Citizen Readiness for Adopting Electronic Citizen Relationship Management (e-CiRM) : A Qualitative Exploration

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Abstract. In recent years, many cities in developing countries have implemented e-CiRM initiatives with the aim of building smart cities, including Serang City, Indonesia. Previous research has examined the readiness of Indonesian citizens for e-CiRM using quantitative method. To provide a deeper insight into the issue, qualitative research needs to be conducted. This paper reported a qualitative study which complements the previous quantitative studies. The research was conducted in Serang Banten. Thirty in-depth interviews were conducted from April to June 2019. The participants included general population in Serang city, students, public figures, lecturers, teachers, and students. Thematic analysis was used to develop a logical and relevant framework for checking citizen readiness. As in the quantitative research, this study approaches the issue with four types of readiness in mind: core readiness, technological readiness, human resource readiness and motivational readiness. Citizens and local government staff expressed their interest in using e-CiRM in Serang. e-CiRM awareness is low among uneducated people. Participants who were interested in e-CiRM argued that it provides the immediacy of delivering complaints to local governments. Some participants did not see the value of using e-CiRM for online complaints compared to face-to-face complaints. Illiteracy, lack of English skills, lack of trust and technological inadequacy were identified as barriers to the use of e-CiRM. However, a sense of belonging, evidence of utility, positive attitudes towards e-CiRM, and intention to use e-CiRM in the future became the driving factors in the adoption of e-CiRM. This study reaffirmed the conceptual framework of e-CiRM readiness with different dimensions and identified potential obstacles and possible solutions for e-CiRM. More attention should be given to user training, low-cost services and user trust.

Keywords: Citizen, e-CiRM, Readiness, Serang, Qualitative.

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1 Introduction

Along with the development of information technology, the lifestyle of Serang people has also changed. Today, various applications are available in mobile devices, such as applications for transactions and social networking. This phenomenon is closely related to the affordable internet access. The Association of Indonesian Internet Service Providers (APJII) stated that the number of internet users in Indonesia has increased to 143.26 million people, equivalent to 54.7% of the total population of 256.2 million people [1]. The digital era has also influenced the relationship between government and its citizens. The use of mobile government is inavoidable. Mobile apps for urban public services are one indicator of an ongoing evolution, namely "ubiquitous government" or "smart government" [2]. A more progressive response from the government is needed to adjust to the changes in the digital era. The bureaucratic structure must be improved to accommodate new technology and its use [3].

With the objective of realizing a smart city, Citizen Relationship management (CiRM) is expected to accommodate several changes related to the patterns of bureaucratic works in following up reports. One of them is to change the coordination feature from the sub-district to the government office (city/regency administrative level) directly to the department (provincial level). This is based on the consideration that the govenment office will be more obedient when receiving orders from the service, rather than receiving coordination from the sub-district. Of course, this change is not easy to implement. In the process of preparing the legal basis for using the CiRM application, the head of sub-district can forward the report to the Regional Work Unit (SKPD). This idea is acceptable when all stakeholders understand that the logic used is functional (head of sub-district as admin) rather than structural (head of sub-district as echelon 4). This change will inevitably force SKPD (service/agency) to be more aware of the CiRM and various problems through the system. In the past, the responsibility was on the sub-district, whose authority and resources were very limited.

CiRM provides a new method for ensuring that all reports and complaints from citizens are properly monitored. This is important to maintain citizen engagement. The results of the research show that the use of technology has changed the pattern of interaction in government communications which used to be in the same direction into two directions or interactive. This finding also becomes the antithesis of Pasquier's (2012) view that the core function of government communication is to deliver information and public policy from the government to citizens. With that awareness, Electronic Citizen Relationship Management (e-CiRM) will be a very useful application in ensuring the best service for citizens [4]. It is clear that Customer Relationship Management (CRM) is not only used by large companies for managing relationships with customers, CRM plays an important role in improving services to the public, such as in Micro, Small and Medium Enterprises (MSMEs) and waste management (e-Sampah) [5–12].

In order to use CRM effectively, several factors need to be considered such as end-user characteristics, technological problems, types of services and social aspects of the use of CRM [10,13]. Pre-implementation evaluations and formative research are needed to identify

community or citizen needs and readiness. Accuracy is an integral step for the initial adoption of innovation [14]. Thus, it is important to know how people react to new technologies and their beliefs about the CiRM to determine the best way for stakeholders to prepare the implementation of CiRM services. Three dimensions of high-level readiness have been identified, which include: technological readiness, human resource readiness and motivation readiness [15]. Quantitative studies are known to provide in-depth descriptions of community or citizen preparedness or perceptions of local governments [16].

Therefore, qualitative research is needed to explore citizen readiness based on how citizens use CiRM services and what the citizens understand about e-CiRM. Interviews with citizens were conducted to to understand the citizens' perceptions, motivation and knowledge about e-CiRM services. Opportunities and challenges for e-CiRM services were also explored. Given the importance of qualitative research, this paper presents data from the qualitative study that complement the findings of the quantitative research using the e-CiRM readiness framework with the aim of knowing how people react to the new technology and their beliefs about e-CiRM in order to determine how to prepare e-CiRM services, help in facilitating the modeling and planning of effective e-CiRM interventions, and ensure better implementation in Serang city and other cities.

2 Methods

In-depth interview was chosen because it is considered effective for exploring and understanding the participants' perceptions [17]. This study aimed to understand the various dimensions of readiness. The interview guide was developed accordingly. In-depth interview refers to the process of obtaining information for research purposes using the question and answer method through face-to-face interactions between interviewer and the informants with or without using an interview guide ; thus, the interviewer is involved in the informants' social life [18].

2.1. Participant and Location

The respondents in this study were smartphone owners purposively selected from the adult population and public service employees both formal and informal. The researcher explained the research objectives and procedures to the respondents. Those interested in participating and giving written approval were included in this study. Participants were deliberately selected to include various perspectives, including participants of various ages, genders, occupations and levels of citizen involvement. Participants were Serang residents with various professions such as housewives, motorcycle taxi drivers, farmers, small business owners, students and adults, community leaders such as teachers, public figures, and local government employees.

2.2. Data Collection

The interview guide was developed in Indonesian Language. The interview guide was based on written questions prepared before. The interview guide was tested first in the field with two participants (one male and one female). After the test, some important changes were made. The final interview guide covered such aspects as sociodemographic characteristics, experience in operating smartphone ,experience in government bureaucracies, knowledge, perception and practice of smartcity, and experience with e-CiRM. In addition, the participants were also asked about their roles and expectations with regard to the e-CiRM program in the future. The interview guide developed for citizen service officers included their views, experiences, and perceptions of the e-CiRM as well as their role in the e-CiRM in the future. Interviews were conducted from April to June 2019. Interviews were audiorecorded and the duration of each interview ranged from 20 to 30 minutes. The interview guide used flexibly. Reflection on the research process and attention to new cases were considered in the data collection. Unclear interpretations were clarified directly by the researcher to the participants.

2.3. Data Analysis

Data were analyzed using Milles and Huberman's approach [18], namely data reduction through selection process, focusing attention on simplification, abstracting, and transformation of rough data that emerged from field data. Data reduction was needed due to the large amount of the qualitative data, especially from the interviews and observations. After the data reduction, data categorization was conducted. The data were categorized based on the date and characteristics of the interviewees. The next stage was data display; data were displayed in narrative forms, charts, flow charts, and so on. After the final analysis was done, all transcripts were read to ensure that everything had been done correctly. In total, 30 in-depth interviews were conducted; however, 3 interviews were of very low quality and did not provide information about the CiRM. Therefore, they were excluded from the analysis and reporting.

3 Result

A total of 27 in-depth interviews were included in the final analysis (Table 1). The age range of the respondents was 17-70 years old. The participants were represent different occupational groups, such as housewives (3), small enterpreneur (3), household assistant (2), small trader (3) and factory workers (3), students (4), teachers (4), community leaders and retirees (2) and government employees (4). The details of the respondents are presented in Table 1. Based on the data collected during in-depth interviews with 27 respondents and thematic analysis of their responses, citizen readiness was assessed. Four types of readiness were identified: (1) core readiness; (2) technological readiness; (3) readiness of human resources; and (4) motivation readiness.

Table 1. Characteristics Of The Respondents.

Group	Number	Age	Gender	Occupation	Education
General Population	12	17 – 68	Male (7), Female (7)	Housewife(3), Enterpreneur(2), Household assistant (2), Trader (3), Factory worker(1), Retired (1)	Ranged from high school graduate to bachelor degree
Student	4	18 – 23	Male (2), Female (2)	Student(2), Student College (2)	Ranged from high school graduate to bachelor degree
Government Employee	4	24 – 55	Male (2), Female (2)	—	Ranged from diploma graduate to bachelor degree
Teacher/Lecturer	4	30 – 50	Male (1), Female (2)	Teacher (2), Lecturer (2)	Ranged from bachelor degree to doctoral degree
Community Leader	4	35 – 45	Male (1), Male (1)	Village Head (1), Foreign Company Manager (1), PKBM Head (1),	Ranged from high school graduate to bachelor degree

3.1. Readiness of e-CiRM

e-CiRM readiness is a mental or physical readiness of a citizen for an e-CiRM experience or action [19]. e-CiRM readiness can also be defined as the level at which people are ready to receive benefits from information and communication technology. e-CiRM readiness can also be understood as the ability to pursue opportunities to create a value facilitated by the internet use [20].

3.2. Readiness of Core

Core readiness is defined as identifying the true needs of the e-CiRM and feeling or expressing dissatisfaction with the current conditions of regional government services and willingness to adopt new practices to create change. Citizens, community leaders and citizen service employees expressed their interest in e-CiRM. Awareness of the CiRM and its benefits is limited to some participants, educated citizen members, community leaders and citizen service employees. These participants had a clear understanding of e-CiRM. For example, they understood that complaints and public service reports can be submitted via smartphone. Some participants with little formal education had no knowledge of existing e-CiRM services. There were participants who were not very enthusiastic about this concept, and more interested in contacting and visiting the relevant regional government service offices directly.

I prefer to report directly to the relevant agencies, because I think by meeting complaints directly and our reports will be handled faster than through communication media such as telephone or SMS. (40 years old, female, housewife).

I think by going directly to our service officers, we will get priority, people who come are sometimes often ignored, especially if it is via a smartphone. (35 years old, male, factory employee)

In my opinion, going directly to the officers will be more effective, efficient and economical, our complaints will be handled without having to wait and spending credit, also we can ascertain who is the officer who handles our complaints. (68 years old, male, retired).

This [e-CiRM] will be good and useful. Through smartphones we will get service in a short time without bureaucracy or illegal fees from individuals (22 years, women, student college)

Participants felt that receiving information regarding regional government services through smartphones would be beneficial. For example, residents will receive announcements about resident identity cards, announcements for mass vaccinations, announcements about voluntary work and others. I don't think local governments have to face problems because smartphones have proven to be a very helpful tool in our daily lives in business cases or studies and even now in health services. See, we can find out everything via cellphone, so I don't have to go to the Population Office and see when my ID card is finished. So if I can see when my ID card will be, I can leave immediately. (52 years old, female, businessman)

In some local government agencies it is often lacking in service personnel, in cases like this, e-CiRM is considered very important to provide the best service for citizens (30 years, men, community leaders).

Some participants, including citizen and leaders, identified local governments as not providing the best service for their citizens. These participants saw the value of the e-CiRM as a good solution for service delivery for this underserved population. (44 years old, male, foreign company manager)

What if you don't know where to report complaints. It's true that I can report about damaged roads, piles of garbage, and crazy people or homeless people hanging around isn't that good? (32 years old, male, businessman)

The existence of e-CiRM allows us to provide quality services for citizens. (44 years old, male, village head)

Support for e-CiRM is not absolute, some participants assessed that reporting face-to-face as a better choice to get faster attention and service.

If the problem is less serious, we can call and ask for advice. But for very important and urgent problems, is it possible through the device to be handled immediately? (34 years old, male, community leader)

3.3. Readiness of Technology

Readiness of technology is defined as the ease of use and ability of users in operating smartphones and using the internet. The participants were still in the basic stages of technological readiness. Some participants (except teachers, lecturers, and students) use smartphones without the internet connection and they were able to use English. The participants preferred to receive and listen to audio messages. Some respondents are not accustomed to using smartphones.

I use a smartphone just to call via video call or WhatsApp (WA). Actually I have a little trouble with smartphones, so for other things (install applications, settings, tethering) I usually ask for help from my child. (50 years old, female, housewife)

I just used a smartphone, I bought a smartphone because of the demand of my customers to easily contact me and order vegetables, fish, meat, fruit and others to contact via WhatsApp. I am a vegetable trader. (35 years old, male, trader)

I bought a smartphone by my boss so that my boss can video call me to find out the condition of the house and children who are still toddlers. I have not been able to use a smartphone too other than the WA and camera. (30 years old, female, Household Assistant)

I use a smartphone to keep in touch with my friends in the village and friends in the housing complex where I work. I can use Instagram, Facebook, and WA [social media]. But I have to set the smartphone first in Indonesian. Because English makes me confused. I have had a smartphone since the first time I worked, which is about 3 years ago (19 years, female, Household Assistant)

3.4. Readiness of Human Resources

Human resource readiness is defined as knowledge of e-CiRM services and perceived benefits, sense of belonging, and various user sociodemographic characteristics.

3.4.1. Knowledge about e-CiRM

Most respondents have never known about e-CiRM. However, some of them have seen e-CiRM services in other cities. They know about the services of local government through mass media, social media, or from personal experience while living in other cities.

From what I saw there [e-LAPOR in Jakarta], say if all of a sudden (falling trees on the road) occur, late at night, they stay online 24 hours. (19 years old, female, college student)

For example, an online complaints system in the city of Surabaya. We haven't tried it but have read it on the news. (30 years old, male, public figure)

I have read on social media about launching this kind of system (e-CiRM) in Tangerang, but I don't know what it will do, whether the system can be useful or not. (33 years old, female, lecturer)

3.4.2. Perceived Benefits

Certain respondents who are busy (working or doing business) expressed that this e-CiRM will be very useful, such as providing easy service, reduction in transportation costs, and time savings and complexity of bureaucracy to access local government services. The participants compared the use of a smartphone and the price of direct visit . The participants concluded that e-CiRM would give a good value. Some respondents also perceived e-CiRM as time-saving and easy because no bureaucracy is involved.

Through e-CiRM, citizens will get easier service. So that it does not consume transportation costs and even the time needed to go to the local government office and all will be saved as well. So I think this will be very helpful. (32 years old, male, enterpreneur)

We will be able to save time and money with this (e-CiRM), the only cost spent is internet quota and this is nothing compared to if we take care of it to government agencies (52 years, women, enterpreneur)

It's amazing how we can get this service only at home. Time is saved and even energy is not lost. What can be easier than this (e-CiRM)? (42 years old, female, lecturer).

3.4.3. Socio-Economic Status

The majority of respondents agreed that e-CiRM can be very helpful for residents. At the same time, they expressed their concern that poor people would not have a smartphone and that internet access is expensive. If they have a smartphone and internet access, they will be less able to use smartphones because of lack of knowledge and technological incompetence. Time saving was seen as a benefit for participants who are busy.

Not all of us can afford a smartphone, for most of us, just to eat everyday is difficult, especially to buy a smartphone, for us smartphones are a luxury item. In my family, only I have a smartphone. (35 years old, male, trader)

3.4.4. Sense of Belonging on e-CiRM

Sense of belonging is often reflected by the community leaders and service officers. They expressed their interest in working and supporting the e-CiRM program such as the campaign for e-CiRM in the future. Stakeholders such as local government employees recognize the benefits of e-CiRM in making Serang a Smart City.

I attended various types of board meetings and met different people while working. I can share [e-CiRM] information with them. So people can understand from the posters, if we inspire them and then they [people] will be interested. (44 years old, male, village head)

Yes, I will tell them about it [e-CiRM] and become a responsible citizen by making complaints through the e-CiRM. (32 years old, male, businessman)

3.5. Motivation Readiness of e-CiRM User

Motivation readiness is expressed as the perceived benefits of e-CiRM services, benefits, fears and concerns, as well as intentions for using e-CiRM in the future.

We can use e-CiRM when needed, for example, at night. Because the e-CiRM opens 24-hour service. (37 years old, female, housewife)

Yes, they [e-CiRM] will immediately record my complaint report. (35 years old, male, trader)

This (e-CiRM) will certainly help a lot of our work in serving the citizen. (40 years old, male, civil servant)

With this service (e-CRM) I think it will be easier for us to find out reports and complaints from citizens so we can provide solutions as soon as possible (35 years, women, civil servant)

3.5.1. Fear and Concern of e-CiRM

Concerns and lack of trust in e-CiRM services were reported by several community members. They doubted whether this e-CiRM service will succeed. Some participants preferred to visit government offices directly for meeting government officers.

"I don't see directly who I'm talking to? Will it be able to solve the problem I'm facing? Can it be trusted?" (19 years old, female, Housewife)

3.5.2. Willingness to Use e-CiRM

Although e-CiRM has not been widely used in Indonesia, most respondents are interested in using the e-CiRM program in the future. The participants stated that e-CiRM could maintain their relationship with the Serang Government.

I feel that our relationship with the regional government is very far and full of bureaucracy, with this service (e-CiRM), hopefully it can change our perspective on the government. (44 years old, male, foreign company manager)

3.5.3. Attitude to e-CiRM

Most members of the community showed interest in improving services and the ways in which e-CiRM can be applied as a culturally sensitive and technology-based solution.Preferences and experience shared by the local government officers in their interviews were positive and optimistic about the e-CiRM service for Serang City. Citizen readiness (including human resources and technological readiness) to utilize this e-CiRM service will slowly grow.

Slowly people will also accept it. Some people may not understand at first or maybe it takes a little time to understand it. Once when they will understand and realize the benefits, that they receive a warning for inspection and vaccination, they will wait for a warning through a message and will receive it, (36 years, male, lecturer)

Communities must be prepared that they can take advantage of electronic services. They must be trained in using smartphone. Then, people must first be taught about the benefits and use of e-CiRM. (35 years old, female, civil servant)

4 Discussion

The research has identified some potential problems which might affect the use of e-CiRM by the citizens. Possible solutions for the identified problems are presented in Table 2.

Table 2. Problems Identified And Possible Solutions.

Problems	**Possible Solutions** *(Suggested by study partisipans)*
Lack of understanding of e-CiRM benefit	Providing information on the benefits and advantages of e-CiRM
Inability to own smartphone and expensive internet access cost	Making a group in the community (RT) consisting of people who have smartphones and those who do not have smartphones so that they can help each other
Inability to use smartphone technology	Training using smartphone and using e-CiRM
Limitations of application operation	The development of e-CiRM application must prioritize ease and simplicity
Limitation of training	Helpdesk is provided to assist in operating the e-CiRM, especially in in areas in which the citizens have low education background. Providing guidebooks and video manual on the operation of e-CiRM
Limitation of international language skills(English)	Using local language (Bahasa Indonesia) in the e-CiRM application
Lack of trust in e-CRM	Periodic socialization of government efforts to improve services. Ensuring quick service and available 24 hours

The results of the interview indicate that the stakeholders, citizens service employees, have understood the purpose and benefits of e-CiRM. However, knowledge about e-CiRM among the citizens needs to be improved so that e-CiRM can be implemented properly. Participants with prior knowledge or experience (e-CiRM) showed a positive response in relation to the benefits, such as reducing costs, saving time, and providing easy access with the aim of

improving government services to all citizens. Although the penetration level of cellular phones is high among the citizens, e-CiRM knowledge of the participants is still low. In contrast to face-to-face services, this e-CiRM relies on technological capabilities, a well-functioning communication infrastructure, and trained service officers. Some features of e-CiRM provided are complaints service, sharing real-time reports, reminders, information dissemination, and citizen satisfaction measurement of government services. In terms of motivation readiness, some participants did not have the motivation to use any technological innovations including e-CiRM. They did not show any interest in using it in the future. Citizens who understand the benefits of e-CiRM are motivated to use it in the future because they see it as easy, low-cost and time-saving. Community leaders, teachers, lecturers and members of local government perceive e-CiRM as a technological innovation that provides benefits to citizens. In terms of trust, the respondents expressed concern about the quality of government services in e-CiRM because the public could not see the officers directly. Periodic reviews of the e-CiRM program and ICT policy regulations will ensure service quality and accountability that can play an important role in gaining public trust in e-CiRM services. Because the use of e-CiRM is closely related to technology, the ability of users to understand e-CiRM instructions is very important. With regard to technological readiness, some participants expressed their inability to use most functions available on smartphones because of their low educational background, technological ability and foreign language ability. The e-CiRM application should be easy to use and employ Indonesian language. This study used a relatively small purposive sample; it included citizens based on age, sex, occupation and education level. The qualitative findings of this research are expected to complete the quantitative survey data on e-CiRM readiness in Serang city.

5 Conclusion

This study affirmed the conceptual framework of e-CiRM readiness in Serang City which includes such dimensions of readiness as: core readiness, human resource readiness, technological readiness, and motivation readiness. It identified several barriers, especially technological disabilities and technological blindness. The findings of this qualitative study clearly show that the participants appreciated e-CiRM services and were willing to use e-CiRM in the future. In the future, there should be socialization on the benefits of e-CiRM and training in operating or using smartphones and e-CiRM applications.

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