Is Smart Governance Internal Collaboration Works on the Implementation of the Smart City Yogyakarta?

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Abstract. Smart city concept is a sustainable urban growth with good quality of life. By adapting governance to smart cities, governance has become more public responsible. The issues that generated resident complaints which became internal problems within LGO still overlap. The analytical method used is quantitative by using a data collection source of complaint-identified cases through the Jogja Smart Service application with the UPIK section (Information and Complaints Service Unit). Data from 2016-2019 were reported as many as 796 cases via the complaint system. In the results of this research, the existance of variable data and information are essential co-operation keys that are often overlooked, therefore there is no time relationship. Including the four variables of this article, the strongest variables are participation and engagement, while the weakest variables are data and information.

Keywords: Smart Governance, Collaborative Governance, Yogyakarta City

1. Background

The concept of a smart city is to create sustainable urban growth and to have a good quality of life [1]. Smart Governance is a part of a smart city in each region which is created with the name of an application that has been adjusted to the needs of the region. The existence of actors involved in smart governance creates harmony in achieving sustainable development in the effort to implement smart cities. The concept carried out is the same, which is the ease of public services and licensing [2]. The dimensions of smart governance are related to participation, which includes: participation in decision making, public and community services, and transparency in Governance [3]–[6].

In the middle of a city development to become an educational city, Yogyakarta carries out sustainable planning. The intersection of various current aspects that need to be considered by the Yogyakarta City Government requires careful preparation and implementation, as well as continuous monitoring and evaluation. Using the Contact, Informatics and Code Offices, the Yogyakarta City Government has been implementing a smart city since 2014, in which they began implementing e-government. Kominfo and Sandi, with the vision of "Realizing the best public services by applying efficient information and public communication technologies to Yogyakarta's smart city," are the cornerstone of smart city implementation. Cooperation between Local Government Organizations (LGOs) with their respective duties and functions must be synergised. LGO is an appliance stakeholder with a position in government implementation. LGO's roles and tasks are then synergized in Governance, embodied in the implementation of Smart Governance in an attempt to create Governance in Smart Cities. By moving Governance to smart cities, bureaucracy has become more transparent and accountable. The issues that have become citizens' complaints in which they become internal problems within LGO are still overlapping. Changing and synergizing bureaucratic culture through partnership and using ICT to introduce smart cities is a new performance issue among LGOs. Strong cooperation guarantees the community's ability to deliver services. The response provided by the community in the Yogyakarta city government to address concerns about current issues shows the LGO inter-sector success in solving problems...
between sectors. This paper focuses on citizens’ evaluation of internal cooperation on smart governance in the implementation of Yogyakarta’s smart city.

2. Research Methods

The research method used is quantitative method by using a data collection source of cases reported through complaints within the Jogia Smart Service application as well as the UPIK section (Information and Complaints Service Unit). It is obtained through a questionnaire which is aimed at people who report problems. Data collected from 2016-2019 as many as 796 cases were reported through the complaint system by the Jogia Smart Service application. Case data were processed using the Slovin formula so that a sample of 267 reporters was obtained from 769 cases reported by the public. The results obtained were processed using SmartPLS 3.0 software. The method used in data analysis are external model analysis and inner model analysis.

3. Literature Review

The public sector will effectively improve its growth with the use of big data technologies in its everyday operations [7]. Big data have tremendous ability to address government agencies’ complicated socio-political challenges [5]. E-governance will help eliminate corruption and establish close ties between government and people [8]. Big Data sets so largely and complex that it is difficult to use conventional statistical tools [7]. However, the use of Big Data is an important part of implementing a smart city through available data [9]. It can be very useful for descriptive, predictable, pragmatic, and locational models, but without certain extra details other than numbers, limited or derisory models cannot give anything [7], [10]. The evidence base on data policy supports smart governance working steps. It is an urbanized knowledge system for the Governance. It provides structures for risk control and enforcement management organizations. Artificial Intelligent (AI) can enhance management and reduce costs, but it also poses difficulties that need to be monitored [11].

The existence of actors involved in smart Governance will create harmony in achieving sustainable development in the effort to implement smart cities [12]. Carragliu [10], [13] state that a city is considered smart if investments in human resources, social capital, and infrastructure of traditional and modern communication systems able to increase sustainable economic growth and the quality life with resource management. Public assessment of the response and resolution of the problems presented is an important part of the internal collaboration carried out by the government with ICT support [14]-[17]. This research will focus on applying collaborations in Smart Governance to achieve smart cities towards more interactive and participatory city governance that shares common ground with other "open" movements including open access, open-source, open knowledge and more. It is at this stage of development that the point of emphasis and intervention begins to shift from innovation to application, from headquarters to front line services and in terms of policy [18].

The sharing of resources, especially economic resources, and planning, as well as the organization of sustainable development, used for internal governance is a challenge [19]. The existence of a master plan that underlies the hierarchy in implementing intelligent governance, regulation and integration in the LGO is an obstacle to the implementation of intelligent governance [20]. Transparency and speed of information are also necessary in response to problems [21]. Government collaboration is essential for the sustainability of smart governance in the Smart City [22].
Table 1. Variables of Collaborative on Smart Governance

| Dimension                | Variables                  | Indicators                                                                 |
|--------------------------|----------------------------|-----------------------------------------------------------------------------|
| Collaborative on Smart Governance | Government elements       | • Coordination and hierarchical structure                                   |
|                          |                            | • Participation and collaborative decision-making process                     |
|                          |                            | • Leadership, Flexibility and autonomy in decision making                   |
|                          |                            | • Prioritizing process(risk analysis)                                       |
|                          | ICT and Others Technologies| • Data sharing                                                              |
|                          |                            | • Monitoring system                                                         |
|                          |                            | • Integrator system                                                         |
|                          |                            | • Infrastructure system                                                     |
|                          | Participation and engagement| • Interaction through social media                                           |
|                          |                            | • Civic engagement                                                          |
|                          |                            | • Intercorporal partnership                                                  |
|                          |                            | • Openness and transparency                                                  |
|                          | Data and information       | • Geo-located based data and real-time data                                 |
|                          |                            | • Data based decision-making process                                         |
|                          |                            | • Big data analytics and data crossing                                       |
|                          |                            | • Integration and openness                                                  |

In this study, reference to Table 2 uses the following hypothesis:

H-1: Government elements have an important relationship to smart governance collaboration

H-2: ICT and other technologies have an important connection with smart governance collaboration

H-3: Participation and engagement have an important collaborative relationship in intelligent governance

H-4: Data and information relate significantly to smart governance collaboration

4. Result and Discussion

4.1. Respondents Data

Respondents used in this study were Jogja Smart Service application users who complained, in which there are about 267 respondents in 2016-2019. Gender representation was 69 percent male (184 people) and 31 percent female (83 people). Meanwhile, based on age, they are grouped at the age 36-60 as many as 58 percent (156 people), the age of 17-35 as many as 32 percent (87 people), and the age of over 60 years as many as 9 percent (24 people). Based on education, junior high school level of as many as 9 percent (24 people), the level of high school eductaion as many as 23 percent (89 people), bachelor as many as 44 percent (117 people), graduates as many as 14 percent (37 people).

Chart 1. The Demographic Profile of Respondents
4.2. Analysis of Validity and Reliability

Validity test results (Table 4) indicate that all variables Governance Elements, ICT and other Technologies, Participation and Engagement, and Data and Information with an Average Extracted Variance (AVE) value greater than 0.500. The AVE value is correct if it exceeds 0.50 [22]. Both variables are considered true by parameters. The reliability test using Composite Reliability and Cronbach's Alpha also reveals that the system is accurate if values above 0.70 [23]. Validation test findings (Table 2) indicate that both composite output reliability and Cronbach alpha exceed 0.70. Each construction in the projected model has reasonable reliability. The reliability test using Composite Reliability and Cronbach's Alpha also reveals that the system is accurate if values above 0.70. Validation test findings (Table 2) indicate that both composite output reliability and Cronbach alpha exceed 0.70. Each construction in the projected model has reasonable reliability.

| Variables | Cronbach Alpha | Rho_A | Composite Reliability | Average Variance Extracted (AVE) |
|-----------|----------------|-------|------------------------|----------------------------------|
| Governance Elements | 0.920 | 0.922 | 0.913 | 0.791 |
| ICT and other Technologies | 0.826 | 0.828 | 0.915 | 0.777 |
| Participation and Engagement | 0.872 | 0.874 | 0.911 | 0.801 |
| Data and Information | 0.844 | 0.846 | 0.920 | 0.752 |
| Collaborative Governance | 0.811 | 0.813 | 0.921 | 0.837 |

4.3. Test and Review of Hypotheses

Hypothesis correlation between variables, i.e. exogenous variables against endogenous variables (γ) and endogenous variables against exogenous variables (β), was performed using the bootstrap re-sampling technique after verification and results reliability. The statistical factor is t-test or t-test. This analysis extracts the comparative t-value from the t-table. The statistical test is the t-test or t-statistics. This study's comparative t-value is extracted from the t-graph. The experiment is declared significant if it is the statistical value T>1.96 and P<0.05 [24]. Hypothesis validation is performed by examining the bootstrap re-sampling performance direction coefficient. Findings as follows:

| Variables | Original Sample | Sample Mean | Standard Deviation | T -Statistic | P-Value | State |
|-----------|----------------|-------------|--------------------|--------------|---------|-------|
| Government elements => Collaborative governance | 0.491 | 0.483 | 0.120 | 4.083 | 0.000 | Accepted |
| ICT and Others Technologies => Collaborative governance | 0.219 | 0.234 | 0.101 | 2.171 | 0.030 | Accepted |
| Participation and engagement => Collaborative governance | 0.381 | 0.342 | 0.164 | 2.320 | 0.021 | Accepted |
| Data and information => Collaborative governance | -0.057 | -0.016 | 0.316 | 0.417 | 0.677 | Rejected |

4.3.1 Governance.

Results showed that the government element variable had a significant influence on LGO’s collaboration in smart governance. This concerns the existence of a clear hierarchy and structure to implement smart governance. Risk management in response to public complaints in Yogyakarta City is valid for 24 hours. Cross-cutting problem decisions were needed to resolve the issues raised. Risk management, hierarchical structure and decision-making leadership affect collaboration in smart governance [25]. It shows that Hypothesis-1 is accepted with arguments from research results that have a significant value between government elements variable in collaborative governance with a T-Statistic value of 4.083. As a result, the variable government element influences internal collaboration in smart governance.
4.3.2 ICT and Others Technology

The ICT and Other Technology variables have significant results on collaboration in smart Governance. Yogyakarta City Government has an integrated system from government offices to sub-districts process [26]. This infrastructure has been built since 2014, which is supported by the smart city master plan. The existence of infrastructure, monitoring system, and system integration creates data that can be accessed 24 hours between LGOs.

4.3.3. Participation and Engagement

Collaboration in smart Governance requires participation and engagement through interactions from the organizers and the community. The role of social media is media to increase interaction, transparency, and openness between government and citizens [27]. Openness on social media will indirectly foster a desire to look better with cooperation between LGOs. The study obtained a T-Statistics value of 2,320, which shows a significant relationship. This significant value indicates that Hypothesis-3 is accepted and that participation by residents of Yogyakarta maximize the system provided by the city government.

4.3.4. Data and Information

Data and information have an important role in collaboration, but data and information that are not well integrated will cause errors in decision making [28]. In the Yogyakarta City Government, data and Information have been shared, and one data. However, in LGO's internal decision making, what happened was not in line with other LGOs. This sometimes leads to problem solving, especially because it has not been optimal in solving it.

5. Conclusion

The journey of implementing smart city is not easy because there are many dimensions that influence it [26]. One of them is Smart Governance. Through these four variables, good collaboration from internal LGO that supports government performance can be manifested. Data and information are important keys in a collaboration that are often neglected where they are considered to have no relationship between times. The existence of data, infrastructure, government (actors), and participation, as well as involvement in data-based decision making are the main keys in collaboration in smart Governance. Out of the four variables used in this paper, the strongest are participation and engagement, and the weakest are data and information. Therefore, it needs to be noted that (1) Integrated data should be able to be accessed at any time, the cross-data between LGOs and the movement of data in real-time is, of course, the first consideration in decision-making, (2) Required participation and involvement from within the civil servant apparatus as part of the LGO to strengthen collaboration in Smart Governance, and (3) To create a data-based policy climate with a problem-solving approach.

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