J-TRAP
Jurnal Teori dan Riset Administrasi Publik
Email : jtrap@ppj.unp.ac.id
Vol. 3 No. 2 Tahun 2019

Artikel

Smart City As An Implementation of E-Government in Indonesia

Yuli Tirtariandi El Anshori[1*], Enceng[1], Ridho Harta[1]

[1]Ilmu Administrasi Negara, Universitas Terbuka, Indonesia

*Corresponding Author: yulitirta@ecampus.ut.ac.id

Abstract

This research is aimed at obtaining findings about public service through smart governance and smart mobility in Bandung city. Bandung city as one of the pilot-project cities in this program in Indonesia has initiated a number of efforts toward the concept of smart city. The main concept of smart city is sensing, understanding, and acting processes based on the use of information technology in the government (e-government). Besides, it was about to seek the city problems in real time, and then respond properly, so that those problems are immediately followed up. One of the efforts to realize smart governance and smart mobility is through the establishment of command room. This research employed qualitative approach. The informants were staffs of information commission officials in Bandung and Bandung citizensas the sample. The data collecting techniques were an in-depth interview, observation, and document analysis. The findings of this research indicated that the public service in Bandung city is experiencing improvement quantitatively and qualitatively after the implementation of smart governance and smart mobility in the smart city framework. All efforts in improving the public service are controlled in Bandung Command Center based on the ICT use. Recently, there have been about 150 applications of smart city system in Bandung that have been implemented through online mode. It covers the affairs on organizing ID card, checking the service license or permission, and monitoring the traffic jam and flood in which those can be done quickly and in real time. It is because of the direct relationship to Bandung Command Center. While, one of the constraints in implementing smart governance in Bandung city was there still lacks of adequate internet connection capacity in the implementation of online report system for the district heads. Regarding smart mobility, one of the constraints was the lack of availability on CCTV and security tools. Besides, the respondents complained on the lack of socialization about the implementation of online report system that has been implemented in Bandung government. The possible suggestions for the Bandung government are the concern to the needs of more mature planning toward the programs of smart governance and smart mobility, preparing the human resources, and providing supporting infrastructures.

Keywords: smart city, smart governance, smart mobility, e-government

Introduction

The concept of Smart city has been a consensus in Indonesia in the last few years. It is in line with the increasing trends among province, district, and city governments implementing E-government. The concept of smart city is an ICT or technology-based city concept to accelerate the regional development, particularly in terms of public service. It consists of six dimensions including: smart economy, smart mobility, smart environment, smart people, smart living, and smart governance. The efforts to realize smart-city cities in Indonesia have been started to encourage in the last three years, whereas other countries have been long before being implemented. 2015 becomes the new measurement through involving some cities in a pilot project program of smart city officially. One of them is Bandung city. The rationale of selecting this city is due to a number of problems occurred until the period of Ridwan

Kamil's governance. Many efforts have been done by the city government of Bandung in parsing those problems based on the use of information technology. The problem happening in Bandung city, for example, is traffic jam. According to the data issued by Transportation Ministry in 2014, Bandung ranks the third most jammed city in Indonesia after Jakarta and Bogor. This assessment was based on the comparison between the number of vehicles with the capacity on road a.k.a Volume, Capacity, Ratio (henceforth VCR) along with the rate of the passing vehicles. Bandung has got 0.85 for the VCR value. (*http://megapolitan.kompas.com/read/2014/10/22/06543931/Jakarta.Bogor.dan.Bandung.Koa.Paling.Rawan.Macet*).

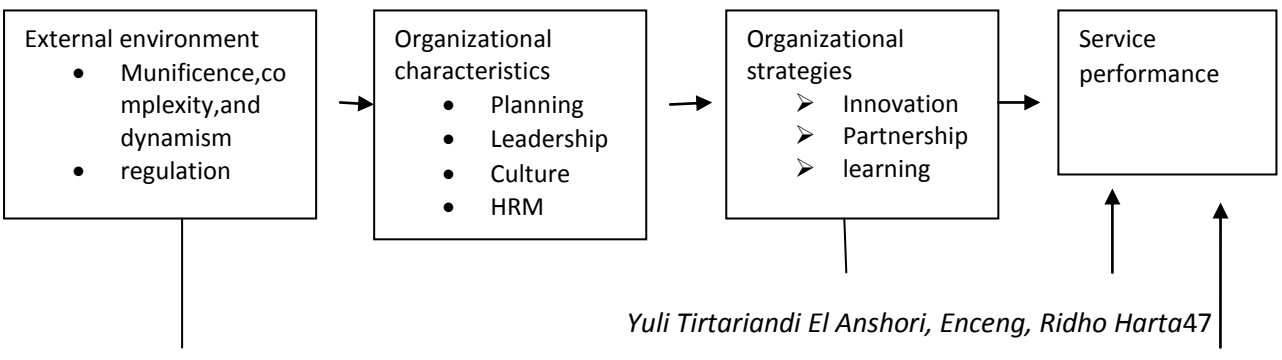
It indicates that if the road capacity is about 10 m^2, the volume of vehicles can reach up to 8.5 m^2. In this circumstance, the vehicles can still go with a frequent number of stops. Thus, in Bandung, most vehicles can only go for 14.3 km per hour. The VCR value in Bandung is actually the same as that in Jakarta, that is 0.85, but vehicles can only go for 10 to 20 km per hour in Jakarta. The traffic jam in Bandung city is obviously seen on weekends. The increasing number of vehicles from other cities increases the jam intensity; particularly at the city centre.

The other aspect related to smart city is the problem on governance, which is strongly interwined with public service. Prime service provided by the government authorities becomes compulsory in this recent period. The government of Bandung city also realizes this issue. Moreover, under the increasing advancement of technology, the society's dissatisfaction on public service can increasingly expand through social media or other media. The efforts to realize smart governance promoting output may be done by fostering the quality of public service at the city government, Bandung through a number of ways. One of them is the authority obliges all employees to have social media like Twitter and Instagram. Through these media, every employee can upload his/her work result (Sindo Newspaper, January 29, 2015). However, it is very interesting to review further on how well the program is implemented by the birocracy in Bandung government. Ridwan Kamil, the Bandung Mayor, defines smart city as an implementation of connecting, monitoring, and controlling. Connecting phase includes the plan to install 5.000 Wi-fi public areas. Then, the authority has a system of online report for all subdistrict heads in controlling phase. In this phase, the all heads will get score or assessed directly from their citizenson the performances as public servants. The authority is also campaigning the use of social media (e.g. Twitter) as a means for Bandung citizensin supervising the public service.

Under those circumstances, the reviewed issue in this article concerns to, "how is the condition of public service in Bandung before and after the initiation of smart city program reviewed from the aspects of smart governance and smart mobility?

To conduct good public service, it needs a number of innovations. Five types of innovation according to Baker and IdeA (in Prasojo, et.al., 2007) includes innovation on strategy and policy, such as: mission, target, strategy, and consideration; service/product, such as: feature change and service design; service delivery, such as: the change or new way of delivering service; process, such as: internal procedure, new organization policy and form; as well as interactional system, such as: new approach or maintenance based on the knowledge in interacting with other actors and the changing approach of running the government. In this research context, the government of Bandung has initiated a number of innovations. Under this concern, there will be revealed whether the implemented innovation is effective enough to enhance the quality of public service to Bandung citizens.

Public service improvement can be defined as a strong relationship/correspondence between actual perception and the intended standard of a public service (Boyne, 2010:3). Furthermore, Boyne suggested aspects that should be considered to enhance public service performance in the following picture:



Picture 1: Dimension that influences public service performance in an organization.
Source: Boyne, 2010

Picture 1 indicates that there are three dimensions, which should be noticed to enhance the organizational performance of public service including external environment, organizational characteristics, and organizational strategies. Further, Bowman (2010:27) argued about the professional competencies of public service, that are technical competence, ethical competence, and leadership competence.

Another concept that can be applied to analyze the efforts of quality improvement of public service in Bandung city; that is New Public Service (NPS). There are eight service principles according to Denhardt & Denhardt (2003) that should be done by the government in order to realize quality public service, as follows.

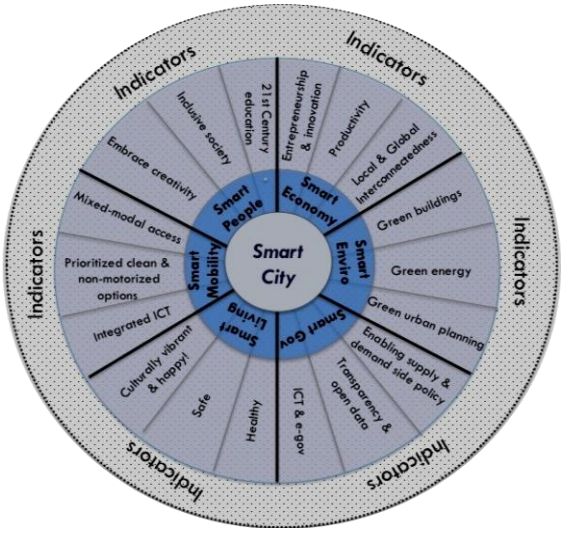
- convenience
- security
- reliability
- personal attention
- problem solving approach
- fairness
- fiscal responsibility
- citizen influence

Picture 2. The cycle of an efficient and sustainable city

Smart city can be referred to as a city being able to improve competitiveness, life quality, efficient resource use, and promote sustainable economy by using technology and creativity in enhancing IQ within an encouraged environment. From such definition, there are some key concepts of smart city, which comprise: Creativity, Efficiency, Usability, Sustainability, Communication and Networking, Inclusiveness, Involvement, dan Openness. (AthensCoCreation Project, 2013). Cohen (2012) illustrates smart city in a figure commonly called the smart city wheel.

The improvement of public service's quality particularly to overcome mobility issues (traffic jam) in Bandung city can be reviewed by using the Theory of Organic City (Lynch, 1983). This theory refers a city as a living-being (organism) that can grow and develop by itself naturally. Such a city will unite with its hinterland, so that there will be an urban sprawl. This condition is considered as a inregurality due to the uncontrolled city growth. In the context of Bandung city, the more the unity between Bandung city with its hinterlands including North Bandung, South Bandung, Cianjur, Cimahi, and other districts is, the more the mobility of vehicle volume will increase in Bandung. Such circumstance leads to the increasing frequency of traffic jam in this city. Lynch also proposed the Theory of City as a Machine. This theory pinpoints that cities are enclaves spreading in a certain region, forming or intertwining one another through a networking system like a machine.

Anderson (2013) defines smart city as an efficient city, which is projected to be a more livable and sustainable city. He figures out this concept in the following cycle :



Picture 3. The smart cities wheel

Picture 3 indicates that there are some indicators of smart governance and smart mobility used as two dimensions being reviewed in this research. The former dimension consists of: enabling suply and demand side policy, transparency & open data, ICT & e-gov. While, the latter one consists of: mixed modal access, prioritized clean & non-motorized options, integrated ICT.

Nurmandi (2014) asserted that smart city refers to three fundamental aspects: human, technology, and institutions. Besides, he thought that belief, norm, and network become the important aspects of the citizens' characteristics in a smart city. OECD studies (2004) defines *e-government* as "*means application of Information and Communication Technology in general and internet in particular for implementing public services*. While Dawes (2008) defines *e-government* encompasses the use of technology in a variety of routine activities carried out by public organizations such as the provision of public services, effectiveness and efficiency as well as the quality of basic services provided by the government, involvement and participation of the community, legal basis or law required to run the e-government process, as well as institutional and administrative reform Which is pursued as an innovating step.

Silalahi (2011) conducted a study about public service in Bandung city. He found that public service in terms of licensing was still considered not good. This led to the low sense of trust among enterpreneurs toward the birocracy providing the business licensing service. Some kinds of it like IMB, HO actually are not accomplished under accordant time to the SOP; that is 12 days. A study about e-government conducted by Mahendra (2010) suggested that the implementation of e-government in Depok city was constrained by some factors including: lack of socialization for the employees, unstrategic position of the Official Information Commission (henceforth *Kominfo*), traditional-or-manual-oriented work culture, and expensive Virtual Private Network (henceforth VPN) cost. Purnomowati and Ismini (2014) also conducted a study in which the findings showed that the government of Malang city has prepared the human resource and technology information to get it as a smart city. However, the implementation of smart city was different from what it should be defined in which it pinpointed more on the use of information technology to improve the service for society; in other words a digital city. Some of the programs that have been being implemented by the government of Malang city comprise: the installment of 65 hotspot areas, a training of National Education Network (henceforth *Jardiknas*) and socialization of electronic mail by the education officials, Go-Open-Source campaign; Malang Cyberpark at the main square of Malang city, and the implementation of e-government in improving public service. Thus, those programs are more referred to as digital-city-based programs. Meanwhile, programs that are implemented to realize smart-city Malang are society empowerment like Micro, Small, Medium Enterprises (henceforth UMKM) and cooperation, availability of transportation services and adequate infrastructure, improvement on the quality of public service, fulfillment of Green Public Areas (henceforth RTH) as much 30%, and others.

Research Method

Qualitative method was employed in this research in which an in-depth interview, document analysis, and field observation were used to collect the data. Purposive sampling was done to determine the participants in the interview process, for the primary data, since this method selects the people whose expertise or responsibility is on the implementation of smart governance and smart mobility as well as the encountered problems. The key participants in the interview were stafs of the government of Bandung: transportation official, information commission official, and Bandung citizens. While, the secondary data were related documents reviewed and analyzed including regional regulations, Constitution No. 25/2009 about public

service, government regulation No. 96/2012 about the implementation of the Constitution on public service. Descriptive qualitative design was used to analyze the data and explore the phenomena (Creswell, 2010:317). The obtained data were categorized, coding, then analyzed descriptively in order to get a concret conclusive picture about the implementation of smart city in Bandung. Data verification was done through triangulation method. Aspects that were illustrated here are related to how well the efforts done by the government in implementing smart city programs as well as its encountered problems.

Findings and Discussion

The implementation of smart city in Bandung is projected to the use of technology in improving public service for Bandung citizens. The idea of this concept is to overcome the constraint regarding technology use to improve public service and the performance of village work unit). This is in line with the three pillars toward the realization of *"Bandung Juara"* motto, comprising: innovation, collaboration, and decentralization.

The intended innovation of Ridwal Kamil as the Mayor of Bandung city is how the work unit can upgrade and create innovation, not only merely concern to the routines. Agencies are expected to be capable of creating innovation to improve public service. Then, the establishment of online report can be realized in which those who have integrate such innovation may get a reward from the Mayor. One of the innovations implemented by the agency is the use of technology/ICT at the Regional Public Hospital (henceforth RSUD), Bandung in particularly the use of short messages to provide service waiting/queue number. Prior to this innovation, the patients should register one day before or come directly to the RSUD before 9 a.m. to get the waiting number. Thus, this innovation is initiated by the Mayor of Bandung.

The second pillar is collaboration. The governments' efforts to realize the slogan are being initiated. One of them is the optimalization of infrastructures in Bandung without being dependant much on Regional Government Budget (henceforth APBD). In 2014, the APBD of Bandung was as much IDR 5.16 trillions. In 2015, it has got higher, as much IDR 5.9 trillions. This circumstance leads to the efforts to involve third parties through making collaborations in establishing a number of public facilities. The Mayor of Bandung has conducted collaborative programs with private parties. For example, the establishment of parks along with their supporting facilities without using the APBD, instead the fund from the Corporate Social Responsibility (henceforth CSR) including the successful enterpreneurs in this city.

The third pillar is decentralization. It is realized through Innovation for Regional Empowerment and Development Program (henceforth PIPPK) administered by the village, community groups, Family Welfare Movement (henceforth PKK), and youth organizations (*Karang Taruna*). This program was officially launched by Ridwan Kamil on March 31st, 2015 as an effort of regional development in the district level because one of the functions of a district is as the model of effective and efficient system of public service program prioritizing the society welfare. Through this decentralization program, it is expected that the problems related to the government can be solved in the regional level, not always reported to the government itself. The provided fund to the community groups, PKK, and *Karang Taruna* is as much IDR 100 millions.

Smart city program was designed in Bandung by adopting the concept implemented in other cities like Rio de Janeiro becoming one of the references because of its severe traffic jam. The implementation of the program at Rio de Janeiro is, among others, through CCTV-based monitoring and the follow-up of society reports regarding the encountered problems.

A. The Preparation of Smart City Implementation in Bandung

Smart city program in Bandung city was designed with some steps. Starting with the act of visiting study to some cities in foreign countries, such as: Singapore, Seoul, and Rio de Janeiro. Then, the results of the visiting study were used by the Mayor to initiate a unit directly namely Bandung Control Room. In this place, all activities and problems occurred in Bandung can be monitored. The Head of information and telematics commission asserted:

> *"The Mayor wants the Bandung Control Room to be established. It has been my responsibility particularly in telematics division to establish a Command Center. We have not got a framework yet first because it is a new thing. Then, we search in the internet, yet very limited*

on the references about this center. We are afraid of making a wrong concept…"

The strong desire of the Mayor to establish Bandung Control Room was firstly seen as a hurried program, yet not ready to be followed by the lower-division staffs in which the references are still limited from them. Besides, there must be anxiety that the establishment of Bandung Command Center will be overlapped with some other on-going programs. For example, to monitor the traffic jam, the Transportation officials of Bandung city have had Area Traffic Control System (ATCS), whereas the concept of Bandung Command Center proposed by the Mayor is not only handling the traffic jam, but also other existing problems. This confusion, at last, was overcomed by conducting an assistance again to other cities in other foreign countries. However, this assistance was not reasonably conclusive because some related technical staffs of SKPD concerning the smart city program did not join. It is asserted by the officials that they did assistances some times; one of them Singapore. However, this assistance did not involve the technical SKPD side. The problem was on the long process of auction, for instance, regarding the equipments availability. Then, the building previously used for the regional secretariat assistant is now transformed by the Mayor into the Command Center room. The process of preparing the center room took about one year from 2014 to January, 2015.

From the above explanation, it indicates that the planning of smart city program firstly initiated by the establishment of Bandung Command Center did not result from a mature planning including the preparation of program executive staffs, supporting infrastructure, building preparation, or the room for Bandung Command Center itself. Theoretically, according to Boyne (2010), innovation becomes one of the strategies that can be reached to improve the organizational performance of public service. The strategy done by the Bandung government through establishing Bandung Command Center as the main driving motor of smart city program was one of the innovative forms. However, the review on the organizational characteristics dimension can be done, as follows.

- ***Leadership aspect***

Bandung Mayor, Ridwan Kamil, is a visionary Mayor and technocrats. As an architect graduate from the United States, his leadership is very innovative. He wants the government run based on the technology. The use of technology is expected to improve public services and resolve the existing problems such as congestion issues, licensing services, and many more. As a young Mayor, Ridwan Kamil wanted to change the Bandung's bureaucracy which can innovate and not get stuck in a routine job.

- ***Planning and Human Resources Management (HRM) aspect***

The planning which has been done was not good because of chasing the target for launching. It is added by the lack of involvement of the regional working units (SKPD) technical at the beginning of the establishment of Bandung Command Center. This can cause problems during the implementation phase of smart city program. Then, from the aspect of human resources, smart city program is not paying attention to the readiness of human resources executive. As a new thing, this human aspect should be prepared in an early stage to avoid the implementing trial and error of smart city program. However, Bandung Command Center was built using public money (APBD) amounting to Rp 25 billion, which is expected to provide maximum benefit to the people.

Bandung Command Center is a special room that is equipped with modern technology to monitor the public services access. This space is used by the Mayor to do the "digital monitoring" and take a decision quickly on what is happening. The application of the flood which connected to the monitoring of weather conditions is one of the instances. The officers can make decisions without waiting for the reports from citizens.

B. The implementation of Smart City in Bandung

As stated previously, smart city program in Bandung aims to improve the quality of public services and boost the performance of regional working units (SKPD). The effort of improving the quality of public services has the same line with the cycle stated by Anderson (2013). One of the things described in this cycle is that in an efficient and sustainable city there would be the efforts to improve public services includes the repair of educational facilities such as schools, public security, and transportation improvements. With the improvement of public services that a city would become a better place, that is livable, decent for a place to work and earn entertainment.

In line with the concept of Anderson, Bandung implemented smart city in some

respects. In accordance with the scope of the research, the discussion of the implementation of the smart city of Bandung confined to the dimensions of smart governance and smart mobility as expressed by Cohen (2012).

1. Smart Governance

One of the things that can be seen from the dimensions of smart governance is improved service with the advanced use of technology. The more important aspect in smart governance is the cooperation between the public and the government, the public involvement in the implementation of government for the provision of advice, criticism, and feedback on the performance of the government.

Prior to the launching of the smart city, some types of public services are still manual. As treatment services in hospitals, to get a queue number must be made the day before or in 9 a.m. before the appointment. In line with the smart governance program, the queue numbers can be obtained via short message service. Then, seen from the dimensions of this smart governance, before the smart city program was established, there are 365 applications spread in all regional working units (SKPD) and some applications overlapping in terms of data. With the smart city program, the applications were trimmed to only 150 applications. Starting from the ID card, licensing permissions, and even flood monitor, and waste problems can be done quickly and by "real time". This application is connected with the Bandung Command Center. This is in line with the demands of one of the indicators in the smart government that their data is freely accessible and transparent. Regarding the problem of the applications, it was revealed by the sources that Diskominfo has been collaborating with the university to conduct a review of the field to make an assessment of the applications owned by regional working units (SKPD). The government involves ITB and several other universities. The assessment results showed that there were 365 applications throughout regional working units (SKPD), both applications were from the central government and homemade application. Then some applications were no longer used.

Integrating a variety of applications aimed at improving the performance of public services as well as the technical department performance. However, the reality came that every regional working units (SKPD) has their own ego so it is not easy to perform the application integration to support the embodiment of smart governance. According to the source, Bandung government conducted the focus group discussion to solve the problem.

In line with the principle of service according to Denhardt & Denhardt (2003), one of the things that the government should do, in order to create the good quality of public services, is a problem solving approach. Problem-solving approach by conducting focus group to understand the input and opinions of each regional working units (SKPD) is one of the best solutions. The goal of the obtained solution is to improve public services and increase the performance of regional working units (SKPD).

The other thing to do relating to smart governance is the effort of community involvement in assessing the performance of the bureaucratic apparatus. The example is by applying an online report card system for the district headman. Online assessment on the performance of the district and village headman is to improve public services as well as encourage increased performance of regional working units (SKPD). Through *www.sip.bandung.go.id* the citizens can directly assess the performance of district and village headman in the area. The results of these assessments are as inputs for the Mayor to measure the performance of subordinates. Theoretically, in order to create a good quality of public services according to Denhardt & Denhardt (2003), one indicator is the citizens' influence. With the citizens' involvement and influence directly, it is expected that a good public services can be realized. On the other side, the apparatus of government will be encouraged to continue to improve their performance since they were overseen directly by the public.

The table below illustrates some aspects of the assessment by the citizens questions which available online at *www.sip.bandung.go.id*.

Table 1. The example of questions in online report assessment for district and village headman at *www.sip.bandung.go.id*

No	Questions	Assessment scale
1	What is the level of discipline in District A?	Bad, very bad, do not know, good, very good
2	How often the district headman held the events to raise the happiness index	Bad, very bad, do not know, good, very good

	in District A?	
3	How often do you see that the district headman meet the people in District A?	Bad, very bad, do not know, good, very good
4	What is the level of cleanliness in the District A?	Bad, very bad, do not know, good, very good
5	The cover letter to make a birth certificate to the Department of Population	Bad, very bad, do not know, good, very good (plus the assessment of how long the letter can be completed handled by the apparatus of the district)
6	So on and so forth	

This application of online report card is actually a good innovation because the other local governments use it. The problem is that the socialization of the program is not run optimally. A total of 20 respondents were interviewed in the study admitted to not knowing about the application. In fact, half of the respondents admitted to not knowing about the smart city program launched by the Bandung government. This shows that the planning of the online report card program was paid less attention to the aspect of dissemination to the public. Another action to be taken as a manifestation of smart governance is a must for any department or regional working units (SKPD) head to have an official account on social media such as twitter. The account serves as a mean of communication between the public and the regional working units (SKPD) as well as for their own communication media. This is in line with one of the indicators in deploying smart dimension that is the use of ICT. This policy was implemented since the beginning when the Mayor was officially served and reaffirmed when the smart city is launched.

To involve the Bandung citizens in smart governance, it is need to be supported by availability of internet services which can be accessible to anyone free of charge. This should be undertaken by the Bandung municipal government through the provision of wireless internet network (wifi) for free in some places. Prior to the smart city program, it was very rarely found the public facility in Bandung which is accompanied with free wifi. Until now there are only 83 points of wifi availability in the city, especially in parks and places of worship. The target for the future is 5000 wifi point throughout the city of Bandung.

Another thing that is also an application of smart governance in Bandung is a program of Government Resources Management System (GRMS), which adopted a similar program in Surabaya, related to e-budgeting, project planning, contracting, e-Payment, e-Delivery, e-Controlling, and e -Performance.

The Constraints in Applying Smart Governance

Analysis result of the implementation of smart governance in Bandung showed some of the constraints faced by the Bandung government, namely:

a). Limitations of Internet Network

Internet network capacity became one of the constraints in the early implementation of the smart city program in Bandung. It is because the Bandung municipal government still renting the bandwidth from third parties and do not have their own infrastructure. This was disclosed by the sources that before smart city program were applied, the connection problems and this bandwidth is a constraint. From those necessities, the Department of Communication and Information did not have any standard. In 2015, they have produced needs assessment of each regional working unit (SKPD) and obtained related output for their internet network infrastructure needs. The results of the study will be implemented in 2016.

From these explanations, it appears that applying smart governance in 2015 in Bandung city administration has not been followed with the readiness of supporting infrastructure such as the internet network. This resulted in some regional working units (SKPD), for instance, the government section that handles an online report card application at *www.sip.bandung.go.id*. The results of direct observation of the websites shows that the display of the website is not perfect, there are some letters that do not appear. This resulted in discomfort when reading the title of words and phrases on the page. This is likely due to the lack of network bandwidth that is owned by the government. Thus it can be said that this aspect of planning, according to Boyne (2010) has not got maximum attention from the municipal government of Bandung yet.

The data obtained showed that in 2015 the lease of bandwidth which the Bandung municipal government obtained was allocated to the four needs, they are:

1. Regional agencies and districts.
2. Schools (103 schools).
3. CCTV
4. Wi-fi in public areas

b) Human Resources Readiness

Other constraint on the implementation of smart government in Bandung is the readiness of the human resources (HR). The preparations of smart city program which launched were minimal and not accompanied by the readiness of human resources in the field of smart governance. The emergence of new applications is often not accompanied by the commitment and readiness of HR itself. For example, associated with the Government Resources Management System (GRMS), e-budgeting, project planning, contracting, e-Payment, e-Delivery, e-Controlling, and e-Performance with the Deliberation of development planning are all integrated. For example, in the previous year the departments had difficulty in preparing a file for the projects under 200 million (direct procurement). After using GRMS as a part of smart governance, everything is much simpler. With the applications in GRMS, it can be more efficient in creating the files. The auction file could be completed within 15 minutes. As revealed by the following sources:

Steps taken by the municipal government, especially Department of Communication and Information to improve the skills of human resources in regional working units which handles the applications in smart government is by providing the training. If there is a new application that will be applied then the department will invite some representatives related to the local government offices for training.

2). Smart Mobility

The second dimension in the smart city program in Bandung is a smart mobility. The indicator in this dimension according to Cohen (2012) is the integration of ICT. The use of ICT in smart mobility in Bandung is actually not a new thing. For instance, to deal with traffic problems before the smart city program was launched, there is an ATCS (Area Traffic Control System). It is an application from the Ministry of Transportation, which is owned by the Department of Transportation in several big cities in Indonesia including Bandung. ATCS is a traffic control system based on information technology in an area that aims to optimize the performance of the road networking through the optimization and coordination arrangements of the traffic lights in every intersection *(http://hubdat.dephub.go.id/berita/1222-atcs-in-multiple-provincial-and-city-in-Indonesia)*.

ATCS consists of several main systems, namely:

- Server, Workstation, which serves as the operations center to monitor and control the traffic conditions of the entire intersection in one area.
- Wall binder, which serves to provide information about the status and conditions of the Local Controller.
- Local Controller (controller intersection).
- Video Surveillance (CCTV).
- Vehicle Detector.

ATCS has several functions which are to adjust the signal timing at the intersection of a responsive and coordinated manner; in certain circumstances can give the green time on a vehicle that has priority (Fire Fighting Vehicle, Ambulance, VVIP, Convoy, etc.); convey information on traffic conditions and alternate tracks; provides recorded traffic data, the incidence of accidents, and other events at a crossroads.

With the smart mobility as part of the Smart City program in Bandung, the restoration was being done to improve the quality of public transportation services. During this time, although it already has an ATCS, Bandung still became one of the most jammed city in Indonesia. The traffic chaos was happen every day, especially on Saturday and Sunday. The number of vehicles came into Bandung exacerbate traffic conditions in the city. Based on data released by the Ministry of Transportation in 2014, Bandung is the third order most jammed city in Indonesia after Jakarta and Bogor. The assessment is based on a comparison between the number of vehicles with a capacity of roads (VCR) coupled with the speed of passing vehicles. Bandung has a VCR numerical values of 0.85. This figure means that if the capacity of the road 10 square meters, the volume of vehicles reached 8.5 square meters. In this condition the vehicle can still advance but repeatedly stalled. The impact is that the vehicle in Bandung only can go at a speed of 14.3 kilometers per hour.

The innovation in Bandung after the launching of the program is the use of smart city of Bandung Command Center as the control center to monitor traffic conditions in the city of Bandung in real time. In Bandung Command Center, the traffic conditions are not only monitored by the officers of Department of Transportation

(Transportation) Bandung. It is what distinguishes between ATCS program with smart mobility program through the existence of Bandung Command Center. In Bandung Command Center also there is an element of the Traffic Management Center (TMC) Police. This further facilitates the work of the Transportation Agency. It is supported by increasing the number of CCTV in some corners in Bandung, especially intersections that have traffic light (traffic light). Currently there are 25 points were fitted with CCTV. In line with the Boyne (2010), then to address the dynamically changing environment in the traffic sector in the city of Bandung is required pace of innovation. One of them is the establishment of Bandung Command Center as a form of smart city. Nevertheless, in practice occurred the obstacles caused by a lack of planning. This is expressed by the sources as follows:

At first the application of smart mobility in Bandung is not accompanied by careful planning of the existence of CCTV. The electrical problems for CCTV were not-considered. Then surveillance of CCTV security was less common. What is more important was the lack of public awareness of the importance of the CCTV. It showed that the influence of citizens aspects have been overlooked. Though smart city is not merely a problem of physical development, but also to build social awareness of culture and change the mindset of the people. In the implementation of smart city, it needs the participation of the citizens. The constraints have been tried to be overcame by Department of Communication and Information which has a partnership together with Public Information Group. In line with the Boyne (2010), the needs of partnerships can enable an organization to improve the quality of public services. This partnership problems revealed by the sources as follows:

The problems of awareness or consciousness of the citizens in Bandung is very important for smart city program especially smart mobility which will be geared towards improving the quality of transport services. Installation of CCTV in 25 points in Bandung in the form of a static model not the model which can rotate 360 degrees. Within the CCTV there is a software intelegence to analyze the situation. The results of this analysis are connected to Bandung Command Center. Then the officer in Bandung Command Center will decide what steps are taken against the traffic conditions occur. The example is by performing traffic engineering to the traffic light at a certain point. This includes the green light to prolong the duration of the direction of the traffic jams. Then at that point, for example, has been set that should be no vehicles parked around the area where CCTV is placed. If there is a violation, the data will be sent to Bandung Command Center for urgent action by Department of Transportation. The CCTV has an important role in the implementation of smart mobility in Bandung. It requires readiness and alertness of HR administrators. Then, it is required the firmness of the relevant authorities of violations. The last thing is the awareness of the implementation of this smart mobility. For example, if there is a case of traffic engineering because of the changes in key performance indicators, it is adjust the density of traffic conditions.

Another thing that was planned as part of the smart mobility is the reduction of use of private cars on the streets. Decreasing the number of private cars on the road is expected to reduce traffic congestion. This is achieved by launching a program of smart city public transportation. In the public transportation facilities, there will be installed free internet as well as the provision of electric power charger to charge the phone. This breakthrough is one of the measures that are not in another city so that it can be a best practice for other cities.

Conclusions and Implications

Based on the previous discussion, it can be concluded that the condition of public services in the city of Bandung before and after the implementation of the smart city program to experience the difference. Judging from the dimensions of smart governance, smart mobility and there are changes in the quantity and quality of services. The improvement can be seen in hospital service aspect, access online assessment of the performance of the apparatus to be evidence that there is a change of public service aspects of smart governance. It is added with the establishment of Bandung Command Center where a variety of applications related to smart city can be accessed from the site. Then, seen from the dimensions of smart mobility, there are many changes that occur before and after the program was launched in Bandung smart city. These two dimensions have some obstacles which generally caused by a lack of infrastructure, human resources, and public awareness of its own. Despite the many hurdles but smart city program conducted in the city has brought changes to the way public services are better. In addition, there is an

increase in the bureaucratic apparatus performance.

The advice which can be given to the Bandung municipal government related to smart city program is the need to plan a more orderly and ripe for smart governance programs and smart mobility. There is a need for in-depth study before the programs are implemented, such as the internet network readiness support, as well as surveillance officers in the field.

References

Anderson, J. 2013. How to Make Smart Cities a Reality Today: 5 Factors for Success, retrieved February 12, 2015 from http://www.slideshare.net/SchneiderElectric/how-to- make-smart-cities-a-reality-today-five-factors-for-success-23252784?related=2.

AthensCoCreation Project. 2013. What Exactly Is A Smart City?. Athena: Panteion University of Social and Political Sciences, Department of Communication, Media and Culture MA in Cultural Management.

Cohen, B. 2012. What Exactly Is A Smart City?. Retrieved February 13, 2015 from http://www.fastcoexist.com/1680538/what-exactly-is-a-smart-city

Dawes, S.S. 2008. The Evolution and Continuing Challenges of E-Governance. Public Administration Review. 68: 86–102.

Denhardt,R.B., and Denhardt, J.V. 2003. The New Public Service: Serving, not Steering. Armonk NY: M.E. Sharpe

Lynch K. 1983. A Theory of Good City Form. Cambridge, Mass: MIT Press

Mahendra, W. 2010. Implementasi Electronic Government Pemerintahan Kota Depok. Skripsi FISIP-UI

Nurmandi, A. 2006 . Manajemen Perkotaan : Aktor, Organisasi, Pengelolaan Daerah Perkotaan dan Metropolitan Di Indonesia. Yogyakarta: Sinergi Publishing & Laboratorium Ilmu Pemerintahan dan Manajemen Publik

Purnomowati, W. dan Ismini.2014. Konsep Smart City dan Pengembangan Pariwisata di Kota Malang. Jurnal JIBEKA 8(1): 65-71.

OECD. 2004. Country Factsheets. Paris: OECD/Public Governance and Territorial Development Directorate, GOV/PGC.

Bowman, James. S. 2010. Achieving Competencies in Public Services. The Profesional Edge, Second Edition, Armonk NY: M.E. Sharpe

Boyne, G., Asworth R., and Tom E. 2010. Public Service Improvement: Theories and Evidence . New York: Oxford Universty Press

Creswell, J.W. 2010. Research Design: Pendekatan Kualitatif, Kuantitatif, dan Mixed (edisi ketiga terjemahan). Yogyakarta: Pustaka Pelajar

Prasojo, E., Teguh K., dan Defny Holidin. 2007. Reformasi dan Inovasi Birokrasi. Jakarta: Yappika

Silalahi, Ulber. 2011. Kepercayaan Publik kepada Pemerintah Daerah Pasca Orde Baru, Jurnal Ilmu Administrasi Negara (JIANA) 11(2) Juli 2011. Pekanbaru: Magister Ilmu Administrasi UNRI