

Development of an Online-Based Administration Service Management Information System at SMP Negeri 1 Datuk Lima Puluh Batu Bara Regency

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Abstract. The implementation of the Administrative Service Management Information System at SMP Negeri 1 Datuk Lima Puluh is one of the efforts to improve education services. The theoretical basis in this study is a theory related to Information System Management. The purpose of this research is to provide a means for students' parents to use information and communication technology at SMP Negeri 1 Datuk Lima Puluh. The next goal is to find out what products and services are needed by SMP Negeri 1 Datuk Lima Puluh and parents of students in developing E-Service Applications. The method used in this study is the Research and Development (R&D) method but is limited to the model development stage, while the approach used is a descriptive qualitative approach. From the development of the model, this research resulted in a Management Information System application product at SMP Negeri 1 Datuk Lima Puluh Batu Bara Regency. After the system test, the E-Service Application runs well. From the research that has been carried out, it was found that the information system used by the school is still conventional. While in the management of administrative services already using computers but the input is still manual, therefore we need a computer-based application program that can be accessed 24 hours and based online, so as to increase efficiency, transparency, positive responses and services to students, teachers, employees and parents.

Keywords: E-Services, Applications, SMP Negeri 1 Datuk Lima Puluh.

1 Introduction

Implementation of Management Information Systems greatly affects the value of an organization, especially educational organizations, awareness of the importance of implementing E-Services for education management information systems can provide hope and better solutions in the future. Therefore, education always demands improvement and improvement in line with the increasing needs and demands of people's lives. School as an educational institution is a place or place where the educational process takes place. Schools have complex and dynamic systems. In its activities, the school is a place that is not just a gathering place for teachers and students, but is in a complex and interrelated system structure, therefore the school is seen as an organization that requires management. The rapid advancement of information technology is one of the causes of changes in the education system.

This makes people tend to be directly involved in accessing information technology. Along with the rapid development of information technology, it is hoped that teachers, parents, and even the wider community can easily access and know everything related to school activities,

quickly. Information about these activities is usually obtained at school and at the beginning of the semester only. This means that it will be difficult for parents of students to obtain the desired information anytime and anywhere. Lack of time to supervise children because of their daily activities is also a problem faced by parents, complaints when they want to access information and when they want to meet the homeroom teacher are obstacles and problems in school information services. The availability of good E-Services will greatly support educational activities at an institution.

Management information systems in schools are very important in supporting teaching and learning activities in schools. The school management information system functions as a means used to convey information to students and parents of students. The existence of a management information system can support the smooth running of school administration activities which will ultimately improve the quality of school management. According to the opinion (Ety Rochaety, 2008), education management information system is a combination of human resources and information technology in selecting, storing, processing and making decisions in the field of education. Understanding Education Management Information System is a system designed to provide information to support decision making on management activities (planning, mobilizing, organizing, and controlling) in educational institutions.

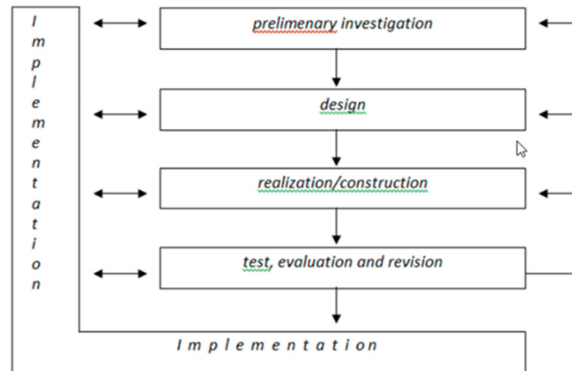
Management information system consists of three words with different meanings, each of which has a meaning. To find out the meaning of the three words, the researcher will present in detail as follows, according to the opinion (Hamalik, 1993; Hartono, 2000; Hendyaningrat, 1996). The system is a whole or totality consisting of parts or sub-systems that interact with each other and interact with each other to achieve the goals that have been set. While information is processing data in a form that is more useful and more meaningful for the recipient to describe a real event and can be used to make decisions. While the notion of management is everything related to goals carried out through other people. Through the above understanding it can be ascertained that a management information system in general is a system that provides information that is used to support operating systems, management, and decision making in an organization so as to produce an effective and efficient work environment.

An information system can be defined as a computer-based system that provides information to multiple users with desired needs. According to (Gordon B. Davis, 2002) management information system is a human and machine system that is integrated (integrated) to present information to support the functions of operations, management, and decision making in an organization. Furthermore (Edhy Susanta, 2003), states that information is the result of data processing so that it becomes an important form for the recipient and is used as a basis for making decisions that can be taken directly at that time or indirectly in the future about the organization.

To overcome the problems above, we need an education management information system that is able to provide solutions that are fast, accurate and efficient. One solution to overcome these problems is to create an Android-based education management information system that can be accessed directly by users online without being limited by time and place. A school management information system that can be accessed by everyone via a smart phone or tablet gave the author the idea to create an application for the nation's pillar school management information system, which can provide information about school activity programs for teachers, and parents of students which in the end is an information system. management can improve the effectiveness and efficiency of the nation's pillar schools.

2 Research Method

This study uses the Research and Development method using the Plomp Model. The Plomp model is seen as more flexible than other models. Therefore, the researcher chose to use the Plomp model of research design. The Plomp model consists of five phases or 5 stages, namely: preliminary investigation, design phase, realization/construction phase, and test, evaluation and revision phase.), and implementation (implementation). 4 The stages in the Plomp model can be described as follows:



E-Service Application Development is carried out with a development procedure consisting of five phases, namely:

a. Initial investigation phase (preliminary investigation)

The term "preliminary investigation" is also called needs analysis or problem analysis. Plomp and van de Wolde in Rochmad stated: "In this investigation important elements are the gathering and analysis of information, the definition of the problem and the planning of the possible continuation of the project." Investigation of the important elements is collecting and analyzing information, problem definition and follow-up plan of the project. In this phase, researchers collect data or information contained in the field and identify related problems. This data collection serves to strengthen the background of the problem, research objectives, and benefits. Data was collected by interview, study documentation and observation.

b. Design phase

In this phase the solution is designed, starting from the problem definition. Activities in this phase aim to design solutions to the problems raised in the initial investigation phase. In this phase, the researcher designs a product in the form of an E-Service Administration Application Design.

c. Realization/construction phase

Design is a work plan or blueprint to be realized in order to obtain a solution in the realization/construction phase. Design is a written plan or work plan with the format of the point of departure from this stage is the solution being realized or made. In this phase, the basic form of the product is produced as a result of the realization of the design phase.

d. Test, evaluation and revision phase (test, evaluation and revision)

A developed solution should be tested and evaluated in practice. Evaluation is the process of collecting, processing and analyzing information systematically, to obtain the realizable value of the solution. Based on the data collected, it can be determined which solution satisfactory, and which still need to be developed. This means supplementary activity may be required in the earlier phases and is called feedback cycle. The cycle is repeated until the desired solution is

reached. At this stage, validation activities are carried out to media experts and material experts. Design validation is an activity process to assess whether the product design is feasible and appropriate or not. Design validation activities were carried out by asking several experts in the field of databases and programming to rate or provide comments for the instrument.

e. Implementation phase (implementation)

After evaluating and obtaining valid, practical, and effective products; then the product can be implemented for a wider area. After testing the product is successful and there may be further revisions, then the product in the form of E-Services is applied in a broad scope of educational institutions. In its operation, the E-Services must still be assessed for deficiencies or obstacles that arise for further improvement.

3 Result and Discussion

In the first stage, an analysis of the things needed in this development process is carried out, namely the required system, supporting factors, participants, costs and processing time. To obtain information about the need for a management information system at SMP Negeri 1 Datuk Lima Puluh Batu Bara Regency, observations and interviews were conducted. Researchers conducted interviews with several teachers and employees as well as school principals while observations were made by looking at the available facilities and infrastructure to support development. Based on the observations of researchers, in SMP Negeri 1 Datuk Lima Puluh Batu Bara Regency there are computer operators who specifically handle school information management. The number of computers in SMP Negeri 1 Datuk Lima Puluh consists of 4 desktop PCs and 3 notebooks.

Where 2 desktop PCs are used for teacher administration purposes, and 2 desktop PCs are used for inputting grades, filling out lesson schedules and so on. While the notebook is used by the teacher to teach. The desktop PC at SMP Negeri 1 Datuk Lima Puluh contains Microsoft Office which is used to fill in the schedule of subjects and other school activity programs. Meanwhile, based on interviews and observations made by researchers, the following findings were found: 1) SMP Negeri 1 Datuk Lima Puluh does not yet have adequate technology-based E-Services, up to date and can be accessed in a relatively fast time. E-Services at SMP Negeri 1 Datuk Lima Puluh are managed manually and rely on conventionally managed data.

The bulletin board looks untidy, because there are too many sheets of information (announcement) paper attached, and not proportional to the area of the bulletin board, so the wall becomes a place to paste information (announcements) sheets of paper. Data management is still conventional, so it often creates problems when making reports, in the sense that the data cannot be accessed by other users online. Data management does not meet the CBIS (Computer Based Information System) criteria, so sometimes it causes problems when it is needed. 4) Standard operating procedures for administrative work have not been documented, systematically informed so that sometimes it causes problems. Educational administrative staff still need to be given increased competence related to computer-based office management administration.

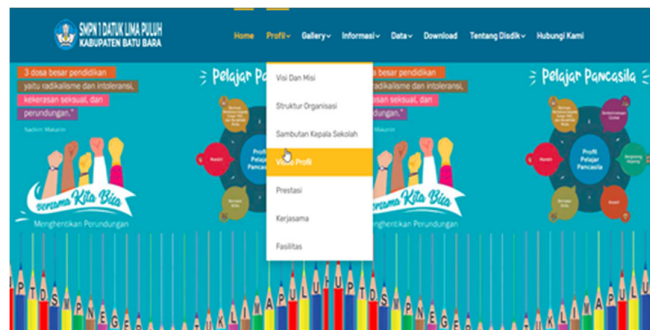
Such conditions lead the researcher to conclude that SMP Negeri 1 Datuk Lima Puluh needs an E-Service Application based on technology (android) that can be managed by itself. The existence of E-Services will be very helpful so that if the principal needs the necessary data and information, it can be obtained easily, quickly and precisely. In addition, the system must contain several features such as school profiles, vision and mission, organizational structure,

programs, lesson schedules, daily test schedules, MID test schedules, final test schedules, activity programs, and others.

3.1 E-Service Application Development

An attractive graphic design will provide a positive image for the institution that has the SIM application, will also provide an attraction for users who use it or for people who see it, therefore the graphic design design of this application is made by considering aspects of beauty, using simple colors that not crowded and makes the user's eyes feel comfortable in using it. The explanation of the graphic design application design is as follows: 1. Main Page The main page is the initial display of the SIM application, which consists of several menus such as school profiles, contacts, facilities, teaching staff, schedules, open tickets, semester programs, incoming letters, outgoing letters, comments, videos, testimonials, new student registration, attendance and more.

On this main page, there is also a photo slideshow of the pillars of the nation's students that are made to move automatically, changing views. The School Profile menu contains school information such as school name, school address, school location map, vision and mission, statistical numbers, e-mail, Facebook, school website address, and others.



4 Conclusion

From the results of research and discussion that has been done. So researchers can draw two conclusions, namely conclusions in general and conclusions in particular or in detail. The general conclusion that can be drawn by researchers in developing E-Service Applications at SMP Negeri 1 Datuk Lima Puluh is that in developing a management information system several stages are needed, namely the stage of analyzing information system requirements, planning stages, design or design stages, implementation stages, and evaluation stages.

If this stage is carried out correctly, the E-Service Application created can help, expedite and facilitate the implementation of school administration, teacher administration and the process of teaching and learning activities. And with the availability of the education management information system, the work will automatically be more effective and efficient, so that in the end the education management information system created can be one solution to improve information services at SMP Negeri 1 Datuk Lima Puluh.

While the specific conclusions obtained after carrying out research and development of E-Service Applications at the SMP Negeri 1 Datuk Lima Puluh school are the management

information system run by the SMP Negeri 1 Datuk Lima Puluh School so far it is still conventional, has not fully optimized computer functions, computers are used only for typing and printing, while school information data is still stored in a special binder which is placed on a shelf. SMP Negeri 1 Datuk Lima Puluh requires several supporting tools such as network computers, software requirements in the form of information system software and human resource requirements (HR) in the form of competent IT administrative staff.

With the availability of education management information system services at SMP Negeri 1 Datuk Lima Puluh, it is hoped that it will make it easier for parents to find out all information on school activities and can also be an opportunity to increase competitiveness in the surrounding environment. Recommendations Based on the conclusions above, some suggestions that can be submitted are to improve the quality of school services, one solution that can be used is to develop an education management information system in the form of an integrated application. In developing an education management information system at SMP Negeri 1 Datuk Lima Puluh, it must be based on a system development method consisting of planning, analysis, design or design, implementation and evaluation stages. Prepare HR to manage the management information system application.

Provide information services that users need in an updated or current manner. Encourage teachers and parents to take advantage of the education management information system application that has been created. Make rules or procedures related to the use of the education management information system of SMP Negeri 1 Datuk Lima Puluh. Furthermore, suggestions for teachers and parents of students can take advantage of the existing E-Service Applications to support the smooth running of school activities. Actively participate in the development of management information systems according to their functions and roles. Provide constructive input for the development of the E-Service Application for SMP Negeri 1 Datuk Lima Puluh in the future.

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