Smart City Initiative: Lesson Learned from ASEAN Smart City during COVID-19 Pandemic

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Abstract. Smart city is dedicated for improving public services by combining information technology and public services. During COVID-19 pandemic, some local governments in ASEAN establish a technology-based services in order to deal with some restriction during pandemic. Smart city that normally used to strengthen government service and performance are also allocated to deal with the pandemic, not only in medical and health matters, but also in public businesses. It is proven to be effective on helping minimize impact and loss due the pandemic and ensuring government service continues.

Keywords: Smart City, COVID-19 Pandemic, ASEAN

1 Introduction

The Covid-19 pandemic since early 2020 has hit almost all regions of the world, without exception big cities that have the title Smart City. Not even a single city government, including Smart City managers, has the anticipation to react with this pandemic, a pandemic that has neither happened nor predicted before. This changed the order of urban life significantly; reduced activities of people who have an impact on various things, most importantly on the economic aspect [1]. Changes will immediately occur and are felt by almost all regions and cities around the world, including cities in ASEAN which are members of the ASEAN Smart City Network (ASCN).

The ASEAN Smart City Network (ASCN) is a cooperation platform for cities in 26 ASEAN member countries including 10 capital cities that are committed to working together to facilitate city development that is friendly to economic growth, investment, and the use of technology to improve the quality of life of their citizens. ASCN was formed in Singapore in 2018 for the 23rd ASEAN Summit which was held on April 28 2018. At the meeting, pilot activities were organized in 26 cities to pioneer the ideal Smart City figure in each country. It is hoped that this cooperation will be an extension of cooperation among ASEAN member countries that have begun to reach out to the realm of regional government and have a more technical substance. This is a progression considering that so far the cooperation carried out is still limited to G to G at the national level.

Smart City is essentially a part of urban governance in realizing an innovative city using technology and networks as the main tools, to encourage the communication process carried out by the government and also the community. This can encourage a regulation in a city to be more effective and efficient because this concept is directly integrated with the concept of ICT

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(Information and Communication Technology). This use is able to have a significant effect on the rate of urban growth including all matters relating to the process, use as a tool, manipulation, and information management. The implementation of Smart City in Indonesia, as well as other regions and countries has been going on for a long time and has produced results [2]. It even provides city attractiveness so that city growth becomes faster and encourages the emergence of urbanization [3].

So what is the response of existing cities or even Smart City especially in ASEAN which claim to be able to overcome problems that arise with the help of technology? This question becomes something that is very challenging considering that the Smart City essential function is a city entity that is able to solve its own problems. The support of technology and intelligence from city residents in using various technological advantages is the hope that Smart City can face the Covid-19 pandemic in a slightly different way from other places that do not have the title Smart City. Will a smart hospital, smart school, smart office emerge to support urban life in this pandemic era? Will the technology that has been the mainstay of Smart City be able to solve pandemic problems in all their complexities? The questions that arise seem to provide considerable demands and expectations considering the sophisticated capacity of Smart City [4].

Smart City is synonymous with innovation, which is associated with change and progress. This is achieved not only in the technological aspect but also in reaching the social changes that accompany the development and growth of cities [5]. The attribute of technological sophistication must be combined with the advancement of the city's human resources so that development and growth will create new problems. Information technology, as the core of Smart City development, must be able to respond to any problems that arise, including the Covid-19 pandemic. It is hoped that the existence of this sophisticated technology will be able to withstand the rate of loss and damage caused by Covid-19.

Therefore, it is very important to know, study and understand the actions taken by Smart City on the ASCN network regarding responses to Covid-19. This is very strategic to be used as a comparison and learning (benchmarking study) related to the management of Smart City government resources in the context of facing a pandemic. The synergy between governance and technology is expected to provide a new discourse on response and preparedness to face all kinds of problems, including the Covid-19 pandemic. This will also provide evidence that Smart City is able to flexibly and dynamically respond to any problems that occur and befall its citizens.

2 Method

This research is based on a literature review with data obtained from scientific journals, newspaper articles via the internet, and youtube shows as form of confirmation. Incoming data is sorted based on aspects of the use of information technology in the smart city framework. The data is then compiled to provide a description of the initiatives and use of smart cities in handling the Covid-10 pandemic in ASEAN countries, particularly Indonesia, Thailand, Malaysia, the Philippines, and Vietnam. The data is then analyzed to produce relevant conclusions.

3 Discussion

Smart City in this pandemic era has proven to provide many things that contribute to the completion of the Covid-19 pandemic through the use of information technology. At the very least, these efforts are reflected in the emergence of a government website that focuses on managing information about Covid-19 as well as various applications dedicated to solving problems related to overcoming the Covid-19 pandemic. Some of these success stories can be used as inspiration that the use of technology naturally allows humans to complete various complex jobs with effective and efficient resources.

In Indonesia, the Provincial Government of the Special Capital City Region of Jakarta has succeeded in making the Jakarta Smart City (JSC) which manages Smart City applications and technology under the Communications and Information Office have a specific breakthrough to tackle the Covid-19 pandemic. In addition to optimizing the existing complaint channels, such as through social media Facebook, Twitter, as well as social media networks for local government officials and organizations, JSC has developed a new website with the name corona.jakarta.go.id. This website is the result of a collaboration between JSC, Jakarta Communication Information and Statistics Office, Jakarta Health Office to provide more specific data and information about Covid-19 [6]. With the corona.jakarta.go.id website, the government and the public have reference data about Covid -19 which is official and trustworthy. In addition, this website is an information center about Covid-19 for Jakarta residents, considering that the previous website was not user friendly and did not have comprehensive information. In addition, this website also opens a space to meet between residents who need assistance and residents who will provide assistance. This match making site is very important to accommodate the Large-Scale Social Collaboration (KSSB) program between Jakarta residents so as to facilitate and speed up the handling process [7]. In addition to the website, JSC also created the Corona Likelihood Metric (CLM) application, which is a standalone application using a smartphone to individually detect the potential positive for Covid-19 infection. This allows each individual from home and their respective devices to access the application to conduct self-assessment test questions regarding Covid-19 infection. This application has been accessed by around 81% of residents using mobile phones, 18.4% using desktops, and the remaining 0.6% using tablets. Thus, it can save time and resources; people do not have to go to the health center or hospital to find out if they are infected or not.

The things that have been done by the Jakarta Smart City (JSC) above have been adopted by 16 other local governments, resulting in social collaboration between the government and the private sector and civil society as well as parties who need assistance with those who provide assistance [8]. More important is that intelligent system built is able to act as Jakarta's Surveillance System which monitors the development of Covid-19 cases in the Jakarta area and provides a comprehensive database for policy decision making.

The Thai government under the Digital Society Ministry (DSM) developed a SydeKick for ThaiFightCOVID application created by startup Articulus (Bangkok Post, 20 March 2020). By using this application, visitors from certain regions such as China, Iran, Italy, and South Korea are required to download this application to help them pass the self-quarantine process. With this application, both the government and citizens who return from traveling abroad have the convenience of exchanging information about their health conditions and infection status. The data provided is guaranteed to be confidential by the government and after a certain period of quarantine ends, there will be comprehensive data relating to health conditions and infection status. Those who violate this rule will be prosecuted by applicable law. The use of this

application has given confidence to the parties and reduced panic and uncertainty in the face of a pandemic.

Other applications and systems used have proven effective in assisting the government in tackling the Covid-19 pandemic, especially those carried out by the Ministry of Public Health through an internet connection based on a 5G network. This provides an answer that smart cities take advantage of the momentum to be utilized in overcoming the crisis caused by the Covid-19 pandemic. The use of the 5G network contributes to controlling the pandemic in Bangkok and increases and improves efficiency, speed, flexibility for intervention measures related to Covid-19 such as tele-medicine, supply chain management, self-isolation and contact monitoring [9]. It also provides leverage for digital solutions in handling the Covid-19 pandemic.

Vietnam has a success story with the application of NCOVI and Vietnam Health Declaration and Bluezone which was launched in March 2020 at the initiative of the Ministry of Health in collaboration with the Ministry of Information and Communication. The first two applications are dedicated to tracking suspected cases, NCOVI is dedicated to Vietnamese citizens and VHD is for foreigners visiting Vietnam. NCOVI is also a medium for the Vietnamese government to disseminate important information related to dealing with the pandemic [10]. This application has the support of 3 state-owned companies in the telecommunications sector, namely Viettel, MobiFone, and the Vietnam Post and Telecommunications Group. Meanwhile, Bluezone focuses more on close contact with people infected with Covid-19 for tracing and monitoring purposes. In general, the digital solution adopted by the Vietnamese government has proven to be effective in preventing infection and recovering parties affected by Covid-19 infection. This puts Vietnam in the top spot in Southeast Asian countries as it managed to contain the Covid-19 pandemic with only 0.5% of the population exposed, slightly below Singapore's 0.2%. While the majority of other countries ranged from 1.5 to 5.7% exposed from the total population.

The Philippines through the Ministry of Health developed a Covid-19 Tracker that provides information about the country's condition in managing its resources related to the Covid-19 Pandemic [11]. This website was launched April 12, 2020 and contains a lot of information about hospital facilities and the handling that has been carried out by the government. Malaysia has also done the same thing by using the website and creating several technologies dedicated to dealing with Covid-19 such as drones equipped with loudspeakers for campaigns, smart thermal detection and health care delivery robots under the name MCK-19 (Mak Cik Kiah 19). These are all part of the Medical Internet of Thing (MIOT) which was developed to combat the spread of infection, mitigate and recover. The use of internet-based technology is very potential and significant to overcome the impact of the Covid-19 pandemic [12]. In addition, at the local level, there are initiatives to create applications by the private sector, civil society or the government, such as the Melaka E-Bazar, Gerak MAS, Kita2Kita, MySejahtera, MyTrace, PG Care, and so on [13].

The use of IoT as part of a smart city is indeed more dedicated to handling Covid-19 starting from the identification, monitoring, action, and decision-making stages related to policies. However, it is clearly illustrated that the websites and applications created are part of the solution amidst the uncertainty of the pandemic situation. The highly contagious Covid-19 has paralyzed the face-to-face habit between citizens and citizens and the government. Therefore, it is very natural that the emerging technology alternative is a face-to-face replacement technology, through websites or applications to be accessed via their respective cellular phones.

The concept of Smart City promises to solve various problems that arise along with human development and growth. Matters such as traffic congestion, constraints on limited energy and clean water, diminishing residential land in urban areas, lack of social inclusion due to digitization are things that become problems and can be resolved using the Smart City scheme. Moreover, these matters are in essence very close to the political decisions of a democratic regime [14]. Therefore, in the framework of democratic governance, the use of intermediaries in the form of technology that is manifested in smart cities is important to be part of solving problems. Moreover, the Covid-19 pandemic is a serious problem that has hit most countries in the world, resulting in death, economic and social stagnation and unpredictable changes. The smart city concept then becomes very relevant because it contributes to solving problems by using technology.

4 Conclusion

From the description above, it can be concluded that smart cities are quite effective in contributing to dealing with the Covid-19 pandemic in several ASEAN countries with smart city status. The basic and main thing is the use of websites and social media for monitoring, data, information and prevention campaigns. This is very common in governments of other countries almost all over the world. The next level is the creation and use of applications and simple artificial technologies such as robots to anticipate transmission during the treatment of Covid-19 patients in hospitals. The website and application platforms are means of communication between the government and citizens and between citizens to share information and help each other in a pandemic situation that is full of uncertainty. At least a smart city with its technology can provide innovation in handling the Covid-19 pandemic.

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