



Application of Website-Based School Management Information System to Improve Information Quality at SMA Negeri 1 Belitang

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Abstract. Management information systems have a very important role to assist schools in improving the smoothness of communication both internally and externally to establish good cooperation with other parties to improve the school's image. This study aims to describe the application of a website-based school management information system to improve the quality of the information in SMA Negeri 1 Belitang. This study uses a qualitative descriptive method with a case study approach. Data were taken by interview, observation, and documentation. The results showed that. (1) In implementing the school management information system based on the principal's website, as a leader, he has carried out management functions starting from (2) the planning stage, namely analyzing the potential for human resource readiness, preparing infrastructure facilities, compiling a financing budget and determining the goals to be achieved. (3) The organizing stage is the principal, acting as defining work, grouping work, assigning work, and integrating work. (4) The stages of implementation are principal, motivating, directing, and commanding. (5) The stage of supervising the principal, monitoring in case of deviations, conducting evaluations, requesting accountability reports, and carrying out program follow-ups. The four management functions have been carried out by the principal well in implementing a website-based school management information system to achieve the goals set by the school.

Keywords: Management Functions · School Driving License · Website Benefits

1 Introduction

Today the development of science and technology is very fast, especially in the field of information technology. The development of information technology strongly supports other sectors, such as trade, education, communication, industry, tourism, and so on. One of the functions of information technology in the field of education is as a medium of information, communication, knowledge, and promotion. In today's digital era, information is very much needed in various organizational institutions, information is very important to facilitate communication within an institution. In educational institutions, information has a very important role to assist schools in improving the smoothness

of communication networks both internally and externally so that good cooperation is established with other parties to improve the image of the school [1] the management information system is an information system that is used to present information that is used to support management operations and decision-making in an organization. Information in educational institutions, quality control, and creating alliances or collaborations with other parties to increase the value of these educational institutions” therefore management information systems are very useful when applied in educational institutions [2].

The availability of a good management information system will greatly support teaching and learning activities and educational services at an institution. (Ethel Silva De Oliveira, 2017) The school management information system functions as a means used to convey information to students, parents, the community, and the local Education Office. Schools as educational institutions must have good and reliable information services according to the Regulation of the Minister of National Education Number 19 of 2005 governing education management standards. The regulation explains that in the management of education there is information management in the form of a management information system. The purpose of the management information system for educational institutions is to help facilitate the management of data and information related to schools and as an interactive medium of communication between schools and their parents. The school management information system is a combination of existing human resources with the application of technology to produce information. With the management information system, the school will feel several benefits, namely: According to [4] “first, the availability of data management and educational information. Second, the integration of educational data and information to support the decision-making process. Third, the availability of complete educational data and information for all stakeholders who join the education sector.

Management information systems as a supporter of educational institutions can provide information services to customer needs, provide convenience in obtaining information, and can provide an increase in the quality of education, especially in terms of smooth service of educational institution activities and the learning process between educators and students to achieve the desired educational goals. The principal as the highest leader in the school must be able to bring the organization he leads to achieving the desired goals, the school as a quality institution and is trusted by stakeholders, needs to build an effective and efficient school management information system for everyone. One of them is by providing school websites, school websites can be designed independently, through programs from the government, or done professionally by experts.

A school website is a place for schools to store important information from schools online. According to [5] “website is one of the media for delivering information and publications that is easily accessible from anywhere, anytime without being limited by geographical areas that can be utilized by schools”. For the school, the website is an important thing to manage and develop, the school website can be used as a forum to promote and provide information about the school’s profile, location, advantages that each school has, and ease the work of the school. The school website has effectiveness in delivering information to the public following the results of research by Riyadi, Retnadi, and Supriatna (2012) in a journal entitled “Designing an Information System Based on

the Teacher Subsystem Website at the Islamic Unity 99 Islamic Boarding School Ran Branch” the results of the study show that the use of information systems based on The website can be a public revolution in the delivery of information widely, as well as providing convenience in academic activities, making it easier for parents and the public to find school information. However, the weakness of the school website is that there are frequent internet network problems, often hacked by irresponsible people, and also unsystematic management.

SMA Negeri 1 Belitang is one of the educational institutions that have advantages in terms of academic and non-academic achievements, this is evidenced by the success of winning various competitions at the district, city, and provincial levels, this can be seen in the school's website which provides complete information about the school. In addition, SMA Negeri 1 Belitang has also implemented a website-based school management information system that serves as a medium for school information and communication to people who need information, especially parents and teachers. With this website, schools can provide the widest possible information to people who want to know the profile and activities of SMA Negeri 1 Belitang at any time, information about the school can be accessed anytime and anywhere. Previously, school information management at SMA Negeri 1 Belitang only used the manual method by giving invitation letters to students, verbal notification, and through the parent's WhatsApp group. This is less effective and efficient because the information obtained cannot last long if the letter given to students is forgotten or lost to be given to their parents, the information provided is useless. Therefore, student guardians as education customers need information services that are fast, easy to obtain, reliable, and can last a long time.

School information services for SMA Negeri 1 Belitang during the covid-19 pandemic by maximizing the website-based school management information system as a medium for official school information and communication, usually the delivery of school information only uses a letter of law distributed to students, but now during the covid-19 pandemic the system is Website-based school management information becomes an effective and efficient means of information and communication to convey information to students, related parties and the community.

The application of a management information system (MIS) is very important because the entire series of activities or activities will be carried out in a systematic and structured manner. Mary Parker Follet in [6] management is an art because to do a job through other people requires special skills, especially the skills to direct, influence, and foster workers to carry out the wishes of the leader to achieve predetermined goals. Therefore, the application of school MIS is related to the organization in which it contains organizational components systemically. All managerial activities are always related to the meaning and function of management in the organization because in the managerial process there is always an organization that requires management. [7] in the implementation process, management has specific tasks that must be carried out. These special tasks are commonly referred to as management functions.

Based on the results of the research, the researchers did is that the implementation of a website-based management information system at SMA Negeri 1 Belitang has been implemented for the last 5 years. There are four stages carried out by the principal in

the application of a website-based management information system, namely the planning stage, the organizing stage, the implementation stage, and the supervision stage. The principal as the highest leader in the school has carried out these management stages to achieve the goals that have been set. In implementing the MIS, the principal is also responsible for preparing plans according to the goals that have been set, organizing existing resources including making job descriptions for each of his subordinates, implementing programs, and ensuring that the programs that have been made are implemented by the organization, as well as supervising each part that has got the task.

Based on the description of the research results above, this is by the explanation by [8] management is the process of planning, organizing, and using other organizational resources to achieve the organizational goals that have been set. Meanwhile, Terry in another understanding [9] “divides four basic functions of management, namely Planning, Organizing, Actuating, and Controlling. These four management functions are abbreviated as POAC. In addition, this is also to the theory expressed [10] that management is activities to achieve the goals and main objectives that have been determined by using implementers. So, in this case, the activities in management are mainly managing the people as implementers. These management functions are carried out by the principal to achieve the school’s goals. This is by Sukarna’s theory which explains management functions in an organization and Purwanto’s theory which explains that management is activities to achieve the goals and objectives set.

2 Methods

This section contains the research design carried out. This section, at least contains the type of research, research subject/object, data collection techniques/instruments, and analysis. The research method used in this study is a descriptive method using a qualitative approach to examine the problem and obtain a deeper meaning about the Implementation of a Website-Based School Management Information System to Improve the Quality of Information at SMA Negeri 1 Belitang with the research subject being the principal, head of public relations, operator websites. Data collection techniques with interviews, observations, and documentation. The interviews conducted in this study used unstructured interviews, furthermore, the data analysis technique consisted of three activity lines, namely: data reduction, data presentation, and conclusion drawing or verification.

3 Results and Discussion

Based on the results of the study it was found that there are four stages in the application of a website-based management information system at SMA Negeri 1 Belitang for the stages are as follows:

a. Planning

Planning activities carried out are principals analyzing their potential capabilities such as the readiness of Human Resources (HR) because HR is the main thing in implementing a website-based management information system and preparing infrastructure

supporting the implementation of school management information systems. Then the principal sees the opportunities that exist and sees the challenges ahead as far as the effectiveness of the application of a website-based management information system. Furthermore, the principal prepares a funding budget for the implementation of a website-based management information system. The budget for implementing a school management information system is included in the School Activity Plan and Budget (SAPB), after analyzing the needs and determining the principal's budget, determining the vision and mission of implementing a website-based management information system and the latter determine the goals to be achieved. The purpose of implementing a website-based management information system, the school wants to have publications in cyberspace that can be seen by everyone anytime and anywhere, the school wants to publish all school activities about SMA Negeri 1 Belitang so that people understand and understand that later on interested in sending them to SMA Negeri 1 Belitang.

Based on the results of the research above, this is by the explanation by [11] Planning is the process of setting goals, developing strategies, and outlining tasks and schedules to achieve goals. In other terms, planning is a directed and systematic preparation so that goals can be achieved effectively and efficiently. Meanwhile, according to [12] planning is the activity of selecting and connecting facts and making, and using assumptions about the future in terms of visualizing and formulating proposed activities that are considered necessary to achieve the desired results. This is by Setiadi and Sagan's theory that in planning what is done is to set goals, develop strategies, and describe tasks and schedules to achieve goals using assumptions about the future to achieve the desired results.

b. Organizing

The second stage in the management function is organizing, in this case, the principal as a leader is tasked with forming a special team for website management. The special team formed by the principal is called the publication and public relations activity of this team under the organizational structure of the head of public relations and the job description is broadly decided by the principal and translated by each person involved in the school publication team. All who are included in this school's publication team have competence in the field of Technology Science (TS) some are capable of editing, shooting, and editorial the team works together in terms of school publications.

Another thing was conveyed by the head of public relations that in the process of organizing a website-based management information system for the organizational structure, a special team has not officially been formed. So the team is still informal under the organizational structure of the head of public relations, meanwhile, the head of public relations conveys to the principal at the time of reappointment of the school principal for the next period to make a decree so that this publication team is inaugurated so that the job description is clear, then so that the programs are clear so that in the future they can better management. So for now, the work publication team has not programmed either monthly, semester or yearly, there are no regular programs. In the management of a website-based management information system, there is a content team under the head of public relations who helps the school's publication activities, be it websites, Instagram or Facebook. The content team here does not work alone, the team always synergies between the website, Instagram and Facebook so that everything is related.

In the process of organizing the implementation of a school-based management information system carried out at SMA Negeri 1 Belitang the theory [13] explains that organizing is a process of dividing work into smaller tasks, assigning those tasks to people according to their abilities, allocate resources, and coordinate them to effectively achieve organizational goals. Another thing is explained [14] that in the process of organizing the division of tasks, authorities, and responsibilities in detail based on their respective sections and fields synergistic, cooperative, harmonious, and rhythmic working relationships are integrated into achieving the agreed goals. Exposure [15] to this organizing process will result in a formulation of the organizational structure and delegation of authority and responsibility. The organizational structure is the formal organizational framework within which job duties are divided, grouped, and coordinated. (Abeng, 2006) explains the organizing function consists of four activities that are interrelated with each other

- a. Defining work, namely identifying the main activities needed to achieve the mission. In this stage, a manager has not thought about who should carry out the activities.
- b. Grouping work is designing the organizational structure so that everyone can contribute to achieving the organization's mission.
- c. Assigning work is allocating activities so that people can achieve the goals of their respective work units.
- d. Integrating work, which combines one job with another so that the work process can run smoothly. In integrating work activities, the most important thing is coordination so that there is no overlap or even neglect of functions.

Based on the explanation above, this is by Fattah's theory which explains that the principal in the organizing stage has divided work into smaller tasks, namely by forming a special team (content team). Assigning tasks to people according to their abilities, and allocating resources, namely the principal determines the human resources on duty according to his abilities and determines the authority among groups or organizational units, namely the principal determines the job description of each individual. The same thing is expressed in Abeng's theory that in organizing the principal has carried out the organizing function consisting of four activities. First, defining work, grouping work, Assigning work and Integrating work.

c. Implementation

Implementation is a process stage of the management function which is carried out after the organization has been planned and organized. Implementation is carried out to move the organization so that it runs according to its respective divisions of work and to mobilize all existing resources in the organization so that the work or activities carried out can run according to plan and can achieve goals. The implementation stage is SMA Negeri 1 Belitang has implemented a website-based management information system since 2018 until now. In this activity, the principal after determining the program objectives forms a school publication team and distributes job descriptions according to the competencies of the employee teachers.

The next step is to focus on implementing the goals that have been made according to the duties of each publication team, after receiving the assignment from the principal to manage or post various school activities and content, then the publication team will hold

consultations led by the head of public relations to carry out the task. So, all individuals in the HR team work according to their respective duties, some are cameramen, some are video recording, and editing, some are in charge of coordinating, and so on. In addition, there is also the task of making editorials and then editing editorials that were previously revised and then uploaded on the website.

In implementing the application of a website-based management information system, another task carried out by the principal is to prepare the components needed in the implementation of a website-based management information system, while the components needed are first to prepare human resources, because HR is an important element that must be prepared to run the system. Management information. Then the second is supporting facilities and infrastructure such as hardware (hardware), consisting of computers and equipment, communication networks such as modems, telephones, wifi, and others as well as software (software), consisting of programs that run work processes on computers that can store and manipulate data. The third is to include pieces of training for the publication team. So that the implementation of the optimal website-based management information system implementation, the principal also provides motivation and direction to all human resources involved in the public relations team or school publications. Another thing was conveyed by the head of public relations and the operator of a website-based management information system in implementing activities carried out by the school publication team, namely updating the latest activities on the website. With the content team, the head of public relations will rejuvenate the website, considering that currently, all fields are looking for information through the internet. During this covid-19 pandemic, the HR side will maximize the website, Instagram and Facebook so that everything is related as a medium of information, communication, and school promotion.

The results of the study are by the presentation of implementation or actuating is an effort made to achieve goals that are by a predetermined plan so as not to deviate or leave what has been set by the organization. So actuating means carrying out or moving people to want to work by themselves or with awareness together to achieve the desired goals effectively. As according to implementation is the whole process of encouraging to work with subordinates so that they want to work sincerely to achieve organizational goals by the plan. According to the driving and implementing functions in other terms are motivating (generating motivation), directing (giving direction), and commanding (giving commands or orders).

Based on the research data above, it can be concluded that in the process of implementing a website-based management information system at SMA Negeri 1 Belitang the principal after planning and organizing then focuses on achieving the goals that have been set. Implementing or actuating is an effort made to achieve the target by a predetermined plan so that it does not deviate and is by the plan. The principal encourages work for subordinates so that they want to work sincerely in its implementation, the publication team carries out the tasks assigned by the principal and coordinates led by the head of public relations. Meanwhile, the principal prepares the components needed in the implementation of a website-based school management information system, prepares supporting facilities and infrastructure such as hardware (hardware), and software (software), and

includes training for the publication team. The principal also provides motivation and provides direction to all human resources involved in the school publication team.

In the implementation stage of the website-based school management information system, the principal functions according to opinion (Siagan, 2012) which explains that first, the principal is a motivator, namely providing enthusiasm, motivation, encouragement, and direction to all human resources involved in the school publication team. Second, the principal is the directing officer, namely choosing people according to their abilities to carry out their duties, and the head of public relations is a team leader who always communicates and coordinates in carrying out their duties. Third, the principal as the commanding officer, namely providing clear directions, instructions, and examples to the publication team so that it is carried out properly and directed to the goals that have been set.

d. Supervision

The supervision carried out by the principal in monitoring the implementation of the school management information system based on the school principal's website monitors and directly checks the extent of the content uploaded by the public relations team by looking at the contents of the post whether it is by the school's goals, vision, and mission of the school, whether it is not. There is an element of Sara, there is no element of pornography and so on. And whether everything that is posted on the website with the contents of the news can raise the image of the school to be better and be known to all the website contents at SMA Negeri 1 Belitang. There have been no deviations that have occurred in the publication of school information and information to parents of students in particular and the general public.

The accountability report on the implementation of a website-based management information system will be submitted by the head of public relations. The Head of Public Relations will convey the extent of public relations activities in carrying out school publications through social media and what has been done regarding school publication activities as well as any obstacles experienced. Usually, the activity accountability report will be carried out at the end of the school year along with the school's self-evaluation and will be held as a follow-up to the implementation of the program.

This is by the explanation of (Fauzi, 2012) controlling or supervision often called control, is one of the management functions in the form of conducting an assessment and at the same time if necessary, making corrections so that what is being done by subordinates can be directed to the right path to achieve the goals that have been set. Outlined. The same thing was conveyed by (Williams, 2000) in the book *Management*, "Controlling is monitoring progress toward goal achievement and taking corrective action when progress isn't being made". Progress did not materialize).

Based on the research data and theoretical explanation above, it can be concluded that in the process of supervising the principal always monitors the implementation of a website-based school management information system by monitoring and checking directly the extent of the content uploaded by the PR team. Monitoring if there are deviations so far there have been no deviations that have occurred in school publication activities. And finally, the principal evaluates the results of the accountability report from the head of public relations and follows up.

4 Conclusion

The application of a website-based school management information system at SMA Negeri 1 Belitang can be concluded that in its application the principal carries out management functions ranging from planning, organizing, implementing, and supervising. These management functions are carried out by the principal to achieve goals. The stages of implementation are as follows.

- 1) The planning stage is when the principal analyzes the potential readiness of human resources further, prepares the infrastructure to support the implementation of the school management information system then, sees the opportunities and challenges ahead as far as the effectiveness of the application of a website-based management information system. Then prepare a financing budget and determine the objectives to be achieved from the application of a website-based management information system.
- 2) Stages of organizing the principal have carried out the organizing function. First, the principal as defining work, group work, assigning work, and integrating work.
- 3) Stages of implementing the principal after planning and organizing then focus on implementing the goals that have been made. In the implementation phase of the website-based school management information system, the principal's function as a motivator is to provide enthusiasm, motivation, encouragement, and direction to all human resources involved in the school publication team. The principal as directing is choosing people according to their abilities to carry out their duties, and the head of public relations as a team leader always communicates and coordinates in carrying out their duties. The principal as the commanding officer is to provide clear directions, instructions, and examples to the publication team so that it is carried out properly and directed to the goals that have been set.
- 4) The supervision stage monitors the prevention of deviations from achieving the planned goals. By monitoring and checking directly the extent of the content uploaded by the HR team.

References

1. I. Mananda, I. Daruwati, and A. Asra, "The Use of Macromedia Flash Learning Media to Improve Students' Conceptual Understanding of Newton's Laws," *Educ. Sch.*, vol. 01, p. 189, 2020.
2. D. F. Syarafina, "Effectiveness of English Online Learning Strategies During the Covid Pandemic at SMP Muhammadiyah 10 Sidoarjo," *Proc. ICECRS*, vol. 10, 2021, doi: <https://doi.org/10.21070/icecrs20211171>.
3. Ethel Silva De Oliveira, "The Effectiveness of Using Power Point Media in Pie Learning at Tunas Dharma Way Galih Middle School, South Lampung," *CBE Life Sci. Educ.*, no. December, 2017.
4. T. S. B. Sau and N. L. P. Cahayani, "The Effect of Using Android Application-Based Learning Media and Learning Styles on Economic Learning Outcomes MA Tawakkal Denpasar Academic Year 2020/2021," vol. 3, no. 1, pp. 20–27, 2022, doi: <https://doi.org/10.5281/zenodo.6395507>.

5. E. D. I. Sma, "The effectiveness of using powerpoint learning media in improving economic learning outcomes in high school," *J. Pendidik. Dan Pembelajaran Khatulistiwa*, vol. 4, no. 9, pp. 1–10, 2015.
6. B. A. B. Ii, "Al. Krismanto, M.Sc. 2003. Some Techniques, Models and Strategies in Learning Mathematics. (http://p4tkmatematika.org/downloads/sma/strategi_pembelajaran_matematika.pdf). diakses 22 Maret 2013 13," pp. 13–74, 2003.
7. M. H. Pura, D. Nuryadi, C. Universitas, and S. Karawang, "Proof of Information and Communication Technology (ICT) in the Investigative Stage Through Evidence of Guidance Through Digital Forensic Computer Science at the Karawang Resort Police," *J. Pengabd. Huk. Indones. (Indonesian J. Leg. Community Engag. JPHI)*, vol. 3, no. 2, pp. 193–205, Jun. 2021, doi: <https://doi.org/10.15294/JPHI.V3I2.42954>.
8. P. Studi, P. Guru, and M. Ibtidaiyah, "The Effect of Using Appsgeyser.Com-Assisted Android Application on Student Learning Outcomes in Social Science Subjects at 74 Public Elementary Schools in Bengkulu City," 2020.
9. F. Yolanda and P. Wahyuni, "Development of Macromedia Flash Assisted Teaching Materials," *SJME (Supremum J. Math. Educ.)*, vol. 4, no. 2, pp. 170–177, 2020, doi: <https://doi.org/10.35706/sjme.v4i2.3612>.
10. S. Hidayat, "Learning System in Higher Education," *Alqalam*, vol. 19, no. 93, p. 109, 2002, doi: <https://doi.org/10.32678/alqalam.v19i93.457>.
11. L. W. Anggita, "Multimedia-Based Basic Level Japanese Learning Application Using Macromedia Flash 8," *Angew. Chemie Int. Ed.* 6(11), 951–952., no. 2, pp. 10–27, 2018.
12. M. Arbaun and T. Makahinda, "Development of interactive learning media," *J. Pendidik. Fis.*, vol. 2, no. 1, pp. 49–52, 2021.
13. Ruminta, S. Tiatri, and H. Mularsih, "Differences in Learning Self-Regulation in Class VI Elementary School Students in terms of Gender Ruminta 1 , Sri Tiatri 2 , Heni Mularsih 3 1," *J. Muara Ilmu Sos. Humaniora, dan Seni*, vol. 1, no. 2, pp. 286–294, 2017.
14. D. Octaria, P. Fitriyasari, and N. Sari, "Blended Learning with Macromedia Flash to Train Student Learning Independence," *Buku Macromedia Flash*, vol. 6, no. 1, pp. 25–38, 2020, doi: <https://doi.org/10.29408/jel.v6i1.1596>.
15. S. Rezeki, "Utilization of Adobe Flash CS6 Based on Problem Based Learning on Compositional Functions and Inverse Functions," *J. Pendidik. Tambusai*, vol. 2, no. 4, pp. 856–864, 2018.

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