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## Smart governance as a new strategy on Jambi city policy innovations

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### ABSTRACT

The goal of the smart governance concept is modern urban management using state-of-the-art technologies, considering the applicable ecological standards while saving resources and achieving the expected results. In line with this, the government needs to build integrated ICTs services. Therefore, the government of Indonesia has legalized a regulation relating to smart city policy. In 2017, Indonesia introduce The Movement Towards 100 Smart Cities. The program aims to guide local government to further maximize the use of technology, both in improving public services and transformation of existing resources in local government to become more digital-based. This article uses a qualitative descriptive approach through out in-depth interviews, documentation and secondary data exploration to present the extent of the development of smart governance in Jambi City, Indonesia which explained driving factors (and challenges) to policy implementation in local government, although the process of digitization has been in right direction so far, improvement is needed in terms of enhancing digital resources, adjusting to the organizational culture, and implementing a more diverse collaboration strategy.



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## Introduction

The use of technology in urban management and planning is a very important thing to do to maintain the performance and competitiveness of the city in order to survive in this era of the industrial revolution 4.0. The current challenges have created an added pressure on the public governance system, leading many countries to seek effective and efficient ways to tackle these modern challenges. The growing needs and expectations of citizens are considered to be one of the most crucial challenges today. These expectations have been heavily influenced by the adoption of new digital technologies, the impact of globalization, and a desire for increased collaboration among citizens and other stakeholders (Gaulè, 2014; Scholl & Scholl, 2014). The impact of ICTs on development can be examined by considering infrastructure and access (Bolívar, 2017; Gil-Garcia et al., 2016). As demonstrated by the implementation of smart government, ICTs play a crucial role in how the public governance system responds to economic and social pressures, representing a further development phase of e-government (Gaulè, 2014).

Although ICTs enable governments to enhance political participation, implement public policies, and deliver public services, the topic is not given as much attention by researchers at the central government level.

Often, the concept is linked to specific phenomena in the context of smart cities, such as monitoring emerging e-government trends, enhancing local democracy, and establishing a network that provides access to government-related e-services (Bolívar, 2017; Gil-Garcia et al., 2016). One thing that has begun to be considered is the development of smart governance as the basis for the success of a smart city (Stratigee et al., 2015). The 4.0 industry revolution gives the opportunity to mastery technology as the key to determining national competitiveness. Therefore, mastering technologies such as the internet of thing, artificial intelligence, human-machine interfaces, robotic and sensory technology, and 3D technology will sustain development in the era of the 4.0 industrial revolution (Scholl & Scholl, 2014).

To keep up with the 4.0 Industrial Revolution, the government must establish an e-government service based on integrated information and communication technology. Through this system, the community will experience the advantages of technological advancement in terms of easy, speedy, affordable, and high-quality services, including improved management of correspondence and licensing, simplified handling of public complaints, increased transparency in public services, convenient transportation options, and more. There are several steps in an effort to develop smart governance, one of which is the preparation of policy directions as a guide for taking the next step, namely the formulation of solutions based on an understanding of the various gaps between the current state of Jambi City governance and ideal conditions in the concept of smart governance. The form of the program implemented by the Government through the Ministry of Communication and Informatics, Ministry of Interior, Ministry of PUPR, Bappenas and presidential staff office is the movement to 100 Smart City (hereinafter abbreviated to SC) which is a joint program of the Ministry. This Program aims to invite Kab/Kota can to plan the Master Plan SC in order to further improve the use of technology, both in improving service to the community and accommodating the potential contained in each region ([www.kominfo.go.id](http://www.kominfo.go.id)).

Smart City is an application of the internet of things (IoT). The role of the Internet to realize the concept of SC is so important to support the delivery of information and perform the action through the network with minimal human intervention, so as to perform various functions automatically. With the Internet of thing in the SC program will unite the community in a fast and precise service. To overcome the problems faced by the community. Through the concept of smart city, make the government's auth can be more instant, and give impact to the community. The first step, smart city construction was prioritized in 24 cities with a benchmark of budget availability.

Jambi City is one of the cities that continues to develop the smart City program in every aspect of community life. The basic concept of development is efficiency in budgeting to provide effective public services, making it easier for people to obtain services using information technology. However, in its application each city has different problems including the city of Jambi, such as inadequate supporting infrastructure, the readiness of local government, one of them in terms of budget, and the community that stutters technology.

Smart City Concepts in Jambi city governement has started since 2014 then. In the implementation, there are still constraints such as human resources limitation because not all regional device organizations have experts in the IT field. Another obstacle is the city of Jambi faced with considerable challenges such as a high population increase, less reliable transportation, as well as infrastructure that has not supported, the quality of public service that has not been in accordance with the expectations of society and the number of practice Pungli, and most importantly the challenge to the limited financial resources become a problem in order to realize the program Smart City (Smart City) in City Jambi. Based on the phenomenon that has been outlined, researchers are interested to study in more depth about this smart city program in a study titled "Review of Smart City Program implementation" in Jambi city in the Era of Industrial Revolution 4.0.

Smart Governance one part of the realization of a Smart City. As a whole, a smart city consists of 6 forming dimensions, namely smart governance, smart environment, smart living, smart people, smart mobility and smart people (Mosannenzadeh & Vettorato, 2014). Smart governance is a concept as well as a practice of how to manage management and governance and public services more quickly, efficiently, effectively, responsively, communicatively, and continuously improve bureaucratic performance through innovation and integrated technology adoption. One of the characteristics of smart governance is the pattern, culture, and business processes of the government's internal bureaucracy and public services that become more concise, fast, easy, responsive and communicative, and efficient in time, cost, and effort. Smart governance is recommended to be the basis for the successful development of other smart city dimensions. The process of implementing smart governance requires a long process, therefore a strong commitment from the government is needed to realize the concept.

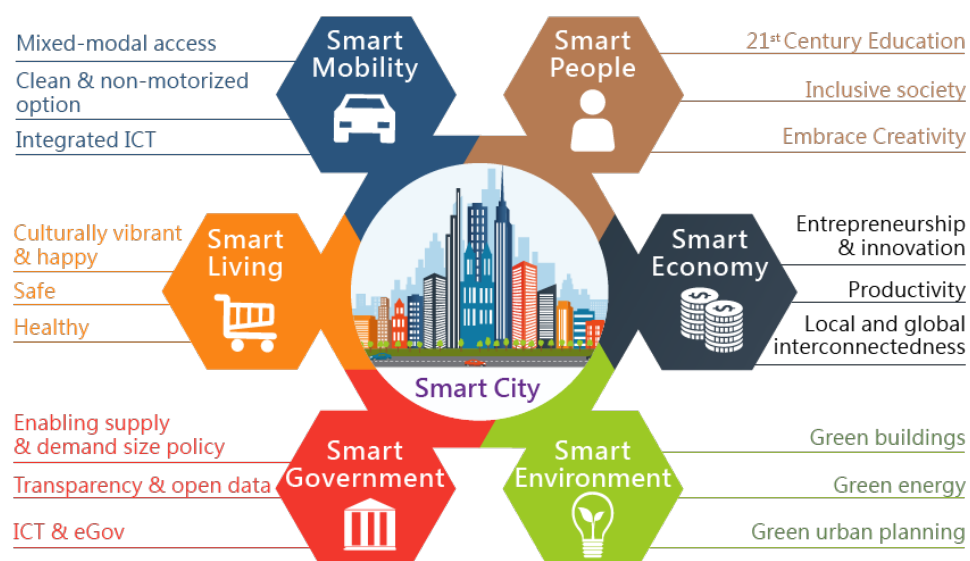
The main focus of the research is the extent to which smart governance is present in the policy process, and its implications for the concept of a smart city using information technology as a core value. The purpose of this study is to analyze the application of information technology-based smart governance as an implication of implementing a smart city in Jambi City Government.

### Theoretical framework

The definition and models of smart cities remain varied. The current focus is on utilizing technology to accelerate regional or urban development by providing public services. The goal is to overcome obstacles by using technology to create effective, efficient, and high-quality public services that support local economic growth. Smart city initiatives also aim to provide quick and easy access to information services for communities through technology applications, which can address community issues and improve comfort, safety, and order. The smart city concept comprises three main elements: people, technology, and institutions. It is a city concept that promotes integrated connectivity across different fields, resulting in improved practices and efficiency in city management (Lazaroiu & Roscia, 2012; Meijer & Thaens, 2018).

Smart City is basically a city management concept by combining all strengths in terms of human resources, natural resources, infrastructure and government by optimizing Information Technology, so that the city is able to make its citizens independent, participatory, comfortable and prosperous. This meaning has been stated by several researchers that a Smart City is a city that is able to manage all its resources to improve the quality of life of its citizens (Anthopoulos, 2015; Chourabi et al., 2012; Roman & Miller, 2013; Stratigee et al., 2015). Giffinger, et al stated that Smart City is a city that has a good performance / appearance that has a forward way from the aspects of the economy, society, government, mobility, environment and life, all of which are built because of good cooperation and are determined by independent citizens. and high awareness (Roman & Miller, 2013). Meijer et al (2015) also stated that Smart City is a city that invests human and social capital and infrastructure, both traditional and modern, to promote sustainable economic growth and improve the quality of life, through the management of natural resources wisely and participatory.

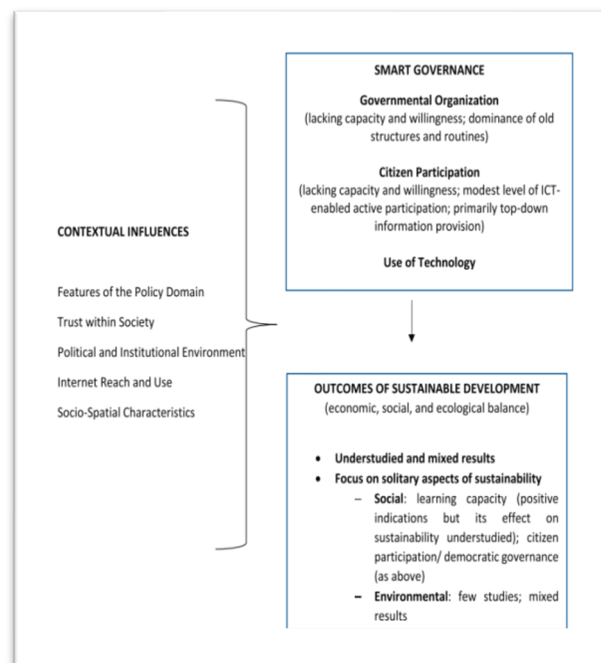
Some researchers state that Smart City has certain characteristics, but in general Smart City has the characteristics of Smart Economy, Smart People, Smart Governance, Smart Mobility, Smart Environment, Smart Living (Bolívar, 2017; Bolívar & Muñoz, 2018; Meijer & Thaens, 2018; Mosannenzadeh & Vettorato, 2014; Roman & Miller, 2013). However, it can be seen clearly that several research sources emphasize that one of the characteristics of a Smart City is Smart Governance, which will be an important focus in this research. Lazaroiu and Roscia added in their research the indicators of each characteristic of Smart City, where, for example, Smart Governance has indicators: Participation in decision-making, public and social services, Transparent Governance, political strategies and perspectives (Lazaroiu & Roscia, 2012; Meijer & Thaens, 2018).



**Figure 1. Smart City Indicators**  
Source : (Lazaroiu & Roscia, 2012)

Colldahl et al (2013) defines the Smart Economy as the general competitiveness of a city that is characterized by its innovative spirit, productivity, and flexible labor market. The Smart People aspect pertains to the human capital and social interactions between people based on their inclination for lifelong learning,

participation in public life, creativity, and flexibility. Meanwhile, Smart Government involves encouraging citizens to participate in governance through transparent decision-making processes. Smart Mobility focuses on preparing transportation and infrastructure that can support local ICT accessibility, ICT infrastructure, as well as sustainable, innovative, and safe transportation systems. Smart Environment refers to the maintenance of natural resources through the attractiveness of natural conditions, environmental protection, and sustainable resource management. Lastly, Smart Living aims to improve the quality of life by providing cultural facilities, good health conditions, good housing quality, and social cohesion. In this research, the focus is the elaboration of Smart Governance which is defined by Meijer et al (2015) identified four conceptual ideals of smart city governance, namely (1) government of a smart city, (2) smart decision-making, (3) smart administration and (4) smart urban collaboration. These conceptualizations reflect different theoretical perspectives on the role of government in modern society (Chourabi et al., 2012; Lazaroiu & Roscia, 2012; Meijer et al., 2015; Santos et al., 2014) and differ in their notions of the need to transform governance to make cities smarter. These four concepts are actually a complete concept of smart government.



**Figure 2.** The inter-relationships between the main variables of smart governance  
Source : (Gano, 2013; Nam & Pardo, 2011; Osborne, 2010)

After exploring some literature to increase our understanding of smart governance by revealing details about its structure. To this end, we examine the main components of smart governance in the context of the Jambi City Government namely; contextual factors in government organizations, citizen participation (and, therefore, government-citizen collaboration), the use of technology, and driving factors (and challenges) (Coleman & Blumler, 2009; Gano, 2013; Joss et al., 2017).

## Method

The study uses a descriptive method with a qualitative approach (Creswell, 2013). With this method the researcher seeks to describe the implementation of Smart Governance Concepts in Smart City Framework, the data collection methods used are in-depth interviews, documentation with secondary data exploration, and observations on Jambi City government services. The data collection was carried out in stages, namely the first stage of collecting various information in the form of a literature review, in this case the researcher studied both quantitative and qualitative data through documentary sources, namely data on monographs of the study area, various articles related to research material, and relevant reports (Brayda & Boyce, 2014; Denzin, 2015; Lub, 2015). The data and information are collected to support, clarify and complete the theoretical study by sampling as a research informant is the institution and apparatus involved in the implementation of the smart city program. Data is collected through observation activities, interviews, and documentation. In the in-depth interviews the researchers focused on contextual factors, government-citizen collaboration, the use of technology, and driving factors (barriers and challenges) within the smart governance framework. The data

used in this study is primary data taken through the interview method with a purposive technique. Then the data is analyzed which include data reduction, data presentation, and withdrawal of conclusions (Miles & Huberman, 1994).

## Results and Discussions

### Policy domain as a contextual factors influencing smart governance in Jambi City

In the era of digitalization, technological developments are increasingly sophisticated. Various innovations have sprung up in every government agency as a means of supporting governance so that the expected goals are achieved properly. The realization of smart city governance is one of the results of the policy process that has an impact on the quality of public services provided to the community by the government. In the era of digitalization, every government institution is expected to be able to solve community problems quickly and based on technology in facing the era of the industrial revolution 4.0. We explored the literature to learn about (expected) major contextual factors and how these influence ICT-supported, citizen-government governance aiming at sustainable city development.

**Table 1.** District/City Movement Program 100 Smart City in Indonesia

No	District	No	City
1	Banyuwangi	1	Tomohon
2	Lombok Timur	2	Sukabumi
3	Badung	3	Samarinda
4	Sleman	4	Bandung
5	Banyuasin	5	Semarang
6	Bojonegoro	6	Tangerang
7	Gresik	7	Bekasi
8	Sidoarjo	8	Bogor
9	Mimika	9	Cirebon
10	Kutai Kertanegara	10	Pelalawan
11	Siak	11	Makasar
		12	Tangerang Selatan
		13	Jambi

Source : (kominfo.go.id, 2017a)

The presence of the main regulations for the implementation of smart governance is contained in the Jambi City Regional Regulation Number 1 of 2019 concerning the Implementation of Smart City confirms that certain policy domains were seen to be more conducive than others to collectively taking sustainability measures and reaching the objectives through the support of digital technologies. Jambi City has focused as a smart city since the beginning of the emergence of the concept, this program is started with the preparation of Master Plan Smart City of Jambi City in 2014 as the first regulation (kominfo.go.id, 2017b), together with the local government agency, sub-district, head of health centers in the area of Jambi city, as well as board Smart City of Jambi City consisting of all head OPD City Jambi, elements DPRD Jambi city and academics. After the technical guidance of the preparation of Master Plan Smart City Jambi City, the next stage is the implementation of smart city development which began in 2017 and still ongoing until now (2020) under the guidance and mentoring of the Indonesian IT Consultant Association (IKTII).

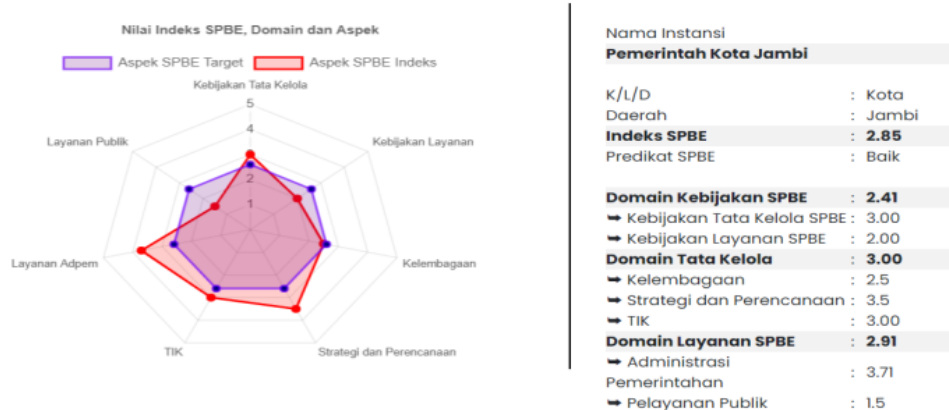
Service to the community began to be enforced with an IT system connected with all the OPD of Jambi city government. In order to improve the implementation of Smart city, Jambi city government has always coordinated with the head of SKPD to expose problems in the respective institutions that can be solved through technology so as to facilitate in serving the community. In building and implementing Smart City, Jambi City is the first area in Sumatera has a City Operation Centre that is named Jambi City Operation Centre (JCOC). It is a space control of Jambi city which monitors the activities occurring in the City of Jambi, including having the function of monitoring the traffic by implementing the application of the Traffic Control System (ATCS). In addition to displaying the city information, JCOC also monitors public complaints through the SIKESAL app. To support the implementation of JCOC, almost every intersection in Jambi City already installed CCTV. In addition, from the implementation of the Smart city of Jambi City, is with the electronic traffic Law Enform (E-TLE) or called electronic ticketed. Jambi City is the second region to implement E-TLE in Indonesia after DKI Jakarta.

As proof of the success of the Jambi city government in implementing the regulation of Smart City program, the city government of Jambi gained appreciation from the central Government through the Ministry of Information and Communication as one of the 25 pilot areas (pilot project) of Smart City in Indonesia. In addition, the city government of Jambi also gained appreciation from one of the leading national magazines engaged in the IT and telecommunications field, IT Works, which initiated the Event TOP IT & TELCO 2018. The city of Jambi has been able to collect two awards, namely Top Leader on IT Leadership 2018 and Top IT Improvement 2018. In the year 2019, the city of Jambi also managed to get 3 awards at the Expo Smart City 2019 exhibition at BalaiSudirman Jakarta. The form of the award is capability Award and Implementation of Smart city governance in the form of Top Digital Implementation 2019 on City Government Level Star 4, Top Digital Transformation Readiness 2019, and Top Leader on Digital Implementation 2019. Jambi Mayor SyarifFasha in the 2020 Top Digital Innovation Award Awarding Ceremony confirmed that: In implementing smart city, we always consider on the basis of need, to overcome various problems that exist in our city. We solve various problems with innovation, which we then apply in technology. Maybe this is different from other regional concepts that think otherwise.

Currently the city of Jambi has indeed transformed as a city that implements the concept of smart city well. Various government activities and public services have been implemented in the form of information technology-based service applications. The concept of smart city of Jambi City is also not separated from the industry 4.0 phase, which demands the utilization of information and communication technology in all aspects of community life, so it can provide benefits and facilitate all public activities.

### Trustthrough collaboration with various stakeholders

The dimension of trust can be closely related to personal characteristics, much of the literature makes it clear that the general condition of trust held by the public is an important factor in digital collaboration between the public and government (Berry & Portney, 2013; Lee & Kim, 2014; Shaheen & Tassabehji, 2007). The aspect of trust relates to the perception that the public has of their government regarding a set of public policies, what they can expect from the government, and the influence they feel on themselves in technology-facilitated decision-making.



**Figure 3.** Jambi City SPBE evaluation results in 2019

Source: <https://spbe.go.id/moneval>

The Head of the Jambi City Government's Communications and Information Office explained that collaborative efforts have been made with various stakeholders, both from within and across countries, to accelerate the realization of the Smart City Program. The concretization of this collaboration is the presence of the Capsule Bus Online development which is a collaboration with PT. Multi Inti Digital Transportation, with PT. Altera in the Electronic Payment System (e-Payment), and with PT. Rimba Palma for the Provision of Subsidized 3 kg Gas Customer Cards for people with certain groups.

Other collaborations with domestic circles, between the Jambi City Communications and Information Service with BSSN, with the Bungo Regency Government regarding the Duplication of the SIKESAL Application, and with the Jambi City Police Resort on the Utilization of COC ICT in Electronic Traffic Violation Law Enforcement (E-TLE). Regarding cross-border cooperation, the Jambi City Government has collaborated with the Singapore Cooperation Program (SCP) in improving human resources, and with Sri Lanka in handling waste.



### Political and institutional environment fostering Jambi City government innovation

In this section, the literature further illustrates that the formal and informal aspects of the broader institutional and political environment play a significant role in smart governance. The factor that is clearly referred to here is the strength of the democratic system. A strong democratic system is expected to trigger public involvement that is more accommodated by ICT facilities and encourage the process of digitizing public participation from top to bottom (Lee & Kim, 2014; Lombardi et al., 2012; Maciel et al., 2008). Many literatures refer to the existing political system (democracy), as an influential factor in the outcome of smart governance (Anthopoulos, 2015; Bolívar, 2017; Lombardi et al., 2012; Meijer et al., 2015). Berry & Portney (2013) emphasize that sustainability policies mostly occur in cities that apply liberal (progressive) politics, while the opinion of Islam (Islam, 2008; Kemkominfo, 2017) explores the relationship between suffrage, political freedom, and political participation.

To build a democratic institutional environment, paving the way for the public to be involved in the public policy process is a key condition for the adoption of smart governance, public participation can support the implementation of Smart City program in Jambi City (Hartati & Wahid, 2019; kominfo.go.id, 2017b; Maulana et al., 2020), this is the basis for digitizing the service and governance aspects of the city government to move forward, thus motivating the city government launched approximately 50 technology innovation applications to support the performance of the Government of Jambi and facilitate the process of service to the community. All these technological innovations can be accessed easily by the community.

The applications include E-TLE, SiKesa1 (Online community complaints Information System), DISHUB Sign On, DISHUB Smart, Si Raja Koja (Information System procurement goods provision of Jambi city), licensing applications, United Nations Info Online, Applications Jambi City (information about the city of Jambi), digitalization archives, Digital clipping applications, and applications PPID (Public Information application). With the various applications of the community services, The Jambi City Government hopes that government services to the public can run effectively and optimally, and can respond to the challenges of the contemporary community to the needs of the service system is fast, integrated, inexpensive and efficient. Even to support Smart city in Jambi City, Jambi city government has built Fiber Optic (Fo) to facilitate and expand the coverage of telecommunication network. Based on smart city dimensions/indicators, as examples of such applications include:

**Table 2.** Jambi Smart City Applications

No	Smart City Variables	Applications
1	Smart Economy	Sikadd E-Promosi
2	Smart People	Sangkek Aplikasi PPID
3	Smart Government	Sikoja SiKesa1 Sipaten Sipadek Si Raja Koja
4	Smart Environment	Sippolling
5	Smart Mobility	Transkoja E-Parking E-TLE Dishub Sign On Dishub Smart
6	Smart Living	E-Silola E-Planning Aplikasi Perizinan

Source: Research data, 2020

Since 2014 the downstream innovation that has been presented by the Jambi City Government to accelerate the development of infrastructure and community utilities has gone quite well, by prioritizing community participation and participation in the development process in their environment. This is illustrated by the Bantar Village Program, the RT (village) environment is made cleaner and healthier, safe and orderly, productive and always maintains the spirit of mutual cooperation, religious values, customs and legal norms in social life with character. and cultured. Innovation with this program is able to save a lot of the budget needed to maintain a clean, safe and smart environment.

Another innovator related to the microeconomic stimulus is the Kali Clean Cash Work-Intensive Program, the Jambi City Government rolled out the Clean Kali Clean Cash Work-Intensive Program (PakarKasih) to restore the residents' economy during the Pandemic. Approximately Rp 3 billion is budgeted for activities to clean rivers in 23 locations in Jambi City. Currently, there are around 1,102 workers involved in cleaning rivers and strengthening the economy.

Innovations related to the environment can be found in the provision of the Air Quality Monitoring System (AQMS), by presenting an air pollution standard index measuring device. This AQMS tool is managed by the Jambi City Environmental Service and is used to measure the standard index of air pollution in the Jambi City Region. The aim of this program is that the level of air pollution and its substance content can be detected so that the problem can be resolved immediately.

### **Internet Reach And The Use Of advanced Digital Solutions On Smart Governance Aspect**

From various literatures on smart governance, many authors agree on the fact that the influence of the internet and the expansion of ICTs infrastructure has transformed the originally traditional governance into a platform that stimulates public collaboration through online systems to achieve more sustainable urban systems. In many countries, it is shown that the intensity and level of development of more massive online public participation has proven to be closely related to the country's commitment to wide internet infrastructure penetration, broadband availability, and technological developments in the communication sector.

In developing countries such as Indonesia and in other areas that are relatively lagging behind compared to developed regions, the absence or lack of access to the Internet is a major obstacle that significantly reduces community empowerment, public-government collaboration and sustainability efforts (Alzahrani et al., 2017; Kemkominfo, 2017; Savoldelli et al., 2014). On the other hand, the gap in the penetration of the digital economy and socio-culture hinders the transition or migration of public services and public-government collaboration to the World Wide Web platform (Neirotti et al., 2014). Meanwhile, another important factor is the lack of public accessibility to various ICT applications so that it has an impact on the inhibition of technology-based collaborative urban planning (Giffinger et al., 2007).

Some of the steps taken by the city government to realize the Smart City program include: Regulatory Development, Infrastructure Development, Application Development, ICT HR Development, and Inter-Agency Cooperation Development. The Jambi City Government also has digital solutions to provide public services to the community, namely SiKoja, SIPADEK online correspondence management application, and Sipaten sub-district and sub-district services for managing letters. SILANCAR is a one-stop integrated service licensing application, online registration and issuance of certificate in real time, Permits using Digital Signatures. SiKesar, an application for online public complaints, reports will be forwarded to the relevant agencies to look for causes and solutions.

### **Barriers And Challenges Faced In The Implementation Of Smart City Program In Jambi City**

The movement towards 100 smart cities is a breath of fresh air for local governments to be able to implement smart cities that are technically supported, starting from the preparation of master plans. Jambi City is part of this movement and serves as a pilot project for Sumatra. The legality of the implementation of smart cities is regulated in Regional Regulation Number 1 of 2019 concerning the Implementation of Smart Cities. Various smart city innovations have emerged in Jambi City from the Smart Government dimension, Jambi City performs various innovations by building integrated services based on applications in various fields. In addition, it is also supported through a website and applications to facilitate the community, which is a form of IT implementation in the field of government. But in its practices, there are various barriers and challenges. The barriers are limited financial resources; therefore, one solution is to seek the participation of stakeholders in creating a smart city in Jambi. Other obstacles and challenges are the limitation of human resources in the field of information technology, because not all government agencies have experts in the IT field.

### **Organizational Factors**

It has become a classic argument that budget constraints have an impact on the ability of organizations to recruit quality human resources, especially in managing ICT infrastructure. While the government is not only faced with staffing challenges related to ICTs, but there are also many HR development priorities that do not necessarily intersect with ICTS, for example ensuring the merit system is running. If this issue continues since the initiation and launch of Smart Cities, there will be great pressure on leadership to push for a change in HR culture in all aspects of city governance towards a performance-based, customer-oriented culture, and most importantly data-driven, but that change will not occur in a short time, given the wide scope of structure and differences between departments in interpreting organizational culture. This was supported by interviews with the head of Jambi City Communication and Information Agency, Mr. Nirwan that:



Jambi City has focused itself into a smart city. Service to the community is enforced using IT that relates to all the OPD of Jambi city government. This is to facilitate service and minimize face-to-front between the officers and the community. However, there are constraints in its implementation, which is the limitation of human resources, because not all OPD have experts in IT field. To overcome that problem, we continue to provide mentoring.

### **Cross-Organizational Factors**

In this aspect, we can see that the biggest challenge across organizations lies in the commitment to collaboration between departments or between agencies. There is no specific agency that coordinates government agencies for the acceleration of collaboration, the city government in this case may consider expanding the scope of services and information provided by the city portal so that basic access for collaboration can be provided.

Other obstacles and challenges are the lack of readiness of the community in utilizing such application-based technologies. There are still people who do not know how to facilitate the service and absorb the aspirations of the government of Jambi City has a variety of supporting applications. As the result of the interview with Nirwan (Head of Jambi City Communication and Information Agency):

Jambi city government already has dozens of applications, among them there are applications for the development planning of Jambi City, service applications, application of complaints and information. This opinion is in line with the direction of the Mayor of Jambi City, SyarifFasha in the 2020 Top DigitalInnovation Award Awarding Ceremony which said that: Innovation is a necessity that must be owned by an area to solve various problems that exist in the area and to bring services to the community. The innovation phase is already underway, and we have entered the technology phase. Technology-driven innovation will be a tremendous force in producing excellent service for the community. Currently, all local governments are competing to make innovations.

The opinion as researchers have outlined above. Therefore, Jambi city government is very concerned with the response given by the public to application of such technological innovations as a form of feedback for the government in conducting an improvement to the Smart City Program.

Disruption in public governance is unavoidable with the emergence of new technologies, this indicates an unexpected challenge which is also in line with the presence of great opportunities for smart city initiatives to develop in a sustainable manner that relies on the ability of technology to adapt to the needs of the times. Especially the current generation's achievements with the use of the Internet of Things (IoT) deserve careful supervision from the government and vice versa. IoT, which is considered and agreed upon as a new paradigm in modern wireless telecommunications, will rest on the network interconnection of everyday objects that people use, which is often complemented by updates from ubiquitous intelligence applications.

The preceding discussion suggests that there are ample opportunities for scholars to further explore and enhance the concept of smart governance in the future. While the capacity of infrastructure is undoubtedly crucial, there is a need for strengthening it, particularly in terms of integrating technology in organizational governance and providing digital resources to facilitate innovation in the public sector.

### **Conclusions**

The implementation of Smart City Program in Jambi City has started since the year 2014 is in the order of Master Plan Smart City Jambi City. The implementation of Smart city development began in 2017 and is still ongoing until now (2020) under the guidance and mentoring of the Indonesia IT Consultant Association (IKTII). As proof of the success of the Jambi city government in implementing the Smart City program, the city of Jambi won the Implementation of Smart city governance at Expo Smart City 2019 exhibition at BalaiSudirman Jakarta. Jambi City is one of 25 local governments in Indonesia chosen by the Ministry of Communication and Information of the Republic of Indonesia, to become a pilot project for implementing smart cities in Indonesia. Various government activities and public services have implemented various information technology-based applications. The Jambi City Government has launched various applications to support the performance of the Jambi City Government and to provide public services. Jambi City is also the first area in the Sumatra region to have an integrated City Operation Center (COC) room, where the city control and monitoring functions are integrated with other control functions, such as the traffic monitoring system (ATCS), monitoring of public complaint services (Application SIKESAL), as well as various other community service functions. Jambi City is also the second city in Indonesia, apart from Jakarta, to implement Electronic Traffic Law Enforcement for the first time through E-TLE (electronic ticket). All these technological innovations can be accessed easily by the community. However, there are several challenges

faced in implementing the Smart City Program in Jambi City is a limited financial resource, limitation of human resources in information technology, and lack of public readiness to utilize application-based technology. A smart governance is that the government can maximize the potential of its resources and minimize the obstacles it faces. Natural resources, forestry and agriculture are very rarely owned by a city. The city's greatest potential is the potential for human resources and a relatively strategic geographical location. The management of this potential will be of higher value if it is managed properly. Establishing a synergistic relationship with the hinterland area is very supportive of meeting the needs of the city. In short, an independent city is a city that can finance its needs by relying on great potential and establishing complementary relationships with the surrounding area. Furthermore, the development of smart governance in Jambi City has made progress in terms of fulfilling regulatory initiatives. However, there is still work to be done to ensure consistent implementation of smart city practices and encourage innovation involving the public, as well as preparing digital resources and enhancing collaboration between stakeholders.

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