



The Analysis of Lebak Smart City Application Based on Mobile in Improving Lebak Regency Government Service

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Abstract

This research aims to identify and analyze how a mobile-based smart city application is utilized by the Government of Lebak Regency in an effort to improve public services quality. The concepts used are the government public relations government concept, mobile-based smart-city application concept, and public services concept. The method used in this research is a qualitative method. The data for this research were collected by interviews and content analysis of Lebak Smart City application service. The results of this research indicate that the Lebak Smart City application is used as a medium to encourage sustainable economic growth and improvement of the high quality of life, as long as the natural resource must be managed wisely through participatory governance. The contribution of this research is the feedback to Lebak Regency Government to 1) add and improve the information feature provided in Lebak Smart City application to be more accessible to the public, 2) develop faster and responsive application by cooperating with related stakeholders, 3) suggest that the Government's public relation can design massive socialization and communication programs, so that the use of this application is increasing and widespread; and 4) to build the ICT infrastructure design is not easy, many parties are involved in this process, especially universities and industry players. Therefore, it requires the Government's flexibility in building professional relationships and cooperation.

Keyword: Smart City Application; Public Service.

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1. Introduction

Lebak Regency is a district located in the province of Banten with an area of 3,426.56 square km and 1,305,430 populations. It consists of 28 districts, which are divided into 340 villages and 5 sub-districts. The economic potentials in Lebak District are agriculture, mining, rubber plantation, oil palm, cocoa, robusta coffee, aren, clove, coconut, pepper, pandan, tea, cashew, panili, jatropa, kapok. In addition to plantation potentials, there are fisheries potentials as well in Lebak Regency. There is also tourism potentials such as waterfalls, rafting, hot springs, Bagedur beach, Sawarna beach that have been well-known globally and many other kinds of tourism in Lebak. However, other sectors are relatively underdeveloped, i.e. manufacturing industry, trade, hotel and restaurant, transportation and communications, and financial sectors [8].

As a developing regency, Lebak also progressively carries out development with the support of information communication technology (ICT) utilization. The presence of ICT encourages the Government of Lebak Regency to initiate an application that aims to improve the city and its people's intelligence. This is the background of smart city application launch. Lebak Smart City contains various information needed by the society, including information about education, health, culinary, security, transportation, tourism, culture, job vacancy, workshop, carpentry, and others.

The "smart city" application aims to promote the wealth of nature and tourism potential in Lebak to attract tourists and investors to foreign countries. The smart city application has an impact on the economic growth of the society. In addition, people who want to know the natural resources potential of Lebak regency can access the "Lebak Smart City" [10]. The Lebak Smart City application provides space to the public to, at least, know various information related to the management and development of various potential resources in Lebak Regency. In this context, the role of participatory development lies in the involvement of the community to track the Lebak development process.

The launch of the smart city is well-backed, considering from the estimated 70% of the world's population - equals to more than 6 billion people- will live in cities and nearby areas by 2050. This rapid increase in population leads to population density in urban areas, in which complicates the public services. Therefore, the cities must be smart in order to maintain the economic quality, as well as social and security environment. A smart city is a city that uses information communication technology (ICT) in facilitating its public service process [5]. Through the smart city, Meijer explains that the city will be smart when the information communication technology (ICT) utilization exists, then this will encourage sustainable economic growth and the improvement of the high quality of life. by still considering wise management of natural resources through participatory management [9].

The smart city implementation enables transformation in public service process, for example, service using paper and other physical documents. Currently, such service is pursued in paperless and soft-file form. Not to mention that the service must go through various long, time-wasting, and convoluted procedures. Nevertheless, with the current digitization era, bureaucratic and administrative services are getting more effective and efficient. The registration can be done through the internet, simply by filling out a form created in an online

information system or a website. The data filling can be done through various devices such as computers, mobile phones, smartphones, tablets, and other advanced technology products [4].

By integrating technology into community activities, they will enable to share feedback and gain new experiences, creating new products. This is in line with the core of the smart city that seeks to find smart solutions, which will make it possible to effectively use modern ICT in the daily lives of citizens. Without ICT implementation, the Smart City idea will most likely not exist, as a new tool for the implementation of goals, such as building closer relationships, preserving the environment, or managing urban flows, the city administration will need to be discovered [16].

The issue that should be concerned is how the application can be implemented optimally, so that its existence is not merely interpreted as a formality of the demands of the time, but also a part of the efforts of government agencies in improving public participation in development. Positive things should be explored for the common good, and then negative things need to be suppressed and minimized by various parties. In the government sector, such condition requires government agencies to be more innovative in utilizing the ICT, so as to gain proper benefits that can be useful for development acceleration.

Referring to this condition, the researcher is interested to identify and analyze more deeply about how the utilization of mobile-based smart city application can improve the public services quality in Lebak Regency. The purpose of this research is to identify and analyze how the utilization of mobile-based smart city application can improve Lebak Regency Government's public service quality, which leads to public service satisfaction, increasing trust and security to the government, improving the quality and standard of living. Moreover, it also serves as an interactive medium between the community and government, as well as a mean to integrate various components of government with a responsive response to any aspirations that come from the community.

This research is expected to have contributions in science and knowledge in the study of communication science. Therefore, this research is expected to have contributions in form of feedback and information that can be developed as an evaluation on how to optimize information and communication content in mobile-based smart city application to improve public services quality in Lebak District.

2. Literature review

2.1 *Government's Public Relations*

Government's public relations (PR) is a type of communication function that deals with the process of interaction between citizens and the government, government regulators, as well as legislative and regulatory bodies of government. Government public relations helps facilitate communication with constituents and with governmental public [11]. Public relations at least contains seven main objectives: 1) Providing information to constituents about government activities, 2) Ensuring community participation in government programs, 3) Encouraging communities to support government policies and programs, 4) Becoming public advocates, such as delivering public opinion to officials decision makers, managing public issues within the organization, increasing public accessibility to decision-makers, 5) Managing internal information and putting it into public

relations communication media 6) Facilitating good media relations, and 7) Building communities to promote government development programs [15].

As for the PR function are: 1) Anticipating, analyzing, and interpreting public opinion, attitudes, and problems that may have good or bad impact on organizational activities, 2) Counseling management, providing input on decisions, policies, action programs, and communications, by taking into account various public consequences on the organization, 3) researching, conducting, and evaluating action and communication programs on an ongoing basis, to achieve public understanding. Activities reviewed including marketing, finance, maintenance fund, employees, community or government relations, and other programs; and 4) Planning and implementing organizational efforts to influence or change public policies, including goal setting, planning, budgeting, recruitment and training of staff, developing facilities, and managing the resources necessary to achieve organizational goals [11].

2.2 Mobile-based Smart City Application

The application is a subclass of computer software that utilizes the ability of the computer directly to perform a task that the user wants. Usually, as compared to system software that integrates various computer capabilities, it does not directly apply that ability to work on a task that benefits the user. One of the most popular mobile-based application is the android app. Android is a new generation of a Linux-based mobile platform that includes operating systems, middleware, and applications [1].

To identify and understand the benefits a digital application, intiteknologi.co.id explains that 1) through the smartphone, users may access the internet anywhere; 2) Everyone who has a mobile phone can interact via phone and can access the internet relatively more secure than a laptop or computer; 3) Mobile apps can be a business indication which is intended to best serve the client; 4) Mobile apps are usually connected with social media so that users can share such information, thus improving links and ratings the applications; 5) Mobile apps can serve as a customer relationship management tools as they allow interactions with clients in real time, 6) The location-based services usage will be very easy to find the proximity of users with business-related outlets and facilities.

With the increasing development of information communication technology (ICT), our daily activities will be eased. Especially with the increasingly affordable and accessible smartphone for everyone, it will make the smart city concept implementation easier. Through the smartphone, we can download smart city apps, so wherever and whenever we can become a part of society who can access the application.

Smart city concept is widely applied in various cities in developed countries. The smart city implementation is known since the vast development of ICT. The smart city concept is to create a city that can understand the public emotions and behavior towards the satisfaction of public services, increase the sense of security, strengthen the trust on the government, improve standard living quality, utilize technology services as an interactive medium between the community and government, and integrate various components of government with a quick response to any aspirations that come from society [3].

Building the concept of smart city aims to create good governance and foster community satisfaction towards government services. Smart city can be defined as a city capable of using human resources, social capital, and modern telecommunications infrastructure to promote sustainable economic development and high quality of life with prudent resource management through community-based governance [3]

Through smart city concept, developed countries try to make a breakthrough in order to overcome various issues in the city. Such breakthrough has a positive implication on improving the city performance. The smart city concept development indeed brings a better-known understanding in terms of technology, yet there are more aspects needed by a city in general, which then these aspects are considered as a whole to be called a smart city [14].

2.3 Public Services

Substantially, public services can be understood as an activity undertaken by a person or group of people or agencies to provide assistance and convenience to the community in order to achieve certain goals. Considering that the public has various interests and objectives, the public service institution (the government) needs to understand those well. Things to do including trying to provide assistance and convenience to the community in order to fulfill their needs and interests [13].

Some basic principles to be understood by the public bureaucracy apparatus include: 1) The principle of accessibility, in which each type of service should be easily accessible, 2) The principle of continuity, in which all services must be sustainable for the community, 3) The principle of technicality, in which each type of service should be handled by officers who really understand the technical, quickly, and precisely, 4) The principle of profitability, in which services implemented effectively and efficiently and provide economic and social benefits for government and society, 5) Principles of accountability, in which the public service process must be accountable [13].

To realize a quality public service, Denhardt & Denhardt require a citizen influence where the public or community is involved directly and participative. This condition allows the government apparatus to continuously improve their performance because it is supervised and controlled directly by the community [6]. According to Osborne (2006) Denhardt and Denhardt (2011), the public service perspective is rooted in a democratic theory that emphasizes the accountability of public officials to citizens, then officials seek to serve and respond to citizens rather than directing society. This assumes that public officials will be motivated to serve on a commitment to the public interest and will respond to the expectations of healthy and responsive public citizens [12].

3. Research methods

This research uses a descriptive qualitative method. According to Bodgan and Taylor, this type of research will produce descriptive data in form of written or oral words from people and observable behavior. Thus, the research report will be data quotations to illustrate the presentation of the report. The data are derived from interviews, field notes, photographs, videotapes, personal documents, notes or memos, and other official

documents. During the report writing, researcher analyzes very rich data and tries to retain their original form [2]. Therefore, the researcher gives an analysis on how the Lebak Regency Government utilizes mobile-based smart city application to improve public services quality.

The data collection is done through interviews with relevant sources, whose interviewee is a party who is actively involved in the utilization of mobile-based smart city application in Lebak Regency in improving public services quality. In addition, the researcher also collects data through field observations, as well as from information and from secondary data obtained from offices, books, literature, websites, documents, photographs and others that provide data closely related to the object and research objectives.

The interviewees in this research are chosen using purposive sampling technique. Purposive sampling is a technique for determining the sample with certain considerations, for example, based on competence or understanding in a particular field [17]. The selected interviewees are parties who know and are directly involved in the management of Lebak Smart City application. After the data is collected, an analysis process is done which includes the data reduction stage, data presentation, and conclusion (verification). To validate the data, the researcher runs a triangulation technique on the source. The steps include: (1) comparing the observed data with the interview data (2) comparing the consistency of the resource reply by comparing the interviewees say by what they say personally (3) comparing one's perspective, with others in their team.

4. Results and discussion

4.1 Background of Lebak Smart City Application Implementation

Along with the efforts of the Government of Lebak Regency to optimize the potential and existing resources, they continue to involve public participation in the process of sustainable development. The importance of public involvement in the development Lebak Regency is because it's one of the potential districts to be developed. Lebak Regency has various economic potentials such as agriculture, mining, rubber plantation, palm oil, cocoa, robusta coffee, palm, clove, coconut, pepper, pandan, tea, cashew nut, vanilla, jatropha, and kapok. In addition to plantation potentials, there are fisheries potentials as well in Lebak Regency. There are also tourism potentials such as waterfalls, rafting, hot springs, Bagedur beach, Sawarna beach that have been well-known globally and many other kinds of tourism in Lebak. Such vast potentials will not be fully managed by the government, but the public is encouraged to develop these. In addition to these excellent sectors, Lebak Regency is still underdeveloped in manufacturing, trade, hotel and restaurant, transportation and communications, as well as banking sector and other financial institutions. Considering the existence of the leading sector and the relatively un-matured sector, it would need a breakthrough by Lebak Regency Government to improve the sector into the leading sector. Therefore, it is important for the government to be adaptive to the development by utilizing the information communication technology (ICT) which is integrated with public participation. Currently, the ICT optimization in supporting economic development is possible as the ICT development increasingly sophisticated, thus easing our daily activities. This opportunity then becomes one of the factors driving the Lebak Regency Government to apply "Lebak Smart City" application. Lebak Smart City contains various information needed by the society, including information about education, health, culinary, security,

transportation, tourism, culture, job vacancy, workshop, carpentry, and others. The purpose of this application is to promote the nature and tourism potentials in Lebak to attract tourists and investors, especially from overseas. The smart city application has an impact on the economic growth of the society. In addition, Lebak smart city application eases public relations in facilitating the process of public interaction with the government. Cutlip notes that Public Relations of the Government will be greatly assisted especially on the following matters: 1) informing the community about the activities of the regency government; 2) encouraging community participation in government programs; 3) supporting Government policies and programs; 4) providing public advocacy space, where the public can convey public opinion to decision-making officials, manage public issues within the organization, and improve public access to decision-making officials; 5) facilitating the dissemination of information to the public; 6) improving connectivity between the government and the community; 7) facilitating the socialization and promotion of government programs to be supported by the public [15]. The information menu contained in the Lebak Smart City application allows people to access information in accordance with their respective needs. In addition, this application can serve as a media to communicate various problems of service online. The smart city concept implementation in developing regions can certainly increase public participation in the development process in various sectors, thus affect the public satisfaction. The research results show that the smart city concept is widely applied in various cities in developed countries. The smart city implementation is known since the vast development of ICT. The smart city concept is to create a city that can understand the public emotions and behavior towards the satisfaction of public services, increase the sense of security, strengthen the trust on the government, improve standard living quality, utilize technology services as an interactive medium between the community and government, and integrate various components of government with a quick response to any aspirations that come from society [3]. In addition, developed countries are trying to make a breakthrough to overcome various issues in cities by implementing smart city concept, which then may also improve the city performance [14]. After further analyzing, Lebak Smart City concept implementation indirectly can improve the government apparatus' service quality, by 1) facilitating community accessibility on various information sources that can support and facilitate the community to perform daily activities, where each type of information services can be reached easily; 2) creating sustainable service to the community, where all services can run continuously. The existence of online service makes eases the public to access the services provided by the government anytime and anywhere; 3) supporting the service system with the principle of technicality, in which every kind of service handled by the government apparatus can be represented by the smart city apps, making the service standard faster and well-targeted; 4) realizing the principle of profitability in government institutions, i.e. services implemented effectively and efficiently, and provide economic and social benefits for government and society. The use of the application can save the budget and streamline the service process; 5) realizing the principle of accountability, so that the public service can be accounted for, as people can access various information through the application; 6) creating participatory development, the community is involved in using this Lebak Smart City application, thus impacting the economic growth of society. This is due to the various services contained in the application are very helpful for people's daily activities. Various arguments and studies from the research results indicate that every city, especially those developing ones, should be supported with ICT integrated with public participation. The sustainable urban development cannot manifest if the space for public participation is locked down. Therefore, the city can be humanist and representative in accordance with the citizens' expectations. Referring to the

findings, every city should design the smart city concept which is tailored to its potential and the characteristics of the community.

4.2 Lebak Regency Transformation through Smart City Application

Through Lebak Smart City application, the government can provide an optimal public service. This is in line with the core of the government public service of providing assistance and convenience to the public in order to achieve certain goals, in this case, the improvement of development quality in order to achieve welfare and quality of life of the society [13]. This is supported by Caragliu, statement that building the concept of smart city aims to create good governance and foster community satisfaction on the government services. Smart city can be defined as a city capable of using human resources, social capital, and modern telecommunications infrastructure to promote sustainable economic development and high quality of life with prudent resource management through community-based governance [3]. Through the smart city concept, developed countries try to make a breakthrough in order to overcome various issues in the city. Such breakthrough has a positive implication on improving the city performance. The smart city concept development indeed brings a better-known understanding in terms of technology, yet there are more aspects needed by a city in general, which then these aspects are considered as a whole to be called a smart city [14]. To achieve the objectives of smart city implementation, the optimization is required on the six major dimensions described in the following figure:

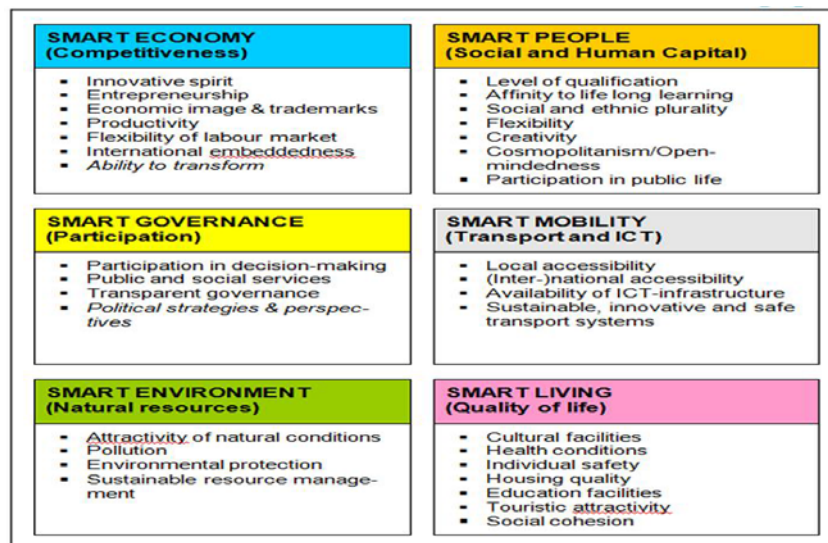


Figure 1: Six (6) Smart City Dimensions

Source: Giffinger (2007)

No less than 70 cities in Europe apply 6 (six) dimensions of smart city concept to the basis of smart city application which are then used in calculating smart city success index [7]. Theoretically, the implementation of Lebak Smart City application can perform a transformation on various sectors in Lebak Regency. In this discussion, the researcher will describe the findings based on the analysis related to the transformation that may occur in Lebak Regency as follows:

1) Smart Government

The success of governance can be seen on whether or not the government is able to apply the Good Governance. The government should be able to organize the governance and development that take into account the principles of rule of law, humanity, justice, democracy, participation, transparency, professionalism, and accountability, coupled with a commitment to upholding the values and principles of decentralization, utility, results, as well as a clean, responsible, and competitive government". In addition, the government must also involve the society (stakeholders) in the development by upholding the principle of democracy. The democratization process will work well if there is a supremacy of law supported by the good governance. Therefore, a breakthrough is needed to facilitate a community involvement through ICT utilization. Some indicators that show the implementation of intelligent governance dimensions are actualized in the ICT through Lebak Smart City application, where Lebak Regency runs Smart Government system in various public service activities. The conventional work activities are being directed to service activities. The society is able to access the latest agenda and work program of Lebak Regency Government, as well as information or news, comment and report column, transportation information, and tourist information and culture. Therefore, the society can actively participate in guiding and getting involved in the development process.

2) Smart People

In this context, the smart people is represented not only by the degree of qualification or education, but also by the quality of their interactions and openness to globalization. It can be represented by the society's willingness to adapt to various era flexibly, creatively, openly, and participative, to various changes that may have a positive impact. The presence of Lebak Smart City Application allows people to interact more widely and not limited to conventional interaction activities but using digital technology instead. The smart city concept certainly will not work when public participation is low, therefore it needs public involvement. An integrated smart city implementation can realize the character of smart people. To realize the smart people, Lebak Smart City application has complemented an online services related to information needed for daily activities, such as information on health, sports, location search menu, prayer schedule, ATM and banks, gas station, nearest police location, education, hospital, and doctors. This application can improve the people's quality of life and facilitate their various activities effectively and efficiently.

3) Smart Economy

The concept of smart economy is designed to facilitate people in doing business intelligently, effectively, and efficiently. Smart city application enables added value to the society to be able to compete and innovate on economic aspects, entrepreneurship, trademark, productivity, and labor market flexibility. With factors like the spirit of innovation, entrepreneurship, economic and trademark image, productivity, labor market flexibility, and the ability to make changes. To realize those smart economy dimension indicators, Lebak Smart City application is equipped with various information related to various business activities that can facilitate and revive business motivation. This application is also connected with the national online store as well as online job search website. This is indicated by the menu and information related online market, culinary, artisans, property, vehicles

(motorcycles and cars), work information, hotel location, pharmacy, and salon. Thus, the conventional economic activities of the society is helped by the digital-based business activities.

4) Smart Living

Smart living is a manifestation of a good quality of life with the fulfillment of elements of culture, health, safety, housing, tourism, and others in a harmonic manner. Smart living indicators can be seen from how these elements are obtained by the clan of the society within a city. To achieve this, Lebak Smart City application is equipped with information related to hospitals, pharmacies and doctors, nearest police, property, tourist destination, education, and culinary. Various easiness presented in the application is a part of government efforts to facilitate the society towards smart living.

5) Smart Mobility

To facilitate the people's mobility, the Lebak Regency Government through Lebak Smart City application has provided information related to public transportation. This transport information not only seeks to facilitate information on public transport access that the community can choose, but is also intended to direct the public to use public transportation rather than inefficient private vehicles. If further explored, the smart mobility can develop an active and innovative community in capturing business opportunities, increasing the speed of moving goods/logistics, ease the economy, tourism, and so forth. In addition, the smart mobility may have an impact on the reduction of fuel emissions from private vehicles and save fuel subsidies.

6) Smart Environment

Through Lebak Smart City application, the Lebak Regency Government tries to encourage the community to create a collective and participative intelligent environment. The Smart Environment is described as an attraction to the natural conditions (whether from climate, green space, etc.), the low pollution, sensible resource management, and sustainable environmental safeguards.

To achieve this, the Lebak Smart City application is equipped with information related to public transportation that facilitates the public in using public transportation modes in order to minimize air pollution. Moreover, this application is also equipped with tourist & culture (artificial or natural) information as well as sports information as a part of an effort to create a healthy lifestyle.

The menu or features that should be added in this application is the online environmental reporting system. It is intended that environmental maintenance can be done in a participative manner.

The smart city concept has also been included in the national development planning made by the Indonesia Development Planning Agency (BPPN-RI), as described in the picture below:

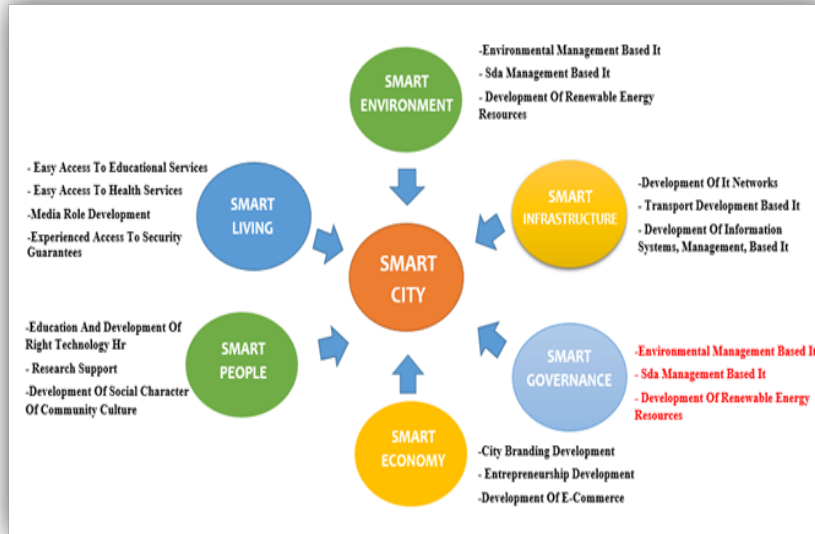


Figure 2: Smart City Components in Indonesia

Source: Ministry of National Development Planning of Indonesia

The figure shows that Lebak Smart City is in line with the national development plan made by the Development Planning Agency of Indonesia (BPPN-RI) which refers to six smart city dimensions from Giffinger (2007). Therefore, it can be concluded that smart city application is integrated with central government policy. Thus, the various provinces and districts throughout Indonesia, including Lebak Regency, need to transform in providing their best services through digital application-based systems.

These government service transformations are aimed at delivering quality public services, as Denhardt & Denhardt has stated that the public or community needs to be involved directly. This condition allows the government apparatus to continuously improve their performance because it is supervised and controlled directly by the community [6]. The Lebak Smart City application enables the community to be actively involved in various development activities, at least they will understand and support government programs, as well as supervise the programs. In addition, the community involvement in utilizing this application can help themselves in various daily activities for either the interests of individuals or the country. Thus the concept of the smart city is not seen as a mere formality, but it is really realized to create a positive impact on the community.

4.3 Identification of Challenges for Smart City Implementation

At the implementation stage, the smart city development is not as easy as imagined. Of course there are things that become challenges and need to be well managed. According to there are six challenges such as the availability of information data management, security, investment cost, ICT infrastructure, social adaptation, and sustainable application development [4]. Referring to the argument, there are several important factors that become big challenges for the Government of Lebak Regency in the development of Smart City through Lebak

Smart City application, as follows:

1) The Availability and Management of Information Data

Smart City implementation has implication on the increasing need for data and information in a city. The presence of the Smart City application makes information constantly needed. The most actual information is also needed to ensure the most recent condition on the field. To meet various types of data effectively and efficiently, it needs a good data management system. This system must be reliable, continuous, and infinite to meet the needs of a smart city. To overcome this problem, it is necessary to do data collection and data integration of all storage media from various sources. Furthermore, the data center should be built for the storage of all existing data and will be updated from time to time. This is where the government's PR, according to plays a role in order to manage internal information and arrange it into the communication media. This is as the main objective of Government PR to inform the constituents about government activities, in this case the community [11].

2) Security Challenges on Smart City

According to Cisco, security issues are problems in any system network. Especially if the system covers the whole city, security threats need to be taken seriously. The more systems are connected, the more complex the handling needs to be done. Problems arise when some parts of the Smart City infrastructure are handled by different agencies without a central management to establish the same standards of cybersecurity management. In addition, many devices are connected to the Smart City network or system, ranging from water pumps to traffic lights, which were originally not designed to connect to the internet. Residents personal data also need to be protected to anticipate cyber attack on Smart City. For the solution, Indonesian government provides feedback including WiFi access encryption, periodic update of operating systems and anti-virus/firewall programs, knowing the source of the application before downloading, and being careful of suspicious links or email content. In addition, a firewall can be used as a network security system that monitors and controls outbound and inbound network traffic based on a defined security policy. The data access control policy is also an important measure to implement. In addition to keeping the system out of the cyber attack, the human aspect of a system is also important. By establishing a policy on who can access the data, it can provide strict access restrictions on data and avoid unwanted access to important data [4].

3) Huge Amount of Investment in Smart City Development

Smart city development certainly requires considerable amount of cost and investment. The application used for Smart City is certainly more expensive than an ordinary software. The technology requires substantial capital in the form of infrastructure and hardware. Therefore, the barrier to implement this technology is much higher. To overcome this problem, it is suggested that the Lebak Regency Government should not implement the technology alone, but must be together with all parties including academia, private parties, and communities, to form an integrated and sustainable Smart City ecosystem. In this condition, the Government's PR needs to perform its functions, which according to perform counseling management functions, provide input on

decisions, policies, action programs, and communication. This means that the Government's PR must be able to argue that the Lebak Smart City application is an important service for the community, therefore it is very natural to require a large amount of investment. The argument also needs to be supported by the results of a comprehensive Government's PR research [11].

4) Information Technology Infrastructure

The development of ICT infrastructure starts from smart city communication channels. The lack of infrastructure is a significant obstacle in achieving smart city goals. According to some experts, a scalable and high-speed network connectivity and infrastructure is the key to integrating information systems throughout the city. This infrastructure must be prepared before the smart city services are offered to shareholders. As a result, an adequate reliable IT infrastructure that tends to be scalable is an important challenge for the smart city implementation. Therefore, it is important for the Government's PR to continuously monitor the development of ICT infrastructure implemented by developed countries in managing their smart city applications. This means that it must be able to become the eyes and mind of the institution, which constantly observes the development of the city or other country to be adapted and developed in its city.

5) Social Adaption

Building the concept of smart city aims to create good governance and foster community satisfaction towards government services. Smart city can be defined as a city capable of using human resources, social capital, and modern telecommunications infrastructure to promote sustainable economic development and high quality of life with prudent resource management through community-based governance [3]. The public involvement to actively use Lebak Smart City application is certainly not an easy matter. As explained by Lee and his colleagues (2012), one of the government's PR goals is ensuring public participation in government programs by facilitating good media relations, as well as building communities to promote government development programs. A time-consuming adaptation process is necessary, especially Lebak Regency is a developing region. Changing habits from conventional to digital activities requires intense and precise communication and accompaniment. What can Government's PR do is to design communication and socialization program that aim to educate people to know, like, and want to use Lebak Smart City application. The government's PR can hold third parties such as community service agencies and NGOs, universities, and other institutions to encourage and socialize the importance of smart city for urban communities [11].

6) Application Development

The rapid innovations development in Smart City applications is necessary, so that citizens can take maximum advantage on the application. Citizens will be disappointed when the application development is limited and slow. For example, one of the main reasons behind the success of Android and its widespread play store adaptation is the large application base where countless apps are uploaded every day. The solution offered is Lebak District Government PR can hold relevant industry actors and universities to create innovation and development on the application. Therefore, PR must master the ability to establish a good relationship with all

stakeholders. The presence of smart city should be able to create a better planning and development of habitable city in the future. The smart city concept can accelerate the e-government services. This will create Smart Government, Smart People, Smart Economy, Smart Living, Smart Mobility, and Smart Environment.

5. Conclusions

Based on the results of the research, several conclusions on mobile-based smart city application in improving the quality of Public Service Lebak District Government are made as follows:

- 1) The basis of consideration in the Lebak Smart City application is the desire of Lebak Regency government to optimize the potential and existing resources such as agriculture, tourism, and other sectors to be explored well with ICT support. Thus, the ICT utilization can promote sustainable economic growth and high quality of life improvement, as long as the natural resource must be managed wisely through participatory governance.
- 2) Through Lebak Smart City application, the community can be actively involved in various development activities, at least they understand and support the government programs, as well as doing supervise on it. In addition, the community involvement in utilizing this application can help themselves in meeting both personal needs and the the sake of the state. The implementation of this application is in line with the national development plan made by the Development Planning Agency of Indonesia (BPPN-RI) which refers to six dimensions, namely smart government, smart people, smart economy, smart living, smart mobility, and smart environment. Through the implementation of this application, it is expected to create good governance and foster community satisfaction with government services.
- 3) In realizing the smart city, the Lebak Regency government is faced with several challenges such as the availability and management of information data, security system, large amount of investment for the development, the importance of the continuous information technology infrastructure development, preparing the transition from conventional to digital (social adaption), and performing continuous application development.

6. Recommendations

Based on the findings and analysis of research results, the researcher recommends some points that can be used as information and feedback to the Government of Lebak Regency in the implementation Lebak Smart City applications, including:

- 1) Add and enhance information features provided in the Lebak Smart City application, such as news menus, regency info, aspirations and reports, video, which are still not publicly accessible. Therefore, it needs to be added information in accordance with the available menu.
- 2) Sometimes, Lebak Smart City application takes time to load, so it is suggested that the Government of Lebak Regency develop a faster and responsive application by working with relevant stakeholders.
- 3) The dissemination of information related to Lebak Smart City application needs to be improved

through various communication programs, resulting in the equal spread of smart city users in various regions of Lebak Regency. Therefore, it is suggested that the Government's PR design massive socialization and communication program, so that the utilization of this application continues to increase and expand.

- 4) Building an ICT infrastructure design is not easy task, therefore many parties are involved in this process, especially universities and industry players. In this context, the Government's PR flexibility is required in establishing professional relationships and cooperation.

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