

The Implementation of E-Government in the Industrial Revolution Era 4.0 in Indonesia

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Abstract – The implementation of electronic government in the era of the industrial revolution is very influential on people's lives in Indonesia. The transition period towards the industrial revolution era 4.0 is very interesting to discuss, bearing in mind that the Republic of Indonesia is also required to implement industry 4.0 in the government component. This study uses a qualitative method that is literature study. Qualitative research is research that produces information in the form of notes and descriptive data contained in the text under study. The data used is sourced from secondary data relating to the laws and regulations of the Republic of Indonesia related to the application of Electronic Government in the era of the industrial revolution 4.0. The results showed that the development of e-government systems in Indonesia in quantity began to increase but the quality was still inadequate because e-government implementation was not evenly distributed in all regions and still functioned as a provider of static information only. Meanwhile, the fundamental obstacle in the implementation of electronic government in the industrial revolution lies at the local government level. The e-government projection on the development of the industrial revolution must have the best formula in order to achieve the stated goals.

Keywords – Implementation, E-government, Industrial Revolution 4.0, Society, Indonesia.

I. INTRODUCTION

After the 1998 reform movement in Indonesia, the paradigm that developed in the Indonesian government was the demand for better service than before and there was room for people to participate in the life of the state. Based on this, the term "clean and good governance" emerged in Indonesia, so as to create a civilized life oriented to the era of modern digitalization.

Good governance has the meaning of good governance related to clean governance and is authoritative and free of Corruption, Collusion, Nepotism with a principle of transparency, accountability, upholding the law, and the opening of public participation (Asmuni, 2019: 25). To realize clean and good governance, especially in terms of

public accountability and transparency, it requires a policy direction that is directed at changing institutional systems and management, namely Electronic Government. So the meaning of implementing electronic government is to increase community participation (Dwiyanto, 2018: 40).

E-government is an information technology system developed by the government to improve public services by giving people choices to get easy access to public information. The implementation of good governance through effective and efficient public service improvement requires the development of electronic government policies and strategies. These policies and strategies are regulated in Presidential Instruction Number 3 of 2003 concerning National Policies and Strategies The development of e-

government in all levels of government as a whole. For this reason, e-government socialization needs to be carried out consistently, continuously and with incentives to the community because people do not understand what and how e-government applications are and the benefits they can take (Aritonang, 2017).

The implementation and realization of Electronic government in Indonesia has experienced challenges since the growth of the industrial era 4.0, the obstacles in implementing electronic government is due to the limited regulation as law. At present, there is no regulation that really explains in detail the mechanism of implementing e-government along with the imbalance in technological development that is so rapid and cannot be stopped. Digitalization has begun to enter the gaps in our daily lives (Viky, 2020). These technological advances have then been exploited by many public and private sectors. Many companies even creative small industries that use digital technology in developing their businesses.

E-government scope

Farida & Setiawan (2018) said that, the concept of e-government can develop based on 3 backgrounds, namely:

- a. Developments in the era of globalization that can come faster than expected, make issues such as democratization, human rights, law, transparency, corruption, free trade, open markets become the main things that must be considered by every nation if they do not want to. excluded from progress in the world.
- b. Technology and information developments such as computers and telecommunications are occurring rapidly so that data, information and knowledge can be created very quickly and can be immediately disseminated to all levels of society in various worlds in just seconds.
- c. Improving the quality of people's lives is inseparable from the improving performance of the private industry in carrying out economic activities. The closeness between the community and economic actors such as traders, investors, companies and others has resulted in the formation of a service standard that has improved from time to time.

These three aspects cause pressure from the public who want the government to significantly improve its performance by utilizing existing information and communication technology. The initiation of electronic government in e-government and even then is still being developed to answer these demands.

In Indonesia e-government itself has a meaning that is specifically an administration of activities that is able to encourage and facilitate mutually supportive, harmonious and equitable relations between the public, the business world and the government, by utilizing information technology, telecommunications and web / internet (Valle- Cruz, 2019). Basically electronic government is the use of information technology that can improve relations between the government and other parties (Setiawan, 2016). There are at least 4 (four) classifications of new forms of relationship between the use of information and communication technology (Sanjaya, 2016: 48):

a. Government with Society

This type is the most common application, where the government builds and implements various types of information technology to interact with the public.

b. Government with Business

This type is a form of providing information services to businesses. Business circles such as companies need data and information from the government.

c. Government with government

This type is needed between one government and another to facilitate cooperation, both between countries or cooperation between state entities in carrying out matters relating to trade administration, political processes, social and cultural relations, and so on.

d. Government with Employees

This type is required internally for employees in government agencies. through this type there will be a good relationship between the government and employees who work in the organization.

The Purpose of E-Government

When the government has committed to develop good governance or good governance, then public service becomes one of the strategic points that must receive special attention. There are several considerations related to this (Mustafa, 2017: 70):

- a. Public services are the domain where the state interacts intensively with its citizens;
- b. Service is a domain in which various aspects of government can be interpreted relatively easily;
- c. Services that can involve government interests.

In essence, the government is obliged to provide equitable public services to all its citizens. It must be realized that the

public demands public services that meet the interests of the wider community in all regions of the country, are reliable and trustworthy, and are easily accessible interactively (Sedarmayani, 2017:55). In addition, the public also wants their aspirations to be heard by the government so that the government must facilitate public participation and dialogue in the formulation of state policies. To answer these challenges, both the central and regional governments must be able to form a new dimension into the organization, management system and work processes, one of which can be implemented through a process of changing to electronic government (Yusriadi, 2017).

Through the process of transformation towards the e-government era, the government can optimize the use and utilization of information technology advancements to reduce bureaucratic organizational barriers. And more focused on forming a network of work process management systems that allow government agencies to work in an integrated manner to simplify access to all public service information (Mansour, 2018: 115). Thus all government institutions, the public, the business world, and other interested parties can at any time utilize information and government services optimally (Wibawa, 2018: 85).

The development of electronic government is one of the efforts to improve the quality of public services effectively and efficiently (Valle-Cruz, 2019). In other words, through the development of e-government management systems and work processes in the government environment are carried out by optimizing the use of information and communication technology (Robbins, 2015: 120). The use of information technology can include 2 things, namely (Asmuni, 2019: 40):

1. Processing in data that can be done electronically;
2. The use of advances in information technology in public services so that it can be accessed easily by people in every country.

Electronic government development is directed to achieve 4 objectives including (Aritonang, 2017):

- a. The formation of information networks and public service transactions that have quality and scope that can satisfy the wider community and can be affordable in all parts of Indonesia at any time are not limited by time-boundaries and at affordable costs by the community.
- b. Forming interactive relationships with the business world to enhance the development of the national economy and strengthen the ability to deal with changes and international trade competition.

- c. Establishment of mechanisms and channels of communication with state institutions and the provision of public dialogue facilities for the public to participate in the formulation of state policies.
- d. Establishment of management systems and work processes that are transparent and efficient and facilitate transactions and services between government agencies and autonomous regional governments.

The final core of the concept of electronic government is applied with the aim that the relationship between the government both with the community and with business people can take place efficiently, effectively and economically (Setiawan, 2016). This is necessary given the dynamic movement of society at this time, so the government must be able to adjust its functions within the state, so that people can enjoy their rights and carry out their obligations safely and comfortably, all of which can be achieved by reforming the system of the government itself, and e-government is one way. By implementing the electronic government, it makes it easier for people to access services to them (Thoha, 2011: 90).

Benefits of E-Government

In implementing e-government, there are various benefits that can support the effectiveness of a public service. These benefits include (Widodo, 2019: 101):

- a. Reducing Costs

Providing services online or in a network can significantly reduce the total administrative, relations and interaction costs incurred by the government and its stakeholders compared to service manually.

- b. Supports Economic Development

Technology can facilitate government in creating a positive business climate by simplifying administrative steps or reducing bureaucracy. In addition, there are direct impacts on the economy, such as in e-procurement or electronic auction processes which create wider competition and more participants.

- c. Strengthening the transparent system and the system of accountability

The implementation of e-government can increase transparency, control and accountability in the administration of government in the context of applying the concept of Good Corporate Governance. e-government helps increase transparency in the decision-making process by providing

information and tracking on the network that is easily accessed by the public.

d. Improve Services for the Community

E-government can provide better services to the public where information from the government can be sought or obtained without having to physically come to government offices. These information materials are available 24 hours a day and seven days a week without having to rely on the operating hours of government offices.

e. Empowering Communities

Community empowerment is carried out through information that is easily obtained which then allows the community and other parties as government partners to be involved in the process of decision making or public policy equally and democratically.

f. Electronic Society Facilities

One of the main benefits of e-Governance initiatives consists of promoting the use of Information and Communication Technologies in other sectors. The technological and management capacity needed for e-Government administration is driving the development of new training courses and modules in schools and universities that are trying to supply the necessary skills and capabilities to the job market.

Hope the development of e-government, access to information on government will be wide open for all levels of society. Therefore, if implemented properly, it can significantly improve the quality of life of the community. Given the many benefits of this e-government system, its implementation must be carried out as soon as possible, without delay. In addition, this system needs to be built with good leadership and a holistic development framework, so as to provide a national competitive advantage.

II. RESEARCH METHODS

In this study, the method used is qualitative research methods through literature study. Qualitative research is research that produces information and descriptive data contained in the studied text (Moleong, 2013: 37). The data used is sourced from secondary data relating to the laws and regulations of the Republic of Indonesia.

The research data collection method is carried out by the documentation method which refers to or collects the documented materials (Creswell, 2015: 52). While the data collection tool used is the study of documentation that is a study by studying data in the form of books, research reports,

journals, seminar papers, writings of experts, and all laws and regulations of the Republic of Indonesia relating to research material. Research data were analyzed by content analysis. Content analysis is carried out on all secondary data collected, however content analysis is mainly on documents in the form of books, laws and regulations and relevant journals.

III. RESEARCH RESULTS AND DISCUSSION

E-Government As A Part of Smart Government

At the 2019 Indonesia Industrial Summit, the President of the Republic of Indonesia launched a road map Towards Indonesia 4.0 which is a national strategy in facing the era of the Industrial Revolution 4.0. With the launch of the road map, the government is now trying to prepare itself for the wave of technological disruption. Socialization continues to be encouraged in the fields of industry, economy and education.

Based on Article 1 paragraph (1) of the Law of the Republic of Indonesia No. 25 of 2009 concerning Public Services, Public Services are activities or series of activities in the framework of fulfilling service needs in accordance with statutory regulations for every citizen and population of goods, services and / or administrative services organized by public service providers.

The linkage of public services and the current Industrial Revolution era 4.0 is actually already evident in the Law of the Republic of Indonesia Number 25 of 2009 concerning Public Services. Referring to Article 23 paragraph (1) of the Law of the Republic of Indonesia Number 25 of 2009 concerning Public Services, it is stated that "In the context of providing information support for the implementation of public services, a national information system is needed" while in Article 23 paragraph (4) of the Law Republic of Indonesia Number 25 of 2009 concerning Public Services, it is stated that public service providers are obliged to manage Information Systems consisting of Electronic or Non-electronic Information Systems which include at least: organizer profiles, implementing profiles, service standards, service announcements, complaint managers and performance appraisal.

Every public service provider is required to provide a national information system. Thus no other information technology plays a major role in the fulfillment of the system on a national scale. So that it should be the government's attention to be able to adjust the implementation of its services to the public in the face of the 4.0 Industrial Revolution today, namely by implementing technology-

based public services. Due to technology, transparency, speed, and ease that are key to a service will be realized, it is no wonder services in the private sector will usually be better because the use of increasingly sophisticated technology in the process of providing services to maintain customer confidence so that the business will run continue to be productive.

The government as a public service provider has the obligation to provide information system transparency, especially the number of consumers who access services in the public sector is greater than the private sector. So if the government wants to gain the trust of consumers in this matter the community should the government begin to be serious about utilizing digital technology in the face of the Industrial Revolution 4.0, in the administration of public services. With the aim not only the private sector can take advantage of current technological advances but also in the public sector.

Actually currently the Ministry of Administrative Reform and Bureaucratic Reform as a ministry that assists the President in organizing the government has enacted the Minister of Administrative Reform and Bureaucratic Reform of the Republic of Indonesia Number 13 of 2017 concerning Guidelines for the Implementation of the National Public Service Information System. Article 3 states that the Minister, Institutional Leaders, Governors, Regents, Mayors, Managing Directors of State-Owned Enterprises, and Managing Directors of Regional-Owned Enterprises must ensure the provision of information on public services in the application of the National Public Service Information System after the enactment of the Regulation of the Minister of Administrative Reform and Bureaucratic Reform in accordance with statutory provisions.

After more than a year the regulation was made a law, recently the Minister of Administrative Reform and Bureaucratic Reform launched the National Public Service Information System application which can be accessed through <http://sipp.menpan.go.id>. as a forum for public service information for all public service providers nationally, starting from the regional government, ministries / institutions, non-structural institutions and Managing Directors of State-Owned Enterprises or Managing Directors of Regional-Owned Enterprises. However, the National Public Service Information System which is being developed by the Minister for Administrative Reform and Bureaucratic Reform is still not perfect because not all local governments or ministries or institutions input public service information data in their respective institutions into the National Public

Service Information System application at <http://sipp.menpan.go.id>. The weak authority of the Minister of Administrative Reform and Bureaucratic Reform to encourage the agency to integrate public service data of each agency into the National Public Service Information System application is one of the obstacles for the application to be ineffective. In fact, with National Public Service Information System public services in Indonesia will be integrated with each other.

Globally, public service is the key to victory in competition. One of the indications in Ease of Doing Business (EoDB) 2019 is that Indonesia ranks 73rd out of 190 countries surveyed. This ranking is actually a decrease from EoDB 2018 which was previously ranked 72. The key is public service, because the size of each indicator studied is the service standard, in the form of procedures, time, and cost. In order to improve the quality of public services to become world class, the Ministry of Administrative Reform and Bureaucratic Reform held socialization in various regions.

The e-government system which is the government's effort in implementing the use of computers, computer networks and information technology to run the government especially public services is still very minimal. Only a few Ministries or Institutions and Local Governments use technology in the process of public service. However, if e-government itself is implemented in every government, this is in line with the Industrial Revolution 4.0. E-government has many benefits in the democratic system that is currently applied in Indonesia, including increasing the speed of communication between government, society, the private sector, and coordination between agencies based on the internet.

E-Government Constraints in Indonesia

There are several things that become obstacles or challenges in implementing e-government in Indonesia in the industrial revolution 4.0 including: (1) Culture of sharing information is not yet available, (2) Culture of documenting is not yet prevalent, (3) Scarcity of reliable human resources in the field of Information Technology, (4) Inadequate and expensive infrastructure, (5) Limited access to information.

Retnowati (Aritonang, 2017) said the determinants of successful implementation of e-government are: (1) What needs are currently the main priority of the community in the country or in the area concerned, (2) Telecommunications infrastructure, (3) The level of connectivity and the use of Information Technology by the government, (4) Readiness of Human Resources in the government, (5) Availability of funds and budgets, (6) Availability of legal instruments, (7)

Changes in the paradigm of work and behavior of Human Resources. So that the most urgent factor in the scope of Human Resources is the problem of the lack of experts in the field of Information Technology that are qualified in Indonesia, and there are still many officials in the government who still stutter technology especially for the older generation who still fill in segments governance to date.

According to the author's analysis, there are three basic issues in the implementation of e-government at the local government level, including First, the initiative and meaning of the implementation of e-government by autonomous regional governments are still individual. Second, implementation through the regional website has not been supported by an effective management system and work process due to the readiness of regulations, procedures and limited human resources. Third, many local governments identify the implementation of e-government as merely creating a local government website, so that the implementation of e-government only stops at the maturation stage of the 4 stages that must be passed.

Best Formulation In E-Government

When computers were introduced in Industry 3.0, at that time it was considered a foreign thing which then became something added to an entirely new technology. At this time along with the opening of Industry 4.0, computers will communicate with each other to ultimately make decisions without human intervention. Although some say that the Industrial Revolution 4.0 is just the language of marketing, there have been changes in the way of production and manufacturing that inevitably draws our attention.

In this fourth revolution, we face a series of new technologies that combine the world of physics, digital, and the world of biology. These new technologies will have an impact on all disciplines, economics and industry, and will even challenge our ideas about human meaning. This technology has great potential to connect billions of people through the web, drastically improve business and organizational efficiency, and help regenerate the natural environment through better asset management, reducing damage caused by the previous industrial revolution.

However there are also potential risks. Professor Klaus Schwab, Founder and Executive Chairman of the World Economic Forum (Aritonang, 2017) said that organizations may be unable or unwilling to adapt this new technology and the government may fail to properly regulate this technology. Schwab (Gonçalo, 2019) theorizes that changes in power will create important security issues, and gaps can be even greater, not less if things are not properly regulated. For example, as

automation increases, computers and machinery will replace workers in a wide spectrum of industries, from drivers, accountants, property agents to insurance agents. It is estimated that as many as 47% of employment in the United States will be threatened due to automation. Many experts indicate that the Industrial 4.0 revolution will benefit the rich more than the poor, mainly because of the loss of low-paying jobs that only require low skills, because they are replaced by automatic machines.

Thus from what has been stated above, it is required that there is a formulation of e-government projections in the future both during the 4.0 industrial revolution and the regeneration period, to anticipate the things mentioned above both in the form of good consequences and potential risks. Some of the best formulations are:

Order of good legal regulation and legal protection.

The government is increasing its continuing education in the field of Information Technology as the formation of qualified human resources.

- a. Infrastructure and availability of adequate access media;
- b. Formation of good character and work ethic for Human Resources in government;
- c. Changing the apparatus mindset into a disruptive apparatus mindset in Indonesia;
- d. Industrial revolution 4.0 based on moral revolution;
- e. Creating reliable entrepreneurship leadership;
- f. Strengthening religious education.

All these capabilities and formulations are inseparable from the basis of the ability and strong will of the current government. It is logically in harmony with the maturity in strengthening a good sustainable economy in the implementation of e-government during the industrial revolution 4.0 in Indonesia, so that in the future there will be checks and balances in all structures.

IV. CONCLUSION

The development of the government system began to increase in quantity but in quality it was still inadequate because implementation was not evenly distributed in all regions and still functioned as a provider of static information only. In order to increase the development of e-government in Indonesia both in terms of quantity and quality, the government's commitment to improve e-government development is needed, especially in terms of infrastructure, human resources, applications, regulations and socialization within the government and to the community.

Some of the problems of fundamental obstacles in the implementation of e-government in the industrial revolution 4.0 are currently at the regional government level including: First, the initiative and meaning of the implementation of e-government by autonomous regional governments are still individual. Second, implementation through the regional website has not been supported by an effective management system and work process due to the readiness of regulations, procedures and limited human resources. Third, many local governments identify e-government implementation as merely creating a local government web site, so that the implementation of e-government only stops at the maturation stage of the 4 stages that must be passed.

E-government is a supporting tool to achieve clean and good governance, because in Indonesia it is still new to implementing e-government and has not yet developed rapidly so clean and good governance in Indonesia has not been achieved. But it does not rule out the possibility that in the future the development of Indonesia's e-government implementation will succeed.

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