

E-GOVERNMENT POLICY ANALYSIS OF THE GOVERNMENT OF THE REPUBLIC OF INDONESIA FROM 2001 TO 2022

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Abstract

Indonesia is a country that has great potential to develop e-government properly. However, for more than two decades, Indonesia has been unable to conduct e-government development properly. Based on research data, one of the reasons underpinning this phenomenon is the policy factors. In this paper, the researcher analyzes various types of e-government policies made by the central government of the Republic of Indonesia over the last two decades. The analysis results revealed that Indonesia's e-government policies were not dynamic and that they could not keep up with the very rapid technological developments. Therefore, e-government development process cannot be conducted dynamically.

Keywords: E-Government Development, Country Laws, Government Policy, Public Policy, Developing Country.

1. Introduction

Since 2001 the United Nations has urged all countries in the world to develop e-government (United Nations, 2001). E-government is a governance method that utilizes the development of digital technology and the internet (United Nations, 2001; Mensah, 2018; Yuan et al., 2012). The United Nations liberates each country in developing e-government according to its designation (United Nations, 2001). Since then, many countries have been competing to develop e-government for various purposes, as in Japan for supporting investment (Tanaka et al., 2005), in Singapore for government branding (Chan et al., 2008), in Argentina, Brazil, and Mexico for public information dissemination (Lau et al., 2008), in Sweden for government transparency (Nygren, 2010), in Russia for central and local government integration (Kalinina & Borisova, 2013), in South Korea for bureaucratic reform and government modernization (Sangki, 2018) and so on. The presence of e-government for several decades has also changed the government's paradigm in carrying out their duty such as in matters of leadership (Reddick, 2011), communication (Vie, 2010), work patterns (Nograšek & Vintar, 2014), and work orientation (Tassabehji et al., 2016).

One of the conditions for developing e-government properly is that a country must have good internet conditions (United Nations, 2001; World Bank, 2002). Since the beginning of independence in 1945, Indonesia has experienced a transition of power from a centralized government to a decentralized government after President Soeharto stepped down. (Widianingsih & Morrell, 2007; McLaren et al., 2019). Even though the transition of power

began with an economic crisis, the political situation and society demanded a change in governance (Widianingsih & Morrell, 2007; McLaren et al., 2019). Along with the development of digital technology and the increasing complexity of governance issues, the transition of power needs to be supported by the development of e-government. One of the countries in the world that has great potential to develop e-government is Indonesia because it was ranked 15th in 2008 as the country with the highest number of internet users in the world (Puspitaningdyah, 2012), then in 2013, it became the 6th highest internet user country in the world (Ministry of Communication and Informatic of the Republic of Indonesia, 2014) and in 2020, it became the third largest internet user country in the world (We Are Social, 2020). To support the development of e-government as mandated by the United Nations organization since 2001, the Indonesian government has made various supporting policies. Starting from president Abdurrahman Wahid (1999-2001), Megawati Soekarnoputri (2001-2004), Susilo Bambang Yudhoyono (2004-2014), and Joko Widodo (2014-now) have made various kinds of policies related to e-government. However, even though Indonesia already has e-government policies, in practice, the development of e-government in Indonesia still cannot be carried out optimally.

Figure 1: Indonesia E-Government Rank from 2003 to 2022



Sources: United Nations, 2022.

From 2003 to 2022, Indonesia is one of the countries with unfavorable and unstable e-government development conditions. In 2003 Indonesia's e-government was ranked 70th in the world, then in 2004 it fell to rank 85th, then in 2005 it dropped to rank 96th then in 2008 it dropped to rank 106th, and in 2010 Indonesia's e-government ranking dropped again to rank 109th. Indonesia's e-government rose to rank 97th in 2012, but again fell to rank 106th in 2014, and fell significantly to rank 116th in 2016. However, in 2018 Indonesia's e-government ranking could again rise to rank 107th, then in 2020 it rose significantly to rank 88th, and in 2022 it rose again to rank 77th (United Nations, 2022).

Several previous research on e-government in Indonesia showed that the e-government policies made by the government of the Republic of Indonesia are considered to be unable to properly and thoroughly support the development of e-government (Ritchi et al., 2015; Choi et al., 2016;

Adi et al., 2016; Ritchi et al., 2016; Batara et al., 2017; Nurdin, 2018; Herdiyanti et al., 2019; Khoir & Davison, 2019; Pratama & Imawan, 2019; Sabani, 2020; Sukendro et al., 2020). It is difficult to develop Indonesia's e-government sustainably because there are no supporting policies (Ritchi et al., 2015; Choi et al., 2016; Ritchi et al., 2016; Batara et al., 2017; Nurdin, 2018; Herdiyanti et al., 2019; Khoir & Davison, 2019; Pratama & Imawan, 2019; Sabani, 2020). The unavailability complete e-government policy causes the government unable to evaluate whether they have succeeded in developing e-government properly or not (Ritchi et al., 2015; Adi et al., 2016; Nurdin, 2018; Herdiyanti et al., 2019; Pratama & Imawan, 2019; Sukendro et al., 2020). Public and e-government policies must support each other because they greatly influence the success of e-government development (Bekkers, 2009). If the government does not support e-government, then e-government will not be developed properly (Dawes & Pardo, 2002).

Based on the abovementioned data, in this article, the researcher will analyze various kinds of policies made by the central government of the Republic of Indonesia regarding e-government. The researcher will discuss various policies made by the central government regarding e-government from 2001 to 2022, in which Indonesia was led by four different presidents during these twenty-one years. Policy analysis is an intellectual activity that criticizes and evaluates a policy (Dunn, 1981), systematic evaluation to provide input on policies (Patton & Sawicki, 1993), and relevant suggestions that are useful for the public interest (Weimer & Vining, 1999). It can provide the government with the opportunity to assess whether the policies are appropriate or not (Nugroho, 2017). It is expected that this paper can provide a reference for all parties involved in e-government development, help the Indonesian government achieve its national digitization target in all government sectors in 2025 (President of the Republic of Indonesia, 2018) and help the Indonesian government implement digital transformation as one of the G20 2022 main goals (G20, 2022).

2. Methods Approach

The recent research on e-government policy analysis of the government of the Republic of Indonesia from 2001 to 2022 is qualitative research and categorized as document analysis research (Wolff, 2017). A document can be used as an object of research because it is a source of data (Woolgar, 1980; Knorr-Cetina, 1981; Wolff, 2017). Documents are a source of knowledge that contains a lot of information or phenomena (Gusfield, 1976), because documents are a type of interpretation of social conditions that occur in an environment (Smith, 1978; Wolff, 2017). The researcher analyzed various kinds of statutory regulatory documents made by the government of the Republic of Indonesia and used the contents of the statutory material as data in this study.

To find various legal documents related to e-government in Indonesia, the researcher searched various kinds of documents via the internet. The researcher only browsed documents made by the central government in the form of acts made by the House of Representatives of the Republic of Indonesia and presidential regulations in the form of presidential instructions or government regulations. To find out about the validity of the various types of statutory

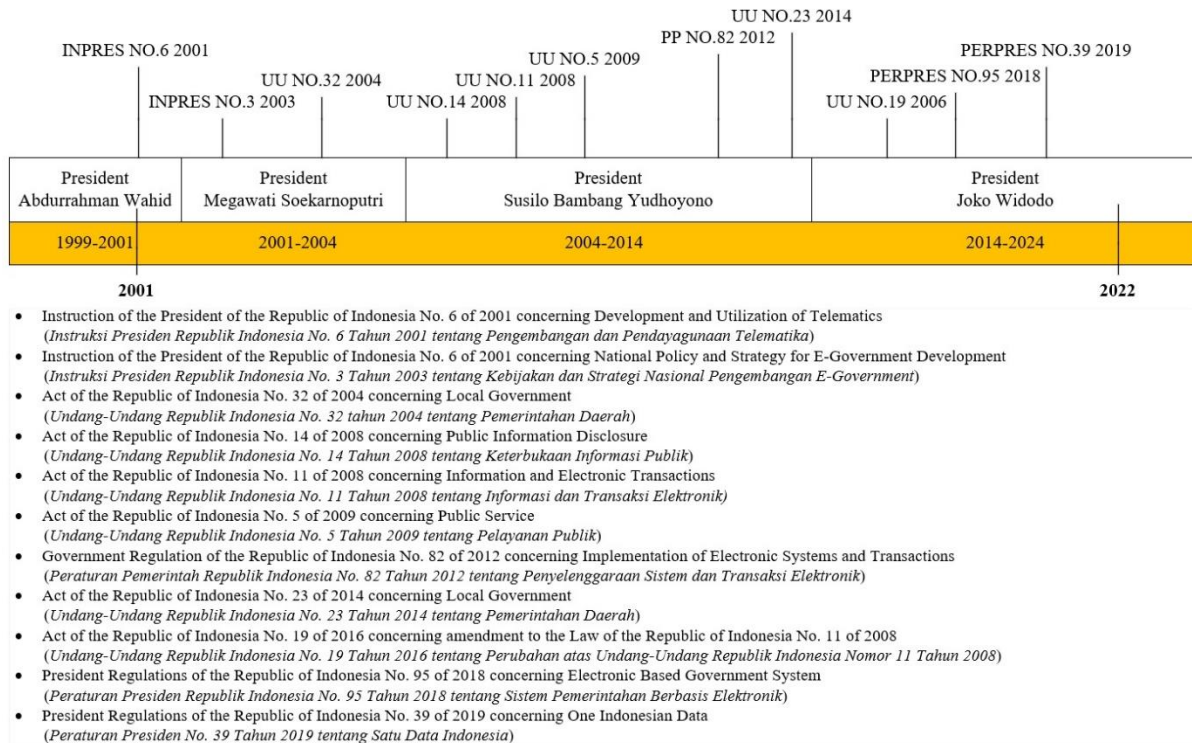
documents, the researcher conducted a peer review. This peer review is categorized as source triangulation (Flick, 2017; Creswell, 2019). After obtaining various kinds of documents, the researcher arranged these documents into four categories based on the president leading Indonesia in that era. Category I contains documents made during the reign of President Abdurrahman Wahid (1999-2001), category II President Megawati Soekarnoputri (2001-2004), category III President Susilo Bambang Yudhoyono (2004-2014), and category IV President Joko Widodo (2014-now). After dividing the document into several categories, the researcher read the documents in depth and then drew conclusions. From these various conclusions, the author conducted an analysis that was explained descriptively. The researcher carried out the process of data analysis based on the concepts proposed by (Miles & Huberman, 1992). After obtaining various inputs from reading and concluding the various types of regulatory documents regarding e-government in Indonesia from 2001 to 2022, the researcher analyzed the various types of regulations and then described them.

It should be noted that this research does not judge whether a policy is good or bad. The researcher only intended to discover the contents and differences in policies made by the government from time to time and the effects of the policies made by the government on the development of e-government in Indonesia. The researcher only explored e-government policies in Indonesia to provide input for all parties who want to make e-government policies in the future. Moreover, research on policy analysis in developing countries is still underexamined, especially in Indonesia (Newman et al., 2022), so far research on this topic has been mostly carried out in developed countries (Elgin & Weible, 2013; Newman, 2017; Page & Jenkins, 2005). To fill this gap, research on policy analysis in developing countries is necessary (Newman et al., 2022).

3. Results

The analysis results of e-government policies are presented based on the era of the president who led Indonesia at that time, starting from the era of president Abdurrahman Wahid (1999-2001), Megawati Soekarnoputri (2001-2004), Susilo Bambang Yudhoyono (2004-2014), and Joko Widodo (2014-now).

Figure 2: Timeline E-Government Policy in Indonesia from 2001 to 2022



Sources: Reserarch, 2022.

3.1 President Abdurrahman Wahid era (1999-2001)

The era of President Abdurrahman Wahid's government (1999-2001) was an era in which Indonesia was starting to attempt to utilize technology as a means of running the government. The government of the Republic of Indonesia hoped that technology can have a positive impact on all groups, especially the government, business, and trade. It was done as a concrete form of implementing reform after almost 32 years of Indonesia being led by an authoritarian government regime. However, in those years, Indonesia was experiencing a technology gap problem. To overcome these problems, the government of the Republic of Indonesia, in this case, President Abdurrahman Wahid, instructed all groups to start developing and utilizing telematics in Indonesia. It was officially stated in the Presidential Instruction of the Republic of Indonesia Number 6/2001 concerning the Development and Empowerment of Telematics (President of the Republic of Indonesia, 2001). It was the only regulation made by the central government of the Republic of Indonesia during the era of President Abdurrahman Wahid that was not related to e-government.

In the Presidential Instruction document of the Republic of Indonesia Number 6/2001 the government made various kinds of rules, which the first rule was to facilitate all parties to start developing and utilizing telematics for national unity, so that people could access information quickly and as widely as possible, facilitating opportunities for small and medium enterprises

to take advantage of access to information, increasing efficiency in all sectors of life and stimulating all parties to innovate, and providing opportunities for the implementation of transparency in public services. Secondly, the government also expected that this regulation can be a stimulus for increasing people's welfare and quality of life, opening up opportunities for the private sector to help the government provide telecommunication facilities and create applications that can be utilized by the community. Thirdly, the presence of telematics in Indonesia was expected to be a stimulus for the government to start building a national technology infrastructure that can be utilized as a means of disseminating information nationally and globally, helping to accelerate economic development, and providing opportunities to develop the telematics business.

Fourthly, the government can provide opportunities for the private sector to help the government create a good business climate, provide opportunities for private parties to invest in the field of telematics, and eliminate monopoly business systems for the more competitive business climate so that it can accelerate the development and equity of technology in Indonesia evenly. Furthermore, fifthly, the government hoped that telematics can increase national capacity and technology such as improving the quality of human resources, modernizing the education system, and strengthening government relations with the private sector. Sixthly, the government hoped that telematics can modernize the government system by developing an online government system. To apply this concept, the central and regional governments must build a technology network that can support all online government activities. The presence of this online government system was expected to make the government more transparent in its work, increase accountability, improve the quality of public services, increase the efficiency of regional autonomy, minimize wasteful use of the budget, and involve the community in government activities and state development.

Overall, during the era of President Abdurrahman Wahid's reign, there were no regulations made specifically to develop e-government. Presidential Instruction of the Republic of Indonesia Number 6/2001 is only an appeal for the government, private sector, community, and business actors to start developing and utilizing technology to carry out activities in various sectors of life so that they can change the paradigm of all parties to be more modern. Even though the aims and objectives of e-government development of the Republic of Indonesia are written in this regulation, concrete action remains unclear to realize the aims and objectives of e-government.

3.2 President Megawati Soekarnoputri Era (2001-2004)

The era of President Megawati Soekarnoputri's government (2001-2004) was the first time Indonesia began to seriously develop e-government. Also in this era, Indonesia for the first time had regulations regarding the development of e-government in the form of Presidential Instruction of the Republic of Indonesia number 3/2003 concerning National Policy and Strategy for E-Government Development (President of the Republic of Indonesia, 2003). It was made to follow up on the Presidential Instruction of the Republic of Indonesia Number 6/2001 concerning the Development and Empowerment of Telematics (President of the Republic of Indonesia, 2001).

In the Presidential Instruction document of the Republic of Indonesia Number 3/2003, it is explained that six strategic steps must be carried out by all elements of government in Indonesia to develop e-government. The first strategy is to develop a reliable service system, trusted, and informative, can simplify bureaucracy, and can be enjoyed by all levels of society. To implement this strategy, the government was obliged to expand and improve the quality of communication and information networks throughout Indonesia so the public can access these services at affordable prices. Then, creating various online public service information portals and a back office network that was intended to manage various online service information portals. Furthermore, the government must standardize electronic document management systems and create a cyber security system to support the smoothness and convenience of various kinds of electronic transaction activities. To support the first strategy, the government must be able to carry out the second strategy, namely to organize the work systems and processes of the central and local governments holistically so that they can utilize technology in running their government. The government was encouraged to change work patterns so that they were more modern in utilizing technology, change the work process management system in a consistent and sustainable manner, and prioritize the public interest. The central government also gave local governments the right to make regional policy regulations to support and accelerate the e-government development process. This legality is stated in Act of the Republic of Indonesia Number 32/2004 concerning Regional Government so that local governments can build and develop information systems to develop e-government (Government of the Republic of Indonesia, 2004). To accelerate e-government development, the government was required to collaborate with the private sector.

The third strategy to develop e-government by the government of the Republic of Indonesia is to optimally utilize information technology. The government was required to make rules for standardizing electronic transactions, electronic document management systems, and intergovernmental networks so that they can be connected, create applications that can be used for electronic transactions and also public services, and develop policies on electronic transactions. The fourth strategy is to increase the participation of the business sectors and develop the telecommunications and information technology industries because the government needs the help of the private sector to accelerate the development of e-government. The government must empower the private sector according to its expertise and specialization. Furthermore, the government must provide the private sector with the opportunity to develop information technology and build a communication network throughout Indonesia, so that the government can take advantage of the products made by the private sector.

Human resources also become the government's concern in the framework of e-government development. The quality of human resources was included in the fifth strategy for developing e-government. The government must increase the awareness and understanding of every state apparatus about the importance of information and the utilization of information and communication technology. Moreover, the government must empower competent human resources to develop e-government and also provide education and training to every state apparatus so that they can develop and operate e-government properly. The sixth strategy that must be carried out by the government is to develop e-government realistically according to its

capabilities. To carry out e-government development, the government must determine the platform to be used as a means of e-government development and prepare competent human resources. If these two aspects have been realized, the government was obliged to socialize e-government to the public. E-government products made by the government must be able to connect an institution with other institutions and enable the public to interact with the government through e-government products. When the government already has good capabilities in developing e-government, the government was required to make e-government products that can integrate the government, business, and citizen sectors.

Based on the analysis above, during President Megawati Soekarnoputri's reign, Indonesia already had legal regulations regarding the development of e-government in the form of the Presidential Instruction of the Republic of Indonesia Number 3/2003. The regulation explained the strategies of the central and regional governments for e-government development. The presidential instruction also appeals to all levels of the central and regional governments to collaborate with the private sector in the context of developing e-government. The government also provides opportunities for the private sector to invest in developing various kinds of technology in Indonesia so that the government can take advantage of these products. Even though Indonesia already had regulations regarding e-government development strategies, the regulation does not state that the government is obliged to carry out e-government development in a sustainable and integrated manner throughout Indonesia. Central and regional governments were given the freedom to develop e-government in accordance with their strategic plans. The government also did not provide a target that must be achieved by the central and regional governments in developing e-government, so it is difficult for evaluation to examine the progress of e-government development that had been carried out. During President Megawati Soekarnoputri's government, Indonesia was ranked 70th in the e-government development index in 2003 and ranked 85th in 2004 (United Nations, 2022).

3.3 President Susilo Bambang Yudhoyono era (2004-2014)

During the era of President Susilo Bambang Yudhoyono's government, Indonesia did not have new regulations regarding the development of e-government. During this era from 2004 to 2014, Indonesia still used the previous government regulations in carrying out e-government development, namely the Presidential Instruction of the Republic of Indonesia Number 3/2003 concerning National Policy and Strategy for E-Government Development as the basis for developing e-government (President of the Republic of Indonesia, 2003). Because the basic regulation used in e-government development were similar, the pattern of e-government development was also similar. However, various kinds of laws and regulations were made during this era to strengthen the legitimacy of the Presidential Instruction of the Republic of Indonesia Number 3/2003. The acts and regulations are the Act of the Republic of Indonesia Number 14/2008 concerning Public Information Disclosure (Government of the Republic of Indonesia, 2008), Act of the Republic of Indonesia Number 11/2008 regarding Information and Electronic Transactions (Government of the Republic of Indonesia, 2008), Act of the Republic of Indonesia Number 25/2009 on Public Services (Government of the Republic of Indonesia, 2009) , Government Regulation of the Republic of Indonesia Number 82/2012 concerning

Implementation of Electronic Systems and Transactions (Government Regulation of the Republic of Indonesia, 2012), and Act of the Republic of Indonesia Number 23/2014 on Regional Government (Government of the Republic of Indonesia, 2014).

The Act of the Republic of Indonesia number 14/2008 concerning Public Information Disclosure was made so that all elements of the government in the Republic of Indonesia, from the central government to the regional governments, can be transparent in disseminating all public state information because the government of the Republic of Indonesia had not been considered this aspect. E-government requires the government to be transparent in providing all state information that is public to the community. However, the government was not transparent because there were no related legal rules. Thus, the e-government development carried out by the government was not optimal. This act became the basis for the public to force the government to be transparent in disseminating various public state information, therefore, e-government development became better and more informative.

Act of the Republic of Indonesia Number 11/2008 concerning Information and Electronic Transactions was created to legalize all forms of electronic transactions in Indonesia, including e-government. This act becomes the basis for every government to legalize all forms of governance and implementation of public services that are carried out by utilizing technology such as e-government. Moreover, the public as consumers can sue the government if the government was deemed to have committed a violation in implementing state management and public services electronically. In addition, the government can also sue the community if it damages the e-government facilities that have been made

Act of the Republic of Indonesia Number 25/2009 concerning Public Services was made so that the government of the Republic of Indonesia, both the central and regional governments, has standardization in administering public services. It becomes the legal basis for the government in administering public services, including public services that utilize technology namely e-government. E-government is one of the state tools used by the government to provide public services to the community according to the mandate of the Presidential Instruction of the Republic of Indonesia Number 3/2003. The Act of the Republic of Indonesia Number 25/2009 become the basis for the community to sue if the government cannot provide good e-government services. In addition, this act also forces the government to seriously provide public services to the community, even though these public services are held electronically.

Government Regulation of the Republic of Indonesia Number 82/2012 concerning the Implementation of Electronic Systems and Transactions was made to support the Act of the Republic of Indonesia Number 11/2008 concerning Electronic Information and Transactions. This regulation was made to regulate which parties are allowed to carry out electronic transactions and parties who are operators of electronic transaction systems must legally register themselves. It is done to protect consumers who get electronic services from the operators of the electronic transaction system. Therefore, if one day the operators of the electronic transaction system commit a violation and harm consumers, they can easily be legally processed in accordance with the laws in Indonesia.

Act of the Republic of Indonesia Number 23/2014 concerning Regional Government was made to replace the role of Act of the Republic of Indonesia Number 32/2004 concerning Regional Government. The revision of this act was carried out because the law made in 2004 was deemed no longer relevant. It does not discuss the division of authority for e-government development, while the Act of the Republic of Indonesia Number 23/2014 discusses the authority of the central, provincial, and district or city governments in developing e-government. To support the development of e-government in Indonesia, the government of the Republic of Indonesia revised Act Number 32/2004 and ratified the Act of the Republic of Indonesia Number 23/2014 as one of the guidelines for the government in developing e-government.

During the government of President Susilo Bambang Yudhoyono from 2004 to 2014, Indonesia did not have specific rules regarding the development of e-government and only made a few rules that strengthened the legitimacy of the rules made during the reign of the previous president. Even though the legitimacy of the Presidential Instruction of the Republic of Indonesia Number 3/2003 concerning the National Policy and Strategy for E-Government Development is getting stronger due to the support of acts and government regulations made during the reign of President Susilo Bambang Yudhoyono, there was no significant improvement of the conditions for the development of e-government in Indonesia. It can be seen in Indonesia's e-government development index ranking where in 2005 it was ranked 96th, then in 2008 Indonesia was ranked 106th, then in 2010 Indonesia's e-government ranking fell again to rank 109th and rose to rank 97th in 2012, but fell back to rank 106th in 2014 (United Nations, 2022). Various kinds of acts and regulations made during the reign of President Susilo Bambang Yudhoyono have not been able to support and improve the development of e-government in Indonesia. The condition of Indonesia's e-government development has decreased based on the ranking of the e-government development index released by the United Nations.

3.4 President Joko Widodo era (2014-2024)

The era of President Joko Widodo's government is an era when Indonesia has new regulations regarding the development of e-government. Previously, the development of e-government in Indonesia was based on the Presidential Instruction of the Republic of Indonesia number 3/2003 concerning National Policy and Strategy for the Development of E-Government (President of the Republic of Indonesia, 2003). During President Joko Widodo's reign, the rules for developing e-government were changed to be more complete, contextual, and adaptive. However, changes to the e-government development strategy were not immediately carried out when President Joko Widodo became the President of the Republic of Indonesia in 2014. Indonesia had new regulations regarding e-government development strategies in 2018. The new strategy cannot be separated from the conditions of e-government development in Indonesia which did not significantly improve. Based on data released by the United Nations organization in 2016, Indonesia is ranked 116th in the e-government development index, this is the lowest ranking Indonesia has ever had.

The initial step taken by the government of the Republic of Indonesia was to revise the Act of the Republic of Indonesia number 11/2008 concerning Electronic Information and

Transactions which were considered less relevant to the current conditions and developments (Government of the Republic of Indonesia, 2008). Therefore, the act was revised to become more complete and ratified in the form of the Act of the Republic of Indonesia number 19/2016 concerning Amendments to the Act of the Republic of Indonesia number 11/2008 on Information and Electronic Transactions (Government of the Republic of Indonesia, 2016). In 2018, the government of the Republic of Indonesia issued a new regulation for the benefit of developing Indonesian e-government in the form of Presidential Regulation Number 95/2018 concerning Electronic-Based Government Systems (President of the Republic of Indonesia, 2018). It highlights the importance of utilizing mobile internet, cloud computing, the internet of things, big data analytics, and artificial intelligence in developing e-government. It is due to the fact that previously, the development of Indonesia's e-government from 2003 to 2017 only focused on internet development, providing website services, and creating information systems and applications.

To accelerate the progress of e-government development in Indonesia, which was considered to be in poor condition, the government of the Republic of Indonesia in Presidential Regulation Number 95/2018 focuses on four e-government development strategies. The strategies are 1) to reform matters relating to the e-government governance system, 2) to develop the quality of e-government services, 3) to improve communication information technology, and 4) to develop the quality of human resources so that they can support the development of e-government. The four e-government development strategies must be implemented by all parties involved in the development of e-government in Indonesia to meet the national digitization target in all government sectors by 2025. To develop better e-government, the first step that must be taken by the government is to improve the e-government governance system which has been considered poor so far. The government must be able to build an integrated e-government system and encourage central and regional agencies to coordinate appropriately. They also must simplify various bureaucratic processes for managing e-government. Central and regional governments involved in e-government development must develop a structured e-government management framework. The government is also required to make various kinds of policies that support e-government. Every party involved in the development and management of e-government must conduct periodic evaluations. Furthermore, the second step that must be taken by the government is to focus on providing optimal e-government services. In light of this strategy, the government must be able to improve e-government services whose quality is poor. They must also be able to create user-oriented e-government services and have great benefits for society. The developed e-government services must be mutually integrated among the central and regional governments as well as central and regional agencies. Furthermore, the third strategy that must be taken by the government to develop e-government is to develop information and communication technology infrastructure that can support the development of e-government. Therefore, several actions must be done by the government, including building a national data center, an intra-government network, a government service liaison system, and quality access so that e-government services can be developed and managed and the results can be enjoyed by all people throughout Indonesia. The government must also develop technology-based and shared services, a national data portal, and artificial intelligence

technology for fast and accurate decisions and policies. The fourth strategy required to develop e-government properly is to improve the quality of human resources so that it can support the national digitization target in all government sectors by 2025. Therefore, the central government calls on every region to have leaders who are innovative and committed to developing e-government. Furthermore, the central government also demands that all heads of central and regional agencies have sufficient technological skills so that they can develop and implement e-government in their respective areas. Then, the government also requires all state civil servants to have good competence so that they can become good e-government implementers. Every state civil apparatus who has good competence in e-government will be given remuneration. The government is also expected to establish partnerships with the private sector, so that they can assist the government in providing training for state civil servants to have good competence in e-government, assisting the government in providing expert staff, conducting research, and being willing to help the government in developing e-government. To support the development of e-government in an integrated and sustainable manner, the government of the Republic of Indonesia creates regulations namely Indonesian One Data. It is stated in Presidential Regulation Number 39/2019 concerning Indonesian One Data (President of the Republic of Indonesia, 2019). It is a database center that the government can use for easier e-government development by all related parties. The existence of Indonesian one data can help the government make plans in an integrated manner and conduct control and evaluation. In addition, Indonesian one data allows the public to monitor the government's performance, because the public can access various general data about the government and society. During Joko Widodo's reign, starting from 2014 until now and will continue until 2024, the government has modernized regulations regarding the development of e-government more completely and adaptively.

The government issued Presidential Regulation Number 95/2018 concerning Electronic-Based Government Systems to develop e-government in an integrated, sustainable, and targeted manner, because the previous e-government development regulation, namely Presidential Instruction of the Republic of Indonesia number 3/2003 concerning National Policy and Strategy of The Development of E-Government, does not contain policy governing the development of e-government in the desired manner. In the new e-government development regulation, the government explains in detail how e-government in Indonesia must be built, such as the e-government services that must be developed, the management process, the kind of technology to be used, and the preparation of human resources that will be involved in the development and implementation of the e-government. In addition, the government also creates regulations regarding the integration of all government data to support the development of e-government sustainably. After the enactment of the new e-government regulations, the government can gradually improve the condition of the Indonesian e-government. In 2018 Indonesia's e-government index ranking rose to rank 107th, and in 2020 it rose significantly to rank 88th, and in 2022 rose to rank 77th (United Nations, 2022).

4. Discussion

For the last twenty-one years, Indonesia has been developing e-government. During this period, Indonesia has 3 regulations regarding the development of e-government. The regulations regarding e-government in the form of Presidential Instruction of the Republic of Indonesia Number 6/2001 were issued to fill the technological gap in the Republic of Indonesia and made the central and regional governments willing to use technology to run their government activities. Unfortunately, it does not explain the concrete action for the government in achieving these objectives. The majority of the regulation made by the government only contain appeals.

Table 1: Comparison of E-Government Rules in Indonesia

Content of Regulation	President Instruction of the Republic of Indonesia No.6/2001	President Instruction of the Republic of Indonesia No.3/2003	President Regulations of the Republic of Indonesia No.95/2018
Term of Rule	24 April 2001 until 8 Juni 2003	9 Juni 2003 until 1 Oktober 2018	2 Oktober 2018-now
Development Goal	utilization telematics and eliminating digital divide in Indonesia	modernize public services and reform the bureaucracy	good governance, quality public services, integrated and sustainable e-government
Development Focus	overcoming digital divide, utilizing technology for government activities	government modernization, bureaucratic reform, public services	good governance, public services, integrated e-government and sustainability
Development Method	not listed in the regulations	internet, information system, website, application	mobile internet, cloud computing, internet of thing, big data analytic, artificial intelligence
Development Benchmark	not listed in the regulations	based on master plan central or regional government	based on Peraturan Presiden Republik Indonesia No.95 2018
Data Integration	not listed in the regulations	there is no obligation to integrate data yet, because local and central governments are freed to develop e-government according to their capabilities	e-government developed by the regional government and the central government must be integrated
Sustainability Development	not listed in the regulations	not listed in the regulations	e-government development must be carried out in a sustainable manner
Realization Target	not listed in the regulations	not listed in the regulations	digitizing all government sectors in 2025

Sources: Researcher, 2022

To clarify and reinforce the legitimacy of the e-government regulations made in 2001, the government of the Republic of Indonesia create more concrete and contextual e-government regulations in 2003 in the form of Presidential Instruction of the Republic of Indonesia Number 3/2003. In these regulations, there are rules regarding the goals and focus of e-government

development, namely to modernize the government, carry out bureaucratic reform, and for public services purposes. The regulation also explains the e-government products that must be developed by the government to provide e-government services to the public, such as developing the internet, information systems, websites, and applications. Each central and regional government also has the freedom to be creative in carrying out e-government development according to its master plan. The e-government regulation in the form of Presidential Instruction of the Republic of Indonesia Number 3/2003 had been applied for a long time in Indonesia from 2003 to 2018. Approximately 15 years of e-government development in Indonesia have been based on this regulation.

In 2018, the government of the Republic of Indonesia issued a regulation regarding e-government to replace the previous regulation because it was deemed less relevant. This new e-government regulation is stated in the Presidential Regulation of the Republic of Indonesia Number 95/2018. The focus of the e-government development in this regulation is to develop e-government for good governance, public service, and integrated and sustainable e-government. To achieve these objectives, the government utilizes mobile internet methods, cloud computing, the internet of things, big data analytics, and artificial intelligence. Unlike the previous regulations, in the Presidential Regulation of the Republic of Indonesia Number 95/2018, the government of the Republic of Indonesia requires that all central and regional governments use this regulation as a guide in developing e-government. It is intended that all central and regional governments throughout Indonesia can develop e-government in an integrated manner so that the government can easily evaluate e-government development. Evaluation of e-government development is required to examine the e-government development process that has been carried out. It is due to the fact that the government of the Republic of Indonesia has a target to digitize all government sectors by 2025.

5. Conclusions

During the twenty-one-year period from 2001 to 2022, Indonesia has three main regulations regarding e-government development. The first regulation was issued in 2001 but it does not contain a strategy related concrete strategy for the government in developing e-government. The second regulation was issued in 2003 and it is more complete than the previous one because it contains strategies that must be carried out to develop e-government. However, there are no specific targets that must be achieved in developing e-government so it is difficult for the government to evaluate whether the development of e-government government has been properly carried out or not. In addition, it is not dynamically designed to adapt to the rapid technological developments and causes e-government development to be not conducted optimally. In 2018, the government create new main regulation regarding the development of e-government in which the regulation objective is to make Indonesia could carry out e-government development in accordance with the times and have targets so that the government could evaluate the progress of e-government development. For the last 21 years, the main regulations regarding the development of e-government in Indonesia have only been limited to presidential instructions or presidential regulations, not in the form of acts. Presidential rules do not have strong legality compared to acts, because if there is a change of president, the new

president can change the regulation as he wants without the need for legislative approval. If the change has a positive impact, there is nothing to be concerned about. However, if the change has a negative impact, it will disrupt the e-government development process.

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