
IMPLEMENTATION OF E-GOVERNMENT AS AN EFFORT TO SUPPORT THE BUREAUCRACY REFORM OF GOVERNMENT INSTITUTIONS

Pinastika Prajna Paramitha

Universitas Islam Malang, Indonesia

E-mail: pinastika.pp@unisma.ac.id

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Abstract: *EMIS (Education Management Information System) is an appropriate administrative method in providing good and usable learning data so that the direction, preparation, project improvement, and Education management functions can be carried out effectively. In another sense, EMIS is the coordinated collection of data and documentation in completing the selection, storage, handling, inspection, and dissemination of data used for education planning. EMIS systems are used to organize a wealth of instructive information and data that can be read, recovered, handled, investigated, introduced and disseminated. We have now entered the era of society 5.0, where all activities have begun to use technology to consider aspects of the humanities in the process of solving public sector problems. Therefore, in this study, the aim is to determine the strengthening of bureaucratic reform into the era of society 5.0 by managing human resource development planning for the Ministry of Administrative Reform and Bureaucratic Reform (KemenPANRB). The method used for this analysis is observation and literature study, which is the same as other research, but the sources and methods of collecting data are by interviewing the Malang Regency Ministry of Religion and taking data in the library, reading, recording and researching research data.*

INTRODUCTION

The paradigm shift occurring within government institutions has brought fundamental changes across various aspects of human life. This transformation poses a challenge for public administration, particularly in meeting the growing demand for efficient and responsive public services for all citizens, as mandated by law.

According to Article 1 of Law Number 25 of 2009 concerning Public Services,

public service is defined as a series of activities in fulfilling the service needs of every citizen and resident for goods, services, and/or administrative services provided by public service providers. The implementation of quality public services must therefore be carried out in accordance with community needs, while maintaining a balance between the authority of the state and the protection of citizens from potential misuse of power.

In the context of public administration reform, these issues have increasingly drawn attention. Empirically, this phenomenon arises as a result of rapid societal development driven by globalization. Such changes compel the government bureaucracy to continuously innovate, reform, and seek new alternatives to public administration systems that align with the needs of modern society.

One of the key accelerators of bureaucratic reform is the implementation of e-government, which utilizes Information and Communication Technology (ICT) to improve the effectiveness and efficiency of administrative processes. Within the e-government framework, one of the key systems designed to support office and administrative activities is the e-office.

In Indonesia, the use of e-office systems has been more prevalent in the private sector, while in government institutions it remains relatively limited. For instance, until 2008, many government offices—including the Research and Development Center for Roads and Bridges (Pusjatan)—still relied on manual, paper-based administrative systems. Such systems required significant time and effort for document distribution, storage, and retrieval, often resulting in inefficiencies and disorganized office environments.

To address these challenges, the Education Management Information System (EMIS) was developed as part of the Ministry of Religious Affairs' effort to improve data management and service quality within educational institutions under its supervision.

This study focuses on the implementation and role of the Education Management Information System (EMIS) at the Ministry of Religious Affairs Office of Malang Regency, located on Jalan Kolonel Sugiono, Gadang District, Malang City. The main objective is to analyze how EMIS contributes to enhancing administrative effectiveness within the institution. Specifically, the study seeks to provide a comprehensive understanding of the Education Management Information System (EMIS), examine its implementation process at the Ministry of Religious Affairs Office of Malang Regency, and assess its role in supporting the institution's overall performance. Furthermore, the study aims to identify and analyze the weaknesses or challenges encountered in the implementation of EMIS, offering insights into areas that require improvement to optimize the system's functionality and impact on organizational performance.

METHOD

This study employed observation and literature review methods, as commonly used in similar research. Data were collected through interviews with representatives of

the Ministry of Religious Affairs of Malang Regency and through library research involving reading, recording, and analyzing relevant sources. A descriptive qualitative approach was applied, emphasizing the quality and depth of data rather than statistical analysis. The researcher used both interview and literature review techniques. The literature review involved gathering written information from books, journal articles, and credible online sources that supported the research focus. The study was conducted at the Ministry of Religious Affairs Office of Malang Regency, located at Jalan Kolonel Sugiono No. 266, Gadang District, Malang City, East Java Province.

This research utilized both primary and secondary data. Primary data were collected directly through observations and interviews with EMIS application operators in the Madrasah Education (Pendma) Section of the Ministry of Religious Affairs Office of Malang Regency. Secondary data were derived from various relevant documents, including organizational profiles, governance structures, geographic information, and activity plans. The data sources comprised key informants, namely EMIS application operators in the Pendma Section who provided essential and relevant information for the study; supporting informants, who offered additional explanations and continuous insights related to the research focus; and documentary materials such as written archives and photographs that supported the analysis of EMIS data processing activities within the institution.

FINDINGS AND DISCUSSION

Findings

The development of the Education Management Information System (EMIS) by the Ministry of Religion is entering the stabilization stage. Carrying the name EMIS 4.0, this system has begun to be rolled out for operators to use in the process of updating religious and religious education data. "EMIS 4.0 is an education data collection system managed by the Ministry of Religion, which is currently conducting revitalization and development to present a better and more reliable system supported by more advanced technology and several new breakthroughs," explained the Curriculum Director, Madrasah Facilities, Institutions and Student Affairs (KSKK), M Ishom, in Jakarta, Sunday (23/5/2021). According to him, EMIS 4.0 has started to be released in April 2021 for data updating. A number of provinces have almost completed the process of updating their data. Central Java, for example, has 97.7% of the data improvement process in EMIS 4.0. East Java has also reached 80%.

Table.1 Total percentage for the data updating process in the EMIS 4.0 application

No.	Province	Percentage
1.	Central Java	97.7%
2.	East Java	80%

"These two provinces are among the areas with the largest number of madrasas in Indonesia," he said. However, as a new system, Ishom admits that a stabilization process is still needed in the form of optimizing server configurations and also optimizing applications. During this stabilization process, suggestions, input, and feedback from users, both positive and negative, are certainly very welcome.

Head of Sub-Directorate for Institutional KSKK Madrasah Abdullah Faqih added, to ensure this stabilization process, his party has formed a "Support Team" consisting of Live Agents (Help Desk Officers) and also Special Programmers. This team is led by a Team Leader who is specifically assigned to coordinate the communication process with users and the system improvement process. In addition, the "Madrasah Digital Care" service has also been prepared which allows Madrasah Operators to access Chatbot Services or consult directly with our Live Agents that can be accessed via Whatsapp Service: 0811-4740-2020. "We have actually anticipated and calculated this stabilization process, so we allocated 3 months for this stabilization process," explained Faqih, who is also the Head of the Project Management Unit Realizing Education's Promise - Madrasah Education Quality Reform (PMU REP-MEQR). "We are targeting this stabilization process to last until the end of June 2021. Thus, on the 3rd Sunday of June 2021, the implementation of EMIS 4.0 will be stable," he continued.

The stabilization process for three months, said Faqih, is based on the awareness of the various technical experiences experienced by users. Because, as a newly developed system, sometimes maintenance still has to be done. Moreover, understanding of the system is also not evenly distributed for all madrasah operators.

To increase the understanding and capacity of Madrasah Operators regarding the implementation of this new system, the Ministry of Religion through the PMU REP-MEQR has conducted several online trainings. Training has been given to 7000 User Champion / EMIS Operators at the Provincial and Regency / City levels. The Ministry of Religion has also made a Guide / Manual in the form of soft copy documents and video tutorials that can be accessed through the EMIS 4.0 Page (<https://emis.kemenag.go.id>). "Also many Madrasah Operators have made EMIS 4.0 Tutorial Content on their respective Youtube Channels," he explained.

However, Faqih considers that the online training model is not yet fully effective. This fact is also inseparable from the diversity and complexity of madrasa human resource capacity. Therefore, the REP-MEQR PMU will carry out a Blended (Online and Offline) Technical Guidance for the Implementation of EMIS 4.0 for EMIS User Champions and Madrasah Operators. "This is planned to be carried out from July to August 2021. Currently, it is still in the LSP tender process," he said.

Discussion

Understanding EMIS (Education Management Information System)

EMIS (Education Management Information System) is an appropriate

administrative method in providing appropriate and usable learning data so that the direction, preparation, project improvement, and Education management functions can be carried out effectively. In another sense, EMIS is the coordinated collection of data and documentation in completing the selection, storage, handling, inspection, and dissemination of data used for education planning. An EMIS system is used to organize a wealth of instructive information and data that can be read, recovered, handled, investigated, and introduced and disseminated.

The essence of the above understanding is to train an Education management information system framework that regulates educational data to be stored, managed, analyzed, and used in Education navigation. As Charles argues the following: "An assortment of parts paris incorporates information sources processes results and feed backs that are coordinated to achieva a particular goal. It is a framework for dealing with a huge collection of information and data that can be promptly recovered, handled, broken down, and made accessible for use and spread. It is a tool that utilizes framework hypothesis, along with improvements in computerization, to make a far reaching way to deal with the assortment and utilization of enormous amounts of data on the schooling and preparing framework""

Based on the quote above, the researcher can explain that emis is a collection of input and feedback process output components that are integrated to achieve something objective. EMIS is a system for compiling data and information that can be recovered, handled, investigated and accessed for use. EMIS is a tool for using systems theory, the result of mechanical improvements, to create an approach that extends to the object and use of broad values of review in training and education systems.

According to Sondang P. Siagian, data within a Management Information System (MIS) is processed through four main stages: data collection, data analysis, information storage, and information dissemination. In line with this framework, the sequence of data processing and analysis in the Education Management Information System (EMIS) generally follows several systematic steps. The first stage is the sorting of instruments, which involves counting and selecting submitted instruments to prevent duplication—since madrasas or Islamic boarding schools sometimes send identical data more than once. The second stage is data input, where information from statistical instruments is entered and stored in a database using pre-designed information management software. The third stage, data validation, involves re-examining the recorded data within the database to minimize potential errors before presentation. The fourth stage focuses on creating charts and statistical table formats, in which information is organized and displayed visually in the form of graphs and tables according to analytical needs. The final stage is interpretation, where the presented data are analyzed and explained to provide a clearer and more comprehensive understanding of the information

Furthermore, the information obtained was reviewed, analyzed, and compiled into a narrative form to comprehensively describe all relevant findings. Based on the results of research on the implementation of the Education Management Information System

(EMIS) at the Ministry of Religious Affairs Office of Malang Regency, several key points can be identified.

First, there are delays in the process of collecting student documents such as Family Cards (KK), Parents' Identity Cards (KTP), and Birth Certificates, which are required for data entry into the EMIS dashboard. Second, the system still faces limitations in supporting infrastructure, particularly in terms of server access. The EMIS platform continues to rely on the AFE (EMIS Feeder Application) system, which is constrained by its inability to operate continuously for 24 hours and frequently encounters errors during periods of high user activity. Additionally, access to the EMIS application link remains conditional, as it is often only available during specific input periods. Consequently, data correction cannot be performed outside those periods, restricting operators' ability to independently update or manage information when the link is closed.

To address these challenges, the Ministry of Religious Affairs has undertaken system improvements through the development and release of EMIS 4.0. The Ministry has also established an online complaint service to assist EMIS managers and madrasah operators in reporting technical obstacles by completing online forms provided by the Ministry. Moreover, there is a need for continuous guidance and training for madrasah operators to ensure they are well-informed about the latest EMIS updates. Finally, following the release of EMIS 4.0 in April, it is recommended that the Ministry of Religious Affairs organize a structured and phased socialization program for Islamic educational institutions to enhance understanding and optimize the use of the updated system.

Application of the EMIS Application in processing Islamic Education data at the Ministry of Religion of Malang Regency

Based on the research results, the main purpose of making EMIS is to facilitate the process of processing information and utilizing the results. If these objectives have been met, then EMIS has become a successful system. The Ministry of Religion of Malang Regency also applies EMIS with the aim that madrasahs under the auspices of the Malang Regency Ministry of Religion can be more fluent in informing the development of their Madrasahs. Because all this time, before the existence of EMIS (the old system) it was quite troublesome to know the latest and latest developments (updated) from these madrasahs in Malang Regency.

From the data above, it is clear that the main purpose of EMIS is to facilitate the information processing and utilization of the results. The Ministry of Religion of Malang Regency applies EMIS so that madrasahs under the control of the Malang Regency Ministry of Religion can more easily inform the development of madrasahs.

This is in accordance with the theory of Soetedjo Moeljodihardjo who said that a management information system is a method that produces reliable information for environmental management inside and outside an organization, with the hope of

supporting decision recovery in order to improve preparation and control. The flow of data processing with EMIS is based on research results, starting from educational institutions entering data via the EMIS application. The account of each institution that is applied is made by the Office of the Regency / City Ministry of Religion. The data that has been inputted is then checked for correctness by the Regency/City Ministry of Religion.

If the data is appropriate and complete, the Regency/Municipal Ministry of Religion approves the approval of the data inputted by the institution. The data will automatically be detected and monitored on the Ministry of Religion's Regional Office account and the Central Ministry of Religion's account, then the data is processed. The results of processing the data with the EMIS are used or utilized by Madrasahs and the Ministry of Religion to become information material in regulating or managing educational institutions.

Apart from Madrasahs and the Ministry of Religion, these data can be accessed by other parties such as the Ministry of National Education, Ministry of Social Affairs, and other Ministries through applications that are synchronized with EMIS. So that the data can be used by these parties to be used as a source of data at the institution, for example, such as BOS data collection, educational aids, and so on.

The explanation of the results of the research is satisfactory with the processing activities according to Zulkifli Amsyah. According to Zulkifli, processing activity is the process of changing form (data) into another form (information). As raw materials are transformed into finished goods in a manufacturing process, so are raw data transformed into information through data processing activities.

Processing Islamic education data before using EMIS is impractical. Because it is still done manually, the results take a very long time to process the data. The data obtained is also often inaccurate and not updated and the data is not concise. It is different when EMIS has been applied to help process data. After processing Madrasah data using EMIS, the data processing process becomes fast, so that the resulting data is accurate, updated, and concise.

EMIS has the advantage of facilitating data processing activities because it uses technology and internet networks, so that operator performance and performance are maximized. The data obtained is fast and accurate, so that the Pendma section at the Ministry of Religion can work in an organized manner. That way the Ministry of Religion can have valid and up-to-date data on madrasahs in the Ministry of Religion's jurisdiction. For Madrasahs, EMIS also has the advantage that it can provide data that can help Madrasahs make decisions to build schools, get assistance in the form of funds, Madrasahs are easier and more effective in managing Madrasah data. The shortcomings of EMIS that are felt by both Regency Ministry of Religion operators or Madrasah operators are when EMIS is used by institutional operators, district/city operators,

Constraints that exist in the Education Management Information System are problems in human resources and internet networks in several areas. In some Madrasahs, the human resources, namely madrasah operators, still find it difficult to use EMIS

because they lack the ability to use technology. And in certain areas such as remote areas (remote areas) difficulties in the internet network (internet signal). This is indeed a problem that is often faced in implementing technological developments to assist management. So that the Pendma of the Ministry of Religion of Malang Regency held a joint input in a place that has a very good internet network. Another obstacle is the frequent occurrence of maintenance (maintenance on the server), EMIS earlier than notification of maintenance.

CONCLUSION

EMIS is a formal governance process on all school data that is clear and detailed, which has taken several steps to make it more practical. In another sense, EMIS is a collection of data through archives that have been organized in carrying out several processes used in school governance. In this EMIS, the aim is to compile more educational data to be read, retrieved, observed, provided and distributed.

The essence of this understanding is something about education that coordinates information to be stored, managed, analyzed, and used to make educational decisions. From the acquisition of research on Education Management Information Systems (EMIS) at the Ministry of Religion, Kab. Malang, it can be stated as follows: Student file collection; Family Cards (KK), Identity Cards (KTP) of Parents, and Student's Birth Records that will be inputted on the EMIS dashboard still have time delays / are less efficient.

Slightly adequate supporting facilities, channels are difficult to reach, for example the EMIS network is fixed with the AFE (EMIS Feeder Application) system currently still has the disadvantage of not being able to access for 24 hours and errors when it is exceeded by users and the contemporary EMIS website can only be used when EMIS data entry where the data cannot be repaired and the Operator cannot develop/establish independently when the link is closed.

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