Sustainable E-Government as an Effort to Improve Indonesia's Global Competitiveness

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Abstract

The Worldwide Governance Indicators (WGI) The World Bank has stated that one of the supporting factors for governance to increase the competitiveness of a country is quality public services that can provide multidimensional benefits to stakeholders. Sustainable e-Government is the innovation and use of ICT by the government to promote and provide better-integrated services, not limited to short service life, and flexible to changes and needs. This article aims to explain how efforts are made to achieve sustainable e-Government. The research method used is a qualitative method through literature study. The results of the study explain that achieving sustainable e-Government includes at least five critical dimensions which consist of legal support, simplification of bureaucracy or institutions; institutional and regulatory framework, organizational set-up and culture, a comprehensive technology infrastructure through e-government architecture Enterprise Architecture (EA), literacy skills of ICT of human resources, and cross-organizational collaboration.

I. Introduction

The Worldwide Governance Indicators (WGI) - World Bank states that one of the enabler factors in global governance and competitiveness is the quality of public services in addition to other factors such as the quality of the state apparatus, the level of independence from political pressure, the quality of policy formulation and implementation, and credibility. government commitment (WGI, 2018).

Digital or electronic government (e-government) is the innovation and use of ICT by the government in providing quality, transparent, efficient public services, as well as interactions and partnerships involving the community and industry as well as business (Hameduddin et al, 2020; Wu et al, 2020). Sustainable e-government has become an important consideration for the government because it is a catalyst in increasing the country's development by promoting integrated public services that include the integration of economic, and social dimensions. Development is a systematic and continuous effort made to realize something that is aspired. Development is a change towards improvement. Changes towards improvement require the mobilization of all human resources and reason to realize what is aspired. In addition, development is also very dependent on the availability of natural resource wealth. The availability of natural resources is one of the keys to economic growth in an area. (Shah, M. et al. 2020)

Environment, and data management including network security (Aljarallah and Russell, 2020; Myeong, 2014; Asgarkhani, 2005). The United Nations in the E-Government Survey (2020) emphasizes the alignment of institutions, organizations, technology, data, and other resources as an ecosystem approach to support internal and

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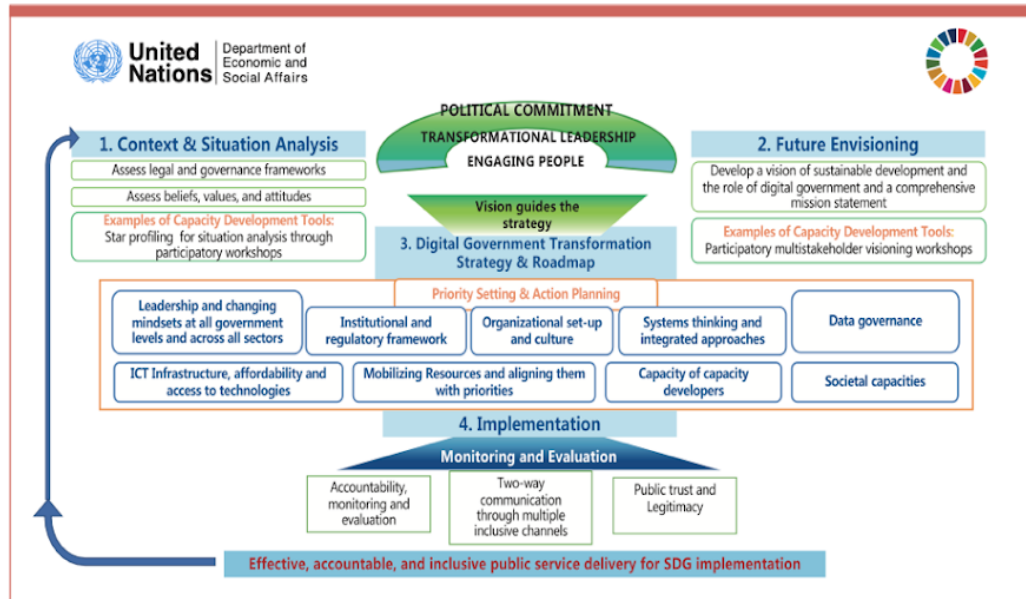external changes in the public sector in providing services as a form of Sustainable Development Goals (SDGs).

Figure 1. *Public Service Delivery for Implementation of SDGs*
(UN-E-Government Survey, 2020)

Technology infrastructure is a component that contributes to the success or failure of ICT in developing countries (Puspitasari and Kurniawan, 2020; Nurdin et al, 2012) including Indonesia. One of the obstacles to the sustainability of e-government in Indonesia is ICT infrastructure which does not have a clear architectural framework or master plan so it tends to system disintegration, overlapping business processes, network security, and questionable data validity (Lessa, 2019; Budiman et al, 2017). Since 2019, the Ministry of State Apparatus Empowerment and Bureaucratic Reform (PAN-RB) has socialized the Architectural Reference Model Compilation Document (Enterprise Architecture - EA) as a guideline for the Electronic-Based Government System (SPBE). However, during the author's search to access Bureaucratic Reform reports for the period 2020 - 2021 on the official websites of ministries and institutions, only the Indonesian Institute of Sciences (LIPI), now the National Research and Innovation Agency (BRIN), clearly lists Enterprise Architecture (EA) in its e-Government implementation. This is certainly very interesting to study because to achieve sustainable e-government through EA tools, it must be balanced with the simplification of institutions, organizational structures, human resource management, business processes, and even culture concerning governance reform and Indonesia's competitiveness in the global level.

II. Review of Literature

2.1 Digital or Electronic Government (E-Government)

Digital or electronic government (e-government) is the use and utilization of ICT to promote and motivate more operationally efficient, cost-effective forms of government in facilitating better government services for citizens and businesses; enhancing economic development; enable public access to information. Asgarkhani (2005) asserts that the dimensions of digital governance include the delivery of electronic services (electronic

service delivery), electronic democracy (electronic democracy), and digital support (digital support) in policymaking and process (digital governance). While digital or electronic governance (e-governance) is a denomination used to emphasize the application of ICT in governance systems and processes. The aim is to reform the theory and practice of decision-making and policy formulation to meet the demands of a knowledge society. E-governance can be seen as a platform that facilitates citizen-business-government interactions as well as an ICT-based solution to enhance and regulate the flow of information that occurs in this pattern.

The OECD (2005) emphasizes the urgency of implementing e-government which includes: a) assisting the government to complete its work and carry out public administration; b) improving public services; c) supporting the achievement of a certain policy with stakeholders in terms of sharing information and ideas; d) reduce corruption, increase government transparency, increase citizen confidence, reduce government spending with more effective and efficient programs, and increase productivity; e) contribute to bureaucratic reform.

2.2 Sustainable E-Government

The study of the sustainability of digital governance is relatively new but is in great demand. Sustained innovation in the form of e-government is prone to high failure rates especially in developing countries due to a combination of organizational, financial, human, and infrastructure challenges (Aljarallah and Russell, 2020; Cullen and Hassall, 2016).

Sustainable e-government is understood as the government's capability in operating and using e-government systems for a long enough period to provide sustainable benefits for stakeholders and the government itself (Nurdin, et al, 2014). Calero and Piattini (2015) state that the risk and security of data and networks are closely related to sustainability. Sustainable e-government is seen as a way to enhance national development (Khamis and van der Weide, 2017) by promoting integrated services with the alignment of economic, social, and environmental dimensions that are integrated across these dimensions, and provide benefits over time (Muñoz and Bolivars, 2018).

A recent study by Thirasakthana and Kiattisin (2021) identified five principles for achieving e-government sustainability, namely 1) legal support; 2) top-down target architecture; 3) architecture governance – comprehensive EA; 4) shared or integrated services, and 5) cross-organizational collaboration which will be considered as an important key success factor to achieve the exercise.

III. Result and Discussion

3.1 Dimensions in Achieving Sustainable E-Government

To achieve the sustainability of digital government or sustainable e-government as an effort to increase Indonesia's global competitiveness. Referring to the main problems and theoretical framework above, according to the author, there are at least five critical dimensions that must be possessed, namely legal support, comprehensive technology infrastructure through e-government architecture - Enterprise Architecture (EA), simplifying bureaucracy or institutions, literacy skills ICT human resources, and cross-organizational collaboration.

The dimensions of legal support related to sustainable e-government in Indonesia have been pursued, one of which is through Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems (SPBE). The policy platform is to

mitigate the integration of SPBE development in central and local government agencies. This policy was then followed by socialization by the Ministry of Administrative Reform and Bureaucratic Reform (PAN-RB) regarding the Document for the Preparation of the SPBE Architectural Reference Model (Enterprise Architecture - EA) as a blueprint for e-government. This effort was then followed up with the Regulation of the Minister for Empowerment of State Apparatus and Bureaucratic Reform (PAN-RB) Number 5 of 2020 concerning SPBE Risk Management Guidelines. These policies are the government's support to realize clean, accountable, effective, and transparent governance, as well as increase efficiency in line with e-government integration.

The dimension of comprehensive technology infrastructure through e-government architecture - Enterprise Architecture (EA) is a form of developing the legal dimension. The Indonesian e-government architecture is a basic framework that describes the integration of business processes, data, and information, infrastructure, applications, security to produce integrated e-government services (Perpres 95, 2018). In the last few decades, EA has developed into a well-established approach to managing complex information systems, and the alignment between business development and IT development is invested to fulfill the integration process of each component or part contained therein. It can be said that EA is an analytical tool that will be very helpful in the logical structure of the design and evaluation to classify and organize complex information. The potential of EA in meeting the needs of Indonesia's e-government architecture for alignment, insight, and quality of service as well as the demands of global competitiveness is very substantial because it significantly reduces the overlap and duplication of business processes, and is standardization in sharing data, information, and network security. Thirasakthana and Kiattisin, 2021; Aljarallah and Russell, 2020; Lessa, 2019; Calero and Piattini, 2015; Nurdin et al, 2014; Myeong, 2014).

The dimension of bureaucratic or institutional simplification becomes the next critical dimension in realizing sustainable e-government in Indonesia. Simplification of the bureaucracy is one form of institutional reform to create a more effective government (B. Francesco, 2013). The essence of being effective certainly cannot be separated from business processes between divisions or internal parts of the organization that are integrated and do not duplicate each other. To design a comprehensive EA within the framework of effective government, it must be balanced with a lean bureaucratic structure. This leads to institutional or institutional reform and management of the State Civil Apparatus (ASN).

The dimensions of the ICT literacy ability of human resources, in this case, the State Civil Apparatus (ASN). ASN's reliable ICT literacy capabilities will keep pace with comprehensive technological advances and developments in the use and operation of EA as an e-government architecture. This will be directly proportional to the simplification of the organizational structure if the bureaucratic reform is carried out based on the function and professionalism of its human resources.

The cross-organizational collaboration dimension is the last but is the biggest challenge and key success factor in realizing sustainable e-government in Indonesia. Collaboration is full of demands for transparency, sharing of data and information, as well as active participation and partnerships between society-industry or business-government-intergovernmental. This collaboration is a benchmark not only limited to time but also the benefits that can be provided or provided by e-government without excluding security and privacy in its implementation.
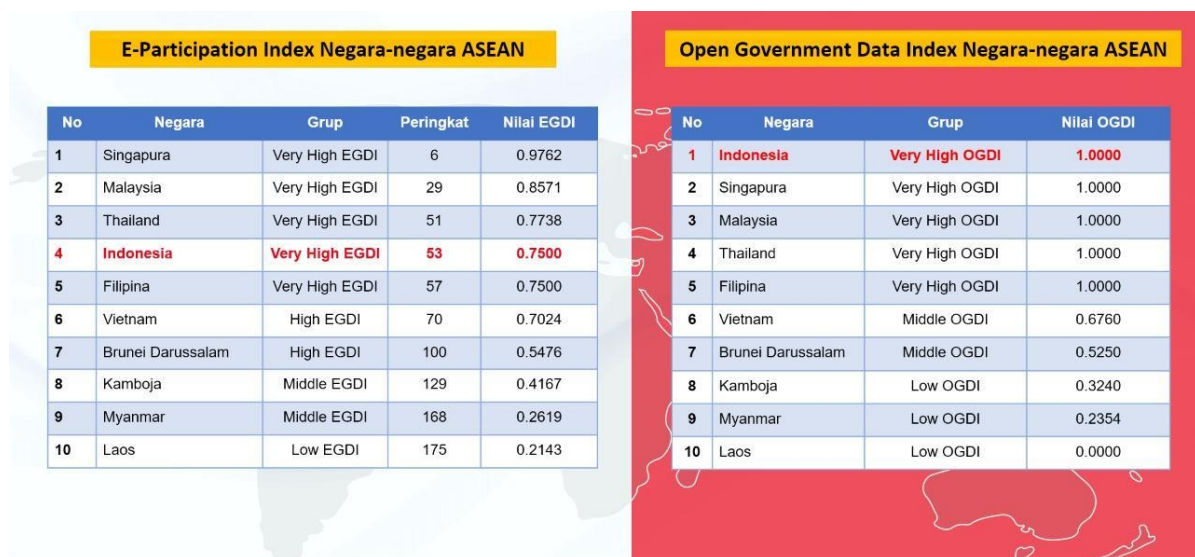
Figure 2. *E-Government Survey* (United Nations, 2020)

Referring to the United Nation publication regarding the EGDI (E-Government Development Index) ranking based on the 2020 survey, Indonesia is ranked 88th out of 193 countries, experiencing an increase of 19 ranks from the previous ranking of 107 in 2018. EGDI which includes e-Participation indicators The Index and the Open Government Data Index place Indonesia in 4th place in ASEAN after Singapore, Malaysia, and Thailand. This is quite a proud achievement, but considering that there has not been an acceleration of comprehensive technology infrastructure through e-government architecture - Enterprise Architecture (EA) in ministries and government institutions, this can be a tendency to stagnate cross-organizational collaboration (community-industrial or business-government-inter-government) as well as potentially threatening the sustainability of Indonesian e-government because of the time of using the system, prone to overlapping or duplication of business processes, and the benefits of e-government for stakeholders are becoming increasingly suboptimal.

3.2 Strategies and Programs to Achieving Sustainable E-Government

Based on the analysis and discussion above, to achieve Sustainable e-government as an effort to improve Indonesia's global competitiveness, the following strategies and programs are needed:

1. Accelerate the implementation and acceleration of Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System (SPBE), which in this case refers to the preparation of the SPBE Architectural Reference Model (Enterprise) Document *Archit*ecture - EA) in all ministries and institutions as a guideline and e-government master plan so that it can be initiated immediately;

2. Institutional reform. Simplification of the bureaucracy or institutions must continue to be carried out to balance the acceleration of e-government infrastructure development. Institutional reform must be function-based to create an organization along with a capable organizational culture, ICT literacy capabilities of superior, competitive but one-goal human resources;

3. ASN management in the form of redistribution of civil servants. The Government Effectiveness Index (World Bank, 2019) shows the quality of Indonesian ASN and public services is ranked 86th out of 192 countries with a value of 0.18. The State Civil

Apparatus (ASN) still seems to put forward sectoral egos or is divided into bureaucratic barriers (silo mentality). To overcome this, the government needs to accelerate changes in the bureaucracy through a policy of redistribution of civil servants. The redistribution of civil servants leads to an equitable and proportional distribution of government apparatus and is based on functions so that public services can be improved and can accelerate the national development agenda.

IV. Conclusion

This paper examines sustainable e-government as an option from various efforts to increase Indonesia's global competitiveness. The identification to achieve digital government sustainability or sustainable e-government includes five critical dimensions consisting of legal support, comprehensive technology infrastructure through e-government architecture - Enterprise Architecture (EA), simplification of bureaucracy or institutions, literacy skills of ICT resources people, and cross-organizational collaboration.

The identification of the five critical dimensions above must be accompanied by bureaucratic reform strategies and programs which consist of accelerating and accelerating e-government architecture - Enterprise Architecture (EA) in each ministry and institution, simplifying bureaucracy or institutional reform, and management of the state civil apparatus (ASN). in the form of redistribution of civil servants. The three programs are an effort to produce sustainable digital or electronic government (sustainable e-government) to increase Indonesia's global competitiveness.

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