



IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)

Nur Aidar¹, Hizir², Ismail³

¹Master of Educational Administration Program, Postgraduate School, Universitas Syiah Kuala, Banda Aceh, Indonesia.

²Departement of Statistics, Faculty of Mathematics and Natural Sciences, Universitas Syiah Kuala, Banda Aceh 23111, Indonesia.

³Educational Administration Master's Program, Universitas Syiah Kuala, Darussalam, Banda Aceh 23111, Indonesia.

Correspondence Author: aidar.nuraidar81@gmail.com

Abstract

The rapid growth of information technology in recent years has also impacted all institutions, including educational institutions such as schools. As a system expected to enhance educational services, the function of management information systems involves formal activities in collecting, processing, and disseminating information to individuals within an organization. The purpose of this research is to provide an overview of the implementation of a school management information system in enhancing academic services at Tunas Bangsa Excellent Public High School. The focus of this research is: 1) How data collection of the school management information system improves academic services at Tunas Bangsa Excellent Public High School, 2) How data processing and storage of the school management information system enhance academic services at Tunas Bangsa Excellent Public High School, 3) What are the obstacles in implementing the school management information system to enhance academic services at Tunas Bangsa Excellent Public High School, 4) How the school management information system is utilized to enhance academic services at Tunas Bangsa Excellent Public High School. This research was conducted qualitatively using a case study research design. Data collection techniques included interviews, observations, and documentation. Data validity was ensured through careful observation and triangulation testing. The subjects in this study included the school principal, vice principal for student affairs, administrative staff, and school operators. Findings from the research are as follows: (1) Data collection of the school management information system to enhance academic services at Tunas Bangsa Excellent Public High School is conducted through the website program and the e-Report application program, (2) Data processing and storage of the school management information system to enhance academic services at Tunas Bangsa Excellent Public High School are still not optimal because some menu options on the website cannot fully utilize their data, (3) Obstacles in implementing the school management information system to enhance academic services at Tunas Bangsa Excellent Public High School include insufficient resources to implement the system, (4) Factors supporting the utilization of the school management information system to enhance academic services at Tunas Bangsa Excellent Public High School include human resources, facilities, the website, and the specialized e-Report application.

Keywords: *Implementation, Management Information System, Academic Services*

1. INTRODUCTION

Education is a human interaction process that can only be categorized as successful if every network within it operates according to plan to achieve predetermined goals, both organizationally at a school unit level and as nationally planned. The implementation of a structured education process will yield a quality generation capable of building themselves and a better society.

IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)*Nur Aidar¹, Hizir², Ismail³*

The rapid development of information technology today also impacts all institutions, including educational ones such as schools. Nowadays, many schools are utilizing management information systems in their organizational management. As a system expected to enhance educational services, the function of management information systems involves formal activities in collecting, processing, and disseminating information to individuals within an organization. By providing a good information system service, it significantly influences the quality of education itself. School management is the most important factor in organizing education and teaching at schools; a school's success is measured by its achievements. Therefore, in conducting education at schools, a system involving related components such as teachers, administrative staff, students' parents, the community, government, students, and others must be used.

Schools, as part of an educational institution, must always provide the best service to the wider community because the existence of schools close to the community reflects the needs and pride of the community. Schools, as organizations in development and goal achievement, must adhere to guidelines and directions for educational development. Therefore, it is considered necessary to have information media capable of being a means of communication between them. The advancement of information system technology makes educational institutions need to improve their competitiveness. Information system technology greatly facilitates and accelerates meeting school needs, thereby satisfying customers and improving service quality. In line with current technological developments, School Management Information Systems (SIMS) have also evolved, facilitating all education stakeholders, school leaders, teachers, school administrative staff, students, and even parents and the community in accessing information. As SIMS develops alongside instructional technology, it has made it easier for all parties to manage education and teaching systems. When someone knows how to obtain (information) and is skilled in distributing it, that's when a school's SIMS can be implemented effectively.

Other data indicates that long before computer technology, Management Information Systems (MIS) were used by organizational or company leaders to facilitate a unit of activities/endeavors to store, operate, and distribute information. However, decision-making processes at that time were still very simple and not as fast as they are now. Everything was still done manually and slow because all data was stored in various archive sheets. With the Management Information System in the field of education at a school, it will make the school organization more competitive in improving the quality of education and providing the best educational services to the community, competing with similar institutions domestically and internationally.

School Management Information Systems are planning systems within institutions and are useful for facilitating staff in managing various school management and administrative activities that can be accessed online. School Management Information Systems are generally used to facilitate all activities within an institution, making it easier for all parties involved with the institution to interact. All information related to the institution can be easily and validly accessed. Without having to come to the location, everything can be accessed online through various devices such as PCs, laptops, tablets, mobile devices, and similar devices as long as they have access.

Education SIM as a planning process, organization, implementation, and supervision in managing resources in the form of man (Human), money (budget), materials, methods, machines, markets, minutes, and information to achieve effective and efficient goals in education. By understanding the education information system in a school, a school principal will be able to lead a school well. Once mastered, school leaders only need to prepare the substance in the form of data with various variations, while the framework or container can be prepared through computer technology. After examining the "basic" concept of Education SIM, efforts were made to examine the Implementation of School Management Information Systems at Tunas Bangsa Excellent Public High School to improve academic services at the school. Based on this, the author is interested in conducting research entitled "Implementation of School Management Information



Systems in Improving Academic Services (Case Study at Tunas Bangsa Excellent Public High School)".

2. IMPLEMENTATION METHOD

2.1 Research Approach

The research approach used by the researcher is a qualitative descriptive method. This method can be interpreted as a problem-solving procedure that investigates by describing the state of the research object at the present based on facts or as they are. The descriptive method focuses on finding facts as they actually exist.

This research employs qualitative research with a descriptive method because this approach is more appropriate for identifying the implementation of school management information systems at Tunas Bangsa Excellent Public High School, namely, how the data collection process, data processing and storage, and utilization of school management information system data at Tunas Bangsa Excellent Public High School. Data presentation is done by describing data in the form of words and language regarding everything related to the research object, namely, the implementation of school management information systems in improving academic services at Tunas Bangsa Excellent Public High School.

2.2 Research Location and Time

This research was conducted at Tunas Bangsa Excellent Public High School. This school is located on Nasional Street, South Korea Assistance School Complex, Ung Padang Village, Susoh Sub-district, Southwest Aceh Regency, Aceh Province. The reason the researcher chose Tunas Bangsa Excellent Public High School as the research location is that, in the researcher's opinion, the implementation of school management information systems at Tunas Bangsa Excellent Public High School is good, although there are still many shortcomings in various aspects, and the research location is quite accessible from the researcher's residence. The research was conducted from January 2024 to March 2024.

2.3 Research Subjects

Research subjects are data sources that provide clarity about the issues being studied. In qualitative research, only sources that provide complete and accurate information about several events, people, and observed situations are used as sources. The research subjects in this study are: the School Principal, Administration Staff, School Operators, and Representatives of the New Student Admission (PPDB) Team.

2.4 Research Instruments

The instruments used to collect data on the Implementation of School Management Information Systems in Improving Academic Services (a case study at Tunas Bangsa Excellent Public High School) are interview guidelines, observation guidelines, and documentation studies by asking questions formulated according to the research objectives to obtain answers that can be accounted for their validity and accuracy.

In qualitative research, the main instrument is the researcher himself/herself, but subsequently, after the research focus becomes clear, simple research instruments may be developed to complement data and compare them with data found through observation and interviews. Data in this study were collected using observation guidelines and interview guidelines.

a. Observation Instrument

Observation is used to obtain data on social situations consisting of place, actor, and activity. The researcher used observation guidelines for implementing technology-based learning at the school.

IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)

Nur Aidar¹, Hizir², Ismail³

b. Interview Instrument

Interviews aim to obtain data through direct question-and-answer sessions. Interviews were conducted with the school principal and senior teachers to find out How the New Student Admission Management (PPDB) Improves Education Quality in Southwest Aceh Regency.

2.5 Credibility Test

To test the credibility of the data so that the collected data are accurate and directly meaningful to the actions in the research, the researcher used the triangulation method. According to Sugiyono (2016:372), "triangulation is defined as checking data from various sources in various ways and at various times." Thus, there is source triangulation, data collection technique triangulation, and time triangulation.

The types of triangulation used in this study are:

- a. Source triangulation, which means obtaining data from different sources using the same technique. This can be illustrated as follows:

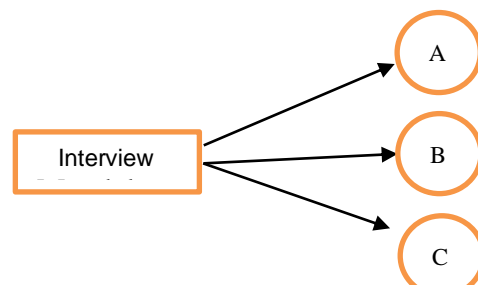


Figure 3.1 Data Collection Source Triangulation (source: Sugiyono, 2016:331)

In this case, the researcher conducted a data credibility test by cross-checking information about the implementation of school management information systems in improving academic services at Tunas Bangsa Excellent Public High School obtained from different sources.

- b. Triangulation technique, wherein researchers utilize different data collection methods to gather data from the same source. Researchers employ participatory observation, in-depth interviews, and documentation to gather data from the same data source.

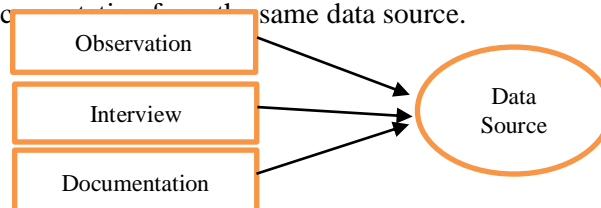


Figure 3.2 Triangulation Data Collection Techniques (source: Sugiyono, 2016:331)

In this case, the researcher employs three data collection techniques: observation, interviews, and documentation. These three techniques are utilized to ensure the validity or reliability of the data results.

2.6 Data Collection Techniques

Data collection techniques are methods used to gather data. Data collection techniques are crucial steps in research because the collected data will be the basis for research analysis. In qualitative research, data collection is conducted in natural settings and from primary data sources. The data collection techniques used in this research are observation, interviews, and documentation.



- a. Observation
Observation is a method of data collection involving direct observation of a research object and systematic recording. Arikunto (2019: 199) states that: "Observation, also known as observation, involves paying attention to an object using all senses. According to the data collection process, observation is divided into participant observation and non-participant observation." In this research, data is collected using non-participant observation techniques. Sugiyono (2018: 204) explains that: "Non-participant observation is observation in which the researcher is not directly involved and only acts as an independent observer."
- b. Interviews
According to Arikunto (2019: 155), "Interview is a dialogue conducted by an interviewer to obtain information from the interviewee." Esterberg (Sugiyono, 2021: 233) states that: "Interviews are classified into three types: structured, semi-structured, and unstructured." In this research, data is collected using semi-structured interview techniques. Semi-structured interviews combine free and structured interviews. The researcher conducts semi-structured interviews with a guideline that outlines the topics to be covered.
- c. Documentation
Documents are records of past events. Documentation is used as a complement to observation and interview methods. The documentation used includes pictures of student activities during learning, field notes, and written archives related to New Student Admission Management (PPDB) in Improving the Quality of Education in Southwest Aceh District.

2.7 Data Analysis Techniques

After data collection, the next step for researchers is to analyze the data. According to Sugiyono (2019: 244), "Data analysis is the process of systematically searching for and organizing data obtained from interviews, field notes, and other materials so that they are easily understood." Furthermore, Nasution (Sugiyono, 2019: 243) states that: "Data analysis begins with formulating and explaining the problem before entering the field and continues until the research results are obtained." However, in qualitative research, data analysis focuses more on the field process simultaneously with data collection. According to Miles and Huberman (Sugiyono, 2019: 246), "Activities in qualitative data analysis are conducted interactively and continuously until saturation is reached." The activities in data analysis include data collection, data reduction, data display, and conclusion drawing/verification.

- Data Collection
Data collection is a field activity to collect the necessary data for research. Data collection is carried out using planned data collection methods. During data collection, the data analysis process begins by reading, studying, and reviewing available data from various sources.
- Data Reduction
The amount of data obtained in the field is quite large and increases as the researcher spends more time in the field. Therefore, data analysis needs to be conducted promptly through data reduction. In this regard, Sugiyono (2019: 247) states that: "Data reduction means summarizing, selecting essential elements, focusing on important things, and searching for themes and patterns."
- Data Display
After reducing the data, the next step is to present the data. According to Sugiyono (2019: 249), "In qualitative research, data presentation can be done in the form of brief descriptions, diagrams, relationships between categories, flowcharts, and the like." According to Miles and Huberman (Sugiyono, 2019: 249), "The most commonly used

IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)*Nur Aidar¹, Hizir², Ismail³*

methods for presenting data in qualitative research are narrative texts, matrix graphics, networks, and charts."

- Conclusion Drawing

The next step is drawing conclusions and verification. The initial conclusions presented are still provisional and will change if strong evidence supporting them is not found in the next data collection stage. However, if the conclusions presented in the initial stage are supported by valid and consistent evidence when the researcher returns to the field to collect data, then the conclusions presented are credible.

3. RESULTS AND DISCUSSION

Management information system is a combination of information technology, processes, and people interconnected within an organization to collect, store, manage, and process data into information needed to support decision-making. According to Murdick (as cited in Rusdiana, 2018:12), "management information system is a group of people, a set of guidelines and equipment for data processing (a set of elements) selecting, storing, processing, and retrieving data (operating data and goods) to reduce uncertainty in decision-making (seeking common goals), by producing information for managers when they can use it most efficiently (producing information according to reference time)."

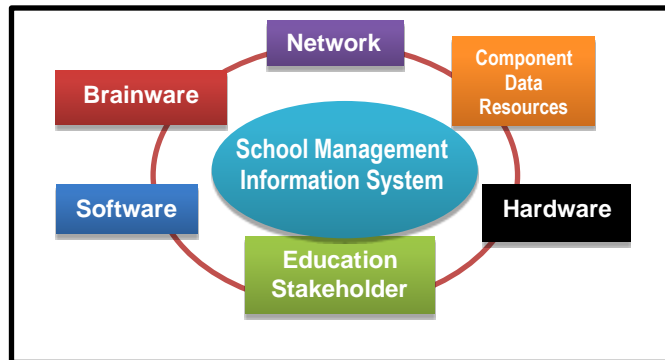
Cushing (as cited in Prasojo, 2013:9) states that "management information system is a collection of human and capital resources within an organization responsible for collecting and processing data to produce useful information for all management levels in planning and control activities." According to Dinasari (as cited in Samusu, 2022:250), "management information system is a formal method that provides timely, reliable information to management to support decision-making processes for planning, supervision, and operational functions of an organization more effectively."

From the above definitions, it can be concluded that management information system is a network of procedures for data processing developed within an organization and authorized when necessary to provide data to management for decision-making purposes in achieving objectives. Samusu (2022:250) states that "school management information system as an innovation in school management by utilizing information technology is a transformation from traditional governance, which is synonymous with physical administration, to electronic governance using technology." In a broader and comprehensive discussion, school management information system involves planning, development, management, and use of information technology tools to assist human resources in completing all tasks related to information processing and management in the field of education.

Management information system in the context of education has specific objectives to support the education management process at various levels, from school level to university level. According to Scott, G.M. (as cited in Rusdiana, 2018:8), "the purpose of building information in the form of Education Information System application are: (a) to assist all parts involved in the world of education by providing comprehensive information about education from primary to secondary school level or its equivalent; (b) to provide a means for all parts involved in the world of education in the province/district to actively participate in efforts to advance education; (c) to provide public accountability by providing transparent information about policies and the use of resources allocated to education; (d) to increase teachers' and students' knowledge about informatics and the benefits that can be obtained through various training; (e) to provide easy and comprehensive access to information for educators and students regarding science and other educational information." The components of management information system can collaborate to provide information in an appropriate format at the right time. From various theories and definitions of Education Management Information System (EMIS) as described above, Education Management Information System consists of five main components, namely:



- 1) Hardware Component
- 2) Software Component
- 3) Human Resources Component (Brainware)
- 4) Computer Network Component (Netware)
- 5) Data Resources Component (Dataware)



3.1 Data Collection of School Management Information System in Improving Academic Services at SMA Negeri Unggul Tunas Bangsa.

The principal of SMA Negeri Unggul Tunas Bangsa, in an interview with the researcher, stated that SMA Unggul Tunas Bangsa uses a website and e-Raport application as the school management information system. Additionally, they use WhatsApp groups to convey school-related information to students and parents. The website of SMA Unggul Tunas Bangsa is smantusa.sch.id, and the e-Raport application is used to manage student grade data. Within the SMA Unggul Tunas Bangsa website, there are several menus such as profile, news, library, and Tusa News. Data collection in the school management information system on the SMA Unggul Tunas Bangsa website is conducted as follows:

- a. Profile: In the profile menu, there is a brief overview of SMA Negeri Unggul Tunas Bangsa. Submenus include the principal, school achievements, vision and mission, school committee, facilities, and school history. According to the interview with Ms. Naini Afrita, S.Pd, the principal of SMA Negeri Unggul Tunas Bangsa, data collection is conducted by the administrative staff or the head of administration. After collecting data on the principal, school achievements, vision and mission, school committee, facilities, and school history, the administrative staff will hand over the data to the school operator for data entry into the SMA Unggul Tunas Bangsa website for processing and storage.
- b. News: The news menu contains information about school activities at SMA Negeri Unggul Tunas Bangsa. Based on observations by the researcher, the news section contains the latest news about school events, providing information about outstanding activities conducted by SMA Negeri Unggul Tunas Bangsa. According to Mr. Usman, the school operator, every school activity is published in the news menu. Data collection and photos of these activities are coordinated by the vice principal for student affairs and relevant parties during the activities. After the activities, the vice principal for student affairs and relevant parties submit photos or videos to the school operator for processing and inclusion on the SMA Negeri Unggul Tunas Bangsa website.
- c. Library: In the library menu on the SMA Unggul Tunas Bangsa website named "smantusa library," there is a book search menu.

IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)Nur Aidar¹, Hizir², Ismail³

Figure 4.1 Display of the library menu on the SMA Unggul Tunas Bangsa website

Based on the appearance, the library menu seems quite appealing. However, according to an interview with Mr. Usman, the school operator, he stated that the digital library menu can no longer be accessed. Here is a quote from the interview stating that: "On our school website, there is also a library menu, but due to resource limitations, the menu is currently disabled temporarily. In the future, we plan to reactivate the digital library menu to facilitate literacy processes and make it easier for students to access books that support their learning. So, there is no data collection process in the digital library menu because access to the menu is temporarily disabled."

3.2 Processing and storage of school management information system data in improving academic services at SMA Negeri Unggul Tunas Bangsa.

Processing and storing school management information system data at SMA Negeri Unggul Tunas Bangsa is carried out after the data collection process is completed. Processing and storing school management information system data involve the administrative staff and school operators as implementers, as well as computer tools to process the data into information. The processing and storage of data on each menu on the SMA Negeri Unggul Tunas Bangsa website are described as follows. Data processing on the profile menu is carried out after profile data such as principal data, school achievements, vision and mission, school committee, facilities, and school history are handed over to the operator. In the data processing process on the profile menu, the administrative staff carry out data recording, data checking, data clarification, and data sorting activities.

Subsequently, the data storage process on the website is performed by the school operator. Based on an interview with Ms. Suratna, the administrative staff, she stated that: "In terms of processing the data needed in the profile menu, the administrative staff record the data and then check the data by verifying whether the data is correct for use in the profile menu. For example, after obtaining data on school achievements, the administrative staff will check the data to ensure its accuracy. Once confirmed, the data will be handed over to the operator." In terms of processing and storing school management information system data, cooperation is carried out between the Administration Department, especially the administrative staff, and the school operator. Mr. Usman, the school operator, stated during the interview regarding the process of processing and storing school management information system data that: "In terms of processing and storing school management information system data, we as operators always collaborate with the Administration Department. After the data is collected and checked by the administrative staff, the next step is to hand over the data to the school operator to clarify the data, such as separating photo data from text data and then storing the data on the SMA Negeri Unggul Tunas Bangsa website."

3.3 Challenges in Implementing the School Management Information System to Enhance Academic Services at SMA Negeri Unggul Tunas Bangsa.

In any school program, there are inevitably obstacles to overcome. The implementation of the school management information system (SIM) at SMA Negeri Unggul Tunas Bangsa is no exception and faces several challenges. Based on data obtained through observation and interviews



with several informants, there are several obstacles encountered by SMA Negeri Unggul Tunas Bangsa in implementing the School Information Management System. In this section, the researcher reveals the general challenges faced by SMA Negeri Unggul Tunas Bangsa related to the implementation of SIM. In the Subdivision of Employee Procurement, it is stated that the computer hardware units used still have shortcomings, such as frequent delays in computer usage processes, which are due to outdated computer units. Here is a quote from the explanation provided: "The weakness may be in the hardware because many are already too old, not advanced enough, so the speed is a bit slow." (Interview with Subject WS). Similarly, as conveyed by Ms. Samai, one of the employees also mentioned that there are still obstacles in the use of computer units. A quote from her statement is as follows: "Mostly hardware issues, like computer units often have errors, maybe because they are already old, not up to date." (Interview with Subject N).

Based on the researcher's observations, the completeness of hardware in the Personnel Bureau is considered adequate to support the School Information Management System, but the computers in the personnel bureau are mostly old and still use CRT monitors, resulting in frequent hardware errors during the implementation of the School Information Management System. This is also supported by the statement from one of the operators in the Data Subdivision. His statement is as follows: "The completeness of computers such as keyboards, mice, monitors, and others is quite good." (Interview with Subject S). Based on the analysis presented by the researcher and supported by quotations from competent employees to answer research questions, it can be said that the hardware used to manage and utilize the School Information Management System in the Personnel Bureau of SMA Negeri Unggul Tunas Bangsa is complete, but some types of hardware such as computer units need to be updated.

This is necessary so that the process of managing and utilizing the School Information Management System in the Personnel Bureau of SMA Negeri Unggul Tunas Bangsa can run according to its objectives and functions. One of the obstacles in the implementation of the School Information Management System is the frequent occurrence of problems with supporting devices in managing the School Information Management System. The supporting devices referred to include hardware. In the implementation of the School Information Management System at SMA Negeri Unggul Tunas Bangsa, some computer units used to manage the School Information Management System have not kept up with current technology.

3.4 Utilization of the school management information system to enhance academic services at SMA Negeri Unggul Tunas Bangsa.

The school management information system at SMA Unggul Tunas Bangsa consists of two programs, namely the website and the e-Raport application. The process of the school management information system at SMA Negeri Unggul Tunas Bangsa begins with data collection, data processing, and storage, followed by presenting the processed data in the form of information incorporated into the website program and the e-Raport application. In the process of data collection, processing, and storage at SMA Negeri Unggul Tunas Bangsa, almost all parties support the implementation of the school management information system.

The utilization of the School Information System (SIM) at SMA Negeri Unggul Tunas Bangsa to support the welfare of employees can be seen from the information provided by the SIM, such as personal and family data. Family data referred to here includes the number of children and spouses. This is necessary because the children and spouses whose data is recorded have the right to receive health insurance, thus indirectly addressing the health problems of employees and their families covered by SMA Negeri Unggul Tunas Bangsa. This is supported by the results of interviews conducted with one of the informants, who stated that: "Then through this School Information System, I also use it to see the status of employees, whether they are married or not, if they are married, how many children and wives the employee has, all of which are made in the employee salary list and the list of health insurance recipients that will be provided as health insurance services to employees." (Interview with Subject AAP). In addition to health insurance

IMPLEMENTATION OF SCHOOL MANAGEMENT INFORMATION SYSTEM IN ENHANCING ACADEMIC SERVICES (A Case Study at Tunas Bangsa Excellent Public High School)*Nur Aidar¹, Hizir², Ismail³*

coverage, other information that can be utilized through the School Information System related to the provision of awards for employees who have exceeded the specified work limits. "We use it to see employee data with years of service. The purpose, for example, 10 years of service, 20 years, we provide surprises on the School anniversary in the form of gifts or prizes, even though they are not worth much." (Interview with Subject S) Based on the analysis presented by the researcher and supported by quotes from interviews with informants competent to answer research questions, it can be said that the utilization of the School Information System already covers supporting the development of the School administration, and can be used to view employee data as a whole. Based on the explanations provided and supported by quotes from interviews with informants competent to answer research questions, it can be said that the School Information System has already had a positive impact in supporting decision-making. However, the School Information System at SMA Negeri Unggul Tunas Bangsa has not yet covered performance assessment applications, attendance applications, library applications, asset applications, and new student admissions applications. This is supported by quotes from interviews conducted with experts. "There are many applications related to schools, such as attendance applications, performance assessment applications, library applications, new student admission applications, and others. Various applications are needed and should be able to be integrated with each other" (Interview with Subject ME).

The interview results indicate that SMA Negeri Unggul Tunas Bangsa only has the School Information System and does not yet have other applications such as performance assessment applications, attendance applications, and so on that are integrated with the School Information System, thus making school management easier. Meanwhile, in the teacher data section, from acceptance to retirement of civil servants, it is not yet available in this School Information Management System, supported by the results of an interview with one of the informants. Here are the results of the interview: "The School Information System that we have does not yet have features for complete employee data such as rank and grade as well as the year of employment" (Interview with Subject ME).

4. CONCLUSION

Based on the research activities regarding the implementation of the school management information system to enhance academic services at SMA Negeri Unggul Tunas Bangsa, several conclusions can be drawn:

- Data collection for the school management information system to enhance academic services at SMA Negeri Unggul Tunas Bangsa is conducted on the SMA Negeri Unggul Tunas Bangsa website and the e-Raport application program. In the data collection process, there are data collectors in each program such as the vice principal of student affairs and the administrative staff. The methods used by the data collectors are tailored to each menu available on the SMA Negeri Unggul Tunas Bangsa website and the e-Raport application.
- Processing and storing data for the school management information system to enhance academic services at SMA Negeri Unggul Tunas Bangsa are carried out after the data collectors submit the data to the administrative staff. Data processing in the e-Raport application is conducted after teachers input student grades into the e-Raport, and then the e-Raport administrator checks the data to avoid errors. If there are any errors in the data, the e-Raport administrator can edit or delete the data for correction. After the data is processed, it is stored. The processed data or data entered into the web-based school management system and the e-Raport application program are directly stored in their respective databases. Raw data such as registration files, student grade lists, draft student graduations, and others are stored for school archives and kept in file storage cabinets.



REFERENCES

- Ahmad, L.O.I., Sinen, R., (2018). *Penerapan Sistem Informasi Manajemen Pendidikan Dalam Proses Pembelajaran di Smp Negeri 21 Makassar. Jurnal Idaarah 1.*
- Anggraeni, I., (2019). *Pengaruh Karakteristik Sistem Informasi Manajemen Dan Sop Terhadap Kinerja Manajerial. Jurnal Ilmiah Akuntansi, 7(1), 1–19.*
- Colarika, S., Zahro, F.A., (2023). *Konsep Dasar Dalam Sistem Informasi Manajemen Dalam Pendidikan. ASCENT: Al-Bahjah Journal of Islamic Education Management, 1(1), 51–60.*
- Emani, T.S., Kirana, C., Pramesti, L.C., Ibad, A.Z., (2022). *Ruang Lingkup Sistem Informasi Pendidikan Dalam Lembaga Pendidikan. Jurnal Promis 3(1), 99–109.*
- Haryanto, Efendy, R., (2023). *Pendidikan Berbasis Sistem Informasi Manajemen (SIM) pada Jenjang Sekolah Menengah Atas. Dialektika: Jurnal Pendidikan Agama Islam, 02(01), 1–11.*
- Marwan, E., (2022). *Sistem Informasi Manajemen Pendidikan di Sekolah. Al-Ihda': Jurnal Pendidikan dan Pemikiran, 13(3), 127–133.*
- Prasejo, Lantip Diat. (2019). *Sistem Informasi Manajemen Pendidikan Edisi Pertama, Cetakan Pertama.* Yogyakarta: UNJ Press.
- Rofiki. (2020). *Pengantar Media Pembelajaran.* Medan: Yayasan Kita Menulis.
- Rusdiana, (2019). *Sistem Informasi Manajemen Pendidikan Konsep, Prinsip dan Aplikasi,* Bandung: Pusat Penelitian Dan Penerbitan Uin Sgd Bandung.
- Samusu. (2022). *Implementasi sistem Informasi Manajemen Sekolah pada SMA Negeri 1 Napabhalano. Jurnal Amal Pendidikan, 3(3), 249-261.*
- Sholeh, M. (2022). *Penerapan Sistem Informasi Manajemen Sekolah dalam Meningkatkan Layanan Akademik di MAN 2 Kediri.* Kediri: Penerbit Program Pasca Sarjana IAIN Kediri.
- Smaldino, S. E., Lowther, D. L., & Russell, J. D. (2014). *Intructional Technology & Media for Learning: Teknologi Pembelajaran dan Media untuk Belajar.* Jakarta: Kencana.
- Sugiyono. (2018). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabeta.
- Sutabri Tata, (2018). *Analisis Sistem Informasi,* Yogyakarta : CV Andi Offset.
- Sumiharsono, R. (2017). *Media Pembelajaran.* Jawa Timur: Pustaka Abadi.
- Suyahman. (2021). *Media Belajar PPKn SD.* Jawa Tengah: Lakeisha.
- Susilana, R., Si, M., & Riyana, C. (2018). *Media Pembeajaran: Hakikat, Pengembangan, Pemanfaatan, dan Penilaian.* Bandung: CV. Wacana Prima.
- Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 Tentang Sistem Pendidikan Nasional.* Jakarta: Pemerintah Republik Indonesia.
- Yoraeni, A., Handayani, P., Rakhmah, S.N., Siregar, J., Al Afghani, D.Y., Rianto, H., Riza, F., Yuswanto, A., Febrianto, D., Nurrohman, A., (2023). *Sistem Informasi Manajemen,* Jakarta: Scifintech Andrew Wijaya.
- Zamroni, A., (2020). *Penerapan Sistem Informasi Manajemen Pendidikan dalam Proses Pembelajaran di Sekolah Menengah Pertama. Jurnal Manajemen Pendidikan Islam, 1(1), 11–21.*