

DOCTORAL CONSORTIUM

# FOSTERING COLLABORATIVE DIGITAL TRANSFORMATION IN INDONESIAN LOCAL GOVERNMENT

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**Abstract** The purpose of this article intended to contribute as a additional reference in the field of public administration and to overlook a concept for the development of digital government transformation that focus on collaborations. This article uses a systematic literature review to explore how collaboration can play an important role in the implementation of digital transformation in local government. West Java Digital Service (JDS) is a digital-based local government agency in West Java Province, Indonesia has a goal as an accelerator of achieving government targets to break the digital divide for remote communities, improve the efficiency and accuracy of community data policies based on data and technology, to support responsive, adaptive, and innovative policy. Initial findings show that JDS does not originate from the purity of the bureaucracy, but rather an institution that formed specifically according to the needs in the acceleration of digital transformation. This means that not all local governments in Indonesia have these digital-based institutions. This article provides an overview of how Indonesian local government deliver a digital-base policy through joint decisions making, that seek to share power in decision making with stakeholders to develop shared recommendations for lasting solutions to public problems.

**Keywords:**

digital  
government,  
collaborative  
governance,  
pentahelix,  
local  
government,  
public  
policies.

## 1 Introduction

Digital transformation in the public sector means new ways of collaborating with stakeholders, building new frameworks of service delivery, and creating new forms of relationships (Misuraca et al., 2020). A successful digital transformation will enable public sectors to operate efficiently and effectively in the digital environment, and to deliver public services that are simpler and more effective policies (Greenway et al., 2021). However, fully realising this digital transformation requires a paradigm shift from e-government to digital government (OECD, 2014). Digital government approaches favour the use of ICTs for improved collaboration with stakeholders at different stages of the policy and service lifecycle, based on Government as a platform and user-driven policy environment for efficiency improvement and customized service development based on shared ownership and shared responsibility with civil society (OECD, 2020). Moreover, bringing citizens actively on board through collaboration in the design and implementation of policies and services further increases their legitimacy and effectiveness, and creates a feeling of ownership to their government.

The rapid development, deployment, and proliferation of the new and emerging ICTs through digital government create new opportunities for growth and development in countries around the world, including Indonesia. Government functions in Indonesia are classified into absolute and concurrent tasks. It is only the central government that manages absolute tasks, which include foreign policy, defence, security, the monetary system, the judiciary, and religion. The local government, including provincial and district governments, concurrently manage the other tasks, which include public works, health, education, culture, agriculture, communication, industry, trade, investment, environment, land, cooperation, and labour. In the overall distribution of tasks, the role of local government is to conduct the most needed public policy, providing services delivery, which usually includes education, health, and basic physical infrastructure, including ICTs. In addition, there is a principle of “money follows function”, which means that the transfer of tasks to local governments is then followed by a transfer of financial resources needed to execute them (Sutiyo & Maharjan, 2017).

Governments are seeking to harness the potential offered by these modern technologies to create new dimensions of economic and social progress. In recent years, governments around the world, including Indonesia, have tried to take advantage of information and communication technology (ICTs) to improve the quality of government administration and the quality of communication with citizens. Digital Government is not only about modernising public administration through ICTs, but it is a key enabler in the building of citizen-oriented, cooperative, and modern governance.

For local government in Indonesia, the concept of digital government transformation emerges as a strategy to address problems associated with its population and territory. In this article, the author will focus on one of the biggest local governments in Indonesia, West Java Province. With a population of more than 49 million people, equivalent to 20 percent of the total population of Indonesia. The expanse of area with an area of 3.7 million hectares is also one of the largest in Indonesia, West Java Province consists of 18 regencies, 9 cities, 5,312 villages, and 645 sub-districts. (Pemprov Jabar, 2022)

As one of the largest provinces in Indonesia, West Java experiences the most rapid population growth for ages. In line with high quality of human resources that have encouraged the social-economic development, made West Java one of the most productive and economically competitive province in the world. But like other big local government in Indonesia, West Java have had to deal with many recent problems in this digital era. This has presented local governments with challenges on delivering public policies and public services like education, public transport, and health services with equal access for everyone.

To accelerate digital transformation in West Java, Governor of West Java, Ridwan Kamil established Jabar Digital Service (JDS) as a government institution based on information technology innovation to assist efficiency in governance, policy making, accountability, community participation and the development of innovative and responsive public services. Jabar Digital Service (JDS), or the Center for Digital, Data, and Geospatial Information Services for West Java Province, aspires to realize the vision of the West Java Government as a digital province that is based on data and technology, supports community services and responsive, adaptive, and innovative policy making. (Jabar Digital Service, 2021)

This unit is under the coordination of the West Java Province Communication and Information Office, JDS has a mission to realize data-based policy making, accelerate government digital transformation, and simplify people's lives with digital technology. As one of the agencies that assist the West Java provincial government in developing the province of West Java based on data, aspirations or complaints which are a form of feedback, it can be used to help improve the quality of public services or improve public service infrastructure. One of the visions of Governor Ridwan Kamil in his government is to make West Java a digital province. JDS as a form of solution to overcome the problem of the digital divide between villages and cities, increasing efficiency and accuracy of policy making based on data and technology for the realization of West Java as a digital province based on data and technology, in supporting services and decision making. responsive, adaptive, and innovative public policies.

### 1.1 Collaboration to pave the way for Digital Transformation

The collaborative process according to Ansell & Gash is a series of components that run to form a cycle, influence each other, and in essence is a collective decision-making process (Ansell & Gash, 2008) Including the following:

1. Interface dialogue (face-to-face dialogue). Communication is crucial in the collaboration process, because of the orientation of consensus formation. Communication is often formed through direct discussions (face to face). Open communication then affects the formation of trust between actors.
2. Build trust (trust building). Activities that are continuously carried out and need to be improved. Building trust is a condition for building solid collaboration. Building trust is a time-consuming process and requires a long-term commitment to achieve collaborative outcomes.
3. Commitment to the collaboration process (commitment to the process). Commitment is an important component as well as a major challenge in the collaboration process. Commitment is influenced by the previous component (build trust). Meanwhile, the influencing factors (in terms of components) are mutual recognition and joint appreciation between actors. In addition, the ownership of the process (a sense of ownership of the process) which is manifested by the influence of each actor in making decisions is a driving force for commitment, but has a dilemma, due to differences and complexity in collaboration.
4. Shared understanding. In another sense, they are common mission (general mission), common purpose (general purpose), common objectives (general

objectivity), and shared vision (shared vision). The existence of a common understanding is a necessary condition during the collaboration process, so that common goals can be realized. The understanding in question is the unification of goals, defining the problem together, so as to minimize the occurrence of mutual misunderstanding or misunderstanding.

5. Temporary impacts (intermediate outcomes). The impact in question is that which occurs during the collaboration process, so there is the word “temporary” in it. This temporary impact generates feedback. More positive impacts are expected, as a booster and guard to keep collaboration on track, so they are called “small wins” or small wins.

## **1.2 Collaborative Outcomes**

The definition of outcomes according to Emerson et al (Emerson & Nabatchi, 2015) is "the third-order effect of the result on the ground", or the third form of development of the effects produced by collaboration in the field. Outcomes have the characteristics (1) there are desired outcomes, and (2) undesirable outcomes. This definition explains that outcomes occur from the continued development of effects, which have the characteristics of (1) having a desired outcome, and (2) an undesirable one. The two outcomes refer to positive and negative things. Impacts can be physical, environmental, social, economic, and/or political. The resulting impacts include added values resulting from collaboration so as to form a better society, or technological innovation, as stated by Emerson et al (Emerson & Nabatchi, 2015) namely: “...may also include the added value of a new social good or technological innovation developed by collaborative action”.

## **1.3 The Pentahelix collaboration as an integrative approach to accelerating digital transformation**

To accelerate this digital transformation, the West Java Government has taken a collaborative approach with the pentahelix concept. The pentahelix collaboration is a form of collaboration that involves five development actors, namely academia, business (private sector), community, government (public sector), and Non-Government Organizations or media (Viken, 2021). Based on the experience of the West Java Provincial Government, several criteria that need to be considered in selecting actors to join the task force in the pentahelix are: a) actors who are able and willing to participate in the entire planning process, from plan preparation to implementation of actions; b) actors who contribute constructively to the process;

c) actors who have networks in related sectors; and d) actors who can represent a larger variety of stakeholders than pentahelix. Therefore, in principle, not all parties within the government circle can join the pentahelix team. Interpreting this concept, there is actors who play a role in the development of digital gtransformation in West Java knows as ABCGM (academician-business-community-government-Media). In this case recommends the types of actors who are very suitable to be included in the pentahelix.



**Figure 1: A collaborative approach to academics, business, community, government, and media**

Source : (Jabar Digital Service, 2021)

The types are as described below (Viken, 2021):

1. Government actors (public sector) should meet the criteria: (a) are administrative representatives of cities, local governments, national government agencies, and (b) are political representatives of city governments or local governments (chosen to represent local or regional authorities in the task force).
2. The private sector (business) should meet the following criteria: (a) representatives from trade unions, trade unions or similar organizations; (b) representatives of the cooperative structure.

3. Non-governmental organizations should meet the following criteria: (a) local or regional environmental organizations; (b) national environmental umbrella organization; (c) the trade union governing natural scientists (may have knowledgeable and relevant representatives); (d) if any, youth environmental organizations.
4. The community should meet the following criteria: (a) resident associations; (b) trade unions and other organizations covering many and diverse citizens. These could be umbrella unions, and/or trade unions focused on influential industries; (c) interreligious organizations.
5. The academician meets the following criteria: (a) is an academic or administrative employee at a local or regional university or college; (b) is a researcher from a local research center.

#### **1.4 Digital Government**

The digital transformation shifts from e-government towards digital government (Vlahović & Vracic, 2015) require the introduction of the initiatives needed to make deeper changes in the provision of online services through government portals, into a broader government business. New, 'transformed' technology-based systems must not only be consumer-friendly, strategy driven, and capable of providing a better experience for those who interact with government, but more importantly, must also improve the way government operates (Barcevičius et al., 2019). Additionally, the shift shall allow governments to simultaneously satisfy the needs of the public sector itself; address the challenges of public sector employees and policy makers; and benefit all citizens. Janowski et al., (Janowski et al., 2018) view this shift as empowering citizens and other stakeholders to contribute to or lead the creation of public value, often recognised as one key feature of digital government transformation. Therefore, digital transformation towards digital government potentially transforms citizen-to-government interactions in two ways: by improving policy and service delivery, and by improving relations between citizens and government (Fountain, 2004). The government as a policy maker carries out thinking ahead, thinking again, and thinking across in detail, coherently, and consistently (Rahmatunnisa, 2019)

Based on the explanations above, the emergence of information and communication technology (ICT) in the field of public administration has been understood as a central part of the process of modernizing public administration. In a broader sense, the concept of digital transformation, digital government and e-government has

been used as an administrative reform strategy in the last two decades. This concept also resulted in an increase in the volume of research literature in the field of public administration and ICT, which has created multi-disciplinary knowledge and interesting research analysis and is relevant for the future development of public administration.

This article will thoroughly look at the steps to accelerate digital transformation carried out by the West Java Provincial Government, especially the pentahelix collaborative approach and the factors that influence the process. It is important to note that, although it is not possible to separate government processes from the technologies used in those processes, technology still occupies a limited place in the theoretical understanding of the public sector. The outcome of this article intends to contribute as a new reference for academics in the field of public administration and government studies and promote a model for the development of digital government transformation focusing on collaborative process in public policies.

## 2 Method

This article uses case study methodology to understand why and how a social phenomenon of interest occurs through data. Case study methodology is an appropriate approach to conducting this exploratory research (Yin, 2017). This study is also inductive so that it contributes to building new understanding. Case studies in local government are rare, and often tend to cover only certain practical issues in public policy and administration. Such practical matters could address a range of issues: from dealing with problems associated with reforming and restructuring ICT management in a local government setting (Nam & Pardo, 2011). This paper expands that research by exploring the ways in which collaborative governance affects digital government transformation in the Indonesian government. This research was conducted using a literature review research design. This research design was chosen because it is very effective in capturing empirical data from various secondary sources (Snyder, 2019). The collected data was then analyzed qualitatively following the steps of data analysis according to Miles et al. (Miles & Huberman, 1994), which includes condensation data, display data, and conclusion drawing/verification. In order to ensure the validity of the data, triangulation of sources was carried out during the research. Thus, the validity/validity of the data in this study was checked by matching three or more sources (triangulation). This stage



is necessary so that the data obtained is truly valid in accordance with the actual conditions. Besides being clarificative, this step is used because it can reduce unnecessary data (Woodside, 2010). There are at least four basic forms of triangulation proposed by Denzin (Denzin, 2015), but this study only uses one of them, namely data triangulation (informants/sources). Data that is considered valid is data that has similarities or similarities (mutually reinforcing) between one source and other sources.

### **3 Result and Discussion**

#### **3.1 The objective condition of digital transformation in Indonesia in general**

Indonesia has experienced significant economic growth in recent years and is transforming from an upper-middle-income developing country to one with an inclusive, modern, and respected economy on the international stage. One of the growth factors is rapid industrialisation, which can encourage national economic growth. Indonesia's real Gross Domestic Product (GDP) has more than doubled from USD 0.5 trillion in 2009 to USD 1.1 trillion in 2019. However, this condition is not in line with the level of innovation development that accompanies GDP growth. It can be seen on the 2019 Global innovation index (GII) that Indonesia's GII value is below Brunei Darussalam, the Philippines, Thailand, Vietnam, Malaysia, and Singapore. Indonesia's ranking in 2019 was 85, or the second lowest position compared to other countries in ASEAN (katadata.co.id, 2019)

Recognising the enormous benefits of digital transformation, President Joko Widodo, at the Limited Meeting on Planning for Digital Transformation, delivered five directives focusing on accelerating the national digital transformation agenda through five steps, namely: accelerating the development of digital infrastructure and the provision of internet services, preparing a digital transformation roadmap in strategic sectors, accelerating the integration of national data centres, developing human resources and digital talents, and preparing various regulations and financing schemes to support the digital ecosystem (Setkab, 2020). The five steps to accelerate digital transformation launched by President Joko Widodo are the foundation for the development of the Digital Indonesia roadmap. Digital Indonesia has set six strategic directives to realise its vision. The six directives aim to direct Indonesia

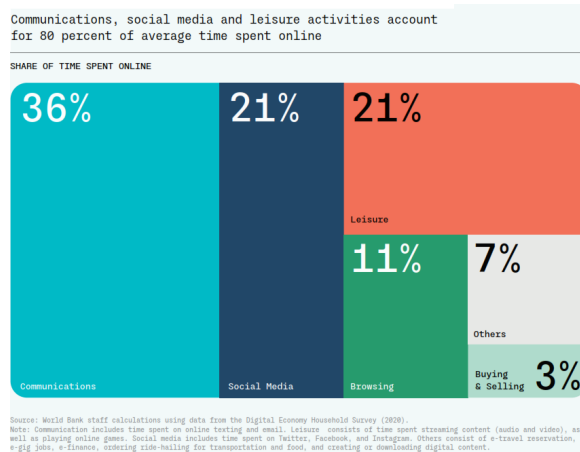
towards an innovation-based economy with world-class technological capabilities, skilled Human Resources (HR), and a society with a digital culture that is ready to face the future. In addition, the 2021 Draft State Revenue and Expenditure Budget (RAPBN) mandates some spending focuses to realise digital transformation in Indonesia. The Indonesian government has budgeted IDR 30.5 trillion in 2021 for ICT development, which is focused on several aspects (Setkab, 2020):

1. Acceleration of digital transformation for the administration of central and local government.
2. Realising efficient and fast public services, especially in the fields of education, health, and government.
3. Consolidation and optimisation of infrastructure, especially those used with cross-sectoral institutions.
4. Realising community inclusion in developing priority areas and promoting equality with additional internet access in 4000 villages and sub-districts.

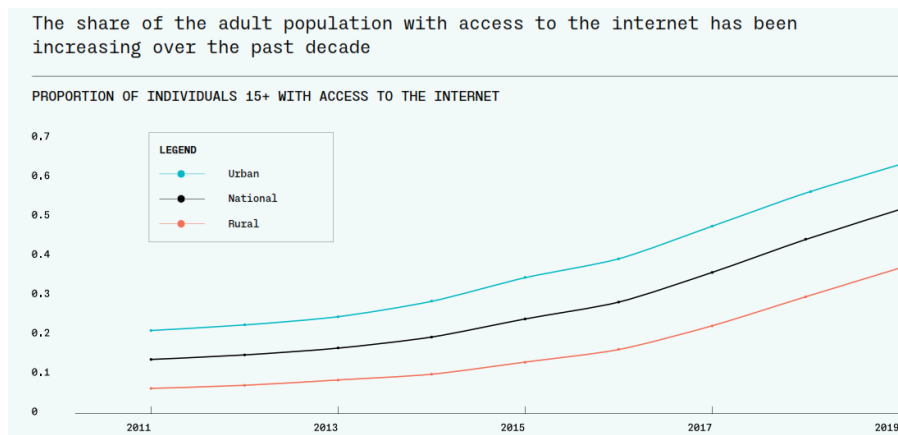
Digital infrastructure, the acceleration of digital transformation, and increasing human resource productivity through economic knowledge, are the focus of government spending in 2021. The development of digital infrastructure such as the internet is indeed needed, considering that there is still inequality in internet access in Indonesia. The average percentage of households with internet access in urban and rural homes in West Java Province reached 31.65%, while in Papua Province it was only 10.06%, East Nusa Tenggara Province 13.73% and Maluku Province 20.26%. Inclusive internet access is a necessity to realise digital transformation, but it is not the only determining factor. Other key factors include research and development (R&D) capabilities, production innovation capabilities, and talent capabilities. Unfortunately, Indonesia's capabilities in these various indicators have not shown encouraging results.(katadata.co.id, 2019)

Indonesia has maintained steady growth in internet connectivity, mainly driven by rapid investment in network infrastructure by the private sector. The share of the adult population connected to the internet has almost quadrupled, from 13 percent in 2011 to 51 percent in 2019. Despite this impressive growth, 49 percent of Indonesian adults are still not connected to the internet and a significant digital divide remains. across various spatial, economic and social dimensions. For example, the urban-rural connectivity gap is large and appears to have increased over the years.

In 2019, 62 percent of Indonesian adults in urban areas were connected compared to only 36 percent in rural areas. Urban and rural internet connectivity was 20 and 6 percent, respectively, in 2011.

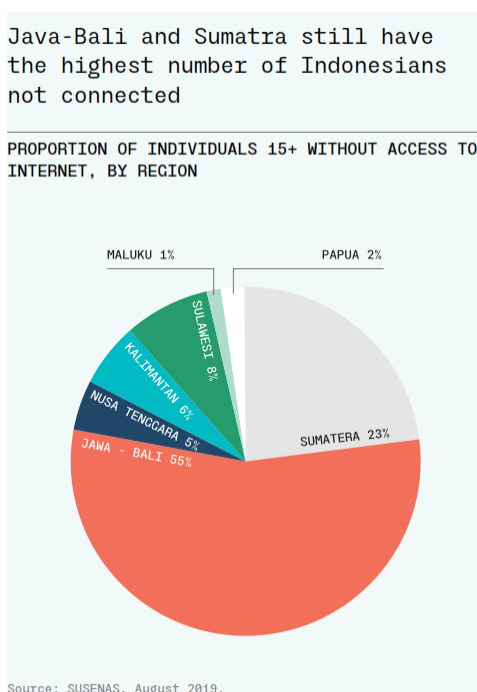


**Figure 2: The share of time spent online in Indonesia**  
 Source : Beyond Unicorns Report, the World Bank (World Bank, 2021)



**Figure 3: Proportion of Individuals with access to the Internet**  
 Source : Beyond Unicorns Report, the World Bank (World Bank, 2021)

Likewise, there are also sharp generation, education and gender gaps. Younger adults were significantly more likely to connect, as were better educated adults. Men are 8 percentage points more likely to be connected than women, indicating possible inequality in household device ownership. On the other hand, the number of internet users in Indonesia released by We Are Social has touched 175.4 million users. There was an increase of 17% and if calculated, the number of internet users was 25 million, an increase compared to 2019 (World Bank, 2021) The Ministry of Communication and Information Technology of the Republic of Indonesia in 2017 conducted a survey and obtained the results that 66.3% of Indonesians own a smartphone (Indonesiabaik.id, 2018). The increasing need for gadgets every year gives a positive signal for public service innovation.



**Figure 4: Proportion of Individuals without access to the internet by region**

Source : Beyond Unicorns Report, the World Bank (World Bank, 2021)

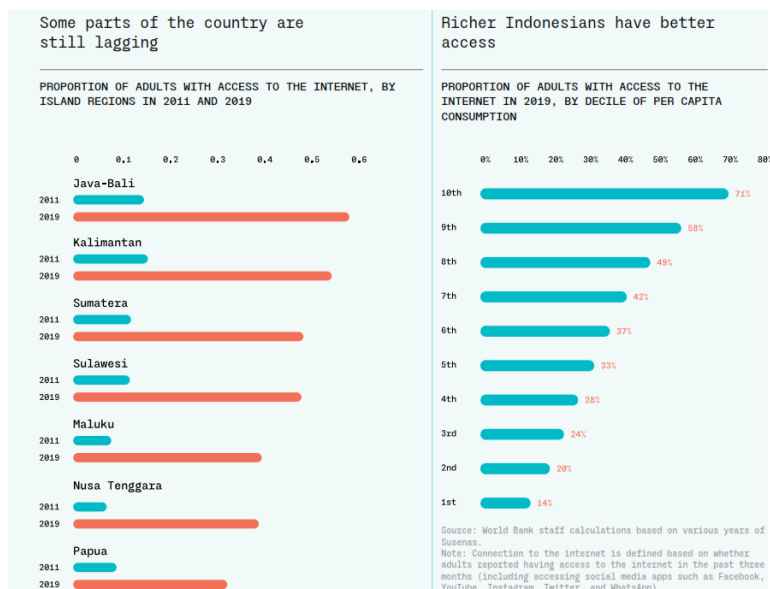
Indonesia itself has great potential in utilising and developing digitalisation opportunities. As stated in the National Medium Term Development Plan (RPJMN) 2020-2024, the assumption of the digital economy's contribution in 2020 is 3.17%,

and in 2024 it is forecast to be 4.66%. GDP growth for information and telecommunications in 2020 is predicted to be 7.12%-7.54%, while in 2024 GDP growth will be 7.54%-8.78%. In addition, the contribution of the Indonesian Ministry of Communications and Information Technology's digital program to Non-Tax State Revenue (PNBP) continues to increase. As of the end of 2020, Kemkominfo's PNBP reached Rp106.1 trillion. In the 2015-2019 period, Kemkominfo's PNBP grew an average of 3 percent per year. The government itself has allocated infrastructure funds both through the APBN and PPPs to build a strong and inclusive digital infrastructure.

However, Indonesia is considered not ready to take full advantage of this potential. In the Network Readiness Index (2020), which measures readiness to innovate in the face of the digital revolution, Indonesia is still ranked 73 out of 139 countries. Meanwhile, according to data from the World Digital Competitiveness Ranking (2020), digital transformation in Indonesia is far from countries in ASEAN. Indonesia is ranked 56th out of 63 countries, while Thailand is in 40th position, Malaysia is in 26th position, and Singapore is in second position. According to the World Economic Forum (2015), a 10% increase in internet access correlates with a 1.2% increase in economic growth in developing countries. Meanwhile, the addition of cellular subscribers up to 10% will increase GDP by 0.4%.

The Indonesian government has made great efforts to close the digital divide, especially with the implementation of the Palapa Ring project, which aims to expand the country's fiber optic backbone infrastructure to the eastern outer islands. With the completion of the Palapa Ring project in 2019, all 514 cities/regencies in Indonesia are now connected to the national backbone. This has led to a tremendous increase in the proportion of adults connected to the internet in all areas of the country's main island. But there are still sizeable gaps across the region. For example, Based on the Beyond Unicorns Report, the World Bank only about a third of the adult population in Papua is connected, compared to about 55 percent in Java-Bali. At the same time, the fact that almost half of the population, even in areas with relatively better infrastructure, remain without internet access points poses a major challenge in the middle and last mile connectivity segments. The income gap in access is also very large. Adults in families (World Bank, 2021) internet than adults in the poorest decile, only 14 percent of whom are connected. This sharp income gradient suggests possible affordability constraints in access to the internet.

However, In the latest developments, there are several positive points that can be turning points in digital transformation in Indonesia. It can be seen from the collaboration at the level of policy making, fiscal support and infrastructure. The provision of an electronic-based government system in Indonesia (SPBE) involves cross-sectoral government agencies; the Ministry of State Apparatus and Bureaucratic Reform, the Ministry of Communication and Information, the Ministry of National Planning, the Ministry of Finance, the Ministry of Home Affairs, the Agency for the Assessment and Application of Technology (BPPT), and the National Cyber and Crypto Agency (BSSN). Collaboration in governance has the implication that all parties involved have the same responsibility for decisions taken, therefore collaboration requires that the parties involved must sit at the same table and have the same power in decision making (Maulana, 2020).



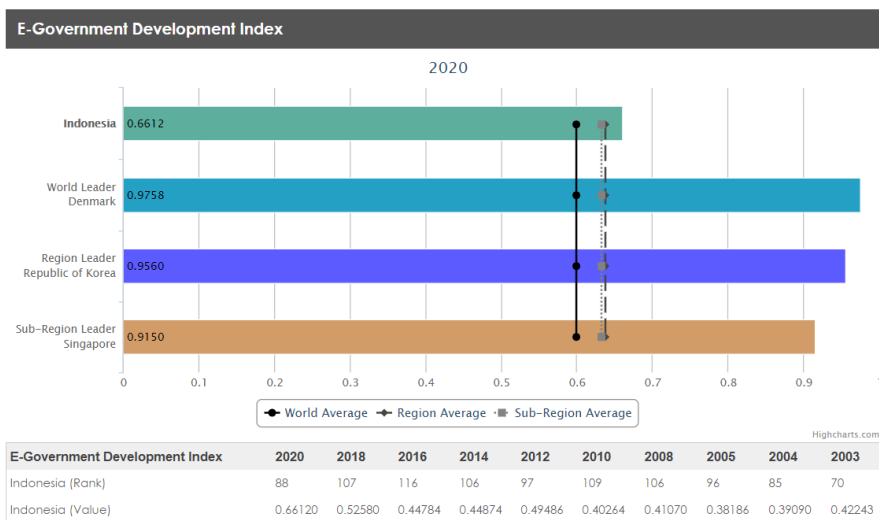
**Figure 5: Proportion of adults with access to the internet by island and decile per capita consumption**

Source : Beyond Unicorns Report, the World Bank (World Bank, 2021)

The United Nations (UN) e-Government Survey 2020, with the theme Digital Government in the Decade of Action for Sustainable Development, predicts countries that get more than 0.75 points as very high EGDI, 0.50 to 0.75 as High EGDI, 0.25 to 0.75 points. 0.50 as middle rank EGDI, and less than 0.25 as Low

EGDI. In this survey, Indonesia is ranked 88th in the development and implementation of e-government or an electronic-based government system (SPBE). Indonesia received an increase of 19 ranks compared to 2018, which was at 107<sup>th</sup>, and 116<sup>th</sup> in 2016. (UN, 2020). Overall, Indonesia got a score of 0.6612 in the High e-Government Development Index (EGDI) group in the UN e-Government Survey 2020, a result which put Indonesia back in the top 100 world rankings at position 88 out of 193 countries.

The challenge of digital transformation in Indonesia today is uneven infrastructure, as the condition of Indonesia's ICT infrastructure is still not evenly distributed throughout Indonesia. This is shown by the fact that there are still 12,548 villages/sub-districts that have not been reached by 4G services, 9,113 villages/sub-districts in the 3T (Underdeveloped, Frontier and Outermost) areas, and 3,435 villages/sub-districts in non-3T areas. Internet access in Indonesia is also still quite low. Based on Speedtest Global Index 2020 data, Indonesia's internet access speed is ranked 120<sup>th</sup> in the world, while for fixed broadband speed, Indonesia is ranked 115<sup>th</sup> in the world.(indonesia.go.id, 2022).



**Figure 6: Comparison between Indonesia e-government index and the other leading country in regional and global perspective**

Source: UN e-Government Survey 2020 (UN, 2020)

From the explanation above, it can be said that various efforts and initiatives have been carried out by the Indonesian government since the issuance of Presidential Regulation No. 95/2018 on e-Government for optimising digital government in Indonesia, but they are still not optimal and even far from what is expected by the regulations, although it is undeniable that there are several regions that show good performance in developing digital government. Based on some of the existing literature, there are many factors that can hinder and challenge the implementation of digital government in Indonesia (Alryalat et al., 2017; Maulana, 2020; Schwertner, 2017) as follows:

1. There is no clear standardisation regarding the implementation of digital government and the lack of socialisation on how to implement ICTs in a real and ideal way for collaborations in local government, which is related to the sustainability of the policy innovations.
2. The unavailability of adequate human resources to manage the business processes of digital government, which causes a gap between the government's internal bureaucracy.
3. The infrastructure network for technology and information is not evenly distributed to the regions (local government).
4. Lack of community engagement and digital literacy related to the use of ICTs because the majority of the population is in the lower and middle-class group.
5. Lack of commitment from top level policy makers in local government to support digital government implementations, which has hampered collaboration with stakeholders, including citizens.
6. Organisational culture that is less supportive of change, and a low culture of sharing knowledge and information, especially between government agencies.

### **3.2 Pentahelix's Collaborative Approach in West Java Province**

Through the concept of digital government, West Java Provincial Government intends to make the government come to the people - not the other way around. This option is realized by cooperating with the provincial government on third parties so that the public can get public services online (jabarprov.go.id, 2019a). The acceleration of digital transformation in West Java is in line with the regional medium-term development plan (RPJMD) for 2019-2023. The elaboration of the vision and mission on the RPJMD is carried out through innovation and collaboration, The West Java Province Vision Statement 2018-2023 with the

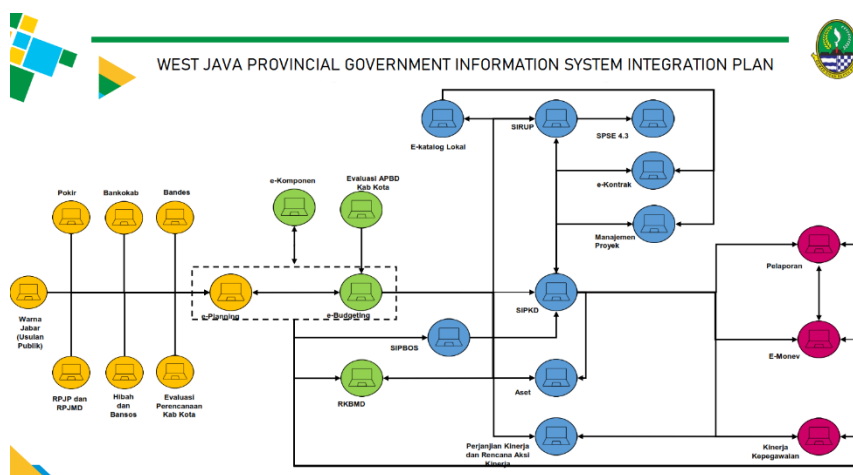


terminology "Innovation" means that development carried out in various sectors and regions is supported by innovation aimed at improving public services, quality of life and sustainable development. "Collaboration" means that the realization of the vision is carried out by collaboration between levels of government, between regions and between development actors to take advantage of potentials and opportunities and to answer development problems and challenges.

The RPJMD document introduces a new approach to development in West Java, one of which is the Pentahelix collaborative approach, represent collaboration with development stakeholders better known as ABCGM (Academic, Business, Community, Government, and Media). The implementation of development is expected not only to be limited to the process or method that has been carried out so far, but also to be accompanied by various forms of reform in the administration of regional government. Likewise, it is hoped that intensive collaboration will be established between the West Java Provincial Government and the central government as well as with district/city local governments, the private sector, NGOs, the media, and the public in general. Therefore, of significant steps are needed to harmonise the digital government with the collaboration process, strategies in public engagement, the provision of policy and public delivery. According to Denis Anderson, et al (Anderson et al., 2015), the government's effort to be able to provide public services in a way that is fair, effective, inclusively centered on citizens, and a public sector that has the capacity to provide services, needs to be strengthened at the central and regional levels. This means that effort is needed to strengthen the four main dimensions in the public sectors: (1) public institutions - especially at the regional level, to provide services; (2) leadership capacity and human resources - needed to provide services in a transparent, fair, efficient and accountable manner; (3) processes and mechanisms - that support citizen participation in service design and delivery; and (4) organisational culture - so as to create space for continuous improvement and innovation in service delivery to the community.

The achievement of indicators in the fifth mission in the West Java PRJMD related to collaboration is shown by 2 (two) regional performance indicators, namely the bureaucratic reform index and the level of effectiveness of regional cooperation. The achievement of the bureaucratic reform index was recorded in the BB category in 2019. This index can be interpreted that the results of the evaluation of the Ministry

of Administrative Reform and Bureaucratic Reform of the Republic of Indonesia represent significant results on bureaucratic reform in the Regional Government of West Java Province. As for the achievement of the effectiveness of regional cooperation, it was recorded at 71.33 percent of the target of 54 percent. This condition can be interpreted that the cooperation agreement which is followed up until the results of the cooperation can be realized and shows a positive improvement. As a result, according to the 2018 maladministration perception survey, West Java Province was ranked second after NTT in terms of the quality of public services. This is much better than North Sumatra, Jakarta, Jambi, and the other five provinces surveyed. The West Java Provincial Government, in this case, is able to run a 3.0 government based on community dynamics and technological developments. This model is much more advanced than the performance-based government model and the rule-based government model. (jabarprov.go.id, 2019a).



**Figure 7: West Java Provincial Government IS Integration Plan**

Source : West Java Provincial Government IS Integration Plan (jabarprov.go.id, 2019b)

From the explanation above, collaborative efforts have been institutionalized into the development planning system, especially maximizing the role of multi-stakeholders in helping the government achieve its goals. From the government aspect, of course, the acceleration of digital transformation efforts in this government cannot be separated from the desire to create an organization that is able to manage collaboration, in line with one of the goals of the Governor of West Java, Ridwan Kamil in his administration, is to realize West Java as a Digital

Province. This concern stems from the high disparity between rural and urban areas in technology. The lack of supporting infrastructure in rural areas makes it difficult for villagers to enjoy the benefits offered by digital technology. This is what gave birth to the idea of forming the West Java Digital Service (JDS) or Regional Technical Implementation Unit for the Center for Digital, Data and Geospatial Information — a unit under the West Java Province Communication and Information Office which is aspired to be able to narrow the digital divide, help efficiency and accuracy. decision making based on data and technology, as well as revolutionizing the use of technology in people's lives and government in West Java.

JDS's vision is to create a data and technology-based West Java to support responsive, adaptive, and innovative community services and policy making. JDS has 3 visions, namely: 1) Data for Decision Support - System Realizing policy making based on data. 2) Government Digital Transformation -Accelerate the digital transformation of government. 3) Improving Citizens Digital Experience - Easing people's lives with digital technology.



**Figure 8: Pentahelix collaboration in West Java Digital Village Program**

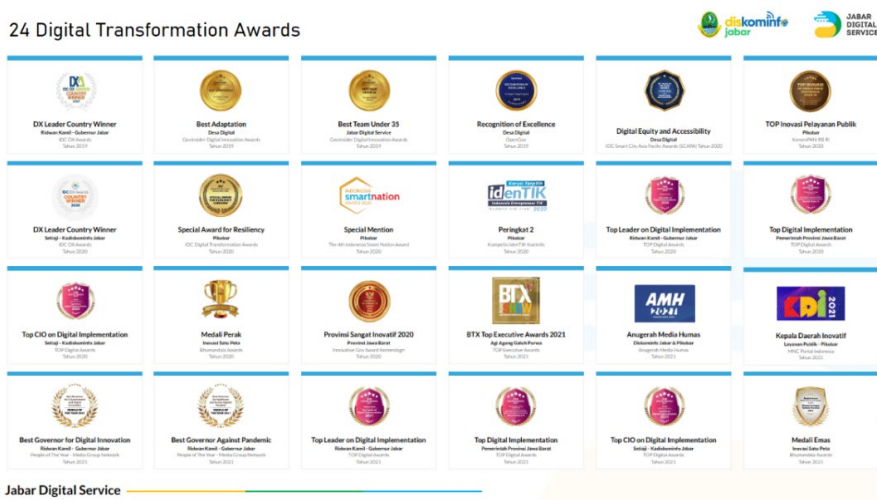
Source: Pentahelix collaboration in West Java Digital Village Program (Jabar Digital Service, 2021)

This is what the West Java Provincial Government has done with JDS. In order to adapt to community needs while keeping pace with the times, the West Java Provincial Government initiated several innovations, including the application of the Pentahelix concept and the implementation of the Digital Village program (jabarprov.go.id, 2019b). In the context of equitable village development, we

optimize the Digital Village program with the pentahelix approach. In 2021, this program comes with a new thematic in line with the agenda of The 2021 United Nations Climate Change Conference (COP26), namely integrated waste management (waste management) and the production of environmentally friendly (biodegradable) packaging accompanying other initiatives in the fields of agriculture, animal husbandry, fisheries, health and multimedia. It was recorded that 1904 villages became beneficiaries for the Digital Village program.

The implementation of the Digital Village program is an effort by the West Java Provincial Government to improve the residents' economy by maximizing the village's potential through collaboration with various partners. In 2021, Digital Village will continue to pursue the procurement of digital infrastructure to stimulate village economic growth. It was noted that until March 2021, a total of 353 VSATs (Very Small Aperture Terminals) had been installed and replication of digital wi-fi villages had been carried out. Not only that, with digital access, the provision of digital literacy through assistance with partners and the community is also improved. 141 villages have received digital literacy training. A digital literacy webinar with the concept of Training of Trainers was also held to increase digital literacy and awareness of hoax information, through cadre representatives from each region. Utilization of village potential through the digital economy has also been implemented in several village points in West Java.

In collaboration with Tokopedia and Shopee to launch the Village Digital Center (Talesa), now 35 villages have utilized technology to support the potential for economic development of their villages. Of the 24 villages targeted for the expansion of Digital Villages, it turns out that this year we have succeeded in implementing thematic digital villages many times over. This achievement has made village independence through digital innovation implemented in a total of 460 villages in West Java.



**Figure 9: The award received by the West Java Provincial Government in an effort to accelerate digital transformation**

Source: The award received by the West Java Provincial Government in an effort to accelerate digital transformation (Jabar Digital Service, 2021)

### Cross-sectoral collaboration for community development

Supervision of the implementation of partnership cooperation with Corporate Social Responsibility (CSR) and the Partnership and Community Development Program (PKBL) is currently carried out manually through the Partner Company Contact with the Bappeda of West Java Province considering the West Java Corporate Social Responsibility (CSR) Website which is in the process of being repaired after previously not working because there had been a hack. In the process of improving the Website, innovations such as new features were also added which aim to facilitate data collection and reporting services in the future. One of the special features being designed is the reporting feature on Corporate Social Responsibility (CSR) projects that have been completed. The display of project selection and reporting is presented in several classifications of sectors in accordance with West Java Governor Regulation Number 30 of 2011 concerning Facilitation of the Implementation of Social Responsibility in Corporate Environments in West Java. The sectors referred to include social, environmental, health, education, increasing purchasing power, infrastructure and environmental sanitation, religious facilities and infrastructure and other development programs. It is hoped that the innovations carried out can

support Corporate Social Responsibility (CSR) programs so that they can be more focused and useful in improving the quality of life and a beneficial environment.

Multi-stakeholder collaboration has also been carried out with several collaborations in 2020 relating to ICTs access for community development:

1. Mutual agreement between the Regional Government of West Java Province and PT. Link Net, Tbk Regarding the Provision of Multimedia Services to Improve Public Information Services;
2. Mutual Agreement between the Regional Government of West Java Province and the Infra Digital Nusantara Foundation regarding Cooperation in Revitalizing Vocational High Schools through Corporate Social Responsibility (CSR) Hub.
3. Cooperation Agreement between the Regional Government of West Java Province and PT Link Net, Tbk regarding the Implementation of Channel 50 "West Java Network";

Reorientation of the Promotion Board has been carried out in accordance with the needs of the Millennials market which is filled by the Millennials structure. The use of technology has started, especially for Artificial Intelligent and Big Data has been tested during the West Java Festival 2019 with the concept and design 70% for Millennials in collaboration with Institutions 4.0. One of them is the Smart Tourism System activity with a Budget Realization of IDR 4,570,310,600,000 in 2019 and in 2021 it is proposed to develop a Smart Tourism System of IDR 1,042,126,048.00 improvements to be carried out is to create a Festival Planning Work System. Government support for these activities through an adequate budget.

To solve the problem of the weak mastery and technological literacy of the participants in self-employment training, each self-employment training must include the Digital Marketing Strategy module. This module provides knowledge in terms of mastering basic technology skills including hardware and software introduction, email creation, digital marketplace account creation, marketing using Search Engine Optimization (SEO), and how to market products through online marketplaces. West Java BLKM itself has collaborated with digital online platforms such as Shopee and Gojek (Go Food). The participants received direct material regarding mastery of digital technology in terms of marketing and could directly register as a member who could directly sell on the two platforms. Meanwhile, to

increase service capacity, BLKM needs to improve facilities and infrastructure, especially workshops and training practice tools. Then the limitations of training instructors become an obstacle in terms of increasing the capacity of this training service;

In terms of increasing the number and service capacity of vocational training centers to prepare high school and vocational high school alumni to enter the world of work, the Department of Manpower and Transmigration of West Java Province through the Competency BLK carries out Competency-Based Training activities with various vocational fields including vocational Web Programmers, PNC, Lathe, SWAG Welding and so on. In addition, through the Job Guidance Extension (PBJ) activities, SMK students are prepared to enter the world of work.

The development of this community also reaches a wider audience, JDS formed the Jabar Committee as a forum for the IT community to network with the same goal of making West Java a digital province. This community is a forum for exchanging knowledge and experience, which is the key to this collaboration, one of which is through the implementation of TechUpdate. TechUpdate is a regular talk show held by Jabar Digital Service. JDS invites experts from many communities and organizations to share stories about digital transformation. During the pandemic, the implementation of TechUpdate shifted from face-to-face meetings to virtual meetings. This online event is an effort to adapt so that West Java residents are more familiar with digital technology. Throughout 2020-2021, not a few West Java residents regularly follow TechUpdate, from students to workers, from those who live in cities and villages. TechUpdates are held regularly with various relevant themes in the community to provide technology insight for all. This 1.5-hour webinar series was presented through the media zoom meeting and re-aired through the Jabar Digital Service Youtube channel.

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