Comparative Analysis of Digital Transformation in Village and Sub-District Government

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Abstract. This research study aims to compare the implementation of digital transformation implementation at the lowest level of government units. The research employs a descriptive qualitative approach wherein researchers use primary data sources as references. This research collects data through observation, interviews, and documentation. This study provides an overview of the comparison of digital transformation at the village and sub-district government levels based on the theory of 8 elements of success of e-government in Indonesia which include; Political environment, leadership, planning, stakeholders, transparency, budgets, technology and innovation. In this study, there are differences in adaptation between villages and sub-district governments which are influenced by the commitment of leaders and hierarchical directions from the government above them and the level of maturity of e-government.

Keywords: digital transformation, e-government, sub-district government; implementation, success elements E-Government.

1 Introduction

Digital transformation as a multidimensional phenomenon supported by a combination of technologies, has social, political, and economic impacts that trigger the need for strategic responses [1]. In an era where public services play a key role in responding to emerging impacts, adapting policies, and providing innovative solutions to protect and improve people's welfare, it has brought about many changes in public services. Technological disruption refers to changes that occur as a result of new technologies or paradigm-shifting innovations. Disruptive technology is an innovation that successfully transforms an existing system or market, by introducing practicality, ease of access, convenience, and economical costs. The term was first coined by Clayton M. Christensen and Joseph Bower in 1995. "Disruptive Technologies: Catching the Wave"[2]. Technological disruption can be used to deal with VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) where digital disruption and VUCA are two concepts that are intertwined in the public service administration environment. An agency that is responsive to VUCA can use digital disruption as a strategy to adapt quickly to technological change.

Future government, as the goal of bureaucratic governance, can be a reference for the modernization of the government process. In developing its governance system, the government

has future governance in a mindset shift "from governing for citizens to government with citizens" as a form of renewable government system based on democracy in achieving its goals. This involves the community becoming an actor in the development process and the government. The role of the community is included in both the planning and decision-making processes. Therefore, a government system with this mindset uses the problems that exist in society to become a new solution in improving the quality of life of the Indonesian people.

Digital transformation in Indonesia is one of the government policies to encourage governance in utilizing digital technology optimally. In supporting the development of a country, Information Communication Technology (ICT) plays a very important role because it is the key to building the strength of a country's competitiveness in the global arena. The challenge for the government, especially local governments today, is to fully utilize this technology to improve public services in governance effectively and efficiently. Better governance through digital transformation will not only impact public services, but will also be able to intensify citizen engagement in driving national development. For this reason, the government in Indonesia issued one of the policies governing the digital transformation of government, namely Presidential Regulation No. 95/2018 concerning Electronic-Based Government Systems (SPBE). According to an intermediate expert from the Ministry of PANRB, the purpose of simplifying the bureaucracy is to accelerate the decision-making process, encourage government agility, utilize information and communication technology, and improve the professionalism of public services.

When implementing the digital transformation process in West Java, Indonesia itself still requires a lot of improvement, especially in the implementation of SPBE (Electronic Based Government System). Here SPBE is expected to realize a more advanced and directed bureaucracy, because sometimes some procedures carried out manually are found to have human errors. West Java Province is one of the provinces with superior digital transformation as seen from the Bandung City government's SPBE index of 3.61 in the very good category based on the results of SPBE 2022 monitoring and evaluation. Another thing that is highlighted in the implementation of SPBE in West Java is the implementation of the Service Technical Implementation Unit (UPTD) Management of Digital Services, Data, and Geospatial Information or often known as Jabar Digital Service (JDS). In accordance with the vision of West Java's digital transformation, namely, making West Java a leading province in the use of data and technology to support public services and policy formulation that is more responsive, adaptive and innovative. Of course, the success of West Java is also followed by various efforts made in the city districts, including with the support of the lowest government work units, both Sub-District and Village. Sub Districts / villages.

The implementation of SPBE is not yet fully qualified because it still makes people less familiar with the digital transformation. One of them is seen in the data quoted from the West Java Provincial Government Website, which states that 81.1% of 164 respondents still do not understand government services in West Java and are still complicated and difficult to access information. Even in some cases, some websites launched by the government are inactive, not updated, or under repair. This results in the search for digital information by citizens to be not optimal. Therefore, various strategies are needed that can support the realization of digital transformation, especially in the government sector from the highest level to the lowest level to be able to realize a higher quality, effective and efficient bureaucracy. In this study, researchers wanted to see how the transformation adaptation was carried out at the village level, while the areas that were used as the focus this time were Pajajaran Village and Jatihandap Village while the village areas used were Cipagalo Village, Sayang Village, and Kayuambon Village.

2 Methods

This research uses a type of qualitative research with a descriptive approach. Cresswell in 2013 states that in qualitative research designs researchers can study individuals (phenomenological narratives); explore processes, activities and events (special studies, grounded theory); or learn about the broad cultural interaction behavior of individuals or groups [3]. This descriptive approach is intended to describe the results of the research and then draw conclusions. The data obtained from this research are primary data and secondary data. Primary data obtained through observation, interviews and secondary data obtained through retrieval from several journals and several other secondary data sources that have been indexed nationally. Thus, the purpose of this research is to analyze the comparison of the implementation of digital transformation at the Sub District and village levels. Thus, the purpose of this research is to analyze the comparison of the implementation of digital transformation at the Sub- District and village levels. It is hoped that the implementation of SPBE can be applied in every region in West Java, Indonesia evenly in order to improve the quality of public services and readers are expected to be able to obtain information about comparisons related to digital transformation at the lowest level of government, namely between the village and village levels.

3 Result and Discussion

The Indonesian government has taken steps to encourage digital transformation in supporting the development of e-government. According to Hartono, Nugraha (2018) explains that e-government is a government system process by utilizing ICT (Information, Communication and Technology) as a tool to facilitate communication and transaction processes to the public, business organizations and government agencies. It is hoped that this can achieve efficiency, effectiveness, transparency and government accountability to its citizens. Digital transformation in the Indonesian government aims to change the way public services are delivered to the public through the utilization of various digital technologies, such as the development of applications for public services. In addition, the government has also set strategic activities in the field of information and communication technology by continuing to encourage digital transformation through investment in digital infrastructure. Based on the 2020-2024 RPJMN, the Government of Indonesia has developed a digital transformation direction for 2024 in which digital economic growth must reach 3.17% to 4.66%. The role of digital transformation is not only about technology, but also paying attention to social elements such as culture and society.

In measuring the progress of implementing digital transformation in a region, researchers look at 3 aspects, namely policy implementation, policy strengthening and infrastructure. The application in the implementation of transformation in the village and in the sub-district will clearly be different, this means that it is not always the case that the village has a direction of development and technology that is lagging behind the village in the city. Like the application of infrastructure in Cipagalo Village, which has sufficient infrastructure to support the implementation of digital transformation. Cipagalo Village has quite a lot and adequate stakeholders, has a fairly good application of technology and is more advanced than the surrounding villages, unlike the Pajajaran village. This village, located in the middle of Bandung city, has inadequate infrastructure when compared to Cipagalo Village, which is located in Bandung Regency. Kelurahan Pajajaran still does not have an adequate WIFI network, besides

that the hardware equipment provided is still lacking for operations in supporting the implementation of digital transformation. When viewed in terms of policy implementation in the use of internal village applications. One of them is the policy for implementing the SISKEUDES (Village Financial System) application. In Sayang Village, the SISKEUDES application has been implemented as an application in village financial management. Meanwhile, in Kelurahan Jatihandap, the SISKEUDES application has not been applied and implemented, instead, Kelurahan Jatihandap uses the E- office application as a place for financial management.

To support the implementation of digital transformation in government, various indicators of success are needed to support the implementation of SPBE in the government system. Based on the theory put forward by Indrajit (2012: 61-68) in his book explains the results of research from the University of Maryland there are several elements of success that affect the implementation of e-Government projects. Based on the results of this research, there are eight elements of success that play a role in e-government project management, namely as follows: Political Environment, leadership, planning, stakeholders, Transparency, budget, technology, innovation. In comparing and analyzing the implementation of SPBE in villages and Sub-District, the theory of success elements is needed as a parameter for comparison, so that it can be analyzed using 8 success elements as follows:

A. The First Element of Success is Political Environment

Political Environment is the state or situation in which a project is being implemented. There are two types of political environment: the Top Down Project (TDP), where the project is determined by the highest authority of the government, and the Bottom Up Project (BUP), which is carried out on the idea of the head of the unit or government. Based on the locus used for the research here, referring to the maintenance of transformation that is either bottom up or top down, the ability of Jatihandap to apply the type of Top Down to one of the applications through the application of Wargapedia applications that have previously been implemented in the Prefecture and is a derivative of the Mandalajati Department. In its implementation, the Wargapedia application is expected to be used to simplify the data collection process to become more efficient, meet data requests from various agencies, avoid data duplication, and facilitate the provision of public services in real time. Wargapedia is basically a digital location logging application that matches birth, death, move-in, and move-out data that is crunched. In the Wargapedia application, there are some advanced features such as SIMPEL ONLINE (Online Population Administration Information System) which is a feature for the creation of statements because the population data is already registered in the applicant's application, such as Universal Statements, Incapable Statement, Business statements, Identification of persons, Birth Certificate, Death certificate, Marriage Introduction, WNI Application Letter, SKCK, and Master KK. while the SIMPLADUK (Demographic Reporting System) features to facilitate the production of statement letters and Migration and Population reports.



Fig. 1. Example View on the SIMPELADUK Application

Can be seen in the figure 0.1 above which is one of the population reports data based on birth, death, relocation, dating from July 2023 to August 2023.

In addition to Wargapedia, Jatihandap Sub District also implemented several other applications such as, SIPAKU (Integrated Authority Administration Service Information System) to manage the flow and processes of administration and services to be fast and accurate and can provide satisfaction and increase the level of happiness of citizens to the service team / officers and operators in the disaster so that they can work structured and smooth based on existing submissions. In addition to Wargapedia, Jatihandap Sub- District also implemented several other applications such as, SIPAKU (Integrated Authority Administration Service Information System) to manage the flow and processes of administration and services to be fast and accurate and can provide satisfaction and increase the level of happiness of citizens to the service team / officers and operators in the disaster so that they can work structured and smooth based on existing submissions. In addition to the training program, the implementation of digital transformation has also been implemented in other areas such as Sayang Village and Kayu Ambon Village. Both villages are still using digital transformational maintenance that is top down. Applications used in Kayu Village Ambon include SISDES, SISKEUDES (to manage village finances), and SISANTAI. Applications used in Sayang Village include E-Office, Wakepo, Tahu Super Apps, Siparumil, PRODESKEL, SI geol and Ma uneh and special tools for electronic signatures. Based on our research and analysis, Kayu Ambon Village. However, seen from the comparison between the two villages, Kayu Ambon Village is still under the instruction and instruction of the government that is on it, namely the West Bandung district. But in Sayang Village, seen from the commitment of the village chief, even though they haven't given birth to the village appliance, they have an attempt to harmonize with the use of a homemade application that's SIPARUMIL. So it can be concluded that even if this area is in the village and not in the city as well, but the geographical conditions of the territory do not guarantee the superiority of a village, the role of the leader is very necessary.

B. The Second Element of Success is Leadership

The assertiveness and involvement of leaders are needed in the implementation of e-government, both in consultation and at the highest level of monitoring and evaluation. In addition, the commitment given by the leader to the village or kelurahan also has a great influence on the sustainability of the village. In Padjajaran Sub-District, The leader has not had a strong initiative and commitment to innovation and change, they are still rushing to the command of the government that is above him, the city government of Bandung. Different of In the kayu Ambon village, they are still rushing to the instructions of the government department over it, the Bandung western district. But in the Sayang village, seen from the commitment of the village chief, although they have not given birth to a village-made

application, but they have an effort to harmonize using a homemade application that is SIPARUMIL. In essence, neither Sub-District nor the village has yet to undertake any leadership activities, but in the Sayang village, the leadership and administration system is good because the village of Sayang is part of the district of Sumedang which has become a pioneer and national standard, so that it has a good impact on the village.

C. The Third Element of Success is Planning

Planning is a determination of what to do and how to do it. Mature planning will affect how a project runs. In sub- district government, there is not yet a specific mission vision for implementing digital transformation in its service, but they hopes to be able to improve the quality of service even better. In sub- district government, there is not yet a specific mission vision for implementing digital transformation in its service, but they hopes to be able to improve the quality of service even better. Meanwhile, in the Sayang village the planning described to realize the productive, skilled, creative, and strong young generation of IMTAQ and IPTEK. Jatinangor is very consensual in creating a smart city but it has not yet integrated the system that exists in all levels of the Regional Device Organization. (OPD). The process of managing the digital system that exists as part of the implementation of its mission for the change aimed at mission number 4 in Sayang Village is to "improve the science and technology of the community through synergy with the world of higher education / campus". The village has translated the SPBE architecture at the district level through the instructions of the DISKOMINFO of Sumedang District. As far as planning is concerned, the government has already introduced a mini-command

D. The Fourth Element of Success is Stakeholders

Stakeholders are the parties that have various interests both directly and indirectly in the implementation of the project. Amid a digital transformation, both rural and rural governments need stakeholders to support their survival. In the early days of the SPBE, Bandung city has been working with providers for wifi networks in every complex urban village as an early reinforcement of the digital transformation by working with the private entity PT telkomsel. Thus the stakeholders concerned with the prosperity of the city are PT Telkomsel, central government agencies and colleges, and by 2022, the city is also working with Melbourne for the development of digital infrastructure. Unlike Sayang village, Sayang village works with stakeholders, both directly and indirectly, in order to the vision and mission of e-Government that is (convergence), Sayang village gained support from the private entities or the private sector, college academics for studies, central government, NGOs, entrepreneurs and from the community itself who support this change so it is easy to adapt.

E. The Fifth Element of Success is Transparency

Transparency is the availability of data about the project, so that stakeholders can see and access information, and monitor everything needed. In Jatihandap Sub District, transparency still faces significant obstacles. Local residents feel poorly informed about the allocation of funds provided by the government and their use. Information related to the funds has not been shared in detail or transparently with the community, and this has created uncertainty about how and for what the funds are being used. In general, transparency in the management of public funds is essential for building community trust and participation. However, currently. in Jatihandap Sub District, the transparency of funds has not been reflected in the form of banners or digital platforms that provide clear information to residents. Instead, residents will only know the use of funds directly if they are recipients of the assistance. Therefore, to increase

transparency and community participation, further efforts are needed to provide more open and accessible information to residents regarding the allocation and use of public funds. Different from Kayu ambon Village. Kayu Ambon Village, has its own website which has a lot of information that is updated periodically. This information is provided by geographical location information, village financial reports and public service information including also reports related to the realization of the budget of APBDes Kayu Ambon village.

F. The Sixth Element of Success is Budgeting

Budgeting is one of the financial resources budgeted in a project that can be a force to determine the success or failure of a project. In terms of budgeting, the government provides different budgets for each village and Sub District, In Sub District Jatihandap still encounter obstacles in terms of budgeting, especially in terms the provision of facilities to support digital transformation. However, in the framework, funding for specific programs at the neighborhoods level has been proposed. Nevertheless, the planning and allocation phase of this budget is still in the process of improving to reach efficient and effective use of the funds. Different from In kayu Ambon Village, in organizing government administration and conducting construction in the village one of them is using the village fund, but the existing village funds is still focused on basic needs.

G. The Seventh Element of Success is Technology

Technology is one of the elements that determine the success of an E-government project implementation. This element is closely related to budgeting or the budgeting conditions allocated. This is related because if the technology used is more sophisticated, then the budget spent will be even greater. The technology owned by each village or Sub District tends to be different, depending on how human resources and the budget provided by the government for the village or Sub District. One example is the technology that is owned by Jatihandap Sub District, The technology facilities and supplies that are available to us are already available and adequate. From the computer, hardware, Wi-Fi network can be accessed, no blind spot area (area not reached by the signal) is available. But in Cipagalo Village, the technology that we have is equally sufficient, One of the technologies owned by the Cipagalo Village is the use of ADM machines. The ADM machine (Administration Dukcapil Mandiri) is a population document printing machine that is integrated with the central population database system to produce a single Population Identification Number (NIK) by utilizing information and communication technology. The main function of the ADM machine is to print population documents such as identity cards (KTP), family cards (KK), birth certificates, and death certificates. This machine is connected to the central population database system, so that the documents produced have a valid and verified Population Registration Number (NIK). However, for the use of ADM machines in Cipagalo Village, it is not yet possible to print Identity Cards because it is still integrated with the Ministry of Home Affairs, so for now the documents that can be printed are Family Cards (KK), Birth Certificates, and Child Identity Cards (KIA).

H. The eighth element of success is Innovation

Innovation is an element that makes a huge contribution. Innovation here is not only limited to creating products, but how the results of this implementation have a major impact on the implementation of the project. Overall, the innovations owned by each Sub District and village are certainly different. This can be seen from how the implementation of a digital transformation is applied in the village or Sub District. The Jatihandap village Kelurahan Jatihandap has made several innovations related to digitalization, such as creating social media accounts on

Instagram, Youtube, Facebook and Twitter. The innovation has begun to be developed in the last few years. Where in its social media, Kelurahan Jatihandap is active in sharing all information related to what is done in Jatihandap Sub District. Same with Kayuambon village and Sayang village still use digital transformation development in the form of applications originating from the center. There is no innovation made on its own initiative.

Table 1. The Comparations of E-Governance Between Sub-District and Village

The elements of	Sub- district government	Village
success		
Planning	In Sub district, there is not yet a specific mission vision on implementing digital transformation in its service, but they have hope to be able to improve the quality of service even better.	The process of managing the digital system that exists as part of the implementation of its mission for the change aimed at the mission number 4 in Sayang Village is to "improve the science and technology of the community through synergy with the world of higher education / campus". The village has translated the SPBE architecture at the district level through the instructions of the diskominfo of kab.Sumedang. As far as planning is concerned, the government has already introduced a mini-command center that is being tested in several villages in the sumedang district.
Stakeholder	n the early days of the SPBE, Bandung city has been working with providers for wifi networks in every complex Sub District as an early reinforcement of the digital transformation by working with the private entity PT telkomsel.	Sayang villages are getting a lot of support from the private or private sector, college academics for the studies, the central government and from the community itself that supports this change, then it's easy to adapt.
Budgeting	In Jatihandap sub district government still encounter obstacles in terms of budgeting, especially in terms the provision of facilities to support digital transformation.	In Kayu Ambon Village, in organizing government administration and conducting construction in the village one of them is using the village fund, but the existing village funds is still focused on basic needs.
Technology	In Jatihandap sub district government, The technology facilities and supplies that are available to us are already available and adequate. From the computer, hardware, Wi-Fi network can be accessed, no blind spot area	In Cipagalo village already using ADM Machine
innovation	in sub district government only have applications provided by the center	in the village only have applications provided by the center

4 Conclution And Recommendation

In this study, when comparing digital transformation in Sub Districts and villages, there is a variety of advances in digital adaptation in their respective regions. It's influenced by a variety of 8 aspects. Of the eight elements, the most powerful and influential element is the element of leadership. But with a variety of preparedness, there are those that have already gone very far, very well developed, and there are others that have adapted in their early stages. The condition is all influenced by how a leader in the region has been committed to making a shift from the original manual to digital. And how they try to understand what's in the government policy that is above them and execute those orders so that they can be implemented at the sub district government level or at the village level.

Strengthening the implementation of digital transformation one of which can be through the regulatory side. A village that wants its adaptation in its technology to run quickly automatically must be accompanied by the strengthening of regulations that are called the rule of the head of the village or the rules of the chief of village. Here it is important to have the commitment of the associated leadership that drives the will to change towards the expected digital transformation.

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