Collaborative Innovation Model on 112 Call Center Service

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Received: December 17, 2019; Accepted: April 19, 2020; Published: May 8, 2020
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Abstract
This article aims to find out and explore how collaborative innovation is applied to the 112 call center service. The problem is focused on examining: First, what the condition of 112 call center service is. Second, how collaborative innovation is applied to e-government services. Third, the collaborative model of 112 call center service. To approach these problems, theoretical references from several experts on collaborative innovation and collaborative models were used. Data were collected through a library research as a writing framework and analyzed qualitatively. This study indicates that 112 call center service is a form of innovation in e-government applications. 112 call center service is an emergency service occurs in an area that must be handled as soon as possible. But this innovation does not always go well. It is since there are factors that hinder innovation. 112 call center service has not become a single call number and has not been integrated throughout Indonesia. Recommendation for overcoming it is by collaboration between institutions at both the central and regional levels. Collaboration is formed using the E-Government Integration (EGI) model, which is the relationship between the central institutions and the regional institutions, among agencies, and the relationship with service users, namely the community and the private sectors. This relationship is supported by variables of strategy, technology, policy and organization. It is expected that by applying the model 112 call center services can be integrated.

Keyword: Call center 112, Innovation, Collaboration, e-government

How to Cite: Fadoli, M.I & Warsono, H (2020). Collaborative Innovation Model on 112 Call Center Service. Jurnal Administrasi Publik, (Public Administration Journal). 10(1): 63-73
INTRODUCTION

Innovation is a necessity that will always be exists when an organization requires a better change. However, innovation tends to be dominated by the private sectors compared to the public sector. Although innovation is seen as inherent in the private sector, there is currently a new trend in the public sector to do innovation where there is an increase in public demand for public services (Torfing, 2012).

Innovation in public organizations in Indonesia is still not encouraging. The Indonesian government is still lagging behind in terms of innovation. According to the 2019 Global Innovation Index (GII) report (globalinnovationindex.org), Indonesia ranks only 85th out of 129 countries with scores below 30. Even within the ASEAN sphere, Indonesia loses to Malaysia and Vietnam which occupy positions 35 and 42. It is due to efforts in developing innovation in the public sector often face rigidity, hierarchy and routines that become obstacles to innovation, innovation should be faced with creativity and rapid adaptability.

However, recently there is an interesting study in which, public organizations demonstrate innovatively their ability to innovate. The development of information and communication technology has an impact on human life. Community life has changed in various sectors including the public sector. Government services that are usually rigid and complicated but now with the development of ICT can adjust services to the community through e-government. A pretty good example of innovation in the realm of e-government is 112 emergency call center service. 112 call center service is similar to the 911 emergency call service in the United States. The existence of this service is to suppress the emergence of fatalities or greater losses. However, the implementation of emergency 112 call center service has not been running optimally. The service has not yet a single emergency number and has not been integrated throughout Indonesia (Ombdusman.go.id, 11 March 2019). If the 112 call center is the only emergency service number, it will make it easier for the community so that people do not have to memorize many emergency numbers, which of course is very complicated. So far, each agency has chosen its own complaint portal so that it confuses the public and makes it difficult to make complaints because of many of accidents, crime, natural disasters and so on. Reported on katadata.co.id (30 December 2019), the National Disaster Management Agency (BNPB) stated that in 2019 there were 3,768 natural disasters in Indonesia which harmed hundreds or even millions of people. Therefore, in handling a disaster event, good coordination is needed. What is happening in the field, what actions must be taken, what equipment is needed, the condition of the victim and so on must be reported properly.

In the event of a disaster it cannot be denied that direct reports from the community still play an important role in the handling process. Therefore, an effective communication mechanism is needed between the government and the community. The Call Center is an alternative chosen to provide a quick response in handling reports from the public related to disasters. The Call Center can provide information to the public on an event and how to handle it, and can provide education to the community, how to deal with disasters. The Call Center can also cut bureaucratic flow in response to reports.

The 112 call center service in Indonesia is similar to the 911 emergency call service in the United States. The existence of this service is to suppress the emergence of fatalities or greater losses. However, the implementation of emergency 112 call center service has not been running optimally. The service has not yet a single emergency number and has not been integrated throughout Indonesia (Ombdusman.go.id, 11 March 2019). If the 112 call center is the only emergency service number, it will make it easier for the community so that people do not have to memorize many emergency numbers, which of course is very complicated. So far, each agency has chosen its own complaint portal so that it confuses the public and makes it difficult to make complaints because of many
portals that must be memorized. For instance 110 (police), 118 and 119 (ambulance), 115 (search and rescue; SAR), 129 (natural disaster command post), 113 and 1131 (fire department), 123 (State Electricity Company), and 112 (emergency calls from cellphones and satellite phones). Therefore an optimal effort is needed to be able to deal with problems in the service innovation call center 112.

In the public sector, the innovations that have been achieved often do not run continuously. Based on Knutsson and Thomasson (2014) it happened because public organizations in innovating cannot only participate by themselves, there must be other parties outside the government that are involved such as the public and the private sector.

In order to innovation in the public sector to be continuous, new forms of innovation are needed by involving non-government parties, namely the public and the private sector; it is often called collaborative innovation. This collaborative innovation was proposed by academics as a remedy for innovation problems that often faced obstacles from the public sector (Hartley, 2005).

The idea of collaborative innovation has actually emerged in the last few decades where innovation has resulted from the development of partnerships and interactive governance so that the collaboration is created. The New Public Governance (NPG) paradigm strengthens public organizations to collaborate in creating innovation. Collaboration is a means to facilitate interactive relationships, exchange of ideas from various parties and coordinate the implementation of these ideas (Torfing, 2012). From this it can be stated that innovation runs well when there are parties other than the the government taking part and participating in bringing up new movements for example related to 112 call center service. Collaborative innovation also encourages governments to take a more bottom-up approach, which aims to build a cluster of various parties that are participated (Garret-Jones, 2004).

This article gives a general understanding of how services of 112 call center in Indonesia. It also discusses about collaborative innovation based on existing theories and how these services can be implemented well through the concept of collaborative innovation with the E-government Integration (EGI) model.

**RESEARCH METHODS**

The method used in this article was library research approach. Library research is a research that is carried out through collecting data or scientific papers aimed at research objects or collecting data that are literary in nature, or studies carried out to solve a problem that is based on critical and in-depth study of materials relevant literature (Sanusi, 2016: 32). Library research is a compulsory activity that must be carried out in research and writing scientific papers with the main objective of developing theoretical and practical aspects (Sukardi, 2013: 33). Therefore by using this approach, the problems investigated were easily to be answered.

From these explanations, the researchers tried to explain with the study of concepts and theories related to collaborative innovation and collaboration models in e-governance with case study of 112 call center service. This discussion was carried out by collecting data from data sources based on available literature. The sources used include: textbooks, research results, online media reports and scientific works, especially from articles published in various scientific journals and so on. Therefore the source of data in the form of articles and scientific journals becomes the main source and the most important thing as data in writing this paper.

After the entire data were collected,
the next step was analyzing by using content analysis technique. Information from various books and scientific journals was analyzed and then concluded.

RESULTS AND DISCUSSION
112 call center service

Modernization, globalization and the development of science and technology have resulted in an increase in public demand related to public services, so that it is a challenge for the government to do innovation. For this reason, it is necessary to utilize Information and Communication Technology (ICT) to adjust services to the community through e-government. The purpose of e-government is to provide efficient government information management for all citizens and provide better services to the community as well as to empower existing resources through access to information and participation in public decision making (Curtin, 2006).

In practice, there are several types of e-government. Indrajit (2002: 41) divides e-government into several types as follows: a) Government to Citizen (G2C), which is an approach between the government and its people through electronic access channels so that people can easily reach their government to meet various needs and service; b) Government to Business (G2B), that is electronic interactions and transactions where the government provides various information needed for business people or business information needed by the government; and c) Government to Government (G2G), which facilitates and harmonizes communication and information exchange electronically between departments or government agencies through integrated databases.

One form of application of the e-government concept is the emergency call of 112 call center service. Based on its types, the Call Center service is the application of e-government G2C and G2G even in the procurement process it can be in the form of G2B. This service is an emergency complaint service to overcome emergencies in an area that must be dealt with as soon as possible. The 112 call center service is similar to the 911 emergency call service in the United States. The 112 call center service was designed to serve a variety of emergency complaint reports that were responded by Call Center officers who were then be forwarded by the relevant agencies according to the report with a fast rhythm. The existence of this service is to suppress the emergence of fatalities or greater losses. 112 call center can cut bureaucratic flow in responding the reports. So far, each agency has chosen its own complaint portal so that it confuses the public and makes it difficult to make complaints since many portals that must be memorized.

Many countries in the world have applied emergency call services. The numbers used in each country are different. But generally consists of three digit numbers. Examples of America (911), United Kingdom (112), Malaysia and Singapore (999) and others. In Indonesia the emergency service or 112 call center has actually been regulated in the Act, namely article 20 of Law Number 36 of 1999 concerning Telecommunications. This law states that each telecommunications operator is required to give priority to send, distribute and convey important information regarding state security, safety of human lives and property, natural disasters and other hazards. Therefore, in order to optimize services to the public related to handling these emergencies, the Indonesian government integrates emergency services into a single number emergency call service. Furthermore, to follow up on the Law, Minister of Communication and Information Regulation Number 10 Year 2016 concerning the single number of emergency call services appears. With that regulation, the emergency service number uses the number 112. Hence the 112 emergency call service in Indonesia is a
program of the Ministry of Communication and Information (Kominfo).

The application of 112 call center in Indonesia has begun in 2016 and was initiated in 10 cities: Batam City, Tangerang, Depok, Bogor, Bandung, Solo, Denpasar, Mataram, Balikpapan and Makassar. In 2017 the Telecommunications and Information Technology Provider and Management Center (BP3TI) of the Ministry of Communication and Information won the Asia Pacific Regional Contact Center World (CCW) 2017 Competition in Malaysia. The award was in the form of a bronze medal in the Best Project Manager category was given to the Emergency Call Single Number Program (NTPD) 112 which has been operating since 2016. In 2019 according to the Ministry of Communication and Information Technology (Detik.com, 28 March 2019) there are already 33 regions in Indonesia that have already apply 112 call center from 110 target provinces and districts / cities.

There are several benefits that can be felt directly by the community in the 112 call center service. For instance, in Semarang city, regulations have been made regarding to this service. In Semarang Mayor Regulation No 20 of 2018 concerning the implementation of 112 single Call Center, the objectives are: 1) to Optimize the services to the public in handling emergencies; 2) To integrate all telephone services related to complaints and emergency information to relevant agencies into the 112 call center system; 3) To make it easier for the public to remember emergency service numbers; and 4) To facilitate coordination of handling emergencies in regional apparatus and agencies.

An innovation is certainly not released from obstacles such as the 112 call center service. In practice, 112 call center service has not been running optimally. The service has not been a single emergency call number and yet. integrated throughout Indonesia (RI Ombudsman) as exemplified in the background that currently emergency numbers are still as diverse as complaints services police (110), ambulances (118 and 119), search and rescue; SAR (115), 129 (natural disaster command post), 113 and 1131 (fire department) and others. Even in Jakarta as the most developed city in Indonesia, there is a long emergency number, for example 021-425-0767 and 021-422-7875 (poisoning); 021-725-6526, 021-725-7826, and 021-722-1810 (suicide prevention) and others.

From these problems, efforts are needed to improve based on the concepts and theories so that this service can be integrated throughout Indonesia.

Collaborative Innovation

Robbins and Judge (2013) define innovation is a new idea that is run to initiate or improve a product, process or service. Meanwhile, based on Sorenson and Torfing (2011), innovation is defined as an inherent process that involves the creative development, adoption and dissemination of new ideas that challenge the status quo and bring quality change in certain contexts. Whereas innovation in the public sector is “new ideas that create value for society” (Bason, 2010). Innovation is a complex, non-linear, and repetitive process and identifies four constitutive phases in the innovation cycle (Eggers and Singh 2009). as shown in the following Figure:
In the public sector, innovation can be in the form of service innovation, process innovation, organizational innovation, policy innovation, and system innovation (Hartley, 2005).

However, in its application, innovation does not occur seamlessly without obstacles. Many innovations are actually constrained by various factors in implementing an innovation. Mulgan & Albury, identified eight types of innovation obstacles, including (Albury, 2003): 1) reluctance to close down failing programs or organizations; 2) culture of risk aversion; 3) No rewards or incentives to innovate or adopt innovations; 4) delivery pressures and administrative burdens; 5) short-term budgets and planning horizons; 6) technologies available but constraining cultural or organizational arrangements; 7) over-reliance on high performers as sources of innovation; and 8) Poor skills in active risk or change management.

In addition, innovation in e-government is also not spared from the obstacles that lie in the way that is not integrated into a service-based e-government. According to Lam (2005) there are several factors that hinder the integration of an e-government service, namely: 1) Barriers of strategy. These barriers include: unclear goals and objectives, overly ambitious e-government projects, no data integration, lack of implementation guidance, lack of financial resources; 2) Technology barriers, in the form of: unclear ICT architecture design, incompatible data standards, unsecured data security, always depend on the e-government application of previous government and incompatible technical standards; 3) Policy constraints, in the form of: low accountability and transparency of government projects, each institution claims they have more accurate data and innovation of low e-government policy; 4) organization barrier such as: the lackness of institution readiness, complication and late bureaucracy reformation, no reward for innovative institution and lack of management skill and relevant technical skill.

One recommendation for overcoming the problem of innovation in e-government is to involve parties outside the government. This is referred to as collaborative innovation. Collaborative innovation is characterized by a paradigm transformation in the science of public administration. The transformation process was influenced by globalization in the 20-21 century which was understood as the evolution and modernization of public administration and management (Wargadinata, 2016). The latest paradigm is the New Public Governance (NPG) paradigm. This paradigm views complexity and fragmentation as challenges that must be resolved and the formation of interactive collaborative governance that crosses organizational and institutional boundaries (Torfing, 2012). In addition, according to Osborne (2006) NPG is considered to replace the intra-organizational view that focuses on inputs and outputs into an inter-organizational approach that is more focused on process and results. It means that this paradigm approach points to the existence of interaction between stakeholders with the aim of influencing policy. Thus the NPG as a new paradigm offers a way to study the plurality of public and private actors and communities that are interdependent in a collaborative process so that it produces solutions that are solutive to the desired results.

With a paradigm shift, collaborative innovation is increasingly loved by stakeholders. the New Public Governance (NPG) paradigm requires that an innovation be more easily achieved by involving many actors by collaborating that combines various resources so that it becomes a force that will facilitate innovation. The problems faced by society today are not only the responsibility of the central government and regional
governments but also need to be supported by all components of the nation either from the business world, community organizations or other technical institutions / institutions (Warsono, 2018).

Collaboration itself is taken from the word co and labor, which is interpreted as a combination of energy to achieve a common goal, the word collaboration is often used for work that is cross-border, cross-sectoral, cross-relations (O’Leary, David & Sohne, 2010). Collaboration refers to the process of joint decision making, so collaboration is defined as collaboration between organizations for mutual benefit.

Based on Bommert (2010), collaboration in the context of innovation can be defined as a collaborative process of a number of actors that aims to reach a shared definition of problems and challenges, manage conflict in a constructive way, and find joint solutions based on agreement from various stakeholders. The focus on collaborative innovation is to open up the innovation process by increasing the active participation of various actors. The locus of innovation is determined by the availability of innovation resources and not by the formal boundaries of bureaucratic organizations. Strengthening this statement, Nambisan (2008) defines collaborative innovation as a "collaborative approach to innovation and problem solving in the public sector that depends on the utilization of resources and creativity of external networks and communities (including citizen networks and networks of nonprofit organizations and private companies) to strengthen or to increase the speed of innovation and the range and quality of innovation results. From this statement we can get the main features of collaborative innovation, namely that the innovation process of the actors from within the organization and outside the organization that are the private sector and the community is integrated into the innovation cycle (idea making, selection, implementation and diffusion) from the earliest stages and next.

Multi-actor collaboration has great potential in spurring public sector innovation. It is since there is a common interest that encourages two or more actors to provide joint services or solve joint problems, in other words this arrangement is a joint arrangement, which of course has different characteristics compared to the regulation itself (internal area). The nature of cooperation is often interpreted as voluntary, but it does not mean as one likes, because cooperation has certain goals and targets that must be achieved by the parties that work together. Therefore, the aspects that are cooperated are outlined in the official program with the benefits, the costs and risks that are shared (Warsono, 2009).

**Collaborative Model on 112 Call Center Service**

In 112 call center service which is an application of e-government implementation, collaboration can be carried out by involving other parties. Lam (2005) recommends the e-government integration (EGI) relationship model. That is the relationship between stakeholders into three types. Namely: 1) Government agency to government agency (GA-2-GA), which is the relationship between two or more institutions that collaborate with each other to achieve common goals; 2) Central government to government agency (CG-2-GA), which is a collaboration between the central government and regional governments in the development of services; and 3) Government agency to government users (GA-2-GU), namely the collaboration between government agencies and service users, namely the public and the private sector. (can be seen in the table. 1).
Table 1: EGI (E-government Integration) collaboration model

| Types of e-government relations | CG-2-GA                                      | GA-2-GA                                      | GA-2-GU                                      |
|---------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| Strategy                        | Shared vision and mission                    | Shared with each other, shared goals and objectives between institutions SOP (Standard Operating Procedure) | Centralized services to one access point (112) Massive socialization to the community |
| Technology                      | Provision of technological infrastructure     | The agreed operability standards (platform, format and security system) and the data exchange mechanism | Easy use system                             |
| Policy                          | The definition of general technology standards must be followed by all government agencies | Policies and mechanisms on sharing data between institutions | Policy that regulates how the use of services by the public |
|                                 | Specific policy definition                    |                                              |                                              |
|                                 | Policies that do not limit data exchange      |                                              |                                              |
| Organization                    | Support and guidance from the central government regarding service implementation | Institutions that specifically play a role and are responsible for a service | Delivery of service information to the public Receive input regarding service quality |
|                                 | Financial and human resources support         |                                              |                                              |

Source: Lam (2005)

Furthermore, to implement the model, it is necessary to fulfill important elements as a motivating factor at each level of the relationship (Lam, 2005). The factors include strategy, technology, policy and organization.

1) Formulation of strategy. A vision and mission is necessary in developing 112 call center service, that is by determining common goals between institutions at the central and regional levels. The central government needs to create a strategic framework through a national agenda. At the same time, each agency involved in 112
services such as government agencies, BNPB, health services, police and so on needs to align its service objectives into 112 call center service. From the institutions involved, regulations or SOPs need to be made (Standard Operating Procedures) so that these services can be optimally integrated at least at the planning stage. For service users, among them are the community and the business world, an access point is created, namely only 112 call center services as the only emergency number. To achieve this, massive socialization needs to be done to the community. Socialization can be done through mass media, billboards and gatherings at the lowest level of government.

2) Technology. In integrating e-government services, it is necessary to have infrastructure and technology standardization. Technology infrastructure is defined as a shared technology resource that provides a platform for detailed information system applications. Information technology infrastructure includes investments in hardware, software, and user capacity. This infrastructure is built by each institution. Technology standardization includes platforms and security, and data exchange formats when data is shared between government agencies. For instance in 112 call center what platform service is used, how the security system is and also what format is used when transferring data between institutions. The easy technology in its implementation is better used for the community so that all of them can access it.

3) Policy. The central government needs to determine specific policies and can be integrated into each institution both at the central and regional levels through detailed regulations so that they do not become multiple interpretations. Policies that are made need no data limits in the exchange of information from one institution to another. So that transparency appears. Then the policy must also set a set of guidelines of how people can access the call center services.

4) Organization. The central government must provide support and direction to government agencies on how to implement services in this case 112 call center service. Without the support and guidance of a government agency it will be difficult to adopt the best practices that have been implemented by other institutions both at the central and regional levels. The role of each institution or agency also provides adequate resource support, both financial and human resources. Financial resources are very important because they are to finance the sustainability of a service. Whereas human resources are responsible for the availability of capacity and capability as service operators. Each central and regional government appoints a special institution that is considered competent to coordinate agencies involved in the 112 call center service. The designated agency is also responsible for information relating to services that can reach the community. In addition, it is also an institution that can receive input from the public regarding the quality of 112 call center service.

By the application of the EGI model it is expected that 112 call center service in Indonesia can be well integrated. So that the service has a value that can be felt directly by the community.

CONCLUSION

The public sector is encouraged to innovate through e-government due to the development of ICT (Information and Communication Technology). One of the innovations is the 112 call center emergency response services. However, this service has not become a single number and is integrated in all government agencies. It can occur due to various factors. Therefore collaborative innovation is needed so that an e-government service in this case 112 call center services can be integrated.
The New Public Governance (NPG) paradigm that requires public organizations to carry out their innovations requires the involvement of various parties across institutional boundaries through a process called collaborative innovation. Collaborative innovation facilitates innovation because many resources are available from various actors.

The collaboration model on 112 call center service used the EGI (e-government integration) model. It is e-government service that requires closer cooperation among government stakeholders. The relationship pattern is (GA-2-GA), collaboration between two institutions to achieve a common goal; (CG-2-GA), collaboration between the central government and local governments (GA-2-GU), the collaboration relationship between government agencies and service users, namely the community and the private sectors. The relationship model was outlined with key elements namely strategy, technology, policy and organization to achieve EGI at each level and in each type of relationship so that it becomes the key to overcome many barriers to 112 call center service in Indonesia. Therefore this paper focuses on the development of effective relationship among central government, local government agencies, and service users is very significant for the success of an integrated e-government service.

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