakeholders.

Besides infrastructure challenges, the research also shows there are challenges in terms of human resources. Although not explicitly mentioned as the main obstacle, the need for digital literacy training for education staff indicates that their ability to operate information systems still needs to be improved. The continuous updates in educational administration applications require operators and administrative staff to constantly update their knowledge and skills to keep up with changes in features and policies implemented by the government.

The findings show that implementing a Management Information System isn't just about the technology itself, but also about how ready people are to use it. In the context of education

management, human resources are a key factor in making sure information technology is used successfully. Even a well-designed system won't give the best results if the users don't have the right skills to operate it.

Strategies for Overcoming Challenges in Implementing a Management Information System

The success of implementing a Management Information System (MIS) isn't just determined by an institution's ability to identify various obstacles, but also by the strategies it takes to overcome them. Based on interview results, MI Babussalam Pagelaran has taken several strategic steps to optimize the use of the Management Information System, including gradually improving technology infrastructure and enhancing human resource competencies through training and digital literacy workshops. Both strategies are carried out as a demonstration of the madrasah's commitment to supporting digital transformation in educational management.

The first strategy carried out was to improve information technology infrastructure, especially through upgrading the computers used for managing madrasa administration. Informants explained that hardware that could no longer run web-based applications optimally was gradually replaced or upgraded in specifications to support the operational needs of the Management Information System. In addition, the madrasa also tried to improve the quality of the internet network so that access to applications such as EMIS, EMIS-GTK, Verval PD, PDUM, and RDM could run more smoothly. This step shows that the madrasa understands the importance of infrastructure readiness as a key foundation in implementing digital-based information systems.

The second strategy is to boost human resource capacity by conducting training and digital literacy workshops for educational staff. According to interview results, these activities aim to help operators, administrative staff, and teachers understand the development of applications, which are constantly being updated according to government policies. Training also serves as a way to improve skills in operating the system, reduce data entry errors, and speed up administrative processes. In this way, improving digital competence becomes an important investment for the sustainability of the Management Information System implementation in madrasahs.

Research results show that both strategies complement each other. Improving infrastructure without boosting user skills won't lead to optimal system implementation. On the other hand, even tech-savvy personnel will struggle if the hardware or internet network is lacking. So, successfully implementing a Management Information System requires a balance between technology readiness and human readiness.

CONCLUSION

This research shows that implementing the Management Information System (MIS) at MI Babussalam Pagelaran has played an important role in improving the effectiveness of madrasah management. The MIS implementation is realized through the use of various digital-based applications, such as the Education Management Information System (EMIS), EMIS-GTK, Student Data Verification (Verval PD), Madrasah Exam Database (PDUM), and Madrasah Digital Report (RDM), which are used in an integrated manner to support the management of teacher and student data, academic administration, and institutional reporting. Using these systems can improve administrative efficiency, speed up access to information, and produce more accurate data as a basis for decision-making.

The implementation of the Management Information System is regularly evaluated through the Head of Madrasah Performance Assessment (PKKM), allowing madrasahs to monitor and improve administrative management continuously. Evaluations supported by digital data show that using the MIS not only serves as an administrative tool but also becomes a quality control instrument that helps create effective, accountable, and data-based madrasah governance. However, SIM implementation still faces some challenges, especially limited technology infrastructure like unstable internet connections and computers that are not entirely adequate, as well as the need to improve the digital skills of education staff. To tackle these challenges, MI Babussalam Pagelaran has taken various

strategies, including gradually upgrading technology devices, improving internet network quality, and organizing digital literacy training and workshops for teachers and education staff. These strategies show the school's commitment to supporting digital transformation by strengthening both technology and human resources in a balanced way.

Based on the research findings, it can be concluded that the success of implementing the Management Information System at MI Babussalam Pagelaran is not only determined by the availability of digital applications, but also by the effectiveness of evaluations, the readiness of technology infrastructure, the competence of human resources, and the school leadership's commitment to continuous improvement. The synergy between these factors has contributed to enhancing the quality of madrasah management, making it more effective, efficient, transparent, and accountable.

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