

## Policy Network in Tangerang Live Application

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**Abstract:** *Tangerang City as a city that is implementing the Smart City concept to solve city problems and improve city governance. Since 2016 the Tangerang City Government has been running Smart City by creating a Tangerang LIVE Room with the Tangerang LIVE vision of Liveable, Investable, Visitable, and E-City, the vision is based on the use of information, technology and communication to create a public service system and employee work to the community to be more optimal, efficient and effective. Innovations that are being developed by the City of Tangerang have successfully made 174 Applications. The success of the application made 31 City Governments and Agencies in Indonesia adopt applications owned by the City of Tangerang. The principle of the Tangerang Smart City Partnership aims to accelerate regional development at the local level, increase economic growth and community welfare through optimizing the use of regional resources. A qualitative approach was used in this research by collecting data through library research, interviews and documentation of informants who were directly involved in carrying out these activities. The analysis of this study uses Frans Van Waarden's theory model, the results of the study show that: (1) The actors involved have been from all walks of life, but it is better to increase their involvement, (2) The function of each actor should be improved again to achieve the Tangerang policy objectives Live (3) Network structure is already running, but the good Leading Sector is transferred to the Mayor (4) Institutionalization has not been regulated (5) Rules of action have not been regulated in mayor regulations or regional regulations specifically regarding Smart City (6) Power Relations have been running with good (7) The actor's strategy is well underway to manage his dependency.*

**Keywords:** *policy network, smart city, tangerang live application*

### Introduction

The Smart City design has a value of interest among economic practitioners, campus academic groups and bureaucrats in the local government. In this case along with the use of technology the main thing is ICT-based government economic support that is innovative, creative, and

entrepreneurial for the use of smart people.

In the last few years, various cities in the world are seeking changes in collaboration with the development of information and communication technology as a development strategy in a digital infrastructure construct or called Dutton, et al., (1987) with the concept of

'wired city'; Ishida and Isbister (2000) with the concept of 'digital cities', Komninos (2002) with the concept of 'intelligent cities', Holland (2008) with the concept of 'dutton', or Shepard (2011) with the concept of 'sentient cities'.

The concept of Smart City is illustrated when a city has digital technology in its environment to be able to obtain various programs and systems easily and effectively through mobile phone devices such as smartphones. Greenfield (2006) states that the analysis of various information is believed to be able to develop a level of efficiency and sustainability in a city (Townsend, 2013; Hancke et al., 2013).

Future developments of the city are supported by data provided by technological devices. (Hancke et al., 2013; Schaffers et al., 2011). From a computational perspective, there is the terminology of the Internet of Things (IoT) (Hashem et al., 2016; Zanella et al., 2014) which makes large amounts of data (Frith, 2016; Batty, 2013).

Access and participation of citizens in technological advances can facilitate control and public services (Allwinkle and Cruickshank, 2011). This can enhance and stimulate entrepreneurship to support business activities and advance urban infrastructure.

Smart City not only creates a new holistic system by improving the current system with an appropriate level of technological intervention. Smart City should not be determined from "up to date" technology, but by how we can create a better living space for all by utilizing available resources. Smart City must be able to develop integrated solutions and the need to secure broad

public access to basic technologies and the impact of these technologies on the wider community.

The use of technology makes it easy for community activities to access information. The existence of an application, raises a variety of information about a city that can be used efficiently by the public through a program. Smart City has been implemented in many urban areas throughout the world and can solve problems quickly. Such as the application of Smart City in Bandung since 2014 already has more than 300 applications that have been developed and run in agencies and offices (Yusuf and Jumhur, 2018). Information obtained from applications can be utilized by the Government to create optimal public services, foster comfort, strengthen security and order.

Based on this understanding, what is meant by Smart City is the use of digital data in information systems and information technology communication on a large scale for urban planning and management to achieve a better service.

Smart City can be interpreted as an embodiment of the city into a smart city, which has the goal of creating an optimal service for the entire community, by connecting all infrastructure in the city by optimizing the use of information technology-based communication, to integrate various elements in these aspects.

At present, various cities in Indonesia have implemented the concept of Smart City and become a role model for other regions that have not implemented the concept of smart city, because the application of smart city provides

solutions to problems that arise in urban areas, such as increasing population, decreasing service quality, building garbage, traffic jams, increased crime rates and other social problems.

The governance perspective developed emphasizes that Smart City must be understood as a complex set of interactions between the various actors involved, such as academics, business people, government, society and the media. They all have a system for collecting and processing data with each other. Smart City governance is not only about public structures but about how they influence each other to achieve Smart City goals.

The stages of Smart City implementation must review the problems and the speed of development that differs between Cities or Regencies of each characteristic. So the need for the development of Smart City to improve technological capabilities.

Tangerang City is a city that is implementing Smart City to solve city problems and improve city governance. The city of Tangerang continues to transform to become a Smart City.

The city of Tangerang in 2016 made the Tangerang LIVE Room application and together with the Tangerang LIVE vision of Liveable, Investable, Visitable, and E-City, the vision was based on the use of information, technology and communication to create a more optimal, efficient and public service to the public. effective.

The Ministry of Communication and Information of the Republic of Indonesia made Tangerang City a part of

the 25 Regencies or Cities of the 100 Smart City Indonesia Movement which is an innovation to facilitate public service.

There are 31 local governments or agencies in Indonesia that have adopted applications made by the Tangerang City Government, because of the ease of service that can be accessed by the public. The achievements of the Tangerang City Government have been recognized at the National and International level, because the smart city application used by the Tangerang City Government can be used by other regions without spending money. For now, the application has been widely adopted by other regions, such as Laksa, e-Gov, e-Office, Segar, Siap Kerja and Sigap.

Tangerang Smart City Partnership program aims to accelerate development in the regions, increase economic growth, and improve the welfare of the community by utilizing regional resources.

The Smart City program implemented by the Tangerang City Government is focused and measured. The success of the Smart City program implemented by the Tangerang City Government also attracted the attention of other local governments to adopt the application.

The Mayor of Tangerang collaborates to develop the country by signing a partnership to adopt Smart City. Other local governments can adopt the utilization of Smart City without the need for fees. To make it easier, the Tangerang City Government also assists other regions that adopt the Smart City application.

Public services can be improved if each region can develop Smart City as a medium that can be utilized to its full potential. In the case of the implementation of smart city by the Tangerang City Government and the City of Bandung, public access for the public to get government public services becomes faster and more efficient, due to the optimal use of information media. Of course this has strived so that people get the convenience and more effective bureaucratic processes.

The population of Tangerang City reaches 2,185,304 million people; this is a challenge for the Tangerang City Government to realize the City of

Tangerang Smart City. However, with a high population, the Tangerang City Government received an award Media Humas Indonesia (AHI) in 2019 Tangerang City received a total of 8 awards for the Innovative Information Service Application (silver) and the Innovative Information Service (Silver). Then the Management and Presentation of Public Information (Silver), the Innovative Public Information Service Room (Gold), Best City Branding (Silver), the Best Leader Supporting PR and Communication (Gold) most popular in Online Media in 2019 and earning AHI Platinum in 2019 for the Category Regional government.

**Table 1**  
**Population based on age and sex in Tangerang City**

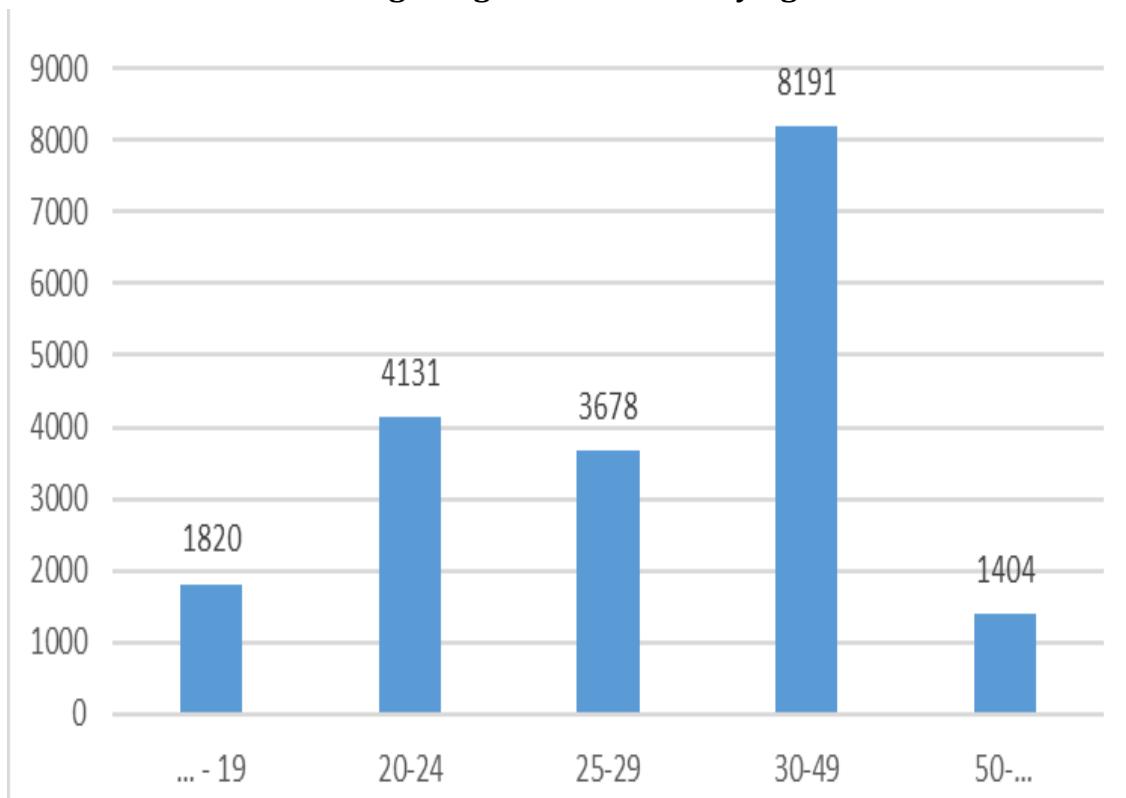
Group of age	2018		
	Population according to age group and gender		
	Male	Female	Amount
0-4	104.289	100.589	204.872
5-9	95.680	92.406	188.086
10-14	76.198	73.562	149.760
15-19	80.890	82.836	163.726
20-24	103.259	98.223	201.482
25-29	115.574	110.924	226.498
30-34	113.791	107.997	221.788
35-39	99.537	97.449	196.986
40-44	87.800	85.469	173.269
45-49	74.978	72.357	147.335
50-54	60.873	56.763	117.636
55-59	47.172	41.249	88.421
60-64	26.799	21.424	48.223
65-69	14.543	12.747	27.290
70+	13.230	16.702	29.932
<b>Total</b>	<b>1.114.613</b>	<b>1.070.691</b>	<b>2.185.304</b>

Source: Budi Supriyanto (Head of Tangerang City Central Statistics Agency)

Table 1 shows that age 25-29 is the largest age group in terms of population and the second is vulnerable at age 30-34, according to the *Asosiasi Penyelenggara Jasa Internet Indonesia* (APJII) showing the results of internet users in Indonesia are 171.17 million in 2018 and according to Henri Kasyfi Soemartono as Secretary General of APJII stated internet users at the age of 15-19 years had the highest percentage of 91%

and then in the age group 20-24 the percentage was 88.5% and the age of 25-29 years the percentage was 82, 7% in table 1 shows that the population in Tangerang City is vulnerable at age 15-29, they are the most internet users compared to other age groups. The number of downloads of the Tangerang Live Application based on the age of the data are as follows:

**Figure 1**  
**Tangerang Live User Data by Age**



Source: Mulyani, (Head of Tangerang City Office of Communication and Information)

Based on Figure 1, the most widely downloaded Tangerang live application users are in the 30-49 years' age group with 8191 visitors, in the second position is the age range of 20-24 years with 4131 visitors, the age range of 25-29 years are

in the third position with the number of visitors 3678, age range - 19 years visited Tangerang Live as many as 1820 and more than 50 years' age range as many as 1404 visitors. The data show that the

enthusiasm of Tangerang people is quite high with the presence of Tangerang Live.

The Smart City concept developed by the Tangerang City Government focuses on developing public services, through Smart Government indicators and establishing a Tangerang e-City program, by building 174 Smart City applications which are divided into two groups, namely public service applications and government applications. Which is currently grouped in 1 application in public services, namely the Tangerang LIVE Application.

Didi Kurnaedi (2017) researched on the implementation of LIVE Smart City in Tangerang City, he explained that the results of the study stated that the LIVE information system that is being used by Tangerang City Government has the potential to support LIVE operational activities, but there are also weaknesses, so that the LIVE information system that is being used needs to be evaluated and improved.

Andi Rahmat Hidayat (2016) researched on the Public Policy Network Model, the results of the study showed that civil and governmental positions were equal, functions were not running optimally, consultatively the network structure was working although there were still overlaps in membership, good performance of policy network institutions, interactive patterns were consultative, balanced distribution of power and participatory NGO involvement.

The Network Model chosen in this study uses the model initiated by Waarden (1992). This model was chosen by the researcher because it has relevance to the research discussion, the

identification of problems was found to be appropriate when a Waarden model study was conducted, and the theory used by the researcher different from previous studies related to Smart City, researchers want to show the policy network that has been applied by the Tangerang city government to the Smart City policy, the importance of policy networks in developing the Tangerang Live Application is because application development and policy rules cannot only involving only one stakeholder, there must be several stakeholders involved to make the Smart City policy a success.

RC. Chandler and JC. Plano (in Syafiee, 2010) states that public policy is defined as the strategic utilization to manage the resources contained in an area to solve social problems. So, based on the two opinions it can be understood that the interests of the community can be obtained if there is a strategic policy. Furthermore, Nugroho (2011) grouped public policy into three parts, namely: Macro public policy, middle public policy and micro public policy.

### **Policy Network**

Klijn and Koppenjan (2000) observed that the use of network concepts in policy science originated in the early 1970s. They argue that in the study of policy implementation, especially in the "bottom-up" approach as opposed to the "top-down" approach. This concept is used to map relationships between organizations and to assess the influence of these patterns on the policy process.

There are some understanding of policy networks, depending on what context they originate from, as stated by Raab and Kenis (2009: 198). Policy

networks are groups of organizations that are linked due to resource dependency and are formed by more than two interconnected organizations to achieve common goals. Policy networks can generally be understood as structural elements of collaborative networks that document components such as reciprocal relations, equality, and representation (deLeon and Varda, 2009: 62).

Policy network According to Rhodes (2006: 54) shows more variations in interactions between government, private, community and international actors in a policy arena. Enorth (2010: 23) then emphasizes different things. It is not just a pattern of communication or interaction between related actors in different and independent structures. The policy network essentially contains the natural conditions of the strategy of acting in an institutional context which includes sharpening the perceptions, considerations, and interactions of policy actors.

DeLeon and Varda (2009: 60) introduce the theory of collaborative policy networks. This model explains that 7 characteristics to create an optimal policy network in achieving the goals of a policy or program consisting of representation, reciprocity, horizontal power structures, embedded, trust and formality, participatory decision making, and collaborative leadership.

According to Waarden (1992) the policy network model consists of several dimensions, namely:

1. Actors are some people who have the authority to build networks.

2. The Function is a medium for communication-based on needs and strategies.
3. The policy structure deals with the pattern of relationships between the actors involved.
4. Institutionalization is a formal level, so it will depend on the shape or characteristics of the network structure and the higher level of institutionalization of a network, will correlate with the effective level of the policy network.
5. The rules of network action are then formed by habits or rules in the interactions that become exchange regulations in the network. This comes from perceptions about the roles, attitudes, interests, social background and education of the actors involved.
6. Power relations are one of the most important characteristics in the policy network, because they have power relations that can be understood by observing the distribution of power. The process can be realized as a function of the distribution of resources and needs among the actors and organizational structure.
7. The actor strategy is in a policy network, the actors use the network as a strategy that regulates the dependency between them to create and or use the network as an effort to obtain needs, interests, and goals.

## Methods

A qualitative approach is used to describe, analyze and understand a meaning that is believed by individuals or groups that stems from a social or humanitarian problem. One of the characteristics of qualitative research is descriptive (Ramdhani, 2018). According to Whitney (Nazir, 2003) the purpose of the descriptive method is to look for facts with the right interpretation.

The actors involved in the Tangerang Live application policy network are the primary data sources in qualitative research are words and actions obtained from informants through interview techniques, then secondary data are documents that can strengthen research results (Ramdhani, 2019). Sources of data in this study are people and government agencies that serve as a reference for the author to collect the desired data following the problem and focus of research. Data sources used in this study are legislation, literature, notes,

documents, interviews and articles (Moleong, 2007).

Data analysis techniques using the model of Miles & Huberman (in Sugiyono, 2014) states that technical data analyses is an interactive and continuous activity from the beginning of the study to completion, so the research is at its saturation point. There are three data analyses used, including: data reduction, data display, and conclusion drawing or verification.

## Results and Discussion

The policy network model consists of seven dimensions, including: structure, actors (function) function, rules of conduct, actor strategies (institutionalization) and power relations (power relations). The following are the results of research on the Tangerang Live Application Policy Network by looking at the seven main dimensions of the network, namely: The actors involved in the Tangerang Live application policy network are:

**Table 2**  
**Actors**

Type of actor	Institution	Amount
Element of Local Government	Mayor, Tangerang City Communication and Information Agency (Leading Sector), All Organizations of Tangerang City Regional Apparatus	All government apparatus in Tangerang City
Academics	Bina Nusantara	1
Business/ Private	PT. Jasnita Telkom Indo	1
Media	Tangerang City Government Services	1
Communities	Target Market	All Tangerang City Communities

Source: Researcher's Observation Results, 2020.

Tangerang LIVE room is present as a center for controlling and evaluating public service reporting. The Tangerang LIVE room was formed to monitor problems in the city of Tangerang and the information conveyed quickly, so that it could be followed up swiftly. The Tangerang LIVE room is equipped with an application that is integrated with the Regional Device Organization in the City of Tangerang, and can directly monitor the situation of the city which is grouped into one application, the Tangerang LIVE application.

The existence of the Tangerang LIVE application is expected that the city

of Tangerang and the government of the City of Tangerang can solve city problems going forward and be able to become cities that have effective and efficient problem-solving strategies. But in the field observation results the researchers found that the actors involved were only dominated by the Tangerang City Government, not many actors outside the government were involved. The importance of great collaboration is to develop and run the Tangerang Live Application so that the community can use it to its full potential. Functions performed by actors in the policy network

**Table 3**  
**Functions**

Actor	Functions	Coordination	Cooperation
Regional government	Policy Makers and Implementers	Two-way direction	Exist
Media	Socialization	One way	Exist
Academics	Internship Cooperation	One Way	Exist
Businessman	Call Center Cooperation	One way	Exist
Communities	Object	One way	Exist

Source: Researcher's Observation Results, 2020

The Network has a function in communication media. The function is based on the needs, objectives, strategies and resources of the actors involved. The concept of the function forms a perspective relationship between the structure and the actors on a network. The function of tools in public policy can be utilized to improve communication relations between parties who have an interest in public policy. In this case the

function has been running well, the cooperation has been carried out from all stakeholders, but the function of each actor must be optimized again, the function of the community here is only as an object, in the implementation of the application there must be representatives of community organizations such as existing NGOs in the city of Tangerang, and also the function of academics can be further improved.

1. The network structure between the actors involved can explain the

situation of the Tangerang live application policy.

**Table 4**  
**Network Structure**

Actor	Network scale	Type of membership	Type of coordination	Relationship condition
Regional government	Large	Required	Manage all stakeholders	Cooperative
Media	Large	Required	Manage application socialization	Cooperative
Academics	little	Voluntary	Consultation	Cooperative
Businessman	little	Voluntary	Coordination across Regional Organizations	Cooperative
Communities	-	-	-	-

Source: Researcher Interview Results, 2020

In the table above it can be seen that in the Tangerang Live application policy network the Tangerang City Government which is led by the Tangerang City Communication and Information Agency is Hierarchical and regulates all stakeholders involved in the Tangerang Live Application Policy.

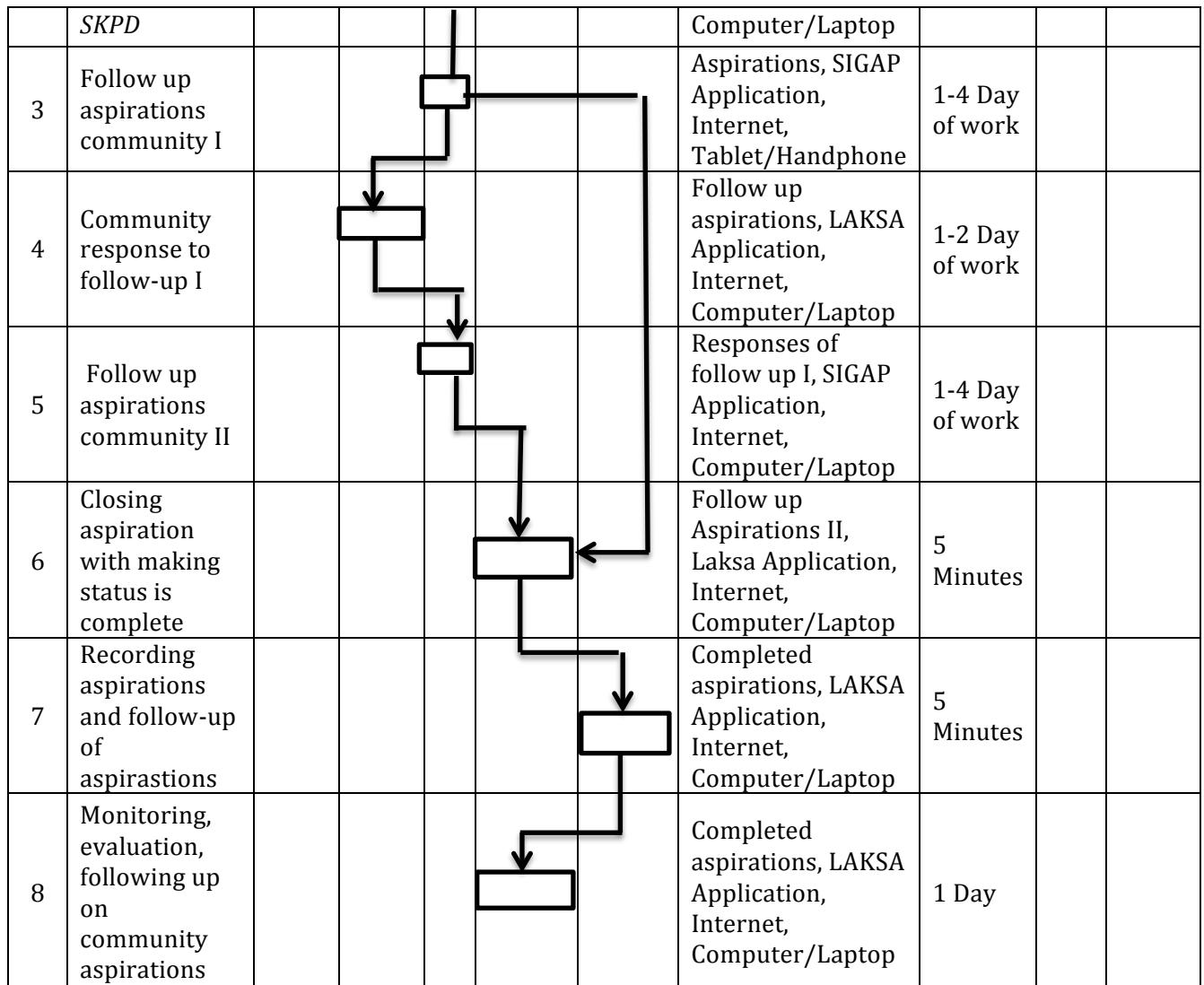
2. Institutionalization is formal, because it depends on the shape of the network structure. The city government of Tangerang has not

yet regulated in the Decree the rules regarding who are the actors involved in the Tangerang Live Application Policy

3. The rules of action for the Tangerang live application only refer to the Standard Operating Procedures that have been created, while the Standard Operating Procedures are as follows:

**Table 5**  
**Processing of Community Aspirations through LAKSA**

No	Activities	Managing					Standard quality			
		Society	TLR Operator	S K P D	Head of UPTD TLCC	Head of TU UPTD TLCC	Completeness	Time	Out Put	Inf Orma Tion
1	Aspirations come from the community						LAKSA Application, Social Media of Government, Internet Acces, Computer/Laptop			
2	Disseminating community aspirations to						Aspiration, LAKSA Application, Internet Acces,	5 Minutes		



Source: Mulyani (Head of Tangerang City Office of Communication and Information)

In carrying out the Tangerang Live Application Policy, the City Government of Tangerang refers to the Standard Operating Procedures above, as for other rules that specifically regulate Smart City such as Mayor Regulations or Regional Regulations to regulate functions between actors, which have not been regulated in carrying out the main duties and functions of the actors.

4. The Power Relationship is an important characteristic of the policy network as a power-relation that can be obtained from in-depth observations of power sharing.

This process is manifested in the function of resource distribution and distribution of needs among actors and between organizational structures involved in the organization in the Tangerang Live application network, it can be seen from all stakeholders involved, so that power relations run smoothly in the absence conflict between government agencies. But the community is only an object, the community should be optimally involved.

5. The Actor Strategy uses networks aimed at regulating the dependencies between them, so that they can use the network to get results that suit their needs, interests and goals. In this case the actors involved have carried out the functions and strategies properly, namely in the absence of coordination errors among the actors, to achieve the objectives of using effective and efficient applications.

## Conclusion

The conclusion in this study is that the actors in the Tangerang Live Application policy network are dominated by the Tangerang City Government, the actors involved are already good, but not yet optimal because the number of people downloading the Tangerang Live Application is only 19,275 people.

The number is only a few percents of the population of the city of Tangerang, which reaches more than 2 million people, the function of each actor involved has carried out its functions properly and the structure of the network is also appropriate, the institutionalization has not made a written regulation on who the actors involved in the Tangerang application policy This live, the rules only refer to Procedural Operational Standards in application services, the power relations are good and the strategy is appropriate, but there are some shortcomings such as the lack of community involvement and the media are not yet effective in conducting socialization and the role of academics is not optimal.

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