School Information System Innovation by Eduversal through Edunav Implementation in Indonesia: A Case Study at SMP-SMA Kesatuan Bangsa Bilingual Boarding School Yogyakarta

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Abstract

Technological innovation is a science which will continue to develop over time, therefore knowledge, skills, and understanding are needed in life, especially in educational institutions. Many researchers have conducted studies on educational system innovations because the implementation of information systems in educational institutions has made a positive contribution to education management. The existence of an educational information system provides convenience in communicating, exchanging information quickly and accurately, as well as an increase in educational services. This research is based on the implementation of the Edunav Information System as an information system innovation which is applied to educational institutions. Edunav is an application for student progress reports in learning in the form of e-reports. The form of the reported activity from the learning process includes attendance, homework, quizzes, unit tests and so on. This study aims to uncover the factors which drive the Edunav Information System to be implemented and the benefits derived from it at the SMP-SMA Kesatuan Bangsa Bilingual Boarding School Yogyakarta. The method used in this research is a qualitative research method with a case study approach. The data of this research are obtained from in-depth interviews, observation, and literature study. In-depth interviews were conducted with several informants by means of a snowball. The results of this study show that there are several factors which encourage the implementation of the Edunav Information System at the Kesatuan Bangsa School, which are 1) complex problems occur in the field as there is no integrated system; 2) manual data processing which is recorded in books; 3) the existence of school initiatives to make changes from conventional to digital schools by increasing the use of information technology; 4) increasing competitiveness among schools is significant, especially for private schools. The perceived benefits of the Edunav Information System are 1) as an information system for schools, parents, and students; 2) as a media to support education; 3) as a means of control for schools, parents and students.

Keywords: educational innovation; information system; Edunav Information System

Introduction

National development as a whole is an important and fundamental issue in relation to education. Education as a process of cultural transformation is actually a place for change and the dynamics of the culture of society and the nation. Therefore, education provided through guidance, teaching and training must be able to meet the demands of developing the potential of students to the fullest, both intellectual, spiritual, social, moral, and aesthetic potential so that full maturity or personality is formed (Syafaruddin, et.al., 2012: 1). Education is an activity which is carried out intentionally and planned through a process of guidance activities, guidance to children so that they have intelligence, emotional and spiritual intelligence and become human beings in life and later life (Ananda and Amiruddin, 2017: 4) . The current era of globalization has brought major changes which demand continuous improvement and development of the education system, especially educational institutions. If one wishes to keep up with the times, it is necessary to change or innovate in order to maintain existence with other educational institutions. Regarding innovation, Pervaiz and Charles D. say that innovation is not limited to objects or goods produced, but also includes attitudes to life, behavior, or movements towards a process of change in all forms of community life (Wijaya, et.al, 2019: 219). The Ministry of Education and Culture stated the same thing that innovation is an introduction to new things, new discoveries from things which already exist or are known previously in the form of ideas for methods and tools, input, or renewal (Meidawati, 2019:17-18). Everett M. Rogers cited in Ananda and Amiruddin (2017:1) suggests that innovation is a series of new ideas, practices, or projects which are interrelated with individual units with one another in which there is an adoption process.

The existence of innovation in the world of education is very necessary, with innovation in the world of education is one way in the framework of developing the quality of education itself (Subadi, 2011). As emphasized by Syafaruddin, et.al. (2012: 4), the existence of educational innovation is a necessity to answer the needs of the internal environment and to answer the external needs of the national education world, so that the implemented national education system can create a new cultural order for the nation which is smarter, advanced and prosperous. Rusdiana (2014: 46) states that educational innovation is an innovation to solve educational problems, in this case it does not only cover the level of educational institutions in a narrow sense, but also the national education system in a broad sense.

Currently, education managers must change the paradigm of managing the education system. The development of science and technology also demands an educational process which is relevant to the current 4.0 industrial revolution. The optimal use of technology as an educational tool is expected to produce output which can keep up with or change the times. As explained by Jaultop (in Fitria, et.al., 2021: 1), in this era of globalization, one can be called clueless or even illiterate if one does not master the development of information technology. Hitt explained that technology brings big and promising changes which are so broad so that universities cannott separate plans strategic, goals, and activities from data initiatives, resources, and administration (Kryukov and Gorin, 2017). According to Schneckenberg (2009: 412), there have been many studies showing that advances in Information and Communication Technology (ICT) can be used to realize innovative educational concepts in building platforms for learning activities. In situations like this, educational institutions must prepare a learning orientation with models of learning literacy and systems used in new educational

institutions by utilizing digital technology. Therefore, old literacy which is based on reading, writing, and arithmetic must be strengthened by growing new literacy, specifically data literacy, technology, and human resources; data literacy is the ability to read, analyze, and use information from data in the digital world, then technological literacy is the ability to understand mechanical systems and technology in the world of work (Hermann, Pentek and Otto, 2015).

Facing the era of the Industrial Revolution 4.0, education is needed in order to form a creative, innovative and globally competitive generation. The development of science and technology is also the demand for an educational process which is relevant to the current industrial revolution 4.0, the optimal use of technology as an educational aid, is expected to produce output which can follow or change the times. Tondelur, et.al. in Selwyn (2011) quoted by Lestari (2018: 95) stated that digital technology has now begun to be used in educational institutions as a means of supporting learning, both as a means of information and as a learning tool. Kristiawan, et.al. (Emalia & Farida, 2019: 161) asserted that reforms or innovations which must be carried out to improve the quality of education services in Indonesia would include the development of technology used in the education process, the education system applied, even innovations which are directly related to education. The same case is also implied in e-government in government organizations which are used as a medium of information and services to the public. There is an e-office for correspondence; a Population Administration Information System (SIAK); a Labor Management Information System (SIMNAKER); and many others. Likewise, the world of education continues to experience developments in technological innovation, such as Zoom-meets which are used as distance learning spaces; Google Class Room which is used as an information medium for delivering assignments and learning materials; and others. Seeing this statement here, it can be indicated that digital innovation in the world of education is expected to be able to reduce or solve problems in education, then can improve the quality of education services in Indonesia and simplify and accelerate all forms of activities which exist in educational institutions.

In improving the quality of education services in Indonesia, the Eduversal Foundation has created an innovative School Information System (SIS) based on a website and application under the name of Edunav. Edunav is used in each school as a medium of information in supporting school activities, both for the educational institution itself and outside parties, such as parents and students. Edunav is a new breakthrough in improving service quality in education management. With the existence of Edunav, it is easier for schools to provide information, select and process data until it reaches the students and parents. However, in implementing an information system in educational institutions, it is adjusted to the most important problems in the field. There are several problems which are often faced by schools in implementing education management control in schools running the wheels of management, as revealed by Lestari (2017: 62) that one of the serious problems in improving the quality of education in Indonesia is the low quality of education services in various areas level of education both formal and informal education. Then Ibrahim, RMS (Rusdiana & Moch. Irfan, 2014; Rusdiana, 2019) added that several problems also included: (1) educational services to students were less than optimal; (2) the absence of collaboration facilitating the coordination; (3) unsustainable accountability; and (4) the provision of information is not fast and effective.

Therefore, Kesatuan Bangsa School has implemented innovations initiated by Eduversal as one of the educational information system innovations in supporting

administrative activities, services and learning processes in schools. On the other hand, the Kesatuan Bangsa School is a boarding school where some of the children stay at the school during the learning process. This encourages the school to provide quality services to parents and gain their trust. This will also have an impact on maintaining the existence of the school so that it can compete with other schools. So schools must implement an information system which can be accessed by parents to control their children while participating in the learning process at school. Then Kesatuan Bangsa School is also the first school among partners to implement the pilot project "Technology in Classroom" where the school tries to modify learning by using technology to support the teaching and learning process. With the encouragement of supporting technology facilities, this is a positive value for schools in implementing information systems. The Kesatuan Bangsa School as a formal educational institution, through the application of a management information system, is willing to interpret, define and implement an educational model according to their own expectations by following the times. Based on the above background, this research will explain about the implementation and the benefits of Edunav Information System in Kesatuan Bangsa Junior and High Schools.

Methods

The method in this research uses a qualitative method with a case study approach. Hamdi & Ismaryati (2014) argue that the purpose of this research is to describe certain conditions which have been sufficiently developed based on existing theories. Qualitative research is also a means of understanding individual and group meanings related to social problems which occur (Creswell, 2014). Hamdi and Creswell's perspective can provide flexibility for researchers to collect field data based on

existing theories. This research also uses a case study approach where researchers will study cases of implementing the Edunav Information System in Kesatuan Bangsa Schools. Researchers choose case studies because the main research question is related to "How" or "Why". Consistent with Yin & Djauzi Mudzakir (2006), researchers have little opportunity to control the events to be investigated and whether the focus of research is on phenomena that are happening in real life (Yin & Djauzi Mudzakir, 2006). Then Neuman (2014) suggest which the case study method is more effective in describing complex multifactorial events and processes at certain times. This perspective is by this research which wishes to know about the implementation of the Edunav Information System implementation at the Kesatuan Bangsa School in Yogyakarta.

The data and data sources of this research are primary data and secondary data. Primary data is done by selecting informants using the snowball method, where the snowball method is looking for other informants based on recommendations from informants who were previously considered to have sufficient information to answer research questions. Secondary data is obtained from documents/literature which are relevant to the research focus taken.

As for the data collection techniques in this study, researchers will use the Neuman (2014) approach including interviews, observation, and document.

1. Interviews were conducted in-depth with key informants, which is school operators and school principals. Previously, interview guidelines had been prepared as a form of question and answer to obtain information from informants. The interview process was carried out face-to-face directly with the school which implemented the Edunav Information System, and using Zoom-meet media with several informants who did not allow face-to-face meetings.

During the interviews, the researchers would maintain health protocols due to the Covid-19 pandemic. During the interview process, the researcher recorded the results of the interviews and then transformed them into the form of interview transcripts from each informant. The transcripts are used by researchers to help process data processing.

2. Observation. The researcher's observation technique begins with direct observation in the field to observe the benefits of the process of using the Edunav Information System. Then the obstacles encountered in using Edunav in Kesatuan Bangsa Schools.

3. Documents (literature study). The document technique was carried out indirectly by the researcher by collecting and reviewing websites, journals and books obtained by the researcher regarding the use of Edunav.

The data analysis technique used in this research from the Miles (2014) model can go through three processes, that is data reduction; data presentation; and conclusion. After the data is completely collected, the researcher will first verify the data from interviews, observations and documents to find out why Kesatuan Bangsa School implements the Edunav Information System and the benefits obtained for the school, students and parents. The two researchers will analyze and compare these data to produce research finding. Then from these findings, researchers will conclude the research conducted.

Testing the validity of the data was also carried out in this study, using the data triangulation method. Triangulation of data used in this study is using source triangulation in which there are three sources of informants in this study, that is the school, students, and parents. Asides from that, triangulation techniques are also used, which are based on data sources in data collection techniques (Sugiyono, 2018; Please, 2012).

Research Context

The administrative processing and school data to become the required information will be explained comprehensively. Administrative processing and school data will involve the Edunav Information System. In this chapter, the researcher discusses the relation between the Kesatuan Bangsa School and the Eduversal Foundation, the process and background of the emergence of the Eduversal information system created and developed by Eduversal and then applied to the Kesatuan Bangsa School and other partner schools. This chapter also discusses the state of the Kesatuan Bangsa School which is the research location. The history of the school, the organizational structure of the school and the state of the resources are available in the school.

Results and Discussion

Factors Encourage the Implementation of Information Systems

The existence of the Eduversal Foundation in Indonesia as an educational consultant has had a positive impact on the progress of education in Indonesia. Eduversal or PT Edukasi Universal Indonesia is an educational service provider company which has various programs to improve the quality of education in an institution. Eduversal as a service provider aims to prepare and implement unique and high-quality programs designed to help educational institutions increase detailed individual and comprehensive success. In this case, Eduversal has created several activity products to support and improve the quality of education services in Indonesia, one of which is the presence

of the Edunav Information System which is implemented in schools which partnered with Eduversal throughout Indonesia, one of which is the Kesatuan Bangsa School. This implementation is due to several supporting factors, such as stated below.

1. Data recording and processing are manual

When it was first established in 2011, the data processing and administration process at the Kesatuan Bangsa School was carried out manually, this was done because the school did not yet have an information technology-based system connected to the internet. In processing the data, everything is done manually because an information technology system has not been implemented to store and process the data. As with student attendance, processing the data is still manual. The teacher will record students' attendance in a separate notebook, so this takes quite a long time. Then the student registration process is carried out manually in writing and reporting to schools and educational foundations, so it will be difficult to find registration files for student data. As well as checking school payments, parents have to contact the school if they need this information. At that time the processing of school documents was still manual, such

as teacher and staff data being recorded in books.

Processing these data results in delays in the delivery of information for both students and parents. These data include recaps of teacher, and student data, parent data, daily test scores, midterm exam scores, final semester exam scores, student attendance recaps, lesson schedules, curriculum data, school payment/financial data and other values related to Non-Academic. Students have to wait for the results of the Mid-Semester Examination and Final Semester Examination in the next few days to find out, because the administration department must first wait for the grades from the subject teachers which will be included in the student's report card, and these grades will also be archived by the academic department. The application of information technology is important for schools, making changes to data processing and information delivery faster. The information system becomes a bridge between interacting schools and providing information to interested parties without interacting directly so that this can speed up the delivery of information widely and variedly. Then, the existence of information technology in educational institutions helps and completes the processing of education management data so that it is better stored in one data.
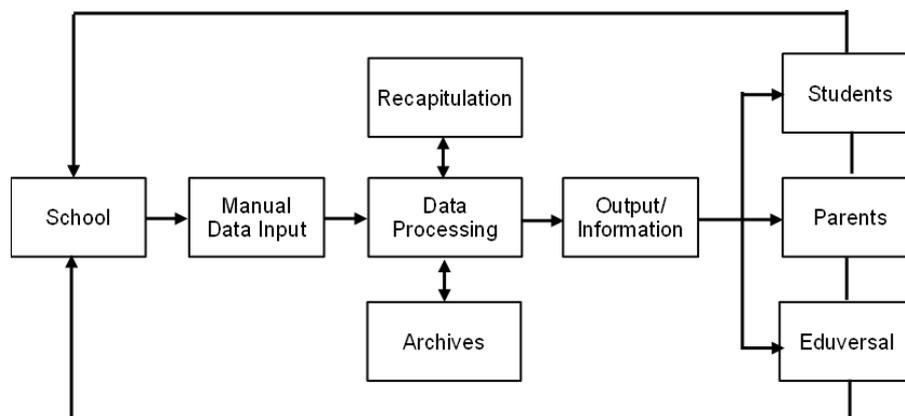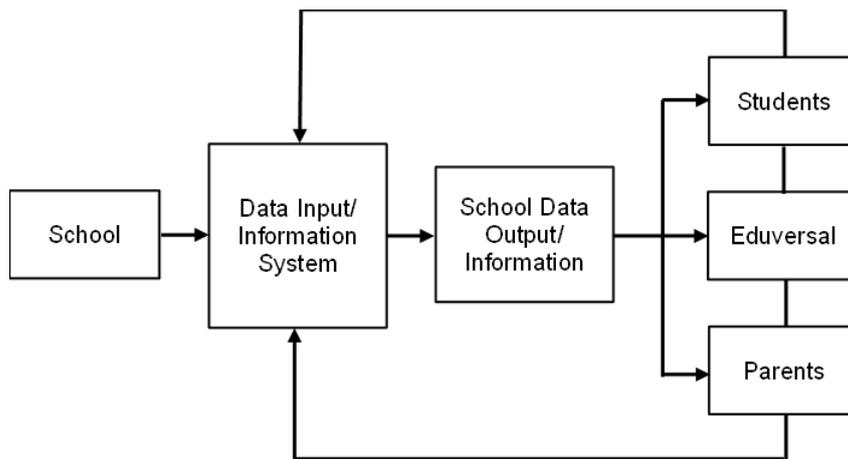

Source: Processed Products Researcher, 2022

Figure 1. Flow of Data Processing and Administration Done Manually Before Use System Information

The application of information technology is important for schools, making changes to data processing and delivery of information faster. The information system is a bridge between schools interacting to provide information to interested parties without direct interaction so that this can accelerate the delivery of information widely and varied. Then, the existence of information technology in educational institutions helps and complements the processing of education management data so that it is better stored in one data.

Source: Processed Products Researcher, 2022

Figure 2. The Flow of Data Processing and Administration is Carried Out After the Implementation of the Information System

2. School competitiveness demands

Competitiveness in the world of education is increasing and this requires educational institutions to continue to create new things to improve the quality of educational services and be able to compete with other educational institutions. Thus it will increasing trust from the general public. Not only this, new ideas can also further improve the quality of education in a country. Along with this, there is also a demand that in meeting the academic needs of schools there must be an information system which can manage school management.

The use of technology in schools is very important to increase competitiveness compared to other schools. Information technology not only expands access to information and knowledge, but also enables a more interactive, dynamic and relevant learning process for young people who grow up in the digital era. By using digital tools and online learning platforms, schools can offer a more dynamic and relevant education which prepares students for the challenges of a rapidly changing world. In addition, the use of technology can also help measure and improve the quality of learning and enable schools to innovate teaching methods. Therefore, the use of technology in schools not only increases the competence of students, but also enhances the image and attractiveness of schools in the increasingly fierce competition in the education sector.

Yogyakarta is known as a city of students with many public and private universities and schools. This causes increasingly fierce competition between one another. Kesatuan Bangsa School is one of the private schools

in Yogyakarta which must be able to compete with other schools in terms of gaining the trust of the community. So that people wish to enrol their children in the school. Its coverage area is not only the city of Yogyakarta, but all cities in Indonesia.

3. Increasingly complex school data

The emergence of the Edunav Information System is due to problems which occur in schools. The problems raged from the process of collecting, recording, processing, duplicating, storing and sending until the information is received by decision makers and used as information as needed. For instance, how many students are present today? How many of them have not paid the tuition fee (SPP)? This is because no system can organize it as a whole due to the absence of integrated system so the school carried it by a manual recording collaboration with the local system available at the school. This is one of particular concern to schools and Eduversals to overcome these problems. Therefore, considering that data must be processed, managed and completed on time, supporting actions are needed to provide maximum output on time. So that the implementation of activities in educational institutions becomes more effective and efficient.
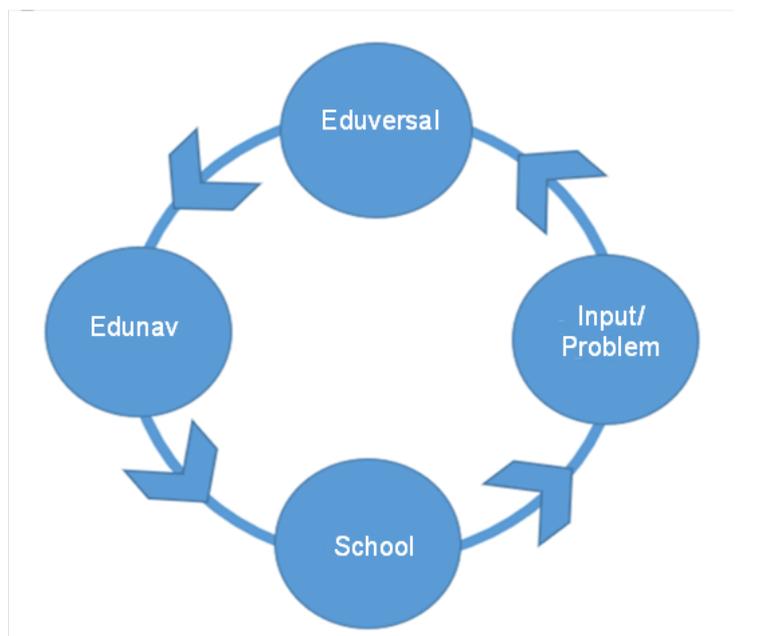
Source: Processed Results Researcher, 2022

Figure 3. Creation and Development Process Flow System Information Edunav

4. The demands of technological development

The development of science and technology in the current era is the main driving factor in improving the quality of education. Using technology is a must for any institution. Eduversal realized this and created a school information system to assist school management in processing data, that is Edunav. The application of information technology is important for schools, making changes to data processing and information delivery faster. The information system is a bridge between schools interacting to provide information to interested parties without direct interaction so that this can accelerate the delivery of information widely

and varied. Then, the existence of information technology in educational institutions helps and complements the processing of education management data so that it is better stored in one data. *Edunav* is a cloud-based school management/ information system application developed by Eduversal which can help schools to help streamline school management. By using *Edunav*, schools can store data, process and analyze school performance from various aspects to improve the quality of education. Anticipating rapid changes and increasingly complex challenges, there is no other way for aneducation institution to continue doing everything to improve the quality of educational services. This is also one of the motivations for the Kesatuan Bangsa School to implement the *Edunav Information System*. The school fully supports quality improvement in education by prioritizing technology, by implementing a pilot project called *Technology in Classroom*. This is evidenced by the application of several programs which are applied, one of which is the application of technology in the learning process.

Benefits of Implementing Edunav Informations Systems

1. For School

The presence of an information system in schools has a huge dominant effect on educational management and the importance of an information system as part of the use of technology in education. The presence of information systems in educational institutions provides many useful roles for educational institutions, such as school management, supporting school operational activities, providing transparency in school information, and providing information faster and better. Therefore, the presence of a school information system can be an important part which moves

and supports educational institutions in competing globally. By having a school information system, educational institutions can provide various kinds of information according to school needs. *Edunav* as an information system in the Kesatuan Bangsa School provides benefits in terms of daily data processing needs and supports activities in data processing to become managerial information and other strategic activities. Then *Edunav* developed not only as an information system, but became a *Learning Management System* (LMS) as a distance learning media assisting in the learning process, teaching and learning process, both for teachers and students. With *Edunav*, teachers can upload learning materials, such as learning materials, or learning videos. Then students can actively study the material which has been inputted by the teacher into *Edunav*. Therefore, with the *Edunav Information System*, teachers and students will be better prepared to participate in teaching and learning activities at school.

Edunav Information System continues to develop with the addition of new features which can be useful for school institutions. During the COVID-19 pandemic, *Edunav was very useful* for educational institutions, such as in conducting remote learning and exams. Within *Edunav* itself, there is a feature to conduct Mid-Semester Exams and Final Semester Exams online which is equipped with an *on-came camera feature*. When the exam is about to start, students enter the *Edunav system* and then enter latihan. id and enter *the exam code* of the subject being tested. With this, it is easier to control schools and teachers in supervising online exams, teachers monitor and supervise from school while students are in their respective homes. With the existence of an information system, it is expected that schools will have a better system, which can assist schools in conducting school management and assist teachers in learning activities, furthermore,

with a good system, it can educate students to become better individuals who can excel. in learning. Not only that, the existence of an information system which is implemented can improve the quality of education itself. Although the parameters of the quality of an educational institution cannot only be seen or assessed from one side, at least a good information system can support and encourage efforts to improve the quality of education. Some of the benefits obtained by school elements are as stated below.

a)   Headmaster

The principal is a management regulator who controls school activities. In school management, the existence of Edunav makes it easy for leaders, that is school principals, to carry out good and directed organizational management, make decisions based on data, and carry out checks on certain sections. This makes it easier for school principals to organize employees teachers and other important data. Then about evaluating the performance of teachers, admin and staff, the principal can easily control the performance of admin and all staff in the school, for example in terms of attendance, administrative completeness, and performance by the main tasks and functions of each. Because in this case, the school principal can see existing data stored in the Edunav Information System.

Furthermore, the school principal can see and control the performance of the students. *Edunav* itself makes it easy for the school principal to see and control the performance and development of all students in the school. For example, those related to

academics, such as subject grades. The principal can also directly check the grades of the students in each lesson, therefore the principal can know the progress of students' progress in participating in learning at school. Therefore the presence of the Edunav Information System is of great benefit to school principals in terms of managing activities at school.

b)   Academic section

Academic activity is the most important activity in the world of education. Therefore it must be regulated in detail and directed in terms of achieving the goals set. With integrated information technology, it is easier for academics to organize and manage academic and non-academic activities at school. Just like at the Kesatuan Bangsa School, there are non-academic activities*, group discussions, one-on-one meetings, educational characteristics, sports and social activities.* Achievements in these activities are easily regulated and monitored in their implementation and progress. In connection with school academic activities, such as student exam scores, school exams are carried out online *through* the Edunav Information System, with the results coming out immediately after the exam is completed. This makes it easier for the academic department to quickly find out student grades after taking exams. To maintain and improve student discipline in class attendance, the Edunav Information System is the technology used for student *attendance.* Student attendance is carried out digitally through the Edunav Information

System. The teachers will record it through the information system. This makes it easier for the academic department to check and see the attendance of students in class following the lesson.

Apart from that, in the Edunav Information System, academics can find out the Teacher's Learning Implementation Plan (RPP) in digital form, making it easier for the academic department to check and see the subject teachers in the school because each teacher must make a Learning Implementation Plan and store it digitally in *Edunav.*

Another important thing is related to school documents. The existence of the Edunav Information System can store important school documents. The *Edunav* Information System makes it easy for the academic department to store important school administration documents properly and neatly, such as building permits, cooperation contracts, land deeds, etc.

c) Public Relations section

Public relations is the most important part which cannot be separated from school institutions because the existence of public relations creates good relations between the school and outside parties. Public relations is part of the school's marketing to attract interest from the outside community to send their children to Kesatuan Bangsa School. Through the use of various social media, such as YouTube, Instagram, Facebook and others, the school management continues to provide information related to the school as widely as possible to increase

information regarding the existence of the school and attract the interest of the wider community.

The existence of the Edunav Information System at Kesatuan Bangsa school received a positive response from the internal Public Relations Department. Before Edunav came into the picture, the registration process was done manually following the format of the enrollment report sent from Jakarta to partner schools. The enrollment report contains the number of form contents, test participants and re-enrolled students. This report was forwarded to the management and also the central foundation in Jakarta. This made the enrollment process less effective and efficient. After the implementation of Edunav, the process of registering new students has become more concise and simple, the reports are also available in the system itself. In the Edunav Information System, there are information report features related to school registration and marketing. This registration feature serves to detect the number of forms which have been filled in, the number of test participants, the number who have re-registered, the registration of new students or transfer students, and new students who come from our school or other schools. This registration feature is also a mapping of applicants based on regular or scholarship pathways.

d) Teachers

The quality of educational institutions does not only depend on the student achievements achieved while participating in learning activities at school, but also the

quality of the teaching staff, in other words, the teachers availability. This requires teachers as resources in schools to understand the use of technology which can support the learning process. The presence of an information system in educational institutions which provides a lot of information is very useful for teaching staff in helping the learning process be effective and efficient. Carrying out work which was originally conventional when the information system has changed to digital, it is a big change which is beneficial for teachers in using technology. The presence of the Edunav Information System at the Kesatuan Bangsa School is no exception, this has had a huge impact on the teaching staff at the school. Moreover, during the COVID-19 pandemic, Edunav helped teachers in conducting online learning and processing student data into information. The use of Edunav during the pandemic was carried out in a hybrid manner with Google Classroom.

The existence of an information system at Kesatuan Bangsa School makes it easy for teachers to manage academic data and store it into a database. It also benefits teachers because it is easier to make reports for academic purposes, and make it easier to find data when needed in teacher administration and school academic affairs. As well as in the exams conducted, the development of Edunav into a Learning Management System (LMS) makes it easier for teachers during the mid-exam and final-exam process. Because the exam is done online through the system for all subjects the value of each subject

tested, the grades will come out directly when the exam is over. At the beginning of the implementation of the Edunav Information System, only certain subjects could be done through the system because it was still in the trial stage, but over time the development continued until all subjects took the edunav exam.

2. For Students

Edunav Information System at the Kesatuan Bangsa School provides excellent benefits for students in supporting the learning process and outside of learning. As an information medium, the existence of the Edunav Information System makes it easier for students to obtain school-related information in academic and non-academic terms. In terms of academics, the *Edunav Information System* provides information regarding lesson schedules, student grades and graphs, subject teachers, student report cards, exam results, attendance/ attendance, and obtaining learning materials. Furthermore, in *Edunav*, one can find out the test scores faster because after taking the test, the scores come out immediately. Just like when the EASE exam is taken, when one finishes answering on the questions, the scores come out immediately. In *Edunav*, students can also see progress charts of subject grades, so they can compare when the graph goes up or the graph goes down. This makes *Edunav* an evaluation of students when maintaining grades or increasing grades in each subject. Furthermore, the graph of these values becomes motivation and encouragement for students because they can predict how many grades they should get when they want to enter the university and the desired major. To improve the learning process, the Edunav Information System developers are starting to add the function of the system as a supporting medium in learning,

the existence of the *Edunav Information System* as a *Google classroom* provides full support in the learning process. This makes it easier for students to get material from the system that has been uploaded by the subject teacher. However for now, it has not been used optimally because it is still in the development stage. This process can be a concern for the developer or developer to improve the update of the system.

Apart from academic matters, the presence of the Edunav Information System is also related to non-academic matters. The *Edunav* Information System provides information such as giving added value from teachers in this case about giving *green cards/red cards*, knowing the results of tests carried out by students such as personality tests, and information related to extracurricular activities. Unfortunately, the information on extracurricular activities is not optimal using the *Edunav Information System,* it has not been used optimally regarding extracurricular schedules and supervisors.

3.   For Parents

Since some of the parents live far away, separately from their children, and they are busy with their work, they cannot monitor their children's progress at school all the time. This fact will have an impact on student achievement and discipline while they are at school. Therefore, there is a need for school to provide the best service for the parents because it supports student achievement at school. Every parent wishes to monitor and control their child's progress in following the learning process, such as the values obtained, school assignments, and all activities related to school academics. Therefore, the existence of the Edunav Information System at Kesatuan Bangsa school has a positive impact on parents, because with this system parents can monitor and control their child's learning progress while participating in learning, such as daily grades, test scores, teachers, lesson schedules, attendance, and other activities that shape students' personality and character. This becomes an evaluation of parents to their children to encourage achievement in learning and increase discipline while at school.

Conclusions

Factors which Drive Educational Innovation

Below are several driving factors found in the research related to the innovation of the Implementation of Education Management Information Systems in Kesatuan Bangsa Schools which is called the Edunav Information System.

1)   Data processing is done manually and recorded in a book which makes it less effective and efficient in carrying out education management governance. Therefore, learning activities will be hampered if administrative management is less than optimal. Slowly the classical learning methods were left behind with changes which were more effective, interactive and attractive by combining contemporary educational methods with modern technology at Kesatuan Bangsa Schools.

2)   Some problems occur in the field of processing school data which is increasingly complex, such as there is no integrated system. So the emergence of inputs from each school requires a system and then creates an information system which is integrated, connected directly and able to store as a whole in one data system.

3)   Increasing competitiveness among schools is significant, especially for private schools. This encourages schools to improve services in the learning process and the results obtained by each student.

4) There is a school initiative to make a change from conventional to digital school with the application of information technology. The presence of information technology in educational institutions is highly important because the digital changes will make school administration and learning activities run more effectively.

Benefits of Implementing Edunav Informations Systems

Based on the results of the study, it was found that the Edunav Information System provides benefits as a school information system, including for school institutions, for students, and for parents.

1. For School Institutions

The application of the Edunav Information System in the Kesatuan Bangsa School provides benefits for school institutions. To be specific, the benefits are as listed below.
1) As a school information system, Edunav helps schools manage school management more effectively and efficiently.
2) As a learning media, the Edunav Information System has developed into a Learning Management System (LMS).
3) As a media for student control in conducting school exams, in this case the Edunav Information System provides convenience for schools in controlling students in carrying out mid-semester examinations and end-semester examinations. Besides that, the information system also provides benefits in several parts of the school, including for the principal, for academics, for teachers, and for the school's public relations department.

a. Principals, including:
• to simplify school management,
• to facilitate the evaluation of the performance of teachers, admins and staff,
• to monitor and control student performance.
b. The academic section, including:
• to know the progress of students in one week,
• to know the Teacher's Learning Implementation Plan (RPP),
• to know student test scores faster and precisely,
• to monitor the atsignance or student attendance,
• to save important school documents.
c. Public Relations Department, including:
• to simplify the registration process and reporting of new student data collection,
• to know faster the number of students who register according to their respective paths,
• to easily access and control the number of new student registrations.
d. Teachers, including:
• to add knowledge, technology literate teachers,
• to facilitate data processing and data back-up,
• to easily monitor the student attendance
• to facilitate the assessment of students.
• to make it easier for teachers to do exams.

2. For Students

Edunav Information System at the Kesatuan Bangsa School provides significant benefits for students in supporting the learning process and outside of learning, including:

1) as a medium of information, in terms of academic and non-academic.
   - Academically, the Edunav Information System provides information related to class schedules, student grades and their graphs, subject teachers, student report cards, exam results, attendance, obtaining learning materials.
   - Non-academic, the Edunav Information System provides information such as the provision of discipline scores from homeroom teachers and teachers as praise or warning. As well as information on student development in extracurricular activities, but currently the use of Edunav for extracurricular activities is not optimal.
2) as a supporting media in learning activities,
3) as a supporting medium in continuing studies.

3. For Parents of Students

Edunav Information System at the Kesatuan Bangsa School has a positive impact on parents because with this system, parents can monitor and control the learning progress of their children while participating in learning and other activities which shape the personality and character of students.

Recommendations

From the analysis above, several suggestions can be considered by developers and users of the Edunav Information System, as below.
1. Many other facilities can be developed in this system. This development can certainly improve the performance of the system to be better in order to meet the demands and needs of the educational institutions.

2. To optimize the use of the Edunav Information System, it is necessary to increase the mastery and understanding of technology from existing human resources.

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