

DIGITIZATION OF EDUCATION MANAGEMENT: A STUDY ON THE IMPLEMENTATION OF EMIS IN SUPPORTING STRATEGIC DECISION-MAKING IN THE MINISTRY OF RELIGION

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Abstract:

The purpose of this study is to analyze the implementation of the Education Management Information System (EMIS) at the Ministry of Religious Affairs in Pasuruan City as a decision-making support tool. This research employs a qualitative approach using observation, interviews, and documentation as data collection methods. The findings indicate that EMIS, as an official program of the Directorate General of Islamic Education, has been implemented through socialization activities, technical guidance, data collection, and data validation procedures. Data management through EMIS produces accurate, up-to-date information that plays a crucial role in decision-making, including the issuance of operational permits and the distribution of aid. Supporting factors for EMIS implementation include internet access, technological devices, and collaboration among operators. Meanwhile, the main obstacles consist of limited human resources, difficulties in data collection, and technical server issues, all of which need to be addressed to enhance the system's overall effectiveness.

Abstrak:

Tujuan dari penelitian ini adalah untuk menganalisis penerapan Education Management Information System (EMIS) di Kementerian Agama Kota Pasuruan sebagai penunjang pengambilan keputusan. Penelitian ini menggunakan pendekatan kualitatif menggunakan metode observasi, wawancara, dan dokumentasi untuk pengumpulan data. Hasil penelitian menunjukkan bahwa EMIS sebagai program resmi Direktorat Jenderal Pendidikan Islam telah dilaksanakan melalui sosialisasi, bimbingan teknis, pendataan, dan validasi. Pengelolaan data melalui EMIS menghasilkan informasi yang akurat dan terkini, yang memainkan peran penting dalam pengambilan keputusan seperti pemberian izin operasional dan penyaluran bantuan. Faktor pendukung implementasi EMIS antara lain ketersediaan internet, perangkat teknologi, dan kolaborasi antar operator. Kendala utama termasuk keterbatasan sumber daya manusia, kesulitan pengumpulan data, dan kendala teknis server, yang perlu diatasi untuk meningkatkan efektivitas sistem.

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INTRODUCTION

The digital era is one in which getting information and communicating through computer technology are the main bases. One of the results of technological

advances is globalization, which has caused changes in human life, including civilization and culture, and has a significant effect on all aspects of a person's activities (Wahyudi & Sukmasari, 2018). Technology can help people with their daily activities by creating innovations that make very draining jobs easier. The great influence of technological advances in today's era is evident across various aspects of life, including culture, politics, economics, education, and others (Maritsa et al., 2021).

Indonesia, as a developing country, must continue to advance technological development in the digital era. This is in accordance with the Law of the Republic of Indonesia number 11 of 2008 concerning information and electronic transactions, which states that the development of Information technology in terms of its utilization and use must be carried out in a sustainable manner to maintain, maintain, and strengthen national unity and unity in accordance with laws and regulations for the national interest.

The world of education follows technological developments with the application of management information systems. Management Information Systems (MIS) are developing rapidly and are widely accepted worldwide. Management information systems are designed to facilitate operations, management, and decision support in the organization (Rusdiana & Irfan, 2014). Management information systems are a method that is believed to be able to ensure the accuracy and accuracy of information to increase effectiveness and efficiency in an organization (Sutabri, 2005).

The Ministry of Religion (*Kemenag*) is one of the ministries in Indonesia that implements a management information system to manage education data (Syarip & Rosidin, 2003). One of the management information systems developed by the Ministry of Religion is the Education Management Information System (EMIS), which is an information system designed as a place for collecting, storing, processing, analyzing, and distributing data as material applied to the planning and management process of Islamic Education Institutions (Salsabila & Ramadhani, 2023). Islamic educational institutions have an important role in producing a quality generation by integrating Islamic educational values in the learning process and educational concepts (Taofik, 2020).

Offices of the Ministry of Religion across Indonesia have implemented the EMIS application, including the Office of the Ministry of Religion in Pasuruan City. The Ministry of Religion of Pasuruan City has several sections on duty, including the Diniyah Education Section and Islamic Boarding Schools (PD Pontren). PD Pontren Ministry of Religion uses EMIS to manage data at Al-Qur'an Education Institutions (LPQ), *Madrasah Diniyah Takmiliah* (MDT), Islamic Boarding Schools, and others. EMIS is used as a database to support the needs of institutions in future applications, such as the Assistance Management Information System (SIMBA), the LPQ Registration Service Information System (SIPDAR PQ), and so on.

This article aims to describe and analyze how the implementation of the Education Management Information System (EMIS) as a decision-making support in the Ministry of Religion of Pasuruan City. The research focuses on how the system is operated, its level of utilization in the decision-making process, and the supporting and inhibiting factors in its implementation. Thus, it is hoped that the results of the research will not only provide an overview of the current conditions but also recommendations that can increase the effectiveness of management information systems in supporting education policies and management.

RESEARCH METHODS

The research used a qualitative approach with a case study design. The qualitative approach is used to present descriptive data in the form of factual words that can be expressed orally or in writing by the research subject (Moleong, 2018). The use of qualitative research is considered suitable for this research because it prioritizes the integrity of field data and is natural, aiming to achieve a deeper understanding and interpretation of relevant topics.

This research was carried out at the Office of the Ministry of Religion of Pasuruan City and at educational institutions in Pasuruan City. The data collection techniques used are observation, interviews, and documentation. The informants in this study are the EMIS Manager of the Ministry of Religion of Pasuruan City and the manager of educational institutions. To check the validity of the data, source triangulation techniques and triangulation techniques are used.

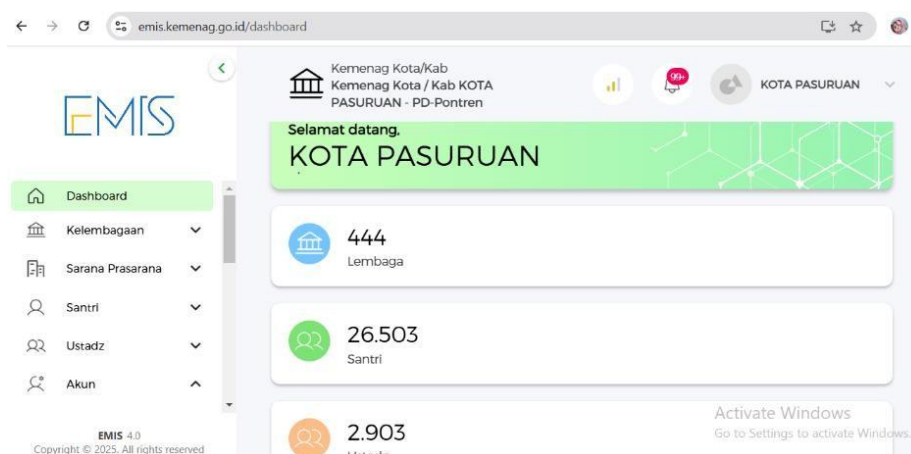
RESULTS AND DISCUSSION

RESULTS

Implementation of EMIS in the Early Education Section and the Islamic Boarding School of the Ministry of Religion of Pasuruan City

The implementation of the EMIS application has several important objectives in accordance with the Decree of the Minister of Religion Number 83 of 2022 concerning the Management of Education Data at the Ministry of Religion, namely to manage education data accurately, validly, and efficiently. This is in accordance with what was revealed by Mrs. Anisa Januariyah, Head of PD PONTREN, that EMIS is an application developed by the Ministry of Religion in the context of the management arrangement, as one of the systems built to implement information systems to obtain valid data.

Figure 1. EMIS PD PONTREN Account Menu Features



The EMIS application can be accessed by institutional operators, district/city operators, regional office operators, and central operators. EMIS update activities are carried out twice a year, namely in odd and even semesters. This is supported by circular letters from the Regional Office and the Directorate General of Islamic Education, ordering immediate data update activities on the EMIS accounts of their respective institutions. The PD PONTREN section uses WhatsApp groups to make it

easier to control and remind institutional operators to update EMIS according to the schedule. Based on the observations, the researcher noticed that the EMIS PD PONTREN Operator used various menus within EMIS, such as data on the number of institutions, student data, etc.

The implementation of the EMIS application has several stages. The initial stage carried out by the PD PONTREN Section in implementing the EMIS application is to provide reinforcement through socialization and technical guidance (BIMTEK) activities for all institutional operators in the Pasuruan City area to strengthen understanding and skills in managing EMIS accounts. At the same time, it is a forum for discussion and finding solutions to various problems that are being or have been faced. Socialization and technical guidance activities should be carried out once a year, but due to limited funds, they were replaced with private consular activities, with consular officers going directly to the PD PONTREN Section room.

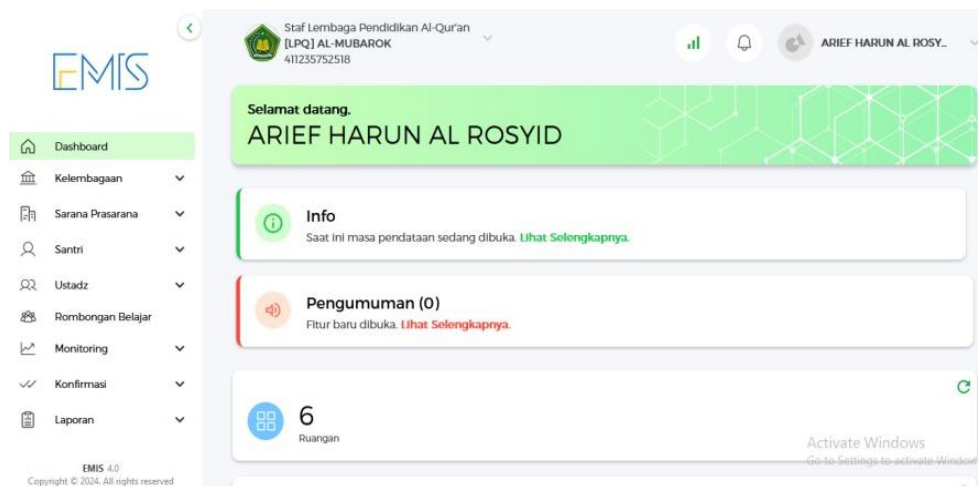
The second stage is that each institution conducts initial data collection, identifying several requirements that must be met. The institution itself prepares its profile data and its statistical numbers. Students collect family cards (KK) or children's identity cards. Meanwhile, teachers collect identity cards (KTP), last education diplomas and shahadah. The teacher's shahadah is proof of eligibility as a teacher; it is obtained by taking an exam held every year by the Chairman of Tartila Pasuruan City. Furthermore, the final stage is to upload the collected data to the EMIS account and to carry out the data validation process. The institution will receive proof of the EMIS data collection event (BAP) as a sign that the EMIS data has been valid and accepted.

Implementation of EMIS as a decision-making support in the Early Education Section and Islamic Boarding School of the Ministry of Religion of Pasuruan City

EMIS has an important role in data management in the PD PONTREN Section. The latest menu features in EMIS simplify and speed up the management of institutional data, enabling EMIS operators to update data and access the latest information more easily and quickly. Mr. Arif Budiman, who serves as the EMIS operator in the PD PONTREN Section, explained that EMIS serves as the main system for managing educational data in Islamic boarding schools and early childhood education institutions, including institutional data, students, teachers, and infrastructure. This system ensures that data is integrated, accurate, and usable for decision-making.

The display of EMIS accounts managed by PD PONTREN and institutions has different functions and access. EMIS operators in the PD PONTREN Section have admin access, allowing them to monitor and open all institutional accounts. Meanwhile, institutions can only access and manage their own institutional accounts as users. With these differences, the Ministry of Religion operators can monitor the status of the institution's data updates and provide alerts if the institution's data has not been updated.

Figure 2. EMIS TPQ AL Mubarak Account Menu Features



The role of EMIS in supporting decision-making in the PD PONTREN Section is: First, the decision-making process begins with the institution's data update which is carried out every semester. This data update is essential to ensure that the information recorded in EMIS is always up-to-date and valid. Thus, the data used in decision-making will not expire and will remain accurate, supporting the right decision.

Second, the updated data in EMIS is used as a reference for important decisions, such as granting institutional operational permits and distributing assistance, including Educational Operational Assistance (BOP) and teacher incentives. The nominal BOP assistance of IDR 10,000,000 per institution is used for consumable needs. Meanwhile, the teacher's incentive is IDR 2,500,000 per teacher every year. The requirements for teachers to apply for incentives include teacher data profiles, last education diplomas, institutional job, and shahadah. Meanwhile, the requirements that must be met by institutions to apply for BOP ("Call Center PTSP Ministry of Religion of Pasuruan City," 2025) are as follows:

a) The Request for Recommendation is addressed to the Head of the Office of the Ministry of Religion of Pasuruan City. b) Proposal, c) NPWP Foundation Institution, d) Copy of Deed of Foundation/Institution/Ministry of Justice, e) Copy of the registered and renewed Operational Permit Charter, f) PONPES data, has been active in the EMIS data application

Third, EMIS also plays an important role in integrating into various other applications, such as the Assistance Management Information System (SIMBA) and the Islamic Boarding School Manpower and Administration Information System (SIKAP) which support decision-making related to funding and assistance for institutions and teachers. With the data recorded in EMIS, the verification and selection process of assistance can run smoothly, because the data used is more accurate and valid. In addition, decisions related to the institution's operational permits also depend heavily on the completeness and updating of data in EMIS. This is a form of institutional development and teacher welfare, in accordance with the vision and mission of the Ministry of Religion of Pasuruan City.

Evaluation of the application of EMIS as a decision-making support in the Early Education Section and Islamic Boarding School of the Ministry of Religion of Pasuruan City

The development of the EMIS PD PONTREN application from version 2.0 to 4.0 has brought significant changes in institutional data management. This development is considered to be able to support institutional decision-making and improve the efficiency and quality of education in the institution. The change from EMIS version 2.0 to 4.0 brings convenience in the management of institutional data. Previously, data management was done manually using Google Sheets, which posed various difficulties. With EMIS 4.0, the data collection process becomes easier, more efficient, and more accurate so that it can support decision-making and improve the quality of education.

Figure 3. Proof of EMIS Data Collection Event (BAP)

EMIS

TANDA BUKTI UPDATING DATA EMIS
SEMESTER Ganjil TAHUN PENDATAAN 2023/2024

Saya, - NUR INAYAH -, sebagai Mudir/Pimpinan ROUDLOTUL JANNAH, menyatakan bahwa lembaga saya telah melakukan updating data Pendidikan Islam EMIS Periode Semester Ganjil TP 2023/2024 melalui Aplikasi Pendataan EMIS, dengan ringkasan profil data sebagai berikut:

Nama Lembaga	ROUDLOTUL JANNAH		
Jenis Lembaga	LPQ		
NSPP	411235750040		
NPSN			
Alamat	JL. JEND S PARMAN		
Jumlah Santri	Laki-laki: 33	Perempuan: 37	
Jumlah Rombel	6		
Jumlah Ustadz	Laki-laki: 0	Perempuan: 5	
	Total Satminkal: 5	Non Satminkal: 0	Total Ustadz : 5
Jumlah Ruang Belajar	Baik: 6	Rusak: 0	Tidak dapat digunakan:
Jumlah Ruang Lain	Baik: 0	Rusak: 0	Tidak dapat digunakan: -
Perpustakaan	Belum Memiliki		

Dicetak dari EMIS 2023-12-24 18:58:53

KOTA PASURUAN, 24-12-2023
Mudir/Pimpinan
ROUDLOTUL JANNAH
NIP. -

The next EMIS evaluation is the existence of a Data Collection Minutes (BAP), which serves as official proof that the data that has been updated in the EMIS application has been verified and is valid. The EMIS evaluation at this stage is the final stage that is carried out at the end of each semester, namely by uploading the minutes of data collection, which are then reported in the form of a printout to the

PD PONTREN Section. PD PONTREN also encourages each institution to update EMIS twice a year, as well as to monitor the institution's data updates through the BAP monitoring menu feature on the EMIS account. This is supported by an interview statement from Arief Harun Al-Rosyid as the Operator of TPQ Al-Mubarak as follows: "EMIS *update* activities are carried out every semester. The final step in the EMIS update is the BAP (Proof of Data Collection Event). Every semester, BAP is uploaded as a sign that the existing data has been updated and verified. BAP is physical evidence of the data updating process in the EMIS application and must be reported to PD PONTREN in the form of a *printout*."

The implementation of EMIS has proven effective in providing the data needed by the Pontren PD Section and in facilitating planning and supporting decision-making within the institution. However, in its application, EMIS is also influenced by supporting and inhibiting factors. Supporting factors include the availability of internet facilities and technological devices such as laptops as well as support between institutional operators.

Factors inhibiting the implementation of the EMIS application include limited human resources (HR) which is mostly caused by age factors. Many elderly teachers lack a grasp of technology, so their ability to operate EMIS applications to the maximum is limited. Some EMIS operators also concurrently operate for two institutions, which will certainly limit their time and energy and reduce their focus and efficiency in managing data. The collection of student data is also hampered by the difficulty of collecting the data needed in a timely manner which causes delays in updating information.

Technical issues, such as server errors, also often occur, especially when multiple operators access applications simultaneously, hindering the smooth management of data. In addition, the absence of mutation features in the EMIS application is another obstacle. The mutation feature, which is supposed to allow more dynamic monitoring of student data movements, is not yet available in the application, thus requiring operators to update data every time there is a change. This slows down the data management process and increases the risk of errors. To address these issues, it is necessary to increase human resource training, improve technical infrastructure, and develop features that enable more efficient data management.

DISCUSSION

Implementation of EMIS in the Early Education Section and Islamic Boarding School of the Ministry of Religion of Pasuruan City

The results of the study show that the Diniyah Education and Islamic Boarding School Section (PD PONTREN) of the Ministry of Religion in Pasuruan City has used EMIS to manage educational data for educational institutions under the Ministry of Religion's auspices. This is in accordance with the purpose of implementing EMIS, which is to manage and provide valid, efficient, accurate, and integrated data to support strategic decision-making (Decree of the Minister of Religion Number 83 of 2022 concerning the Management of Education Data at the Ministry of Religion). This application is in accordance with the theory that explains that the management information system (SIM) has an important role in managing and storing large amounts of data and information, so that it can facilitate the implementation of data analysis and decision-making quickly and appropriately (Rusdiana & Irfan, 2014; Sutabri, 2005).

There are three stages in the implementation of EMIS at the Ministry of Religion of Pasuruan City. The first stage is to provide an understanding of the importance of implementing EMIS to institutional operators through Socialization and Technical Guidance (Technical Guidance). Technical guidance is carried out by the PD PONTREN Section of the Ministry of Religion of Pasuruan City once a year, and there are also consultation activities. The second stage is the institution conducting initial data collection on students, teachers, facilities, and other institutional data. EMIS update activities are carried out twice a year, namely in odd and even semesters. The third stage is to enter the collected data into the EMIS application and to validate it to ensure the reported data is accurate and complete. The stages of implementing EMIS at the Ministry of Religion in Pasuruan city are in accordance with the implementation of EMIS in other cities, starting from operators at the level of educational institutions who input data, followed by the Ministry of Religion office that conducts verification (Bhato et al., 2024; Romdoniyah et al., 2024; Stevens et al., 2019). The stages of data management in the Management Information System are in accordance with the theory that the implementation of SIM should proceed through sorting, retrieving, processing, and storing data to support an accurate decision-making process (Sutabri, 2005).

Implementation of EMIS as a support in the Diniyah Education Section and Islamic Boarding School of the Ministry of Religion of Pasuruan City

Decision-making in the Ministry of Religion's PD PONTREN Section is based on accurate data obtained from the EMIS application. The data managed includes the process of searching for LPQ, MDT, and Islamic Boarding School data by entering information on the institution's overall condition, which is updated periodically. This data update activity is carried out by the institution every semester to ensure that EMIS data is always up to date, preventing the use of outdated data that is irrelevant to decision-making. This is in line with strategic management theory which states that strategic decisions must be made after obtaining accurate information in order to get the right decision (David, 2011).

Data from EMIS is used more specifically in making decisions about educational institutions' operational permits, educational operational assistance (BOP) and teacher incentive applications. If the institution's data is incomplete or outdated, the institution will not be eligible for assistance or operational permits. Educational Operational Assistance (BOP) is submitted through the Assistance Management Information System (SIMBA), while teacher incentives are submitted through the Islamic Boarding School Manpower and Administration Information System (SIKAP), which has been integrated into EMIS. The use of EMIS in managing data at the Ministry of Religion of Pasuruan City is in accordance with research from (Bhato et al., 2024) That is, as a basis for making important decisions about operational permits, education funds, and related matters. With the information contained in EMIS, a policy can be drafted and evaluated more precisely, based on accurate data (Romdoniyah et al., 2024) .

EMIS also has the potential to increase accountability and openness in the education system. By providing open, easily accessible data to all parties, EMIS facilitates more effective public oversight of the education system's performance. This can encourage improvements in governance and increase public trust in educational institutions and the government. This result is in line with the findings of the (Surya & Hayati, 2023) which explains that implementing EMIS can encourage

transparency and accountability within educational institutions.

Evaluation of the application of EMIS as a decision-making support in the Early Education Section and Islamic Boarding School of the Ministry of Religion of Pasuruan City

The results of this study's evaluation show that, before the implementation of the EMIS application, data management in Islamic educational institutions was functioning well despite some shortcomings. Data management prior to the EMIS application was done manually using Google Sheets, which caused various difficulties, extreme time and often inaccurate data. By implementing EMIS, data management becomes easier and more efficient. This is in line with research from (Ramadhan et al., 2024) which states that implementing EMIS speeds up and improves the accuracy of data management in madrasas. Data processed with a good management information system can increase the effectiveness and efficiency of the management of educational institutions (Shah, 2014).

The final stage of EMIS evaluation that must be carried out by the institution at the end of each semester is to upload the data collection minutes (BAP) which are then reported in the form of a printout to the PD PONTREN Section. This BAP serves as official proof that the updated data in the EMIS application has undergone verification and is declared valid. The existence of the BAP of the PD PONTREN Section ensures that updated institutional data can be used to support decision-making. Data verification like this is needed to obtain accurate data and avoid expired data (Triono et al., 2023)

The application of EMIS as a management information system has supporting and inhibiting factors. The supporting factor for implementing the EMIS application is the availability of internet access and technological devices, such as laptops, which greatly facilitate access and enable quick, efficient data updates. With this facility, institutional operators can manage data more smoothly and accurately. However, several new institutions are unable to provide these facilities. So that institutional operators are forced to use personal devices to access and update data.

Inhibiting factors in the implementation of EMIS include limitations in human resources (HR) in terms of competence. The collection of student data is also hampered by the difficulty of obtaining the necessary data in a timely manner. Technical issues, such as server errors, also often occur, especially when multiple operators access applications simultaneously, hindering the smooth management of data. These findings are in line with research (Ropik & Rosadi, 2025) which states that the readiness of human resources greatly determines the success of the management information system. Research from (Stevens et al., 2019) It also states that one of the inhibiting factors in the implementation of management information systems is the inability of operators to input data. To overcome this problem, it is necessary to conduct training and a briefing for the operators on duty (Purwaningsih, 2022).

CONCLUSION

The implementation of EMIS in the PD PONTREN Section of the Ministry of Religion of Pasuruan City has been running well in managing Islamic education data. EMIS data management starts from socialization and technical guidance, data collection, to data validation. Data management through EMIS, starting from data updates of Islamic educational institutions to data validation, has been carried out

in a structured and efficient manner. With good data management, EMIS provides accurate information to support decision-making.

Data from EMIS is used to support decision-making by the Ministry of Religion, especially in granting operational permits for educational institutions, distributing BOP, and incentive funds for teachers. This step supports efforts to improve the quality of education and teaching professionalism in Islamic educational institutions under the auspices of the PD Pontren Section of the Ministry of Religion.

EMIS, as decision-making support in the PD PONTREN Section of the Ministry of Religion of Pasuruan City, is considered to have run well and effectively in facilitating the management of institutional data. There are supporting factors for the implementation of EMIS, including the availability of internet facilities and technological devices such as laptops, as well as support between institutional operators. Meanwhile, inhibiting factors include limited human resources (HR), difficulties in collecting student data, and technical problems such as server errors when many people access. Some of these obstacles need to be fixed to increase the effectiveness and efficiency of educational institution data management in EMIS applications

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