Can Citizen Reporting System Be Effectively Constructed?
A Study of Smart City Implementation in Indonesia

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Abstract

The implementation of smart city in urban areas in Indonesia can have implications for improving urban governance (urban strategies) or limited to jargon and has no bearing on the process of planning and implementing public policies and services. To investigate this, this study focused on Citizen Reporting System (CRS), which is one of the main pillars crucial in designing and implementing smart cities. The study had several objectives including determining the extent of public knowledge on the use of CRS, which was proposed in four leading applications of Makassar smart city programmes; Smart RT / RW application, Call Centre 112, Home care and Qlue; and identified factors that support and inhibit the development of citizen reporting system to develop recommendations for improvement of CRS, which will in turn have a positive impact on the implementation of smart city programmes in Makassar and Indonesia in general.

The study used a sequential mixed method, specifically sequential explanatory strategies. The phases entailed conducting a survey to collect and analyse quantitative data; followed by conducting in-depth interviews to explore specific issues and obtaining in-depth information. The results showed that people's knowledge and information about the smarty city programmes is still very low, a problem that hampers the use of these services by the community. Besides, another finding was that that the frequency of accessing internet and social media, and the will to actively participate in helping the government and reporting problems or issues in their neighbourhood by people in Makassar is sufficiently high. Thus, based on study results, the local government has an

important asset it can use to develop a citizen reporting system, which is one of the key factors in the successful implementation of smart city programmes.

Keywords: *citizen reporting system, Makassar, participation, public policy, smart city*

INTRODUCTION

Population living in urban areas in Indonesia is predicted to increase drastically to nearly 40% in 2035 (BHC and JSI, 2018). Makassar city is one of the urban areas in Indonesia that will experience an increase in population, an issue that has the potential to pose some challenges to the city government. The challenges will especially relate to the delivery of basic services such as good and sustainable health services, education, public transportation and so on. To anticipate such a development, there is need to develop functional tools for urban transformation that will help in addressing infrastructure insufficiency, mitigate and curb environmental pollution issues such as air quality and improve public service delivery.

With a vision of becoming a world class city, Makassar has developed strategic steps to realise that vision. One of the strategies is transforming Makassar City into a smart city. Adopting the concept of a s smart city in Makassar is considered to be an answer to future challenges in urban areas such as Makassar. Some of the services and components, which Makassar has to adopt and implement to become a smart city include smart governance, smart branding,

smart economy, smart living, smart society, and smart environment (DISKOMINFO Makassar, 2017).

However, the realization of the innovative and ambitious programmes will face challenges. One area that is crucial to the development of a smart city is the utilization of Information and Communication Technology (ICT) in public services. The capacity is related to the ability of human resources, both users and providers in Makassar City. Besides, other resources such as infrastructure that support the running of ICT-based public services also play important role. Moreover, access and simplicity of an application for users influences the success of a smart city application (Susanto et al., 2017).

Thus, based on the context elaborated above, community involvement, and participation to support the success of public service delivery is crucial (Nabatchi et al., 2017). In other words, the vision of Makassar City to become one of the smart cities in Indonesia is dependent on the participation of its people. In light of that, this research will focus on citizen reporting system (CRS), which is one of the main components of public involvement and participation in

public policy process in Makassar City. CRS was manifested in the implementation of several Makassar City government public services including Smart RT / RW application, Call Centre 112, Home care and Qlue application. The smart city programmes deployed by the city government can have a positive impact, for example on environmental and community health and the effectiveness of public service delivery. To determine the performance of citizen reporting system in Makassar, the study used the following research question: What is the level of public knowledge on information and use of smart city programmes (Smart RT / RW application, call centre 112, and Qlue)?

Participation in public service delivery

Generally speaking, one challenge faced in the provision of public services is identifying and adopting strategies or ways that can improve service delivery quality. To find an answer to such challenge, a public service and policy reform agenda is held, which involves introducing and facilitating the use of various new approaches. One of the approaches is public/citizen participation. Public participation itself refers to the involvement of public (citizens) in making decisions and organizing public services.

Participation is often associated with public satisfaction in using a particular public service. However, based on previous literature, the two elements (participation and public satisfaction) do have significant influence on the quality of public policy and services and are influenced by administrative reform, policy implementation, representation, and capacity of government / public institutions (Baker et al., 2005; King et al., 1998; Nownes, 2007; Wang, 2001). Thus, based on previous study findings, public participation in both policies and public services is important for the realization of quality public policies and services.

Considering the increasingly complex challenges facing society and the government, there is need to reconstruct and stimulate public participation in development activities. Participation occurs when both the public and the government have a need for participation and mechanisms to encourage and foster the implementation of participation (King et al., 1998). Various examples of public participation channels include public hearings; discussion forum between the citizens and the government; and an official forum for development planning called *MUSRENBANG*, and so on. However, the question that arises is whether the participation mechanism is designed to cultivate and stimulate public interest in public programmes/policies and services?

Conceptually, public participation can be categorized into two types: pseudo participation and genuine participation (Sanoff, 2000). Pseudo participation occurs if the purpose of participation is limited to

informing about a policy, calm public anger, and manipulate public opinion. Conversely, real participation takes place if the public is involved in administrative decision making and is considered to be the legal owner of the government and therefore entitled to be involved in the administration of public services (coproduce of public goods). For this reason, participation can be applied to two broad aspects of governance, namely public services and public policy or decision making.

However, for participation to enhance the public confidence and trust in a programme, it should not be limited to involvement in programme designing and implementation that prevents the government from making unpopular decisions or policies, but should also actively involve the media. Media can influence public participation which may increase public trust and confidence by producing informed opinions about problems the government faces in designing and implementing programmes. This is achieved through presenting news that is relevant to particular policies and programmes, which contributes to public awareness about the need to engage and contribute to changing conditions for the better. Such a process in turn strengthens motivation for public participation.

Smart city as a concept

The concept of a smart city has been in use since early 2000s. The concept is in line with the rapid development of information and communication technology. The smart city concept was introduced as a strategy to effectively and efficiently make use of ludes modern production factors in urban areas within a framework in general, and specifically, emphasizing the importance of adopting and deploying information and communications technology (ICT) to improve the competitive profile of a city (Dameri, 2013). Smart city is also used as an expression to overcome public problems in increasingly complex urban areas. Thus, over the last 20 years, the use of the term smart city by governments, communities, academics, NGOs, and profit / private sector has become common in public spaces and discussions. The following figure is an illustration of the components of a smart city profile (Dameri, 2017).

Based on Figure 1, vendors, government and research and education institutions, in the context of smart cities, act as enablers of smart city implementation. Smart city implementation is manifested in the development and existence of digital platforms, environmental preservation and improved quality of life. Such conditions, in turn, generate significant benefits that emanate from the successful implementation of a smart city. The benefits include, for example, the government (public administration) gets strong legitimacy and appreciation from the public for quality

Figure 1. Actors, Stakeholders and Benefits in Smart City
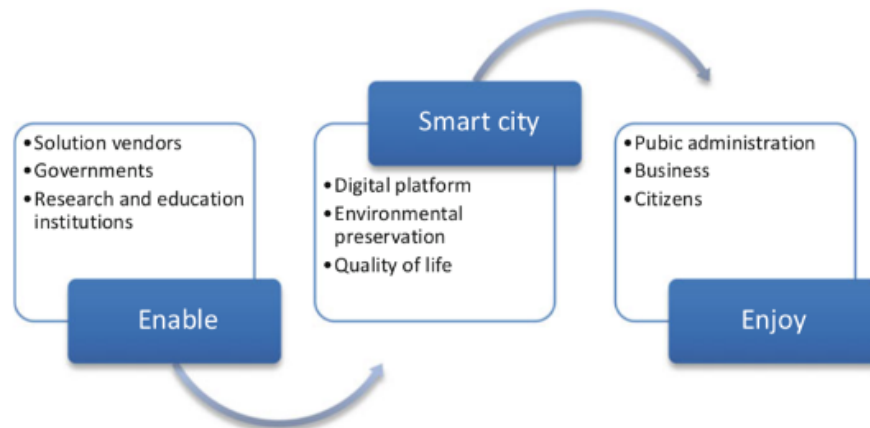
Source: Dameri, 2017

public services and better living conditions; the business sector, has access to a healthy economic climate and attractive and dynamic urban conditions; and the public, has access to good quality services, sustainable environment, and good economic conditions and employment opportunities.

Although it has been used frequently, there is no clear and universal definition of smart city. Moreover, in many cases, the use of smart city seems to be limited to jargon, and as Hollands (2008) argues, some cities call themselves smart cities without linking the labelling process to the urban strategies being implemented. Furthermore, based on findings of surveys conducted by Hollands (2008), smart cities tend to overemphasize and orient towards business and technology, but often lack a long-term vision on how to improve the intelligence of the city and the quality of life of its citizens.

Thus, it is important to determine whether or not the designation of a smart city is limited to slogans or jargon without city

government planning and implementing underpinning strategic processes (both planning and delivery of services). In general, a smart city should be a territorial implementation of ICT and other technologies to realize public, private and infrastructure services that are sustainable, efficient and effective to improve the quality of life and mitigate harmful effects to the environment within an urban environment (Dameri, 2017).

Citizen Reporting System

Citizen reporting is a very broad concept, which covers all the activities of citizens to actively reporting incidents, events or problems they witness, experience and encounter. The aim of the citizen reporting system is to involve the community reporting or collecting data that is then analysed to inform decision making on solving public problems. The system encourages members of the public to provide voluntary information to the government, which is then collected and analysed to

produce outcomes with beneficial impact to the wider community. In other words, the citizen reporting system (CRS) is intended to build a better flow of communication between the government and the community which is expected to enhance cooperation and collaboration, especially in terms of policymaking, management and public service delivery.

The problem or incident reported is generally related to the public interest. In this context, we can distinguish citizen reporting based on two parameters, namely: (1) the level of urgency, and (2) the motivation of citizens who make the report (Kopackova & Libalova, 2018). Problems or incidents that have a high degree of urgency have a greater chance of being reported by residents. The level of urgency here relates to an event that is urgent in nature and requires an immediate response. However, this by no means an implication and justification that incidents or events of a low urgency should not be reported.

Developments in information technology have an impact on citizen reporting, which makes it easier for the public to find channels for information dissemination. Digital media is one of the easiest ways to undertake reporting, through for example using various social media channels such as Facebook, Twitter, WhatsApp, Instagram and others. The government can also design similar channels

that are specific in nature for example, by introducing a special hotline or call centre that accommodates community reports, or local government websites that are tailored to accommodating public aspirations, suggestions, criticisms and reports that relate to certain programmes.

Besides, citizen reporting is also driven by the motivation of the citizens to undertake reporting. Kopackova and Libalova (2018) argue that first motive is for the public to share their experiences with other communities. In this case, the motivation of the person to undertake reporting, is not to seek solution to the problem being reported. Most reporting based on this motive use social media networks to disseminate information. The second motive for making reports relates to the case or event that needs resolution. In this case, the public reports the case to the authority they consider can provide solution to the problem reported.

Although the government can design its governance in such a manner that encourages the development of a citizen reporting system, not all governments or public administration systems are designed that way. Therefore, most people use publications or social media to shape and mobilize public opinion to create public pressure. Ideally, the government should develop a special website or mobile application, which the public can use to

convey their complaint reports that form the core of a CRS.

To that end, community participation and the capabilities of all parties are vital for developing and managing a citizen reporting system. An effective CRS requires careful design and planning, political will of the competent authority, and the existence of an open and accountable public administration system (Wang, 2001).

Previous literature has many studies on the construction and development of the citizens reporting system (CRS). Crowley et al. introduced the concept of social mobile reporting, in which the public uses to report issues or problems in their communities using attractive designs (2012). A study conducted in the city of Surabaya found that two factors influence people's attitudes in using the city 113 mobile application, inter alia, perceived ease of use and perceived usefulness (Susanto et al., 2017). It is such factors that influence the perception of users about CRS applications, which in turn impacts on whether or not the application is put to use by the community.

METHODS

This study was based on mixed-method research design to evaluate the Citizens Report System (CRS) applications including Smart RT / RW, 112 Call Centres, and Qlue applications. Mixed-method comprises several types of research, namely sequential mixed method, concurrent mixed-method and transformative mixed (Creswell et al., 2018). This research employed sequential mixed methods, because of its advantages in sequential explanatory strategies. The phases of the research process entailed using a survey to collect data and conduct data analysis. This was followed by conducting in-depth interviews, which is a qualitative method. The technique allowed researchers to explore specific issues by obtaining additional information. The results were then analysed and presented using descriptive statistics that demonstrated the basic features of the data collected.

Makassar City consists of 15 subdistricts, which are located in coastal areas; with most of its inhabitants living in urban and island areas. To explore more information about implementing CRS, the research focussed on two categories of people: those who live on islands and urban communities. To obtain information on the adoption and use of Makassar CRS for both low and middle-income communities based on urban and sub-urban divisions, the research took into consideration the socioeconomic background of respondents. Based on those considerations, the scope of the research consisted of the following clusters:

1) Island area: Sangkarrang Island sub-district

2) Urban areas, consisting of two categories:

- Upper economic community groups:

a) Urban areas were represented by Panakukang sub-district

b) Sub-city areas were represented by Tamalanrea sub-district

- Lower economic class groups (slum area):

a) Urban areas were represented by Tallo sub-district

b) Sub-city areas were represented by Manggala sub-district

Respondents in this study were citizens of Makassar City who were at least 15 years old, with a total of 1,093,308 (BPS, 2019). Based on this population, the study selected a sample of informants using the cluster random sampling method. To determine the number of informants, this study used *slovin* formula with a confidence level of 95 per cent and a margin of error of 5 per cent, which is equivalent to 400 sample of informants. In-depth interviews with key informants involved 10 neighbourhood units (RT) and community unit (RW) heads, who represented five selected sub-districts as mentioned previously.

However, due to Covid-19 outbreak, the research team was not able to conduct field visits to either conduct a survey or in-depth interviews. To meet the minimum requirement of 400 respondents, the decision was made to conduct an online survey and expanded the area of informants to include all sub-districts in Makassar. The online survey involved 421 respondents and the results of survey data analysis, were used as inputs in conducting in-depth interviews.

FINDINGS AND DISCUSSION

Life in urban area depends heavily on public infrastructure and technology. The integration of technology, particularly in terms of information and communication, with the delivery of public services characterises many smart cities around the world. These cities utilise technology for managing their public administration either to implement and organise state administration and public services or to engage citizens in the delivery of those functions (Kopackova et al., 2019).

Makassar, as one of the four major urban areas in Indonesia and the most populated and often called "the gate to the eastern part of Indonesia", registered population growth of 1.23% from 1,469,600 in 2017 to 1,526,700 in 2019 (BPS, 2020). The growth in population is in line with a similar trend in urban areas globally. According to Citiasia Centre for Smart Nation (CCSN) (DISKOMINFO Makassar, 2017), urban population in Indonesia is forecast to 68% of the total population in 2035. In anticipation of such conditions, in 2017, the government of Makassar city developed a masterplan to transform the city into smart city. The masterplan has since become the main guideline of smart city policies for Smart RT/RW application, call

centre 112 (home care), and Qlue application. The following section presents a brief explanation of each smart city programme in turn.

Smart RT/RW application was designed to monitor the performance of neighbourhood unit (RT) and community unit (RW) heads. This app-based smartphone allows the city government to determine financial incentive for RT/RW heads based on their performance records as reported by the app. The application uses nine indicators to evaluate performance inter alia, alley garden, garbage pickup, garbage bank, garbage retribution, property tax, smart city, *Sombere'*, RT/RW administration and social activity report. These are the basic services that the city government aims to transform into more effective and efficient ways using app-based government system. The Call centre 112 is 24 hours emergency call service that is integrated with home care services, all government agencies and the local police. The 112-emergency call service is used to file reports of events including houses on fire and other disasters. The service is activated by placing a call using mobile phone free of charge. To handle citizens' complaints management, to mark the 412th anniversary of Makassar City, the government launched the Qlue application. People can use the application to file reports on various environmental or social issues and problems, such as garbage, broken road and traffic light,

and illegal parking. The reports receive follow-ups by six government agencies, namely Department of Environment, Public Works, Transportation, Social Service, Public Order Enforces (Satpol PP) and Health Office.

The Smart RT/RW, call centre and Qlue application can be considered as smart city schemes. This means that local government level (municipality) has the authority to determine what smart city project will be implemented. It is however a vital element for successful smart city policies, is determining the contribution that smart city projects have made toward better public service delivery in Makassar. Therefore, an assessment of the performance of the three smart city schemes with respect to public outreach can help to deepen our understanding of the role that citizen reporting systems have played in public service delivery in Makassar.

Users' knowledge of smart city programmes

The government of Makassar has launched a number of mobile applications that are aimed to improve the delivery of public services and engage as many citizens as possible in the development process. Those services include Smart RT/RW, call centre 112, home care (*dottorota'*) and Qlue app. The use of technology in these services aims to reinforce the goals of service delivery, which is to serve the public better

Figure 2. Users' Knowledge on Four Smart City Products (%)
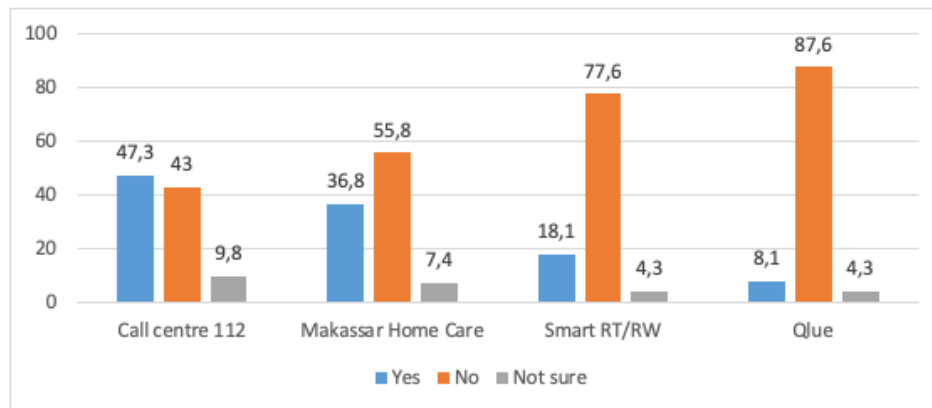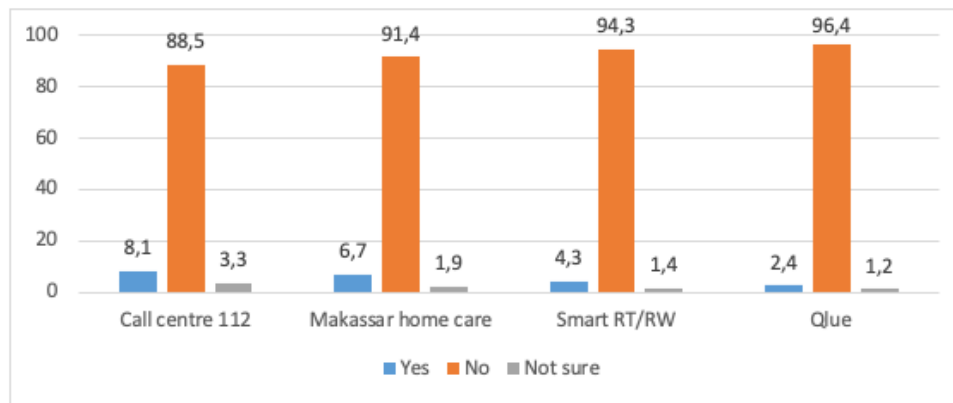

Source: Authors, 2020

than the conventional way of delivering those services. The existence of the programmes is expected to generate benefits to the population through enhanced capacity and ability of the city government to tackle various infrastructure deficiencies that hamper better public service provision. For instance, people can use Smart RT/RW app to monitor waste management and garbage pickup in the neighbourhood. That way, a better citizen reporting system enhances collaboration of members of the community, which in turn strengthens channels of communication between the government and the public (Susanto et al., 2017).

This section presents results of the assessment of the perception of public information or knowledge about the four smart city programmes which were implemented by the local government. By using the initial level of knowledge about the smart city programmes as a reference point, we can obtain an overview of public understanding of the smart city services,

which is the main point of forming a citizen reporting system. Figure 2 presents the results of the perception of users' knowledge about Makassar's smart city application products.

As shown in the bar chart above, it is evident that users have limited knowledge and information about the public services. In general, while slightly higher respondents know the Call centre 112 service, most of the respondents did not know about the existence of the other three services namely, Makassar home care, Smart RT/RW and Qlue. Specifically, for Makassar home care programme, more than half of respondents (55.8%) did not know that the Makassar city government has been running the public service, while 36.8% respondents expressed knowledge about the service. Moreover, 7.4% were not sure whether or not to give an answer to the question. Meanwhile, as regards Smart RT/RW programme, there is a big gap between respondents who expressed had knowledge about the programme and

Figure 3. Usage Experience on Smart City Programmes (%)

Source: Authors, 2020

those who do not. Only 18.1% respondents had information about Smart RT/RW, compared to the 77.6% respondents who were not aware the existence of Smart RT/RW application. Some respondents, 4.3%, were uncertain about the answer to give to the question.

Although Qlue application is a relatively a recent introduction to the public, using the application is expected to enhance people's ability to exercise their rights to public services. As presented in Figure 2 above, the majority of respondents, 87.6% had no knowledge about the programme, 8.1% had knowledge of the programme and 4.3% respondents were uncertain whether to give a yes or no answer to the question.

Usage experience on smart city programmes.

Understanding the outreach of smart city programmes to the public can also be done by looking at public experience using the services. Figure 3 shows the percentage of respondents who have either used or not used those smart city programmes, which is an indication of the extent to which the public

has utilized smart-city based citizen reporting system in Makassar. Overall, above 85% of respondents had never used those services, which is far higher than those who have ever used such services. Although call centre 112 is the most well-known service among the other three programmes, it has only been used by 8.1% respondents in the study which is significantly lower than 88.5% who never utilize it. With regards to Makassar home care, an even larger percentage of respondents, 91.4%, expressed to have never used the service, while 6.7% had used the service. This may indicate that home care treatment, which is an innovation for the delivery of health service is still far removed from the conventional way of delivering health care that involves patients paid visits to doctors or hospitals. However, another possibility is that being a new service, people are still not familiar with the home care programme, which is an obstacle in making use of the service.

Perception about usage experience of Smart RT/RW and Qlue shows relatively similar outcomes. The results show that

94.3% and 96.4% of respondents expressed lack of knowledge or experience in using the

delivered by the four programmes. This section compared findings on the knowledge

Figure 4. Use of Internet and Social Media for Information/News (%)
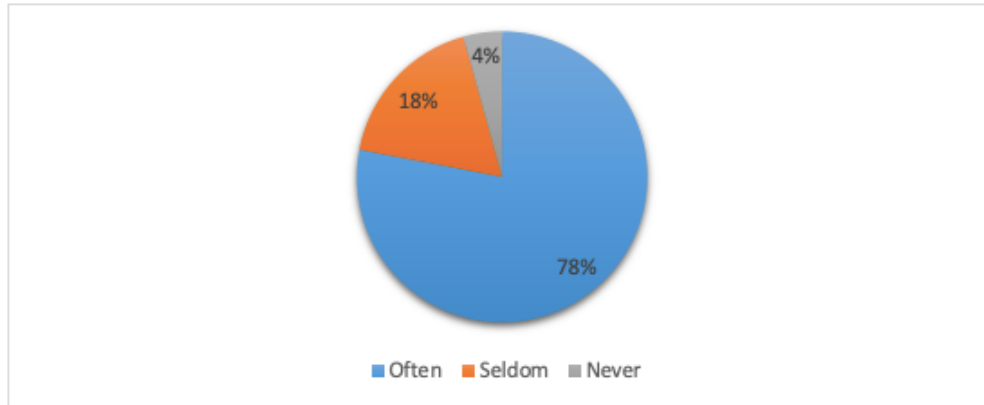
Source: Authors, 2020

Smart RT/RW and Qlue services, respectively while only 4.3% and 2.4% had ever experienced using RT/RW and Qlue applications, respectively. In other words, a very small number of respondents have had experience in using smart services, which attests to the high degree of nonfamiliarity with the services. Therefore, it is important to understand that policies, institutional design and participatory public management are instrumental for strengthening capacity building that is vital in developing and adopting a smart city agenda (Shobaruddin, 2019).
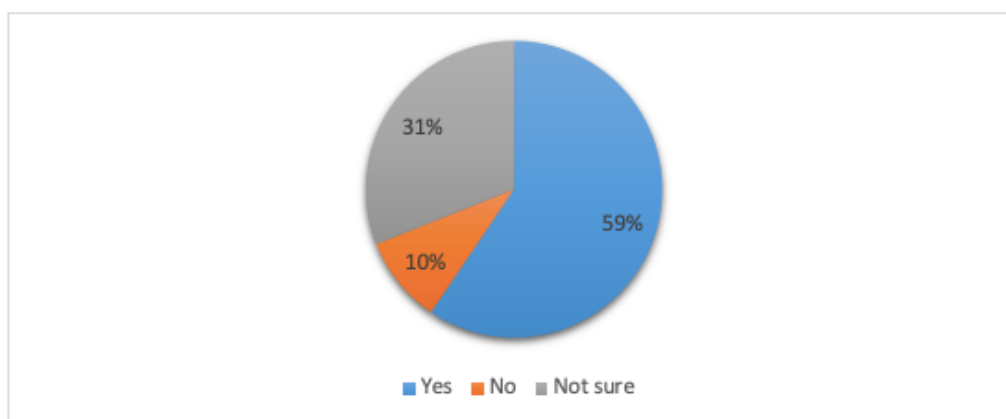
Use of internet and social media for information and news

As presented previously, most of the respondents did not have any knowledge and information about the availability and use of the four smart city programmes. Thus, only a small percentage of respondents surveyed had ever experienced using services

and information about the existence and use of the four programmes and the frequency of internet and social media use by the people of Makassar. The comparison is aimed at the extent to which Makassar people have access to internet and social media for information and news and their willingness to help and report to the government about events, scandals, social problems, environmental issues, red tape, lack of public services and so on.

Figure 4 shows the extent (often, seldom and never) to which respondents use internet and social media for searching information and news. The results show that the majority of respondents often use internet and social media to obtain information and news. Specifically, 78% of respondents perceived having frequent access to internet and social media for information and news, 18% of the respondents seldom use internet and social media for that purpose, and

Figure 5. Citizens' Willingness to Help and Report to Government (%)

Source: Authors, 2020

4% had never used internet and social media for the same purpose.

With the spread of internet infrastructure in the country people are increasingly becoming familiar with the internet and social media in accessing information, news and entertainment. The shift in people's preferences in looking for information and news from conventional media to internet and social media has not been lost to media corporations. Media corporations have correspondingly changed and adapted their business strategies by bringing all the news online and disseminating it via social media. Therefore, it is understandable that most people now use internet and social media for many different purposes, one of which is to obtain information and news.

Citizens' willingness to help and report to government

Figure 5 shows that the majority of respondents expressed willingness to make reports to the government when necessary.

More than half of the respondents (59%) showed willingness to actively participate in helping the local officials whenever there is a problem in their neighbourhood. 31% acknowledged uncertainty about their readiness, while 10% did not show willingness to do so. Thus, most of the respondents showed willingness to actively contribute toward building citizen reporting system, which is one of the fundamental factors that influence the successful implementation of smart city programmes in Makassar. However, public willingness to use smart service in building citizen reporting system is one part of the puzzle, the other being the capacity and ability of the government to develop requisite internet infrastructure that makes access to internet possible for all Makassar population. This however, according to Haryanti and Rusfian (2019) remains a problem, creating a digital divide between those who have access and those who are still excluded from it, the latter being residents in rural and remote areas.

Limited public knowledge about the existence and use of smart city services is underscored by results of an interview that was conducted with neighbourhood unit head (RT). Concerning some of the factors impeding citizen participation in the implementation of smart city programmes, RT contended that:

> "*Actually, these smart city programmes are good, for instance as communication channel for public complaints. However, this may not work well due to lack of people's knowledge on how to use them and ineffective socialisation of the programmes*". (Interview with Roy (alias), neighborhood unit head (*Ketua RT*) in Panakukang Sub-district, August 2020).

Another unexpected information came from one of the informants who considered Smart RT/RW applications a failure:

> "*As far as I know, this app will be used to monitor performance of neighbourhood unit head (Ketua RT) and to determine financial incentives given by the government of Makassar. I installed the app on my smartphone as soon as it was launched. However, I have never used the app because it was not working at all. I heard that the app was still under maintenance. Since then, I have never heard any update from the department of*

> *information technology of the government or from chief of urban village*". (Interview with Marton (alias), neighborhood unit head (*Ketua RT*) in Tamalanrea Sub-district, June 2020.

Thus, technical problems that often plagues the application discourages users to use it as an important means to deliver complaints or use for any other purpose.

Discussion

At a first glance, there are indications that the implementation of the four smart city programmes by the city administration has not been as effective as expected. This is attributable several factors. Despite showing readiness to use the services, Makassar population has low knowledge and information about the existence of smarty city programmes which limits their use of the four services by the community.

Thus, as previously discussed, the survey results show that the population has limited experience in using one of the four public services, which can be interpreted that the people have inadequate information about smart city programmes. Limited knowledge about an application hampers its use, which happened to be the case with one smart city application. Another issue regarding smart city implementation relates to the digital skill of the citizens. Effective design of smart city services is only possible if prior to implementing the applications, the local

government conducted an assessment of the public understanding and knowledgeability about online information and online services. Such a process would have ensured that the products that were developed were suitable to knowledge levels and requirements of the local population. Digital skill here refers to four types of skillsets namely operational skill, which refers to the ability to operate digital media; formal skill, which refers to the ability to handle special structure of digital media; information skill, which refers to the ability to search, select and evaluate information in digital media; and strategic skill, that refers to the ability to use information in digital media as a medium to achieve personal objectives (van Deursen & van Dijk, 2009).

Thus, digital skills for both users and providers of smart city services are essential for effective implementation of the services. Lack of necessary skills to use smart city programmes in Makassar is one of the reasons that has hampered the use of smart city- based services. This was expressed in an interview with one of the neighbourhood unit heads who noted that:

> "*I think one of the problems in using digital public services lies in the people. Many still cannot operate smartphones*". (Interview with Suryo (alias), neighborhood unit head (*Ketua RT*) in Manggala Sub-district, August 2020).

Accessing digital based services requires operational skill, which many in Makassar still lack. This is the case for smart city programme with internet-based applications.

Thus, the introduction and implementation of smart city initiatives can foster transformational changes in policy implementation, urban governance and delivery of public services (Fromhold-Eisebith & Eisebith, 2019). However, intended transformation may not occur if the government lacks adequate knowledge and information regarding how to develop citizen reporting system properly. Without effective citizen reporting system, the government does not receive feedback and constructive participation from its citizens which can undermine the effectiveness of smart city programmes.

CONCLUSION

The programme has good intentions of changing public service routine from reactive to proactive and responsive by designing and implementing smart city programmes that are tailored to resolve current and future problems. In implementing the smart city programmes in Makassar to support the creation of the citizen reporting system, Makassar city government has not lived to expectations. The design and development of the four smart city programmes (Smart RT / RW, Call centre 112, Home care and Qlue),

did not involve public participation, and was not based on a good understanding of the knowledge and skillset levels of users. Thus, despite the fact that the majority of users expressed readiness to use the application services by reporting to the local authorities, issues and problems in their neighbourhoods, limited knowledge and information about the programmes coupled with use skill deficiencies, smart city services have not improved service delivery in Makassar. Some of the factors that have undermined smart city programme include the low level of public knowledge about smart city services run by the Makassar city government; lack of digital skills, especially in operating digital devices. Therefore, smart city programmes should be accompanied by a measurable and gradual implementation strategies.

POLICY RECOMMENDATIONS

Public readiness to use smart programme services should be an important advantage for the city government in designing and implementing better smart city schemes in the future.

The design of the citizen reporting system is strongly influenced by and dependent on citizen participation. In this regard, the implementation of public service delivery by the local government should not only take into consideration performance improvement but also capacity to maintain

public participation (Suebvises, 2018). In other words, the delivery of smart city programmes will have positive outcome if citizen participation, particularly citizen reporting system, is integrated and incorporated as an important source of improving such service delivery. To strengthen the effectiveness of smart city programmes, the local government should incorporate citizen involvement in the delivery of public services and policies. Such a process should enhance the capacity and ability of citizen reporting systems to better capture local problems and creating appropriate solutions that local level would be (Suebvises, 2018). Programme implementation should be phased and gradual to allow skill and knowledge acquisition and learning by both the public and public service providers.

The local government should conduct a baseline study to collect information related to the level of operational, information, strategic and formal skills of the citizens prior to developing and deploying digital based public services, which are at the heart of smart city policies. This information can help local government in designing realistic and step-by-step policy strategy in transforming their city into smart city not using the phrase "smart city" merely as rhetoric.

ACKNOWLEDGEMENTS

REFERENCES

Baker, W. H., Addams, H. L., & Davis, B. (2005). Critical factors for enhancing municipal public hearings. *Public Administration Review*, *65*(4), 490–499. https://doi.org/10.1111/j.1540-6210.2005.00474.x

BHC and JSI. (2018). Building Healthy Cities. In *Handbook of Urban Health* (Issue September). https://doi.org/10.1007/0-387-25822-1_25

BPS. (2020). *Makassar Municipality in Figures*.

Creswell, J. W., & Creswell, J. D. (2018). Research and Design Qualitative, Quantitative and Mixed Methods Approaches. In *Thousand Oaks California* (Fifth). SAGE Publications.

Crowley, D. N., Breslin, J. G., Corcoran, P., & Young, K. (2012). Gamification of citizen sensing through mobile social reporting. *4th International IEEE Consumer Electronic Society - Games Innovation Conference, IGiC 2012, September*.

https://doi.org/10.1109/IGIC.2012.6329849

Dameri, R. P. (2013). Searching for Smart City definition: a comprehensive proposal. *International Journal of Computers & Technology*, *11*(5), 2544–2551. https://doi.org/10.24297/ijct.v11i5.1142

Dameri, R. P. (2017). *Smart City Implementation: Creating Economic and Public Value in Innovatif Urban Systems*. Springer. https://doi.org/10.1007/978-3-319-45766-6_7

DISKOMINFO Makassar. (2017). *Executive Summary Masterplan Smart City*.

Fromhold-Eisebith, M., & Eisebith, G. (2019). What can Smart City policies in emerging economies actually achieve? Conceptual considerations and empirical insights from India. *World Development*, *123*, 104614. https://doi.org/10.1016/j.worlddev.2019.104614

Haryanti, S., & Rusfian, E. Z. (2019). Government Public Relations and Social Media: Bridging the Digital Divide on People with Social Welfare Problems. *JKAP (Jurnal Kebijakan Dan Administrasi Publik)*, *22*(2), 128. https://doi.org/10.22146/jkap.34602

Hollands, R. G. (2008). Will the real smart city please stand up? *City*, *12*(3), 303–320.

https://doi.org/10.1080/1360481080247
9126

King, C. S., Feltey, K. M., & Susel, B. O.
(1998). The question of participation:
toward authentic public participation in
public administration. *Public
Administration Review*, *58*(4), 317–
326.

Kopackova, H., & Libalova, P. (2019).
Quality of Citizen Reporting Tools at
Municipal Level. *Journal of
Information Systems Engineering &
Management*, *4*(3), 1–12.
https://doi.org/10.29333/jisem/5891

Kopackova, H., & Libalova, P. (2018).
Citizen Reporting System in The
Global and Czech Specific View. *In
Globalization and Its Socio-Economics
Consequences. 18th International
Scientific Conference: Proceedings.*,
October.

Nabatchi, T., Sancino, A., & Sicilia, M.
(2017). Varieties of Participation in
Public Services: The Who, When, and
What of Coproduction. *Public
Administration Review*, *77*(5), 766–
776. https://doi.org/10.1111/puar.12765

Nownes, A. (2007). Citizen Participation in
Local Government. *Encyclopedia of
Public Administration and Public
Policy, Second Edition (Print Version)*,
301–304.
https://doi.org/10.1201/noe1420052756
.ch58

Sanoff, H. (2000). Community Participation
Methods in Design and Planning. In
Wiley. Wiley.
https://doi.org/10.1016/s0169-
2046(00)00063-3

Shobaruddin, M. (2019). Critical Factor
Influencing Electronic Government
Capacity Building in Sragen
Municipality Government Public
Service Delivery. *JKAP (Jurnal
Kebijakan Dan Administrasi Publik)*,
22(2), 98.
https://doi.org/10.22146/jkap.34105

Suebvises, P. (2018). Social capital, citizen
participation in public administration,
and public sector performance in
Thailand. *World Development*, *109*,
236–248.
https://doi.org/10.1016/j.worlddev.2018
.05.007

Susanto, T. D., Diani, M. M., & Hafidz, I.
(2017). User Acceptance of e-
Government Citizen Report System (a
Case Study of City113 App). *Procedia
Computer Science*, *124*, 560–568.
https://doi.org/10.1016/j.procs.2017.12.
190

van Deursen, A. J. A. M., & van Dijk, J. A.
G. M. (2009). Improving digital skills
for the use of online public information
and services. *Government Information
Quarterly*, *26*(2), 333–340.
https://doi.org/10.1016/j.giq.2008.11.0
02

Wang, X. (2001). Assessing Public Participation. *Public Performance and Management Review*, *24*(4), 322–336.

https://doi.org/10.2307/3381222