



## STUDENT DATA MANAGEMENT BASED ON INFORMATION TECHNOLOGY IN MAN 1 PAMEKASAN

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### Abstract

Student management can be interpreted as a management of all kinds related to students in schools starting from students registering, being accepted into school (acceptance of new students) until the students graduate from the school. With student management, students will be more focused and organized. Based on this, there are three main problems in the research, namely: First, how is the student data management system at MAN 1 Pamekasan. Second, what are the inhibiting and supporting factors of the information technology system at MAN 1 Pamekasan. Third, what are the solutions to overcome obstacles in managing student data. This study uses a qualitative approach with a descriptive type. Sources of data obtained through interviews with the type of semi-structured, non-participant observation, and documentation. Meanwhile, checking the validity of the data is carried out through extended observations and persistence of observations, and triangulation of sources and methods. The results showed that: First, information technology-based student data management at MAN 1 Pamekasan includes several things, namely taking care of permits, preparing facilities and infrastructure. Second, one of the ways to launch the system is by having a strong internet and giving directions to students. Third, one of the ways to expedite the system is to strengthen the internet and wifi and provide circulars to students so that there are no problems in managing student data.

## INTRODUCTION

The application of school information systems greatly facilitates data management. With the information system, educational institutions can present various information, especially in terms of student data management. Facilitate data management to be effective and efficient, because the existing data will be neatly arranged and structured. So it is very easy for educational staff in the data management process. Through the school management information system, the institution can store school databases ranging from student, teacher and employee data. And the application of information systems in institutions can serve as a means of connecting media between school residents, parents and the community. In the world of education, technology is very much needed, such as processing student data.<sup>1</sup> Information systems are closely related to the components and combinations that make up the system in order to obtain the information needed to collect, store and process

<sup>1</sup>Siska Inggriani, The Importance of Implementing Management Information Systems in Student Data Processing in Schools, (Universitas Negeri Padang) Vol. 1, No. 3, 2020.,57.



data that has been processed so that it can be useful for decision makers, where student data is managed and stored automatically, information systems are widely needed in institutions to process data, so that various parties who make decisions can use the data to make good decisions.

Management information systems in the field of education are very important. In support of data management in the educational environment. Management information systems in the field of education have an important influence and these two systems are also interrelated in the implementation of education. Information systems can assist leaders in a series of actions to draw conclusions in managing resources that support educational activities. And a good information system can simplify and speed up an activity in the field of education. So that it affects in increasing the effectiveness and efficiency in doing a job. An educational management information system is an arrangement designed to provide information to assist the conclusion process for management activities.<sup>2</sup>

The development of information technology is very important in improving the quality of education, the Internet as a descendant of information technology can store information about everything that has no limits. which, can be explored for the purposes of developing education. Learning through the internet is no longer limited by time and place. For educational institutions, the availability of information technology means the availability of facilities that can be used to disseminate learning designs both in one direction and interactively. Utilizing information technology in education has a valuable purpose, especially to equalize educational opportunities and improve the quality of education.<sup>3</sup>

Information technology is a technology that is used to process and send information in electronic form and technology used to process data, including obtaining data, managing data, managing data, and storing data. Information technology is not only computer technology but also technology that is used to process and transmit information in electronic form.<sup>4</sup>

Institutions cannot be separated from student management. Student management is a management of all kinds related to students in institutions starting from students registering, being accepted into the institution (acceptance of new students) until the student leaves the institution. With student management, students will be more focused and organized.<sup>5</sup>

Student registration has a purpose so that schools can provide optimal direction to students. Student data collection and reporting begins when the student is accepted into the institution until the student graduates from the institution. Student reporting is carried out as a form of school responsibility in student development at school. so that the school can know about the progress of students in the school.<sup>6</sup>

Data processing consists of data storage activities and data processing. Data management is the process of getting and getting data into other forms, namely in the form of information.<sup>7</sup> Student data management is a collection of information or information from students starting from entering the institution to leaving the institution, because the institution needs student data related to the guardian of the student and which graduate the student is from, where he comes from. In other words, the student collects his own data for recording to the new institution to become information, and makes it easier for the institution to search for new student data and old student data. In the world of education, the management and use of education management information systems cannot be separated from the educational activities themselves. This is related to the teaching and learning process, as well as when students and teachers start learning.<sup>8</sup>

Meanwhile, the purpose of the management information system is to increase efficiency for users of the requested information. Melina Bustari and Tina Rahmawati said that after a student was accepted into the institution, the next action that the institution took was to enter the student's data or information. Student

<sup>2</sup>Winda Wati, The Role of Management Information Systems in the Education Quality Assurance System at Mts. Al. Hidayah Ciawijayapura Cirebon Regency, (Thesis, Sheikh Nurjati State Islamic Institute of Cirebon, 2015),1.

<sup>3</sup>M. Husaini, Utilization of Information Technology in the Field of Education (E-education), (IAIN Raden Intan Lampung, Lampung), VOLUME 2 NO.1- May 2014,3

<sup>4</sup>Tata Sutabri, Introduction to Information Technology, (Yogyakarta, Andi Offset CV, 2014), 3

<sup>5</sup>Muthia Alfisyah, Student Management, Lambung Mangkurat University),6.

<sup>6</sup>Dr.Bahrudin, M.Ag., Student Management, (Jakarta, PT Index, 2014), 41-42

<sup>7</sup>Ika Arthalia Wulandari & Arief Hidayat, Student Data Management at Kartikatama 1 Vocational High School Metro City, (University of Muhammadiyah Metro Lampung), Vol.2, No . 1 , July 2021, 120.

<sup>8</sup>Annisa Mayasari etc 341.



recording and reporting should be something that is very important in every educational institution. This recording and reporting activity will start from the time students enter school until students leave or leave school because of the completion of their educational program. Registering for student terms or conditions, this must be done so that the institution as a service provider can provide the best service and optimal support for each student.<sup>9</sup>

Existing student data is then collected through EMIS, EMIS (Education Management Information System) is a formal management method that provides categorical and timely education reports. Educational management functions can be carried out effectively. In another sense, EMIS is a group of reports and documents organized to collect, manage, and store. The EMIS system is used to manage large amounts of educational data and reports that can be read, retrieved, processed and analyzed, as well as presented and broadcast.<sup>10</sup> EMIS is a data collection system managed by the ministry of religion to make it easier to input school data, EMIS is a formal management step that provides precise and accurate educational information so that conclusions can be drawn, planning, and developing, and other educational management functions can be carried out effectively. Another definition says that EMIS is a collection of information and documents organized to collect, manage, and store, as well as analyze and disseminate information that is used for management and educational processes.<sup>11</sup> The Islamic education data management system plays a role in supporting the planning and policy development of Islamic education programs within the Ministry of Religion. EMIS itself as a decision support tool in educational institutions. This EMIS will be adjusted and managed according to the needs of the institution. With the existence of EMIS, it is easier for schools or madrasas that are under the auspices of the Ministry of Religion to take responsibility for the development of educational institutions. The benefit of using EMIS is also that it makes it easier to find valid data about the organization. With this system, it is hoped that the incoming data can be more accurate and continuously updated to serve as the basis for decision making. Ideally the basis for decision making should include original data sources, easy to read and important as documentation used in all decision-making processes. decision.

## Research methods

The method used by the researcher is descriptive research method with a qualitative approach. Qualitative research is a research procedure that is able to produce descriptive data in the form of speech, writing and behavior from the people being observed.

In this study, researchers used both data sources, both primary and secondary. The primary data is in the form of interviews with both the head of the madrasa, the waka of the curriculum, and the teacher. While secondary data in the form of data used from observations in the field, documents related to student data management. Data that already exists but is reprocessed and used as a data source.

In some of the observation methods that have been mentioned, the researcher decided to use the non-participatory observation method in this study, where the researcher was not directly involved with the daily activities of the people being observed or used as sources and research, the researchers only became observers from outside. The purpose of using this research is that the researcher only wants to know and observe a number of things related to the title of this research, namely Information Technology-Based Student Data Management, where the researcher really intends to find out Student Data Management in the Madrasah institution being studied.

The researcher uses a semi-structured interview technique, meaning that in general the researcher has prepared several types of questions as a guide but does not rule out the possibility if at the time of the interview he gives other spontaneous questions because this interview is included in the category of the type of interview *in-dept interview* which is highly emphasized in qualitative research. And The researcher uses triangulation of sources and methods, triangulation of data sources, namely collecting data from various sources that are different from each other using the same method.

<sup>9</sup>Iwan Aprianto, et al, Student Management, (Klaten: Lakeisha, 2019), 99-100.

<sup>10</sup>Fuadi Aziz, Policy Making Based on Education Management Information System (EMIS), Journal of Islamic Education, Volume IIII, Number 1, June 2014 /1435,139.

<sup>11</sup>Samsuri, Utilization of the Education Management Information System (EMIS) in Decision Making in the PAI Section of the Ministry of Religion, Majalengka Regency, West Java, 32.



## RESULTS AND DISCUSSION

### 1. Findings about Student Data Management System at MAN 1 Pamekasan

From the results of interviews and observations that the researchers did, the findings of the data regarding the student data management system at MAN 1 Pamekasan were in the form of data collection, preparation of the facilities and infrastructure needed in the form of computers and laptops.

And the findings are that at MAN 1 Pamekasan, EMIS is used, which aims to provide all information related to students. And make EMIS a form of providing madrasa information services. In addition, regarding the management of student data at MAN 1 Pamekasan, data was collected through the homeroom teacher and collected through a goggle form. In order to make it easier for process operators to collect student data into EMIS.

### 2. Findings about the inhibiting and supporting factors of information technology systems at MAN 1 Pamekasan

The supporting factors are:

- a. Availability of operators who master EMIS
- b. There are good and proper facilities and infrastructure such as laptops, computers, wifi, etc.
- c. HR cooperation.
- d. Anti-virus application using SMADAV PRO.

The inhibiting factors are:

- a. Student data which when asked is difficult to collect
- b. Unupdated data
- c. Lack of support from the guardians of students in the data collection process

### 3. Findings about solutions to overcome obstacles in managing student data at MAN 1 Pamekasan

The solution in managing student data is with adequate facilities and infrastructure, a strong wifi network, and working together to build the goals to be achieved. And provides a much more convenient and hassle-free internet access. Re-correcting the data so that there are no errors in data entry, especially student identities, if a server error occurs, the operator chooses to fill in data at certain times which usually do not have errors, for example when accessing low internet usage such as 12 pm and above, so that the process of filling in the EMIS data can run according to the desired destination without being constrained.

## DISCUSSION

### 1. Student Data Management System at MAN 1 Pamekasan

The management of EMIS at MAN 1 Pamekasan is of course still the same as the management of EMIS in general, this is related to the regulations that have been determined in the EMIS management system, both including the implementation time and procedures for using the EMIS application, so it can be said that every madrasa is almost the same in its management, namely includes input-process-output, namely how to input data, the filling process as well as how to upload and data in order to obtain complete and reliable information results.

Meanwhile, in general, EMIS management is carried out to regulate, and manage data and information in madrasas, so that madrasa data and information will be much more structured and available, as the function of the EMIS system is expected to be able to provide accuracy of data and information in madrasas.

As the EMIS system is not only used to organize data and information, but the information must be read, reprocessed, analyzed and presented and published in order to be able to produce valid data, so that it can support the quality of information in madrasas.<sup>12</sup>

<sup>12</sup>Rasdiana Sina, et al, Implementation of the Education Management Information System (EMIS) in Religious Education Institutions and Islamic Boarding Schools at the Office of the Ministry of Religion of the City of Makassar, Journal of Public Policy and Management e-ISSN: 2715-2952 Volume 1 Number 1 | May 2020, 40.



EMIS management at MAN 1 Pamekasan is done by planning and designing EMIS in such a way and grouping things that must be adjusted in the application of EMIS, as well as meeting the needs related to supporting the use of EMIS, which includes computers, laptops, Wi-fi and other facilities and equipment. other infrastructure.

In addition, EMIS at MAN 1 Pamekasan is not only managed as a place to store data and information on madrasas, but EMIS in madrasas is used as central madrasa data, as well as providing information services and as a reference in obtaining BOS funding assistance, for that the management of EMIS is Effectiveness is very important in madrasas so that more benefits are felt for the progress of madrasas.

In accordance with the regulations that have been determined regarding the management of EMIS, namely in the management of EMIS, it is not only done to manage data and information, but also to produce accurate information, so that it will produce quality information for madrasas, in managing EMIS of course it must also be effective. , in order to be able to support the progress of madrasas such as EMIS which is used as a reference in decision making or even a reference in obtaining BOS funding assistance which is a source of madrasa finance.<sup>13</sup>

Based on the explanation above, the researcher concludes that the management of EMIS can not only be carried out by individuals, but it is also necessary to follow all the rules set by the Ministry of Religion and institutions. and fast in its presentation so that it will be able to support madrasas in an effort to advance madrasas, especially at MAN 1 Pamekasan.

## 2. Inhibiting Factors and Supporting Information Technology Systems at MAN 1 Pamekasan

In the application of management information technology systems for student data management, it does not always run smoothly. Because in all activities there must be something that can affect it itself. Such as the supporting and inhibiting factors of the implementation of the existing system. The supporting factors of the Information Technology-Based Student Data Management System are:

- Competence of operators and staff: In this case, reliable and professional personnel can be a supporting factor for the management information system because all process activities from managing data input to managing output/information using computer systems will have an impact on decision making.
- Management of student data based on Information Technology, these facilities and infrastructure are very decisive and help manage the management information system, including good computer equipment.

Meanwhile, the inhibiting factor in data management is a very bad thing that can become a barrier to the management information system. There are several inhibiting factors for the information technology-based student data management system, namely:

### a. Data transformation

The data transformation is done online. And depends on the quality of the network. When the network is disrupted it will hinder the data transformation process.

### b. Data collection

In collecting data students must complete and deposit it through the homeroom, when students do not collect it hampers the process of collecting student data.

### c. Virus control on computer

In today's era the development of technology is very fast. Where all kinds of viruses can attack the computer system, the process of activities in data management will be disrupted. So, when a computer or laptop is infected with a virus, it blocks and disrupts the data on the computer.<sup>14</sup>

### d. Internet

The slow and disruptive internet network causes delays in collecting data, which results in inefficient work. And it takes a long time.

<sup>13</sup>Fuadi Aziz, Policy Making Based on Education Management Information System (EMIS), Journal of Islamic Education, Volume IIII, Number 1 June 2014 /1435,136.

<sup>14</sup>Fadliani, "A Website-Based Management Information System (SIM) at the Regional Office of the Ministry of Religion of South Sulawesi Province." Elektika, Vol.3, 1 (April, 2015), 29.



Supporting factors are a good thing and can support or facilitate the management of student data. the inhibiting factor is that in carrying out data management there are many obstacles and things that interfere with the smooth process of data management.<sup>15</sup>

### 3. Solutions to Overcome Barriers to Student Data Management

In the world of education there must be a management section that regulates every process of existing activities with different systems. In the current era of development, a system in the world of education and technology-related organizations is starting where a management information system that helps an agency both to superiors and subordinates becomes easier because it relies on information technology that is in line with the times. However, in its application, especially in the world of education, there will certainly be various kinds of obstacles that will hinder the operation of the system with various problems, including connectivity problems, viruses and other problems.<sup>16</sup>

To overcome the existing obstacles, it takes several steps as an effort to resolve and can function as a prerequisite for the successful implementation of data management. There are several prerequisites that are no less important and must be met in implementing data management, namely the willingness and support from all parties, where school principals, teachers, and students work together in developing and implementing the technology and information property.<sup>17</sup>

In accordance with the institution, the solution to overcome several issues related to the management of student data itself is the availability of a strong network or wifi, adequate facilities and infrastructure. And provide direction to students to follow the rules that exist in the institution. Provide circulars to parents/guardians relating to student data collection.

## CONCLUSION

In managing student data at MAN 1 Pamekasan which includes collecting student data to the homeroom, and through the homeroom it is collected through the operator, where the operator collects the data to EMIS, to be stored in student data so that one day, if needed, it will always be there. In managing this data, it is not only limited to student data when entering the institution for the first time, but there are several about mutations and BOS and PIP recipients. The inhibiting factor is the network, and asking students for data is an obstacle in collecting it to EMIS and the computer with the virus that hinders completing the work.

Supporting factors for the availability of adequate facilities and infrastructure, and reliable and professional personnel can be supporting factors for the management information system because all process activities ranging from data input management to output/information management using a computer system will have an impact on decision making by the principal. The solution to overcome several things related to the management of student data itself is the availability of a strong network or wifi, adequate facilities and infrastructure. And provide direction to students to follow the rules that exist in the institution. Provide circulars to parents/guardians relating to student data collection. With this solution, all existing problems can be resolved.

<sup>15</sup>Ibid 23

<sup>16</sup>Desi Septriani, Obstacles In Implementing Management Information Systems In The World Of Education And How To Overcome Them,<https://www.studocu.com/en-us/document/havard-university/financial-accounting-principles/article-sim-desi-septriani-17002039/12725065>.

<sup>17</sup>Amin Akbar , Nia Noviani, Challenges and Solutions in the Development of Educational Technology in Indonesia, Proceedings of the National Seminar on Education for the Graduate Program at PGRI University Palembang, 03 MAY 2019, pp.24-25

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