



A Literature Review on Smart City and Smart Governance

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Abstract

This study aims to seek to know the development of research on the theme of Smart City and Smart Governance in the past nine years. To find it out, we review a hundred relevant journals concerning the application of Smart City in government with the previous 9 years edition from 2011 to 2019. This study applies a qualitative research method with a review of previous studies. The sources are selected published articles in the past nine years from 2011 to 2019. The selected articles are the highest cited publication and have been used in relevance to government activities, the application of the smart city concept by the local government, and the process application as public services. The results of this study were obtained by the process of data analysis using the Nvivo 12 application. These results discuss the use of Technology, Information, and Communication (ICT) as the most dominant factor in the application of Smart City. This research found how the development of Smart City and Smart Governance per year. It reveals that the development of research every year and per continent, in which there are significant themes Smart City and Smart Governance.

Keyword: Smart City, Smart Governance, Literature Review

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INTRODUCTION

Several cities in Indonesia have developed a concept of Smart City as the central government stimulates the local governments to improve public services by utilizing ICT (Pramuningrum, 2017; Kusumawati, Setiawan & Suryanegara, 2018; Mambu, Rindengan, & Karouw, 2016; Yuliarti, Nurhaeni, & Nugroho, 2016).

This research concentrates on the discussion about the concept of Smart City and Smart Governance. Where the research on Smart City is heading is the focus of this study, which attempts to find out the direction of research on Smart City as illustrated on the graph based on the indicators found in the previous research.

The indicators in implementing Smart Cities Governance are related one to another. From previous literature, it was found that several indicators are indeed related to each other (Deakin, 2012; Herrschel, 2013; Rossi, 2016). These are indicators of financing and collaboration and between indicators of transparency and Open Data (L. Anthopoulos & Janssen, 2016; Lim, Kim, & Maglio, 2018; Sáez-Martín, Haro-de-Rosario, & Caba-Perez, 2014; van Winden & van den Buuse, 2017).

It is very interesting to study and very helpful in enriching information regarding the implementation of Smart City Governance.

This research aims to enrich information about Literature Studies with general themes related to Smart City and Smart Governance. The analysis focuses on the development of those research spanning from 2011 to 2019. This study takes a hundred highly motivated Scopus-indexed journals as sources, in which the authors focus their research on the implementation of Smart City and Smart Governance in government.

The Smart City concept is broader than the digital city, as it has six dimensions. According to Cohen (2012), Smart City has six principles, namely Smart

Governance, Smart Economy, Smart People, Smart Mobility, Smart Environment, and Smart Living.

Furthermore, this study applies the theory of Smart Governance according to Anthopoulos & Reddick (2016), who explains that Smart Governance is a dimension of Smart City that discusses the performance of local governments when carrying out services to the community.

Indicators used in the implementation of Smart Governance are the transparency of public information, the use of ICTs, collaboration between government and society, open data, good financial, and good E-Government implementations. Furthermore, the implementation of a Smart Government must also prioritize digitization in every government's activity for community service. All these things require supporting infrastructure (Scholl & Scholl, 2014).

RESEARCH METHOD

The study applies qualitative methods through a literature review. The literature review aims to find out various distances or some findings that have not been found in the previous research so that they become a comparison material in conducting the latest research. A literature study is also applied in this study in the consideration of the need to find out the necessity and strength of Smart City and Smart Governance in the previous research in terms of year of publication and region (Moleong, 2002).

This research was conducted to focus on two analyses. The first is to explore information about how the dynamics of research on Smart City and Smart Governance in the past nine years. The second is to find out information on where research on the dominant themes of Smart City and Governance is conducted. Therefore, the Literature Review is the right research method chosen to achieve the objectives of this study. The source of

research is a hundred journal articles indexed by Scopus.

In analyzing qualitative data, this study uses very appropriate computer software, which is the latest Nvivo application version 12. Nvivo is an application used for coding data obtained from interviews, journal articles, web pages, social media, and video to be converted into data in the form of a percentage in tables and graphs. Then, the reader can easily understand the data coding that uses selected indicators following the objectives of this study, namely the year of publication of the articles and the place of origin, which are grouped per continent in the world (Zamawe, 2015).

RESULT AND DISCUSSION

Research and analysis results from a hundred journals produce diverse and varied data. They are to be explained in parts so that it does not lead to an imbalance in results. The research themes of Smart City and Smart Governance in the past nine years are very diverse and varied. This can be analyzed from various angles. This study analyzes the data based on categorization to groups the data. The first based is categorizing based on the year of publication. Second, it is based on the country where the research was conducted and published. Third, it is based on the results of the analysis of the two-division of indicators determined in the concept definition.

A hundred journal articles in this study have been analyzed by a tool of Nvivo using the existing indicators. The analysis is aimed to find dominant indicators in the implementation of Smart City and Smart Governance seen from the literature review in similar topics. In the process of analysis, many interesting things have been found, not only about the dominant factor but also about Smart City research and its dimension, namely Smart Governance.

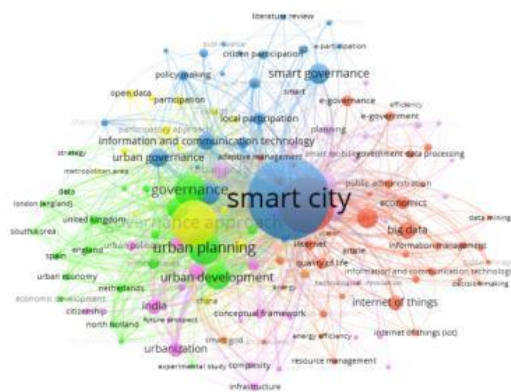


Figure 1. the Network of *Smart City* based on Journals indexed by Scopus
Source: managed by the authors by using Vosviewer, 2019

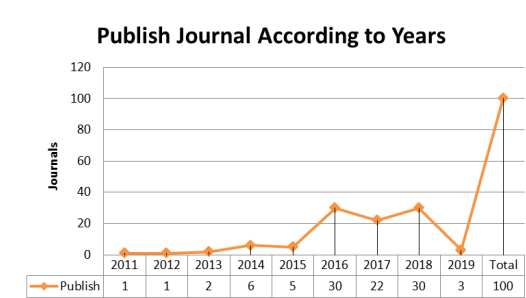


Figure 2. Published journals based on the year of publication
Source: managed by the authors by using Nvivo 12, 2019

This study uses 100 journals with the theme Smart City and Dimensions of Smart Governance. The journal is used within a span of nine years, from the issues published in 2011 to those published in 2019. As we know, the theme of Smart City and Smart Governance has been very popular in the past few years.

This analysis in this study found that from a period of nine years, research on Smart City and Smart Governance had fluctuated quite well. Like the data that has been analyzed from a hundred journals in the nine years, the research on Smart City was mostly done in 2016 and 2018 with 30 journals that were suitable to be included in the Smart City theme in the discussion of making smart governance in an area or city.

Of a hundred journals in the nine years of publication, they can be grouped

developing Artificial Intelligence as an indicator that must be considered in the implementation of Smart City (Lin, Zhang, & Geertman, 2015). Urbanization is a great matter that the Chinese government is concerned with the implementation of Smart City. Urban society is very important to be involved in the process of urban planning as they will become the beneficiaries of its implementation.

CONCLUSION

This study concludes that the research on the themes of Smart City and Smart Governance and their implementation by the government is still very minimal in Asian countries and other countries outside Europe. The implementation of Smart City and Smart Governance in the Asian countries is still very minimal as the inadequate infrastructure and information about the implementation Smart City are still limited in its reach. With the limited implementation, there are a few research on Smart City and Smart Governance in countries in Asia as well.

Research on Smart City and Smart Governance is very high in 2016 onward. This is clearly shown on the graph of the number of journal publications per year. This proves that in 2016 the Smart-City-related topics became very popular and were widely carried out by several countries in the world. Findings in this study contribute to the development of supporting indicators in the implementation of Smart City and Smart Governance in the following years and the research on Smart City and Smart Governance.

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