

# *Digital Technology Application Policy In Supporting Digital Era Of Educational Industry In Politeknik Negeri Bandung And Sman 24 Bandung*

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**Abstract**— This study was aimed to determine the extent of the implementation of digital technology application in the education field, especially in Politeknik Negeri and SMAN 24 Bandung . The method used was a qualitative research design because the researcher seek to observe and express in depth what is happening in reality and will observe more and explore the behavior of the object being studied and also the policy of this digital technology application. The results of the study showed that Politeknik Negeri Bandung and SMAN 24 Bandung has implemented digital technology in almost all fields. It can be concluded that the policy for the application of digital technology needs to be implemented thoroughly in order to spread evenly in all fields that are the object of policy. In addition, there needs to be an effort to prepare Human Resources who are able to keep abreast of the times through the application of information technology in the education field.

**Keywords:** *Application, Digital Technology, Education, Policy Implementation*

## I. INTRODUCTION

The development of digitalization has brought consequences for change, including in the political and governmental processes. One of these changes occurred in the process of public service.

We cannot avoid technological developments in the 21st century. Today, digital technology is a basic necessity for the whole community . Many people now have started to move from using manual tools to using technology tools because the technology can provide effectiveness and efficiency in almost every work activity. Kemendikti (Ministry of Research, Technology and Higher Education) said that technology is an applied science that has been further developed including hardware and software and further development of applied science is carried out through research and development activities .

The digital era of industry 4.0 creates educational institutions to move forward and equip all levels of society with extensive digital knowledge. It also encourages the improvement of skills and work ethics for the world of work in the future. The development of digital information and communication technology has also resulted in a major change in educational institutions that is increasing competitiveness to become an educational institution that is interested in educated people . Advances in information and communication technology have changed the lifestyle of humans, both at work, socializing, playing and learning.

Definitely, the implementation of industry 4.0 must be followed by the formation of a healthy and sustainable ecosystem , so that the main objective of the implementation of this policy can be implemented well.

Although the policy of this technology application has mostly been implemented by the Politeknik Negeri Bandung, there are still a number of things that have not been implemented using digital technology including student attendance list which has so far been using a manual system in which to check student's attendance, lecturers usually call each of student's name every time the lecture will be started in the class. As a result of this manual attendance system , many manual attendance are confusing and even detrimental to the students because the system allows lecturers to provide Alfa information for students who are unable to attend at that time, with the consideration that it will be corrected according to information by letter to be delivered by students at the next day. Then, the student's activity proposal also still use a manual system,by collecting activity proposals to those in charge of student affairs, so that these proposals are often scattered and piled up to wait for their turn to be examined and obtain an approval from the authorities.

This can be seen as one of the failures of the implementation of a policy because the implemented policy is not equal in all aspects that should be the object of this digital technology application policy.

Different from the application of information technology (digital) that has been done at SMAN 24 Bandung, almost all aspects or parts have already used digital technology such as the learning system, the student attendance system, the meeting invitation system for parents of students and all of things related to the performance of the teachers. Unfortunately, in fact, the readiness of Human Resources to be able to follow technological developments becomes an obstacle in the implementation of this informational technology . Therefore, the researcher seek to discover and analyze the extent of the successful implementation of information technology application policies in the world of education.

## II. FINDINGS AND DISCUSSION

### **Policy on the Application of Digital Information Technology**

E-Government initiatives in Indonesia have been introduced through Presidential Instruction No. 6 of 2001 on April 24 regarding Telematics (telecommunications, media

and informatics) which stated that government officials must use telematics technology to support good governance and accelerate the democratic process (Rosmiati, 2009). Then, the 2001 Presidential Decree was perfected with the issuance of the 2003 Presidential Decree. In the instructions of the President of the Republic of Indonesia Number 3 of 2003 concerning National Policies and Strategies for e-Government Development, it was mentioned about the matters that were considered for the implementation of e-Government in Indonesia, including:

That the rapid advancement of information and communication technology and its potential for widespread use opens opportunities for accessing, managing and utilizing large volumes of information quickly and accurately.

That the use of communication and information technology in government processes ( e-Government ) will increase efficiency, effectiveness, transparency, and accountability in government administration.

That in order to conduct good governance and improve effective and efficient public services, it is necessary to have e-Government development policies and strategies .

### **Application of Digital Technology in Politeknik Negeri Bandung**

Politeknik Negeri Bandung (Polban) is one of the government-owned educational institutions that has implemented policies on the application of digital technology, although it is not as a whole. Given that the application of technology has a considerable influence on the development of education in the 21st century , the availability of a wide variety of learning media, the applications related to the student and the enhancement of the human resources (HR)'s quality can be applied by on line.

In this era of industrial technology of the fourth generation, the competition in the education industry is higher, so that Politeknik Negeri Bandung is government-owned educational institutions must still have a complete and good profile in order to be more attractive to the prospective agents of change to gain knowledge in qualified institutions with good education and technology based. The technology implementation policy itself has been initiated and implemented in stages by the campus because in the course of implementing this policy, many benefits are felt both for students and for the institutions themselves. Benefits or positive impacts of the technology implementation policy are:

1. can finish the job more easily and quickly
2. can communicate with others with e-mail facilities, chat , and direct communication (conversation) even it is through the internet or often called videocall .
3. appear various kinds of communities from the internet to establish new relationships.
4. facilitate in searching for needed information.
5. allows shopping through internet / online media .
6. can access the internet easily and cheaply.
7. get entertainment, for example online games , and others

In addition to the positive impact of the policy of applying digital technology, it also has negative impacts, including:

1. occur a fraud via telephone, SMS and the internet
2. access easily porn videos.
3. occur plagiarism) .
4. occur burglary account or credit card ( hacker ) or cybercrime
5. increase attitude of consumerism.
6. occur online gambling
7. Miss- information.
8. forget to carry out the obligations of learning, worship, and others

The description of the positive and negative impacts of this digital technology application policy can also be a reference for the users of this technology, so that when negative consequences are more dominant, interested parties must be able to anticipate the various possibilities that will arise so that the technology implementation policy is not misdirected and will even have a prolonged impact.

Politeknik Negeri Bandung use some technological devices in the learning activity process such as an LCD projector that facilitates a lecturer to deliver the lecture materials in face to face meeting in the classroom and also to conduct a general seminar or a lecture which is followed by many students . By using LCD Projector media, the students look more serious and concerned in paying attention to the lecturer compared to using conventional methods, which lecturers are only focused on books and lectures , then the use of LCD is classified as effective for the delivery of material.

Lecturers also often use gadgetry technology or smart phones to interact with students . The use of device is more on target if there are lecturers who have high preoccupations so it is difficult to be able to meet directly with students to convey certain information related to teaching activities . Although the use of this device is not appropriate if it is used to deliver lecture material, this device or smart phone makes it easy to convey information from both parties if needed right away.

Other facilities provided by Politeknik Negeri Bandung in the frame of the implementation of the policy on the application of digital technology is the provision of Digital Library, e-learning and a variety of applications that facilitate students to obtain needed information such as information about the score of each subject, information about the acquisition of GP (Grade Point) and GPA (Grade Point Average) . In addition, students are also given the convenience of the availability of online tuition payment applications or UKT so that payments are made quickly and organized. For Digital Library, students can access it using GDL or Ganesha Digital Library which is a web-based application for a simple digital library. .This application is easy to use to manage electronic documents, images, photos, audio and video .

E- learnings in Politeknik Negeri Bandung is online learning service for students in which its use is required address e-mail that has been made at the time a student is accepted and entered into Politeknik Negeri Bandung.. For e-learning , not all departments in Polban apply it and this is

one of the challenges for Polban institutions to be able to develop and apply it thoroughly in every department as a technology-based media that can facilitate the teaching and learning process.

In the implementation of digital technology application policies in Politeknik Negeri Bandung, the students are definitely equipped with a netiquette. Netiquette is ethics in the use of the internet that have the same characteristics as the ethics that exist in everyday social life that is functioning as manners that must be considered in social relations so that relationships are always built well. Therefore, the students when using information media that uses technology will not fall into negative things such as hate speech, gossiping and other activities that are not relevant to the objectives of implementing this digital technology application policy.

The entire description above showed about the level of successfulness of Polban in implementing digital technology application policies. This will look perfect if some of the problems that arise can be overcome by applying digital technology as well. Based on the results of the field review and interviews with several informants, the problem of attendance list for students who so far have still used the manual method, would be better if they began to switch to using finger print technology as applied to administrative employees and educators. Despite of this case, Polban should allocate additional budget to buy finger print device, but it will reduce the work of homeroom because they do not have to make a recap of student attendance with the level does not reach 100% accuracy. Thus, the problems related to student's attendance will not be repeatedly happened and this will certainly add the value to the successfulness of Polban in implementing the policy of applying this digital technology.

Then based on interviews with the officials who are responsible with student affairs, data was obtained that the producing of application is on process that will facilitate student organizations to input the proposal submitted by online and also of the application will see the proposals that will be approved and You will also see proposals for activities that will receive funding. This certainly will facilitate both parties involved, namely the student department and also the student organization itself.

### **Policy on the Application of Digital Technology at SMAN 24 Bandung.**

The policy of applying information technology, especially digital technology, at SMAN 24 Bandung, is based on the vision and mission of the institution, which is to further improve achievements in the field of Science and Technology (IPTEK) and want to support technology literacy programs in the 21st century. This is manifested by commitment and full support from management to be able to use digital applications in every activity and every part both related to students and educators and administrative staff.

Programs that use information technology include Edubox which is a pioneer in the use of this digital system in SMAN 24 Bandung. Edubox is a portable server that already contains learning application software easily connected to pre-existing computer networks, either wired (LAN) or wireless (WLAN). Edubox servers use low-power computing technology, making it energy efficient and environmental

friendly. SMAN 24 Bandung chooses to use Edubox because its use is not dependent on internet access so as to minimize signal interference which often impedes the process of teaching and learning activities. In addition, Edubox is also adapted to the needs of the secondary education curriculum in Indonesia. Edubox can include student daily assignment applications, online exams, daily grades input applications and student report grades. With the existence of Edubox, the work of teachers can be more effective and efficient.

Besides Edubox, SMAN 24 Bandung also implements a finger print system for all teaching staff, administrative staff and students in terms of attendance. Utilization of this technology reduces attendance recap work that takes up time and reduces the potential for errors and fraud in attendance recaps. To support the application of the finger print system, SMAN 24 Bandung cooperates with BNI Bank to implement the Edu Patrol service application. This service will help institutions to report the real time attendance of students entering or leaving school. In addition, Edu Patrol also helps in reporting the results of daily, weekly and monthly students's test. In addition, edu patrol also helps teachers to make e-report cards and informational reinforcement to parents of students. Finally, edu patrol also helps institutions / schools in the administration field which parents can pay SPP / DSP (School fee) directly through the nearest BNI bank so that it is expected that SMAN 24 Bandung can improve performance in administrative services for the community.

The policy targets for the application of digital technology at SMAN 24 Bandung in addition to students are educators and administrative staff. The application used is K-Mobile or abbreviated as K-Mob. This application must be owned by every employee in this institution which this application includes a recap of all activities of all employees so that the employee performance appraisal system (SKP) can be easily obtained through this application.

The overall explanation above showed the firm commitment of SMAN 24 Bandung in using digital technology in every aspect so that the vision and mission of this institution can be achieved. However, in every policy that is taken, surely there are still some deficiencies or problems that arise and can become obstacles to the achievement of the goals of the organization / institution. Based on interviews with those responsible for the implementation of digital technology at SMAN 24 Bandung, information was obtained that there were two things that needed to be really well prepared in order to support the implementation of an IT-based education system that was in line with expectations, that is, the readiness of Human Resources (HR) in following the flow of the development of this digital technology which is often an obstacle in the learning process activities. For this reason, the responsible party seeks to conduct various training for teachers and administrative staff to improve their skills in using digital technology which training is conducted periodically and in stages divided by age group. The biggest obstacle is when Human resource as an application user is old and has a little difficulty being able to understand the application system operation so that it takes a large amount of effort to train them to be able to operate the system.

Then, the next is to prepare supporting facilities to the maximum in the sense of having to prepare a special budget in an effort to maintain all existing application devices. Based on information received, the budget for maintaining all of the application devices has so far been obtained from BOS funds and to date, the allocated budget is still sufficient. These funds are used to maintain software and hardware costs. If there is a high commitment of these two educational institutions namely Polban and SMAN 24 Bandung to advance by following the flow of digital technology development, it is not impossible that the country, especially the world of education in Indonesia, can participate in realizing the achievement of a world of technology-savvy people.

### III. CONCLUSION

Based on the description of the results of the study, it can be concluded that the application of digital technology has an important role, including in the field of education. There are many benefits that can be taken to help lecturers and students as well as teachers and students in implementing the teaching and learning process. The implementation of a policy is said to be successful if it can spread out evenly in all the parts that are the object of the policy, so that there will not be a partial problem if the policy is implemented as a whole. Improving the quality of Human Resources in terms of information / digital technology also determines the level of success of an institution in realizing a technology-savvy world community.

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