

E-Government Institutional Capacity in Provincial Governments of West-Java and East-Java

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ABSTRACT:

This study aims to analyze the institutional capacity of provincial governments of West-Java and East-Java on the implementation of Indonesian e-government hence providing lessons learned for the government in developing e-government institutions. It uses a qualitative method with a case study approach to explore the implementation of e-government in local governments. This research focuses on five dimensions of the action environment, public sector institutions, task networks, organizations and human resources, and the Chief Information Officer (CIO). The results showed that the action environment dimension of each region has different social and economic profiles so that the literacy level of the population in responding to e-government also varies. Unlike the East Java province, the West Java province has specific rules and procedures as well as clear standards and planning related to e-government on the second and third dimensions. Yet, the West Java province has not determined particular regulation on task and duty of its Office of Communication and Information. The aspect of the human resource dimension shows that the professional ICT group has not yet been fulfilled and there are still many positions related to IT are occupied by those who have no IT background. With regard to CIOs, only West Java province that has specific rules regarding CIOs. Keywords: Institutional capacity; E-Government; Innovation at Local Government

ABSTRAK:

Penelitian ini bertujuan untuk menganalisa kapasitas kelembagaan pemerintah provinsi di Jawa Barat dan Jawa Timur dalam pelaksanaan e-government di Indonesia agar dapat memberikan *lesson learned* bagi pemerintah dalam menyelenggarakan dan mengembangkan kelembagaan e-government. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi kasus untuk mengeksplorasi secara mendalam terkait penyelenggaraan e-government di pemerintahan daerah. Penelitian ini memfokuskan pada beberapa aspek dalam kapasitas kelembagaan yang meliputi dimensi lingkungan aksi, kelembagaan sektor publik, jaringan tugas, organisasi dan sumber daya manusia termasuk *Chief Information Officer* (CIO). Hasil penelitian menunjukkan bahwa, pada aspek dimensi lingkungan aksi setiap daerah memiliki perbedaan profil sosial,

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ekonomidan politiksehingga tingkat literasi pendudukdalam merespon e-governmnet juga berbeda-beda. Untuk aspek kedua dan tiga, provinsi Jawa Barat telah memiliki aturan dan prosedur khusus yang jelas terkait e-government, tidak seperti provinsi Jawa Timur. Namun, provinsi Jawa Barat belum memiliki aturan terkait tugaspokokdan fungsi Dinas Komunikasi dan Informatika. Aspek dimensi sumber daya manusia menunjukkan bahwa kelompok ICT professional masih belum terpenuhi serta masih banyak jabatan yang seharusnya diduduki oleh SDM yang memiliki kompetensi IT justru diduduki oleh SDM yang tidak memiliki latar belakang IT. Terkait dengan CIO, hanya provinsi Jawa Barat yang sudah memiliki aturan khusus tentang CIO.

Kata Kunci: Kapasitas Kelembagaan; *E-Government*; Inovasi pada Pemerintah Daerah

INTRODUCTION

E-government is a communication technology-based governance system that aims to improve public services. Through the implementation of e-government, the public has the opportunity to oversee the performance and quality of public services which lead to a state of good and open government in Indonesia. At the global level, Indonesia belongs to countries with high adaptability to e-government. This is demonstrated by the achievement of the High EPI (E-Participation Index) category in the E-government Development Index (EDGI) survey in 2018 released by the UN. Unfortunately, at the regional level, such achievement is not yet comparable with neighboring countries performance such as Malaysia, Thailand and the Philippines (UNITED NATIONS, 2018).

The basis for e-government implementation in Indonesia is the Presidential Instruction No.3 of 2003 concerning National Policies and Strategies for E-Government Development. The implementation of these instructions was consolidated by the issuance of Ministerial Regulation No. 41 / PER / MEN.KOMIN-FO / 11/2007 of the 2007 General Guidelines for Governance of National Information and Communication Technology Management. Furthermore, in 2018 the Presidential Regulation Number 95 of 2018 was issued concerning Electronic-Based Government Systems. This regulation consolidates the legal basis for the government in implementing electronic-based government systems as well as for increasing the integration and efficiency of electronic-based government systems. Regulation of

the Minister of Administrative Reform and Bureaucratic Re-form Number 5 of 2018 concerning Guidelines for Evaluating Electronic-Based Government Systems is a reference in evaluating the implementation of electronic-based government systems. In Indonesia a key challenge seems to be more the concrete willingness of bureaucracy to open its mind for a new understanding of professionalism and to follow a reform agenda (Behrens, 2012). Moreover, he explained that the current organizational setting, work standards and important structural components such as the system of remuneration and incentives do not support the building of the necessary basis for a more professional, citizen centered and democratic governance (Behrens, 2012). The 2015-2019 bureaucratic reform agenda document implies that e-government is still not running effectively and efficiently so that a strategy for strengthening e-government policies that governs e-government institutions is needed (PAN, 2016).

The e-government institution becomes one of the important points because it is closely related to the implementation of e-government in government, especially in the context of local government. Institution is closely related to the existence of an authorized organization and is responsible for the development and utilization of ICT. However, institutional capacity has not been well developed in all local governments even though relevant regulations from the central government were made to standardize it. This can be seen from the results of the evaluation of e-government implementation that has been carried out by the Directorate General of Information Applications of the Ministry of Communication and Information through the e-Government Rating Indonesia (Pemerinkatan e-Government Indonesia or PeGI) activity. The PeGI activities aim to provide a reference for the development and utilization of Information and Communication Technology (ICT) in the government environment, encourage increased use of ICT and to obtain a map of conditions for the use of ICT nationally. The results of the

evaluation of e-government implementation through PeGI activities, especially in the three-year institutional dimension (2013- 2015) show that the provincial governments received the lowest institutional dimension index compared to the three ministries and the Non-ministry, as can be seen in the figure below.

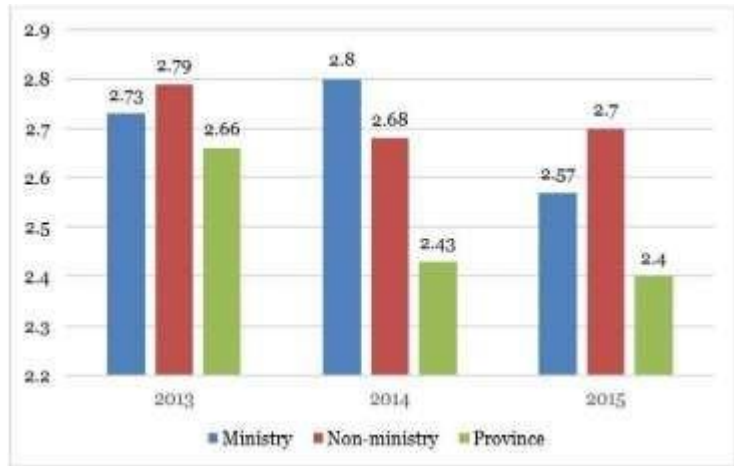


FIGURE 1. PEGI INSTITUTIONAL DIMENSION INDEX FOR 2013-2015 AT THE MINISTRY, NON-MINISTRY AND PROVINCIAL LEVELS

Source: Ministry of Communication and Information (2019)

E-government has an important role in the administration of local government, because local governments are an extension of the central government and deal with the community directly, one of which is the regional government at the provincial level. The results of the PeGI at the Provincial level in 2015 showed that West Java and East Java are among the top three, behind Jakarta. The following is the ranking and average value of PeGI in the three selected provinces.

TABLE 1. E-GOVERNMENT RANK FOR SELECTED PROVINCES IN INDONESIA 2015

Rank	Province	Average
1	Jakarta	3,39
2	West Java	3,07
3	East Java	3,01

Source: Ministry of Communication and Information (2019)

However, PeGI activities have only been carried out over a period of eight years, from 2007 to 2015. Yet, in 2015, the ranking data from PeGI covers majority of institutions like 27 ministries, 21 non-ministries, 20 provinces. In 2018, an effort to improve the quality of government administration through the use of ICT in an effective, efficient and sustainable manner, and strengthen the legal basis for the implementation of e-government evaluation was made. Thus, a regulation from Minister of Administrative Reform and Bureaucratic Reform of the Republic of Indonesia was issued. It is the regulation no 5 of 2018 concerning Guidelines for Evaluating Electronic-Based Government Systems. Based on this rule, e-government evaluation is no longer optional but must be carried out by all Ministries, Institutions and Local Governments.

Based on this regulation, e-government evaluation is no longer under the authority of the Ministry of Communication and Information, but rather distributed among central and local institutions. This evaluation is carried out through independent and external evaluations. Independent evaluations are carried out by internal evaluators, determined by respective institutions. Whereas external evaluations are carried out by external evaluators, determined by the Minister of Bureaucracy Reform. The Ministry of Communication and Information emphasizes e-government through five dimensions, namely policy, institutional, infrastructure, application and planning. Meanwhile the Ministry of Bureaucracy Reform examines e-government through different dimensions (domains), namely internal policy, governance, and services. This domain is sub-divided into several aspects and indicators.

Institutionalization is one of the dimensions used in both evaluations. In the implementation of e-government, strengthening policies that govern e-government institutions is one of the strategies in supporting business processes in government and development. Therefore, the institution becomes one of the government priorities in 2015-2019. In PeGI, institution is

one of the dimensions which includes indicators of organizational structure, work systems and procedures, human resources, Chief Information Officer (CIO) and ICT Human Resource Development. Whereas in the Electronic-Based Government Systems (SPBE) evaluation, institutional is the third aspect consisting of the Electronic-Based Government Systems (SPBE) steering team of government agencies and integrated business process innovations. This shows that, e-government institutions not only contain indicators in the form of rules and organizational structure but also include human resources.

Prior research of e-government institutional capacity carried out by Moon, M. J and Norris, D. F. They explore the effects of managerial innovation on city government in e-government adoption. One of which shows how the adoption of city government is determined by government capacity and institutional characteristics such as city size and type of government and examines the relationship between e-government and its outcome with one focus being how e-government outcomes associated with government capacity and institutional characteristics. The results show that city size is the most interesting determinant in city e-government adoption and different levels of e-government adoption can produce different results ([Moon & Norris, 2005](#)). Other research related to the topic was carried out by Tolbert, et al. They examined the ranking of American countries in the areas of fast-growing policy, e-government, and countries with the most sophisticated and comprehensive policies over five years. The results show that institutional capacity is important for continuous innovation. They also found a relationship of reinvention in the state government and IT institutions that showed a more general orientation towards government reform and modernization ([Tolbert et al., 2008](#)). Other research carried out by Schuppan. He examined the different institutional and cultural contexts when implementing e-government in sub-Saharan Africa. The results showed that Africa's institutional conditions require more preparation and time to implement e-government

compared to developed countries. The argument that e-government projects in Africa have generally failed is naive since it is based on administrative experience from industrialized countries. The development of e-government cooperation needs to be focused on capacity building. Therefore e-government pilot projects must be used to build relevant management competencies beyond the application of a simple IT system (Schuppan, 2009). While prior research on e-government in Indonesia carried out by (Wibowo et al., 2014). They examined the growth of e-government in the local level especially at city level. They found that the city government's commitment for continuing the easy service development to the community is a key to the implementation of e-government in the scope of city government.

Based on the institutional aspect, the researchers want to know further the institutional capacity of local government e-government especially in the provinces of West Java and East Java based on the research question i.e. how is the e-government institutional capacity of the two provinces in relation to the aforementioned five dimensions. The purpose of the research is to analyze, describe and compare e-government institutional capacity in both provinces. This research is expected to contribute in the development of e-government institutional capacity among local governments.

LITERATURE REVIEW

E-government is an approach for more effective and efficient governance. The e-government transformation and rationality in the public sector is through the use of Information and Communication Technology (ICT) that is able to connect all stakeholders in making transactions. It can increase the public services' reach and quality, and improve government efficiency, accountability and transparency. In accordance with the objectives of e-government, namely to improve the quality of public services effectively and efficiently through the use of information technology (IT) in the administration of government

([Schware & Deane, 2003](#)). The e-government objectives are explained in Presidential Instruction No. 3 of 2003 concerning national policies and strategies for e-government development.

There are four types of relationship that developed in the implementation of e-government, including (1) Government to Citizens / Government to Customer (G2C) where interaction between government and citizens/customers takes place to implement and build IT portfolios, (2) Government to Business (G2B) where both parties connect to each other in relation to business affairs utilizing IT, (3) Government to Government (G2G) where government institutions from all layers collaborate and work together based on an integrated database, and lastly (4) Government to Employees (G2E) where relations between the two is established to improve the performance and welfare of employees working in a number of governments as community services ([Indrajit, 2002](#)).

Institutional capacity is the ability of an institution to achieve its stated goals. It encompasses three things, first the task function which the institution must have the ability to do, second the resources (human, technical and financial) and the other is structures owned ([Bhagavan, M. R. and Virgin, 2004](#)). The institutional capacity has three points, namely the enabling environment, the organizational level and individual level. The enabling environment is the broad social system (rules, laws, policies, power relations and social norms) within which people and organizations function. The organizational level refers to the internal structure, policies and procedures that determine an organization's effectiveness. Whereas the individual level are the skills, experience and knowledge that allow each person to perform ([UNDP, 2009](#)).

There are five dimensions of institutional capacity namely (1) Action-Environment Dimensions that refers to the stability of the social, economic and political conditions of a country where the public sector carries out its activities, (2) Public Sector Institutional Context, that refers to the overall rules and proce-

dures governing organizations and employees throughout the country, (3) The task network dimensions that are related to an organization's ability to unite other organizations in carrying out certain tasks. (4) The organizational dimension that refers to the structure, processes, organizational resources and management style adopted by members of the organization, and (5) Human resources which are related to the ability of organizations to recruit, utilize, train and retain employees, especially those who are managerially, professionally and technically capable ([Hilderbrand & Grindle, 1997](#)). Unfortunately, some local governments in Indonesia have to deal with a number of obstacles in implementing e-government such as human resources, budget and infrastructure ([Wulandari & Tirtariandi El Anshori, 2012](#)).

E-government institutional capacity can also be interpreted as institution modernization that facilitates innovation ([Tolbert et al., 2008](#)). Therefore e-government institutional capacity can be defined as the ability of the institution to achieve e-government goals through the dimensions of the action environment, the institutional context of the public sector, the dimension of the task network, the dimension of the organization, and the dimension of resources.

RESEARCH METHOD

This research used a qualitative method with a case study approach. Qualitative methods were used to understand deeply about research questions and explore answers for later conclusions ([Cresswell, 2013](#)). Whereas the case study approach was taken with consideration that it would be easier to explore in depth the chosen research theme ([Sugiyono, 2014](#)), namely the institutional capacity of local government e-government. This research utilized primary and secondary data to support the research. The secondary data was obtained through interview, observation and document review. Individuals in charge of e-government in each province were selected to be interviewed,

as they are the most knowledgeable persons in respective office. The interviews were conducted during April 2019 in Bandung and Surabaya. In addition, to make research more relevant, researchers limit the study by determining the focus of research determined based on indicators that affect institutional capacity referring to five dimensions ([Hilderbrand & Grindle, 1997](#)).

RESULTS AND DISCUSSION

RESULTS

Action-Environment Dimensions

The results show that each province has different social and economic conditions. In order to see social condition as one aspect of the institutional dimensions of government indicators, the social condition taken in this study are the number of populations, the level of community education, and the level of poverty. It also compares the number of civil servants and administrative areas of government in each province, to find out how their capacity to provide services to the community. The results showed that population in East Java is comparably smaller to those in West Java, as can be seen in the table below.

TABLE 2. COMPARISON OF POPULATION DENSITY IN WEST JAVA AND EAST JAVA PROVINCES

Item	West Java	East Java
Population	48.037.830	39.292.972
Population Density per Km ²	1.358	822

Source: (BPS, 2018a) and (BPS, 2018b)

TABLE 3. COMPARISON THE LEVEL OF COMMUNITY EDUCATION IN WEST JAVA AND EAST JAVA PROVINCES

Item	West Java	East Java
No Schooling	4.195.137	1.874.050
Primary School	10.018.939	7.996.844
Junior High School	8.139.625	6.615.302
Senior High School	9.718.825	7.495.293
Diploma I/II/III/Academy/University	3.280.665	2.430.787

Source: (BPS, 2018a) and (BPS, 2018b)

In addition, the results of the study show that the province with the most people completing their education was West Java Province. In fact, the number of people in West Java who completed their education at the Diploma I/II/III/Academy/University level is approximately one million more than East Java province, as can be seen in the table 3.

With regard to poverty levels, the results of the study showed that in 2017 the Province of East Java had the highest number of poor people compared East Java provinces, as seen in the table 4.

TABLE 4 COMPARISON OF THE POOR POPULATION IN WEST JAVA AND EAST JAVA IN 2015-2017

Year	West Java Province		East Java Province	
	Number of Population	%	Number of Population	%
2015	4.485.650	9,57	4.775.970	12,28
2016	4.168.110	8,77	4.638.530	11,85
2017	3.774.410	7,83	4.405.300	11,20

Source: (BPS, 2018a)

The social conditions also seen through comparing the number of civil servants and administrative areas of government in each province to find out their capacity to provide services to the community. The results show that East Java has the higher capacity to provide service to the community than West Java, because the number of civil servants and administrative areas is East Java higher than West Java, even though the number of populations in East Java is lower than West Java as can be seen in the table below.

TABLE 5 COMPARISON OF CAPACITY TO PROVIDE SERVICES TO THE COMMUNITY IN WEST JAVA AND EAST JAVA IN 2015-2017

Province	Number of Civil Servants	Administrative Areas	Population
West Java	331.327	6.590	48.037.830
East Java	414.314	9.167	39.292.972

Source: (BPS, 2018a) and (BPS, 2018b)

In terms of economic conditions, each province’s achievement was measured by Gross Regional Domestic Product (GRDP). The provincial GRDP illustrates the ability of a region to create added value at a given time. GRDP presents the composition of value-added data broken down by source of economic activity (sectoral), that is, all components of gross value added that can be created by economic sectors for their various production activities and according to their user components, namely the use of these added values. Within a period of three years, namely 2015-2017, the GRDP based on current prices and constant prices in the provinces of West Java and East Java has increased every year, where East Java Province is better than West Java Province as can be seen in the table below.

TABLE 6 COMPARISON OF GROSS REGIONAL DOMESTIC PRODUCT (GRDP) IN WEST JAVA AND EAST JAVA IN 2015-2017

Years	West Java		East Java	
	Current Market Prices	Constant Market Prices	Current Market Prices	Constant Market Prices
2015	1.524.974,83	1.207.232,34	1.691.477,06	1.331.376,10
2016	1.652.757,82	1.275.527,64	1.857.597,7	1.405.561,0
2017	1.786.092,38	1.342.953,38	2.019.199,7	1.482.147,6

Source: (BPS, 2018a) and (BPS, 2018b)

Differences in social and economic conditions as above affect the level of population literacy in an area so that this also affects the level of community response to the implementation of e-government. It is supported by the results of an interview conducted with one of the informants, Dian Istanti, S. Sos., M.AP as the Head of the Governance Section of the E-Government Field of Communication and Information Office of West Java Province who revealed that: “Community literacy greatly influences their response to the development of e-government. In this case we provide several programs for the community such as digital service cars, usually we visit schools or villages to promote digital literacy, and we also talk about healthy internet to

pupils. There is a section within our organization that handles this, namely Public Information and Communication “(Inter- view, 10 April 2019).

Public Sector Institutional Context

In terms of public sector institutional context, West Java Province already has specific rules and procedures governing the governance of e-government development while East Java Province hasn't. The existing policy in East Java Province are still too broad in many ways, namely the Governor of East Java Regulation No. 48 of 2015 challenge Electronic System and Transaction Governance in the Regional Government of East Java Province. There is no specific policy that regulates the IT director in East Java Province. In addition, the Government of East Java Province also does not have regulations related to data centers, but data centers already exist in East Java Province and are managed by the Office of Communication and Information. The comparison of specific rules between West Java Province and East Java Province in relation to E-Government can be seen in the table 7.

TABLE 7. THE COMPARISON OF SPECIFIC RULES BETWEEN WEST JAVA PROVINCE AND EAST JAVA PROVINCE RELATING E-GOVERNMENT

No	Item	West Java Province	East Java Province
1	ICT Governance	<ul style="list-style-type: none"> • Governor Regulation 86/2018 concerning Electronic Government-Based Government System Governance • Governor Regulation 87/2018 concerning Command Center Governance 	<ul style="list-style-type: none"> • Governor Regulation 48/2015 concerning Electronic System and Transaction in Provincial Government of East Java
2	IT Steering Policy	<ul style="list-style-type: none"> • Governor Decree No. 049/Kep.1305-Diskominfo/2018 concerning Government Chief Information Officer of West Java Province Government • Governor Decree concerning IT Steering Committee 	-

No	Item	West Java Province	East Java Province
3	IT Institutional Policy	<ul style="list-style-type: none"> • Governor Decree No. 049/Kep.1305-Diskominfo/2018 concerning Government Chief Information Officer of West Java Province Government • Governor Decree concerning IT Steering Committee • Governor Decree No. 049/Kep.1306-Diskominfo/2018 concerning Command Center Management • Governor Regulation 86/2018 concerning Governance on Electronic Government-Based Government System • Governor Regulation 87/2018 concerning Command Center Governance 	<ul style="list-style-type: none"> • Service Head Decree concerning Website Management • Governor Regulation 48/2015 concerning Electronic System and Transaction in Provincial Government of East Java • Circular Letter of Local Government Secretary No. 065/561/105/2016 concerning Standardization of Information System and ICT Materials.
4	One Data Management Policy	<ul style="list-style-type: none"> • Local Government Regulation 24/2012 concerning One Data Development • Governor Regulation 80/2015 concerning Implementation Guidance of Local Government Regulation 24/2012 concerning One Data Development 	<ul style="list-style-type: none"> • Governor Regulation 68/2018 concerning One Data in East Java
5	Application Integration Policy	<ul style="list-style-type: none"> • Local Government Regulation 29/2010 concerning the Implementation of Communication and Informatics • Agreement between the West Java Provincial Government and Local House of Representative concerning Integrated Action Plan on Corruption Eradication 2017-2018 	<ul style="list-style-type: none"> • Governor Regulation 30/2016 concerning Masterplan of ICT in Provincial Government of East Java 2016-2018
6	Procurement Policy	<ul style="list-style-type: none"> • Governor Regulation 60/2013 concerning Guidance of E-procurement Implementation • Governor Regulation 9/2015 concerning Procurement Unit 	<ul style="list-style-type: none"> • Governor Regulation 38/2018 concerning Procurement Implementation
7	ICT Masterplan Policy	<ul style="list-style-type: none"> • Local Government Regulation 29/2010 concerning the Implementation of Communication and Informatics • Governor Regulation 86/2018 concerning Governance on Electronic Government-Based Government System 	<ul style="list-style-type: none"> • Governor Regulation 30/2016 concerning Masterplan of ICT in Provincial Government of East Java 2016-2018
8	ICT Budget Policy	Local Government Regulation 8/2017 concerning Changes on Local Government Regulation 25/2013 concerning the 2013-2018 West Java Middle-Term Development Plan	Local Government Regulation 1/2017 concerning Changes on Local Government Regulation 3/2014 concerning the 2014-2019 East Java Middle-Term Development Plan

Source: Adapted from Communication and Information Office of West Java Province and East Java Province

The result of this study also shows the document of the Electronic Government-Based Government System of the West Java

Provincial Government 2019-2023 that becomes the results of the SPBE Independent Evaluation conducted by the Internal Evaluation Team in 2018. It results the IT policy aspect of the West Java Provincial Government to receive a score of 2.71. It shows that the availability of IT policies in the Regional Government of West Java Province is good enough. This was also strengthened by the results of an interview with Dian Istanti, S.Sos., M.AP who revealed that “for the standard operation procedure itself actually already exists but also there are still some that are still in process” (Interview, 10 April 2019). He further explained that “if there are actually quite a lot of institutional policies, like the decree issued by the head of the department in making teams with volunteers is also one of them” (Interview, 10 April 2019).

Task Network Dimensions

The task network dimension can be seen from the standardization and planning in implementing e-government. The result shows that, each province already has a standard in the use of ICT. In West Java Province, the study shows that there has been already a standardization in the website management, data center, as explained by Dian Istanti, S. Sos., M.AP that “website standardization exists for regional equipment, there is also a standard command center and data center but it is still in the submission process. Governor Regulation No 86 concerning SPBE governance regulates regional apparatuses so that the standards are the same. If you want to build an application you must have permission from the Information and Communication Agency”, (Interview, 10 April 2019).

This explanation is supported by the Governor Regulation No. 86 regarding SPBE Governance, which explains that “SPBE governance is a framework that ensures the implementation, direction and control in the integrated application of SPBE”. Therefore, the results of the study indicate that for now, the standardization of the use of ICTs in West Java Province is still

regulated generally in West Java Provincial Governor Regulation No. 86 concerning SPBE Governance, and special regulations especially related to data center standardization are still in the process of filing.

Whereas in East Java Province, IT-related standardization is regulated based on the Notice of the Regional Secretary of the Government of East Java Province Number 065/561/105/2016 concerning Information System and ICT Content Standardization in the East Java Provincial Government Environment and General Guidelines for Information System and ICT Content Standardization for SKPD, UPT and Non-Structural Institutions in the Government of East Java Province. This guideline provides standards for administrators of government websites in the Government of East Java Province in carrying out website management and improving quality public information services. In this guideline, a menu or content which must be standard in the Regional Performance Unit (SKPD) website is explained.

In addition to standardization, planning is also an important indicator in the task network dimension. The results showed that, West Java Province released the SPBE plan document in the 2019-2023 West Java Electronic-Based Government System Master Plan. This document contains an analysis of current conditions, to the planning of an electronic-based government system (SPBE) and a map of SPBE plans in West Java Province. Unfortunately, in the previous year, West Java Province did not yet have a Communication and Information Technology (ICT) planning document. This was stated by Dian Istanti, S. So that "based on Presidential Regulation 95 of 2018 regional apparatus must obtain recommendations from the Department of Communication and Information. It is because of the occurrence of budget wastage and the number of unused applications. Therefore, later what has been built will be examined in terms of its benefits as well. For example, in one area that has been built can be developed from the area. We also have a master plan for ICT development ", (Interview, 10 April 2019).

Unlike West Java Province, the results of the study indicate that, East Java Province do not yet have SPBE Plans. In East Java Province the TIK Master Plan is regulated in East Java Governor Number 30 of 2016 concerning the Information and Communication Technology Master Plan in the Regional Government of East Java Province in 2016-2018, and the SPBE Master Plan is still in the process of preparation, as explained by the Head of Informatics Application, Dra. Nirmala Dewi, “Provincial Governor Regulation related to ICT master plan is Governor Regulation No. 30 of 2016. There we are still regulating within the government of East Java Province alone, not yet touching districts / cities. We want to involve districts / cities but there is no legal protection. But we convey it to the district / city but do not force it to require”, (Interview, 11 April 2019).

She further said that “The ICT master plan exists and there will be a master plan for SPBE”. This explanation shows that, at present the East Java Provincial Government does not yet have an SPBE Master Plan and is still in the planning stage. In addition, the ICT Master Plan for East Java Province has also passed its validity period of 2016-2018, by the time of the research completion, there should be a new one for the next period of master plan.

Organizational Dimensions

Organizational dimensions can be seen based on the organizational structure, main tasks and functions and organizational resources in the form of finance and infrastructure. IT has a strategic role in the activities of an organization, but unfortunately there are still many stakeholders, especially at the leadership level who still do not really understand it. As stated by Mr. Andhy Purwoko, S.Kom., M.Si as the Head of Infrastructure Section of the Office of Communication and Information Services in West Java Province that “We already have various types of e-government applications. One of them for internal offices we have e-office. Unfortunately, this e-office is not implemented

to the fullest. During the last year we were back to the manual again, for example in the correspondence process. It has lack of leadership role for they might not understand that IT actually has a strategic role in the government activities. Without rules made by the leader to emphasize that the application must be used, employees will not implement it to the fullest “, (Inter-view, 12 April 2019).

In carrying out its duties and functions, Department of Communication and Informatics (Diskominfo) as the organizer of e-government has main duties and functions that are usually regulated in a Governor Regulation. Yet the results of the study showed that West Java Province Department of Communication and Informatics (Diskominfo) does not yet have the latest Governor Regulation governing the main tasks and functions. The duties, principal and functions of the West Java Province Department of Communication and Informatics (Diskominfo) are only written on its website.

Nevertheless, organizational resources indicate that each region has different financial and infrastructure resources. West Java Province allocates the higher funds for e-government development than East Java Province as seen in the table below.

TABLE 8. THE COMPARISON OF BUDGET ALLOCATION ON FUNDING THE DEVELOPMENT OF E-GOVERNMENT IN WEST JAVA PROVINCE AND EAST JAVA PROVINCE

No	Province	Year 2018
1	West Java	Rp. 72.451.100.000
2	East Java	Rp. 41.110.553.617

Source: Document of Regional Medium-Term Development Plan of West Java in 2013-2018 and Regional Medium-Term Development Plan of East Java in 2014-2019

Based on the table above, West Java has benefit of having better budget allocation than East Java, since its government pays more attention to ICT development. This is supported by a statement by Ms. Dian Istanti, S. Sos that “financial resources are sufficiently supported by the government of West Java Province” (Interview, 10 April 2019).

Similarly, the infrastructure, each province has a different

infrastructure. In some organizational units with local government, there are ICT infrastructures that have been built on their own and some that use third party services. ICT infrastructure has an important role in realizing the implementation of e-government in the local government environment. The result shows that the Communication and Information Office of West Java Province has provided Data Center supporting infrastructure in the form of storage. Based on the Master Plan for Electronic-Based Government System of West Java Provincial Government in 2019-2023, storage as supporting infrastructure still uses individual storage for each application or server. There is no distributed or centralized storage arrangements because data center function planning has not been good, so the server and storage are still managed independently. This was also explained by Ms. Dian Istanti, S. Sos that “if we deliberately do not provide facilitation services for regional apparatus in the district / city “ (Interview, 10 April 2019).

Human Resources Dimensions

The result related to human resources dimensions shows that East Java province has advantage of having more manpower of IT working for government than those that West Java as can be seen in the table below.

TABLE 9. THE COMPARISON OF HUMAN RESOURCES OF IT IN WEST JAVA PROVINCE AND EAST JAVA PROVINCE RELATING

No	Province	Number
1	West Java	82 people
2	East Java	143 people

Source: Secondary Data from Communication and Information Office of West Java Province and East Java Province

Results of the study also indicate that until now HR competencies in the development of e-government in both West Java and East Java are still lacking. As the results of the interview with Ms. Dian Istanti, S. Sos., M.A.P. who explained “if the resources are approximately 100, but for the background of ICT is

still lacking some involvement of non-civil servants" (Interview, 10 April 2019).

Despite the higher number of IT manpower, the result of interviews in East Java Province shows that the province also suffered from a shortage of human resources with an IT background. Mrs. Dra. Nirmala, M.M. explained that "actually we are lack of HR, but if we ask for it, it is not granted. Therefore, we make training for existing human resources to improve their IT-related competency" (Interview, 11 April 2019). She further said that "if we should choose a civil servant, but if the civil servant is on retirement and there are no additions to date there are honorary for the helps. For more technical honors" (Interview, 11 April 2019).

Further, Dra. Nirmala, M.M. explained that "there were cases when the Certified Communication and Information Officer is a civil servant, but then they were promoted, or the structural technical functions are reduced. The worse was they moved to another field (or office) that was not related to IT, and we did not get substitution of the IT manpower with equal competence. In addition, many computer institutions at the Ministry of Communication and Information placed at OPD became aides or treasurers. So, it doesn't connect. They should have helped us". (Interview, 11 April 2019).

Nevertheless, the result shows that the government of East Java Province has a competency development program for human resources involved in e-government development. As the results of an interview conducted to Mrs. Dra. Nirmala, M.M. who explained that "in terms of human resources, we budgeted for a socialization program, workshops in every OPD, there will be an increase in human resources in the IT sector. Because actually we lack of human resources, but if you ask, we are not given. Therefore, we make training for existing HR to improve IT" (Interview, 11 April 2019).

Whereas in relation to the Chief Information Officer (CIO), the result of the study indicates that the current development

of e-government in West Java Province has been supported by the existence of GCIO, as said by Dian Istanti, S. Sos., M.A.P. that “in 2018, there will be a regulation on CIO based on Presidential Regulation no. 95 of 2018 concerning SPBE, so every local government must have a CIO, and in the West Java Province a Governor Decree on GCIO has been issued. Currently we are also proposing the same SPBE coordination team as well as the chairperson, the Regional Secretary. It is difficult to coordinate interregional equipment although in the same level, so we are making a regulation that is related to the SPBE coordination team. So, in 2018 there is the Governor’s Regulation on governance and the Governor’s Decree on the CIO. It strengthens in the management. Government gives the policy. “(Interview, 10 April 2019).

This statement was strengthened by the stipulation of the Decree of the Governor of West Java Number: 049/ Kep.1305-Diskominfo/ 2018 concerning the Government Chief Information Officer (GCIO) of the Regional Government of West Java Province. This decision is a form of the formation of CIOs in West Java Province. Based on this decision, the Head of the Communication and Information Office of the West Java Provincial Government is the GCIO of the West Java Provincial Government.

Whereas until now in the provinces of East Java do not possess specific rules governing CIO or GCIO. The results showed that in East Java Province the CIO had not yet been formed so that it often caused differences in understanding of IT governance among SKPDs in East Java Province. Even today, some of the East Java Non-TI Regional SKPDs also do not yet have a section or sub-section of IT managers with competency standards that meet and have official responsibilities in managing IT in their respective institutions.

DISCUSSION

Action-Environment Dimensions

The results showed that each province has different social and economic conditions. Social conditions are one aspect in the action-environment dimension of institutional capacity. Related to e-government, social condition reflects the influence of the e-government implementation especially in the provision of public services to the public. Differences in social and economic conditions as the result of this study affect the level of population literacy in an area so that this also affects the level of community response to the implementation of e-government. The response and interaction of the community towards e-government shows that the development of e-government in local governments has shown a type of government to citizens (G2C) relationship. It is seen that there is a better interaction between the government and the community in the development of e-government so that the community can more easily reach access to services provided by the government. This is in line with the main objective of the G2C type of relationship according to (Indrajit, 2002) that the type of G2C relationship implements and builds an IT portfolio with the primary goal of improving the relationship of interaction with the community so that the public more easily reaches access to services provided by the government. Therefore, in e-government planning, local governments must pay attention to the social, economic, and political conditions that exist in their respective regions.

Public Sector Institutional Context

The institutional context of the public sector refers to the overall rules and procedures in the development of e-government. The result shows that the rules and procedures for developing e-government were realized in the form of policies at the level of strategic and operational management. In the scope of local governments, policies at the strategic management level are realized in the forms of Local Government Regulations

(Peraturan Daerah), Regional Head / Governor Regulations, or lead other forms of decision related to e-government. Whereas at the operational level, e-government policies are realized in the form of Standard Operating Procedures (SOP). While the study shows that West Java Province already has specific rules and procedures governing e-government development governance, the East Java Province appears to have no specific rules and procedures governing e-government development governance. The existing policy in East Java Province are still too broad, namely the Governor of East Java No. 48 of 2015 challenge Electronic System and Transaction Governance in the Regional Government of East Java Province. There is no specific policy that regulates the IT director in East Java Province. In addition, the Government of East Java Province also does not have regulations related to data centers, but data centers already exist in East Java Province and are managed by the Office of Communication and Information.

The existence of specific rules and procedures governing the governance of e-government development in West Java Province shows highest support from the leader regarding the implementation of e-government. The institutional context refers to the overall rules and procedures governing organizations and employees throughout the country (Hilderbrand & Grindle, 1997). This shows that rules and procedures are the important basis in the implementation of e-government because it regulates how organizations and employees implement e-government.

Leaders have an important role in the implementation of e-government because it has a strategic role. However, the weak policy of the local government related to the implementation of e-government shows that the role of the leadership is not optimal. Therefore, there is a need for more support from the highest leaders of the local government in the development of e-government through the formulation of policies related to e-government.

Task Network Dimensions

The task network dimension can be seen from the standardization and planning in implementing e-government. Standardization is one important indicator in realizing the dimension. Good coordination in a government organization will be achieved when there are standards in the form of rules and procedures that govern the actions of each organization. This is in accordance with the opinion of (Cheema, 1981) that good coordination between government organizations can be achieved through several indicators, one of which is standardization which contains procedures and rules that govern the actions of each organization in independent relations.

In addition to standardization, planning is also an important indicator in the task network dimension. The absence of careful planning results in a waste of budget in the implementation of e-government because there are many applications that are less useful. Result of the study shows that so far there has been a waste of budget due to lack of careful planning in the development of e-government. In addition, it can be seen that there is no coordination in planning between OPD and the Office of Communication and Information, so there are many unused applications because these applications do not provide benefits. This also shows that, previously there was no planned development of government in West Java Province. But with the SPBE master plan in 2019, it is hoped that the implementation of e-government development in West Java Province will be better. Besides that, related to e-government planning, every OPD may not plan its own system development anymore, because it must get recommendations from the Provincial Office of Communication and Information Technology (Diskominfo). Therefore, all local governments must have e-government planning, in accordance with the mandate in Presidential Regulation No. 95 of 2018 concerning Electronic-Based Government Systems (SPBE) in the form of Regional Government SPBE Master Plan documents. Unfortunately, only West Java Province that already

has clear standards and planning related to the implementation of e-government.

Organizational Dimensions

Dimensions of the organization can be seen based on the organizational structure, main tasks and functions and organizational resources in the form of finance and infrastructure. The result shows that each region has a different organizational structure that is directly related to the implementation of e-government. The authority to manage regional government affairs in the field of communication and information technology is exercised by the Office of Communication and Information Technology (Diskominfo). Diskominfo is a group of ICT Professionals. In managing the implementation of e-government, Communication and Information Technology (Diskominfo) coordinates with other regional apparatus, specifically in the provision and management of infrastructure and applications for sharing and provision of information and public communication such as the Regional Revenue Agency (Bappeda) and the Regional Financial and Asset Management Agency (BPKAD) especially in West Java province.

Basically, the leadership plays an important role in realizing the successful implementation of e-government. The leaders need to realize that IT has a strategic role in government activities, because IT enable improvements of the effectiveness and efficiency in the activity. But until now the role of leadership is still lacking. In carrying out its duties and functions, Diskominfo as the organizer of e-government has main duties and functions that are regulated in a Governor Regulation. However, the result of the study shows that West Java Province Diskominfo has not got the latest Governor Regulation governing the main tasks and functions. The duties, principal and functions of the West Java Province Diskominfo are only written on the Diskominfo website. Therefore, it is necessary to have clear rules related to the main tasks and functions of the West Java Province

Diskominfo because it will be a reference in carrying out the main tasks and functions of the Diskominfo as an ICT Professionals group. While organizational resources indicate that each region has different financial and infrastructure resources. In some organizational units with local government, there are ICT infrastructures that have been built on their own and some that use third party services. ICT infrastructure has an important role in realizing the implementation of e-government in the local government environment.

Human Resources Dimensions

Human resources of IT play an important role in the development of e-government. However, the availability of IT manpower in the ICT Professionals group of the local government has not yet been fulfilled even some positions that should be occupied by HR who have competencies in the IT field are actually occupied by employees who do not have any IT competency. In addition, local government support for the development of IT human resources is also still minimal and there is no specific position responsible for planning activities or IT operational activities in each regional device. Therefore, it is necessary to have a mapping of IT human resources in the local government environment as well as increasing support in the development of IT human resources.

Basically, civil servants are required to have competence in carrying out their respective duties and functions. Competent civil servants can determine the success or failure of an organization in achieving goals. Likewise, in the development of e-government where appropriate competencies are needed in carrying out the development of e-government. But unfortunately, the results of the study indicate that until now HR competencies in the development of e-government in the three research centers are still lacking. In addition, the results of interviews in East Java Province showed that East Java Province also had a shortage of human resources with an IT background.

Concerning the Chief Information Officer (CIO), based on the General Guidelines on National ICT Governance, the CIO is one of the ICT governance structure entities that needs to be formed in e-government development to ensure ICT leadership capacity at all levels of government. The CIO is tasked with coordinating the planning, realization, daily operations and internal evaluation of ICTs in their respective institutions, in collaboration with ICT work units and other user work units. The result of the study indicates development of e-government in West Java Province currently.

It was strengthened by the stipulation of the Decree of the Governor of West Java Number: 049 / Kep.1305-Diskominfo / 2018 concerning the Government Chief Information Officer (GCIO) of the Regional Government of West Java Province. This decision is a form of the formation of CIOs in West Java Province. Based on this decision, the Head of the Communication and Information Office of the West Java Provincial Government is the GCIO of the West Java Provincial Government. In this case the GCIO of the Government of West Java Province has the task of carrying out ICT management in the Regional Government of the Province of West Java.

The results of this study indicate that, basically the aspects of human resources in the institutional dimension of e-government in local governments are still not good. It is indicated by the lack of competency of HR who occupy positions related to IT because most do not have an IT background. In addition, the same problem in the provinces of West Java and East Java is the small number of Computer Resources. Even though computer institutions have important tasks that can support the implementation of e-government in local governments. In addition, only West Java Province has specific rules related to CIO while the other provinces do not.

The CIO has an important role in the implementation of e-government because it has the task of coordinating the fields of planning, realization, daily operations and internal evaluation

of ICTs in each of its institutions, in collaboration with ICT work units and other user work units. But until now not all local governments have rules related to the CIO. The results show that, only West Java Province already had special rules on CIO while East Java Province had not. Therefore, each region needs to make rules related to the CIO to ensure the leadership capacity of ICT management at all levels of government.

CONCLUSION

Differences in the social and economic conditions of an area affect the level of population literacy in the area so that this also affects the level of community response to e-government development. Therefore, in planning e-government local governments must pay attention to the social and economic conditions in their respective regions.

Regional governance rules are realized at the strategic management level and operational level. Rules and procedures are an important basis in the implementation of e-government because they regulate how organizations and employees implement it. However, not all local governments have specific rules related to e-government at both the strategic and operational management levels. Therefore, it is necessary to increase policy support both at the level of strategic management and operations in the implementation of e-government specifically in local government.

Leaders, on the other hand, play an important role in the implementation of e-government because of their decisive and strategic roles. However, the weak policy of the local government related to the implementation of e-government shows that the role of the leadership is still less than optimal. Therefore, there is a need for more support from the highest leadership of the local government in the development of e-government through the formulation of policies related to e-government.

The absence of careful planning results in a waste of budget in the implementation of e-government because there are many

applications that are less useful. Therefore, all local governments must have e-government planning, in accordance with the mandate in Presidential Regulation No. 95 of 2018 concerning the Electronic-Based Government System (SPBE) in the form of a Regional Government SPBE Master Plan document.

Human resource in IT plays roles in the development of e-government. However, the availability of IT human resources in the local government ICT Professionals group has not yet been fulfilled. In addition, the lack support of local government for the development of IT human resources and there is no specific position responsible for planning activities or IT operational activities in each regional apparatus. Therefore, it is necessary to have a mapping of IT human resources in the local government environment as well as increasing support in the development of IT human resources.

Lastly, CIO plays an important role in the implementation of e-government. Yet, not all local governments have specific rules related to CIO nor the CIO himself. For that reason, each province needs to enforce the rules related to the CIO functionality to ensure the leadership capacity of ICT management at all levels of government, as well as appoint its respective CIO.

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