

Implementation of Management Information Systems to Enhance Educational Quality (Case Study at SMP Negeri 11 Lhokseumawe)

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DOI: <https://doi.org/10.47766/idarrah.v6i1.177>

ABSTRACT

HISTORY

Received

05 January 2022

Revised

20 May 2022

Accepted

26 June 2022

Keywords

Educational Service;


Management

Information System;

Quality of Education;

The quality of education remains a concern in education that must be remedied. Through the adoption of management information systems (MIS) in schools, emphasis is placed on the quality of education. Therefore, constructive endeavors and methods are required. This study is to investigate the role of school management information systems in enhancing the quality of educational services. This research makes use of a qualitative, descriptive methodology. The investigation was carried out at SMP Negeri 11 Lhokseumawe. Principals, instructors, heads of TU, operators, students, parents, and members of the community were the primary sources of information for this study. The results demonstrated the usefulness of implementing management information systems from the perspectives of goals – input – process – output in enhancing the quality of education services at SMP Negeri 11 Lhokseumawe. The operational focus of MIS is on enhancing teacher data management data, student data, Sarpras data, payment data, digitization and accountability of school finances, student education financing processes, and teacher and employee attendance systems. The implementation of the MIS is also affected by a number of impediments, such as the competency of human resources, the availability of facilities and infrastructure, and the availability of operational money. While supporting factors such as the formalization of objectives, priority programs for human resource development, the quality of student input, school management, organizational structures, and institution-level systems are also important, the formalization of objectives and programs for human resource development is the most important.

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 : <https://doi.org/10.47766/idarrah.v6i1.177>

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ABSTRAK

Kata Kunci:

*Mutu Pendidikan;
Pelayanan Pendidikan;
Sistem Informasi
Manajemen;*

Mutu pendidikan masih menjadi problematika pendidikan yang harus diselesaikan. Orientasi terhadap mutu pendidikan dilakukan melalui implementasi sistem informasi manajemen di sekolah. Untuk itu diperlukan upaya dan strategi yang bersifat konstruktif. Penelitian ini bertujuan mengeksplorasi implementasi sistem informasi manajemen sekolah dalam meningkatkan mutu layanan pendidikan. Metode yang digunakan di dalam penelitian ini adalah kualitatif dengan teknik deskriptif. Penelitian dilakukan di SMP Negeri 11 Lhokseumawe. Informan utama dalam penelitian ini adalah kepala sekolah, guru, kepala TU, operator, peserta didik, orang tua dan masyarakat. Hasil penelitian menunjukkan bahwa efektivitas implementasi sistem informasi manajemen dari aspek tujuan (*goal*), masukan (*input*), proses (*process*), dan keluaran (*output*) dalam meningkatkan mutu layanan pendidikan di SMP Negeri 11 Lhokseumawe. Secara operasional praktek SIM terfokus pada aspek perbaikan data pengelolaan data guru, data peserta didik, data sarana prasarana, data pembayaran, digitalisasi dan akuntabilitas keuangan sekolah, proses pembiayaan pendidikan peserta didik, sistem kehadiran guru dan karyawan. Pelaksanaan SIM juga dipengaruhi beberapa faktor penghambat seperti kompetensi SDM, sarana dan prasarana, dan dana operasional. Sedangkan faktor pendukung seperti formalisasi tujuan, program prioritas pengembangan SDM, kualitas input peserta didik, manajemen sekolah, struktur dan sistem organisasi lembaga.

INTRODUCTION

This research is motivated by the fact that individuals continue to believe that the quality of education services is subpar. Efforts are therefore required to enhance the quality of education services (Rahmawaty & Narsa, 2022). It is anticipated that the implementation of an IT-based Management Information System will assist in enhancing the quality of educational services (Vaiz & Altnay, 2017). Government initiatives to increase the quality of human resources have included curriculum development, curriculum reform, evaluation methods, upgrading of educational facilities, development, procurement of teaching materials, and teacher and other education staff training. The reality, however, is insufficient to increase the quality of educational services (Mahfud, 2019).

One of the most significant obstacles to increasing the quality of education in Indonesia is the poor quality of education services at all levels of official and informal schooling (Giatman et al., 2020). This is the reason for the low quality of human resources with the knowledge and skills necessary to contribute to the nation's development in numerous fields. Utilizing a management information system (MIS) is one measure that may be used to improve the quality of education services (Fenech et al., 2019). MIS is a systematic method for managing electronic data. A management information system is a crucial component of all educational, instructional, and research programs at all scientific institutions.

The primary function of a management information system is to deliver data and information rapidly, on time, in a timely way, on target, comprehensively, flexibly, reliably, and clearly to its users without allowing for multiple interpretations of the information (Farazmand, 2018). Information is utilized to streamline decision-making processes, establish policies, prepare strategies, and perform routine chores, among other applications. The development function entails an attempt to establish a management information system so that future service functions can be maintained and enhanced (Habibi, 2020; Ilham, 2021; Samosudova, 2017).

Management is a system that can make the management system within the faculty that manages the study program work efficiently (Prasetyo et al., 2021). Management focuses on how policies and strategies are organized to provide for the election of credible leaders and managers, as well as a system for conducting study programs that is credible, transparent, accountable, responsible, and adhere to the ideals of justice. Competent management and organizational system (good governance) demonstrate trust, openness, accountability, responsibility, and fairness (Magno & Serafica, 2001).

A system is a collection of interrelated procedures used to carry out an activity or achieve a specific objective. Jogiyanto and Turban divides the system into three parts: input, process, and output (Jogiyanto, 2017). They exist in an environment and frequently have feedback systems. All of the items that enter the system are included in the input. The process contains all of the pieces required to convert or transform inputs to outputs. The final products or consequences of a system are referred to as outputs. And the system's environment consists of various factors that go beyond the scope of the system's comprehension and are not inputs, outputs, or processes.

The advantages of a school management information system include improved control of the teacher and student attendance, improved management of instructors and students, improved reporting, and improved teacher administration.

The education of the future responds to the problems of global competition and cooperation. The National Education System must make changes and adjustments to create a more democratic education process, pay attention to the region's and students' diverse needs/conditions, and encourage wider community participation. Education in the current globalization era, which is distinguished by the advancement of information and communication technology, necessitates adjustments to the educational system, such as advances in modern and professional education administration with educational nuances (Shaturaev, 2021).

On the other hand, improvements in science and information technology have altered the Indonesian people's outlook and way of life in carrying out their activities (Susanti et al., 2022). The presence and importance of information technology in the education system have ushered in a new age in the growth of our educational world, but these advancements have not been matched by an increase in human resources, which decide the success of Indonesian education in general. This is because our human resources are still falling behind

in terms of incorporating information technology into the educational process. School Management Information Systems are all of the interactions that occur between elements in the academic environment to produce information that is subsequently used as the foundation for making choices and carrying out actions, both by the perpetrators of the process and by those outside the school.

The use of management information systems in educational institutions is critical because, in the face of global competition, educational institutions must give information more promptly, precisely, and conveniently, as part of the quality of service, to gain a competitive edge. (Sinen, 2017). To improve educational services, we must adopt the function of a management information system. Schools can employ a management information system to deliver accurate, relevant, and timely data display. Based on the information integrated into the management system, the management information system can automatically assist in providing information to interested parties in a timely and accurate manner (Muhafidin, 2020).

Educational management information systems are schools that have a dependable system for converting data into valuable information for making management choices, both regular and strategic. says that the study's findings show that the usage of management information systems and decision-making techniques has a considerable impact on decision-making efficacy, as indicated by the very high score calculation of each research variable.

In another sense, an education management information system is a system designed to offer information to help management decision-making (Rochaety, 2009). The elements/components of a system must, of course, be well-coordinated with one another to accomplish the desired results. In a nutshell, all information systems perform three fundamental functions. These operations involve receiving data as input (input), processing the data by conducting computations, integrating data pieces, updating accounts, and so on, and finally receiving information as output (output) (output). Utilization of concepts and tactics utilized in offering information-based services to educational institutions. In many fields, information processing applications are referred to as MIS (Management Information System) or SIM (Management Information Systems).

To help operational activities in educational institutions accomplish their aims and objectives. Educational institutions will profit from the presence of a management information system in the following ways: first, the availability of an educational data and information management system. Second, is the incorporation of educational data and information to aid in decision-making. Third, all stakeholders with an interest in education should have access to complete educational data and information. To construct a management information system at SMP Negeri 11 Lhokseumawe, the basic conceptual framework plan, which comprises goals, inputs, procedures, and outputs, must be followed.

The topic in this article is about how the use of education management information systems in the school environment at SMP Negeri 11 Lhokseumawe is predicted to bring

benefits to learning theories that can make learning activities more effective and conducive to learning in two directions.

The goal of this study is to be able to implement a school management information system to eliminate the hurdles encountered so that the process of implementing a school management information system to improve the quality of education services can be carried out effectively. This study employs a descriptive method with a qualitative approach. The study's resource people included school administrators, teachers, TU heads, operators, students, parents, and members of the community.

METHODS

This study employs qualitative descriptive research. Bogdan and Tylor define qualitative research as a process that generates descriptive data in the form of written or spoken words or observed behavior from individuals. The descriptive qualitative method modifies the researcher's and informant's perspectives. This method was chosen because the study could not be expressed numerically, and the researchers explained all community-related occurrences in detail (Moleong, 2010). This research was completed quickly by the plan outlined above to collect comprehensive data. The information gleaned from the interview and observation procedure will be provided in the form of a description employing simple language.

RESULT AND DISCUSSION

Before the researcher describes the outcomes of the performed research, there are several previous studies gathered via the examination of research publications that may be used as a point of comparison and as a basis for a later, more precise analysis. According to research conducted by Rahmi Sonia (Sonia, 2020), MAN 2 Ponorogo implements a management information system by empowering the SIMPATIKA application (Information System for Educators and Educational Staff of the Ministry of Religion), the e-learning application, the BNI eduPATROL application, the fingerprint application, and the web. acceptance of new students. Where the implementation is supported by the cooperation of multiple parties, the administration of management information systems proves to be useful in the provision of academic services, which MAN 2 Ponorogo formerly provided manually. Each of these systems has its functions and benefits, ranging from administrative management to facilities for the learning process to financial management to services for parents.

According to research by Zamroni and Bahrul, management information systems are vital in educational institutions. Because the deployment of the system will have positive effects on schools, including assisting the learning process, offering optimal educational services, and providing learning support facilities by integrating computers into the technology infrastructure (Baharun et al., 2021). The following study, conducted by Faizal

in 2021, found that management information systems can facilitate the usage and processing of optimal educational data by institutions. During the Covid-19 epidemic, the management information system aids facilitate online learning (Faizal et al., 2021). In addition, many individuals have profited from the existence of a management information system, including more flexible schedules, and reduced round-trip expenses (Utaminingsih et al., 2017). Next is a study by Majir et al. that discusses how school institutions enhance the quality of education by employing technological advances in a variety of activities during the current Covid-19 pandemic (Majir et al., 2022). By installing a management information system, educational institutions attempt to provide better services. Through this technology, the learning process will be streamlined, and teachers and students will have easy access to school information.

Then, a study by Abdullah et al. reveals how the Information System for Educators and Education Personnel of the Ministry of Religion manages the usage of madrasah management information systems (SIMPATIKA) (Abdulloh, 2019; Sonia, 2020). Where the application is quite useful for the administration of educators and education personnel who are required to give services that are quicker, preciseness, and comfortable. In addition, the authors suggest that the implementation of management information systems is a significant factor in the competitive advantage of the present day. The deployment of this management information system must be prioritized to increase the quality of educators and education personnel following the standards of educators and education, despite the presence of some remaining difficulties (Istikomah, 2020). Similarly, a study by Muhammed et al, describes how to utilize an Android-based management information system to support school services. Currently, Android-based management information systems have a great deal of potential. This is because the rapid growth of technology has increased the number of people who use mobile phones, laptops, and tablets (Mohammed et al., 2021). This is the most important aspect of developing an Android-based management information system for educational services.

In addition, (Mayasari et al., 2021) provides an academic management information system that is developed beginning with the planning, implementation, and assessment phases. It is implemented directly by the Academic Management Information System Team under the direction of the principal and the head of Administration as the responsible party. Through the planning, implementation, and evaluation process, the implementation of the management information system can be reviewed, beginning with the determination of the system's objectives and required actions and progressing to the evaluation of the system's value and growth. After completing these steps, the adoption of an improved management information system will yield the desired benefits.

In addition, research by Auld (Auld & You, 2019; Ilham & Rahmat, 2021) indicates that the use of information technology in the implementation of management information systems has expanded significantly due to its efficiency and efficacy (Mukhtar, 2021; Zidane & Olsson, 2017). In its implementation, the management information system is utilized to set school objectives, formulate strategic plans, distribute resources, and assess staff

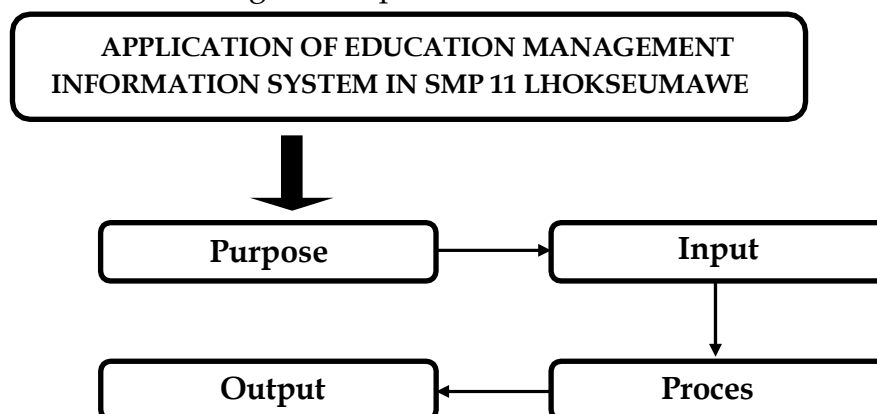
performance and institution success. Then, according to research (Indrayani, 2013), a good, efficient, and easily available data management process is a kind of openness in an institution's good management information system. In addition, the establishment of a management information system requires the disclosure of any information or works that must be made public.

The results indicated that the used school information system was viewed from the perspectives of goals, inputs, processes, and outputs, which could support the implementation of school management information systems in improving the quality of education services at SMP Negeri 11 Lhokseumawe. Both in terms of the availability of people resources, infrastructure, and financial resources. For the management of teacher data, student data, samples data, student education fee payment data, and the attendance system, human resource knowledge, HR goals and priorities, student availability, school management support, the existence of structures and schedules, and the implementation of educator content and capabilities are carried out.

The deployment of the Management Information System (MIS) at SMP 11 Lhokseumawe significantly impacts the organization's daily performance, management performance, and the fulfillment of obligations associated with organizational assets. Management Information System implementation can increase the quality of information management, provide access to factual information, provide positive feedback on standardized quality services, and manage and become an effective and efficient communication medium for schools.

A SIM's workflow consists of a continuous process flow from planning through feedback. This process begins with the planning of the goal standard, followed by the entry of data. Then, continue with the process of data processing. The outcomes of processing are fed back to standard planning. If the plans and standards are satisfied, send the results to management to evaluate the MIS work process, which will then be repeated as necessary.

Figure 1: Application of SIM Education



Every implemented system has a purpose (goal). This objective is the impetus for directing the system. Without a purpose, the system becomes aimless and out of control. The objectives of each system are distinct. Therefore, the Management Information System that will be or has been established at SMP Negeri 11 Lhokseumawe has a clear direction, allowing the MIS implementation objectives to be met successfully and efficiently. The steps of implementation must pass through the input system, where everything that enters the system gets processed material, once the objectives have been established. Inputs may be corporeal (physically evident) or intangible entities.

The process is the element of the system that changes or transforms inputs into useful and more valuable outputs, hence it is a crucial step in achieving the system's objective. The conceptual aspect of constructing a management information system concludes with the output, which is the result of processing. In a management information system, the output can be in the form of information, suggestions, printed reports, or a new system from the results of a process, whether in physical form or in the form of data that will serve as a reference in efforts to improve and employ management information systems to enhance the quality of education in the region. at SMP Negeri 11 Lhokseumawe.

Observations and interviews with school stakeholders revealed that the principal is still responsible for all data processing in the school environment, which is technically performed by the operator and the assistant principal. The activities of entering and processing student grade data have been performed directly by operators who were verified by the principal before being entered.

The application of the education management information system is meant to facilitate the management of school-related data and information, including new student admissions, academics, report cards, and counseling, and to provide an interactive platform between schools and parents or guardians of students. SMP Negeri 11 Lhokseumawe has leveraged all available resources and infrastructure as a steppingstone for the implementation of education management information systems.

Thus, the management of the information system that has been implemented at SMP Negeri 11 Lhokseumawe is in line with the provisions, given that the management of the information system is an integrated machine/human system. This indicates that machines and humans must function as a system; machines without humans or humans without machines are insufficient. It will be a Management Information System flaw if the management information system does not function or if one of its components is destroyed.

The function of information system management as defined above is to facilitate management operations and decision-making. It implies that operations management will benefit from the management of information systems, specifically in terms of the value of effectiveness and efficiency according to the (Bearfield et al., 2020) of Administration entry by Suhardiman Yuwono (Yuwono, 1978).

In addition, the following conditions must be met while establishing a Management Information System: Initially, the information system must adhere to formal and informal considerations. The information system must then pick the internal and external data

required by the organization. Thirdly, the information system must function as a mechanism for communication between information sources and decision-makers. Fourth, the information system must have the capacity to store data that is not immediately utilized or that is required more than once. Fifth, the information system must have the capacity to transform raw data into decision-making-relevant information. Sixth, the information system must serve as a means of communication between the decision-maker and the individual responsible for carrying out the decision. Seventh, the information system must generate content that can be read and comprehended by the intended audience.

The primary goal of a management information system is to give users data and information promptly, on time, on target, comprehensively, flexibly, dependably, and in a manner that does not lend itself to multiple interpretations of its usage. Information is used, among other things, to streamline decision-making processes, develop policies, create strategies, and execute routine operations. The development function entails fostering a management information system to preserve and enhance its service functionalities in the future (Balitbang Dikbud: 1993: 6).

In addition, according to Balitbang Dikbud (1993:6), the following requirements must be met to establish a Management Information System: The information system must first adhere to formal and informal aspects. Second, the information system must pick the necessary internal and external data for the organization. Thirdly, the information system must function as a means of communication between information sources and decision-makers. Fourth, the information system must contain storage for data that is not immediately used or data that is required multiple times. Fifthly, the information system must have the capacity to transform raw data into information that can be utilized in the decision-making process. Sixth, the information system must be a mechanism for communication between the decision-maker and the person who will implement the decision. Seventh, the information system must generate comprehensible and readable content for the intended audience.

Specifically, the development of an education Management Information System can provide improvements in the quality of education services, namely, consideration of policymaking on the customer satisfaction process in determining the fulfillment of education quality standards that include main services and other services, so that the quality of education can be improved and all activities can be accomplished. successfully and productively

Therefore, resources such as human resources, hardware resources, software, and the process of transforming data into information at SMP Negeri 11 Lhokseumawe synergize to aid in the management process and can aid in the formulation of effective and efficient decisions. efficient. The deployment of Information Systems at SMP Negeri 11 Lhokseumawe can contribute to the organization's day-to-day performance, management performance, and the fulfillment of obligations about organizational assets. The application of the Integrated Management Information System at SMP Negeri 11 Lhokseumawe is

capable of improving the quality of information management, providing access to factual information, providing positive feedback on standardized quality services, and managing and becoming effective and efficient communication media for schools, including the school website.

CONCLUSION

Excellent implementation of the school management information system at SMP Negeri 11 Lhokseumawe to improve the quality of education services. Because all parts that have been envisioned to improve the quality of education services via the use of a management information system are highly targeted and consistent with the primary goals. This is the foundation for implementing objectives, inputs, processes, and outputs that are planned to operate successfully and efficiently. To enhance the quality of information management, offer access to factual information, provide positive feedback on standardized quality services, and manage and become effective and efficient school communication media.

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