

## The Leverage of the National Mental Revolution Movement to Accelerate the Transformation of Electronic-Based Government System in Indonesia

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### Abstract

*The Indonesian government has started implementing e-government since 2003 with the hope of creating clean, effective, democratic and reliable government governance. However, efforts to implement e-government have not shown optimum results due to the digital divide in its application in government agencies, differences in understanding, limitations in technology, budget, human resources and leaders' commitment. Since January 2001 to December 2023, we were analyzing government regulatory and policy documents related to e-government and the transformation of public services, implementation of regulations and policies as well as the results of the implementation of policies evaluation. We wanted to see the correlation between the generated regulations and policies and the evidence of changes that had occurred. The results of this study indicate that when the National Mental Revolution Movement program was rolled out in 2016, the process of accelerating the implementation of e-government as a whole was realized with one of its programs being Indonesia Serving. The acceleration of e-government development was realized with strong support, commitment and leadership in improving public services with the National Mental Revolution Movement in the era of President Joko Widodo's administration in the form of political, economic and administrative transformation.*

**Keywords:** *Indonesia, Mental Revolution, Electronic Based Government, Public Service, Bureaucracy*

### Introduction

Indonesia has an area of 1.9 million km<sup>2</sup>, with population of 270.20 million. It has 34 provinces and 514 districts with 17,000 islands and 4.2 million state civil servants. Considering the number and composition of the population, geographical conditions and the diversity of the Indonesian nation, the quality of public services is essential. In order to reach the entire community it is necessary to utilize digital technology and innovation in services that are transparent, fast, personal and sustainable. Therefore, excellent public services are needed in governance (Mashuri & Adam, 2019; Desy, Reed, & Wolanskyj, 2017).

The transformation of digital technology continues to develop and is integrated into our daily lives. Hence, the form of digital public services is an important requirement and the use of e-government services is a necessity for Indonesian citizens. Many countries have

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successfully implemented the initial stages of e-government, but many have also failed. Most of the failures of e-government applications in developing countries are due to a lack of understanding about the current situation and what can be achieved with e-government. Often there is a wide gap between the current reality and the design of e-government. Gaps in information, technology, processes, objectives and values, staffing and skills, management systems and structures, time and money (Coursey & Norris, 2008; Heeks, 2003). In many cases, governments are too hasty in turning e-government development decisions into advanced implementation stages while leaving other pressing issues unaddressed resulting in e-government not being successfully implemented (Susanto & Aljoza, 2015). Economic conditions, level of education and government effectiveness play important roles in determining government performance in e-government (Kim, 2007).

A constructivist approach to policy analysis with special attention paid to different methods of implementing e-government in the form of policy formulation in the wider context of politics and governance (Fischer & Forester, 1993). In this article, we notice that the development of e-government policies and provisions issued can be seen and identified through the challenges in the implementation of e-government policies. Efficient and conducive policy support, leadership and administration are needed in digital government. Government decision makers at the top level are required to have a clear vision, a strategic data system plan, and strong leadership in the development of e-government (Wong, 2003; Kim, 2007).

This study collects and analyzes government regulatory and policy documents and evaluation reports that have been issued. The policy documents analyzed were sourced from January 2001 to December 2020. Appendix A provides an ordered list of all policy documents that have been issued since e-government policies were implemented in Indonesia and the references are attached and arranged based on n-years.

#### Public Service Governance Reform

Information technology and computers contribute to the modernization of government in terms of changing its style leading to the strengthening of structures, positions and processes and new designs of government. Technology will increase transparency, empowerment, monitor government performance more closely, and bring greater interaction between citizens and government (Heeks & Bailur, 2007; Pina et al., 2010). In understanding bureaucratic reform in Indonesia, it is necessary to understand the historical aspects and the social context of the bureaucracy itself. The bureaucratic reform program was carried out as a response to the crisis that hit Southeast Asia. The reform model originates from the New Public Management theory and is carried out to achieve output-based efficiency and performance, professional management, performance measurement, output control, decentralization, competition, resource efficiency and adopting a private sector management style. (Hood, 1991). E-government activities in East and Southeast Asia vary widely, reflecting national strengths and weaknesses rather than regional capacities for policy change (Holliday, 2002).

Dunleavy et al. (2006) argue that NPM is dead and has been overtaken by what they term “digitally enhanced governance” (DEG). This is characterized by “reintegration”, “holism” and “digitalization”. Reintegration means rolling back the disaggregation of NPM to include such points as joined-up governance and “re-governmentalization” (Osborne, 2010).

Administrative reform appears to increase attention to social change through bureaucracy by mobilizing various policies (Farazmand, 2002). There are several challenges in defining, analyzing and measuring public services because the output can be in many public services (Shah, 2005). Public service orientation defines service to the public as a key organizational value, knowing the services desired by the public, managing the environment, being close

and seeking views, complaints, and suggestions from the public. Clear public service orientation is needed and focus on the main issues raised (Moon et al., 2016; Stewart & Clarke, 1987). Public administration in most developing countries is undergoing drastic reforms based on principles driven by best practices and good governance models by highlighting the importance of empirical data, performance indicators and outcomes (Haq, 2010). The development of governance and public policy innovations in Indonesia's different local contexts from other countries is often used as a reference in managing public service innovations (Andhika et al., 2018). The ineffectiveness of public governance that can threaten the future of democracy is a concern for many parties engaged in empowering democracy. Many countries that are still in transition or consolidation of democracy face various problems and challenges in building public governance.

The government bureaucratic system in Indonesia is not yet efficient and the service culture is still weak. Problems that are still being faced include extortion in licensing services, thereby hampering the business and investment climate; service standards have not been consistently implemented; low competence, innovation and quality service culture; the use of e-services as a means of supporting service delivery is uneven; and there are still fragmented and overlapping functions of service institutions (Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform, 2015). Bureaucratic reform is interpreted as a major change in the paradigm and governance towards a better government. Therefore, government agencies as state administrators are required to be more professional and accountable (Rakhmawati, 2017). Public Administration Reform for better, faster, and more transparent public services by implementing e-government in Indonesia is still progressing slowly (Prahono & Elidjen, 2015). Bureaucratic reform must be carried out in order to create a state and government that meet the characteristics of good governance so that efforts to reform the bureaucracy can have real implications for the performance of public services.

As the basis for its implementation policy, the government established the Grand Design for the 2005-2025 Bureaucratic Reform with Presidential Regulation Number 81 of 2010 (Dokumen-16 2010) which was then translated into the 2010-2014 Bureaucratic Reform road map stipulated by the Minister of Administrative Reform Regulation No. 20 of 2010 (Dokumen-17 2010). Governance is also about accountability, the level of responsibility for decisions made by powerful actors by establishing policies that affect the social and economic outcomes of all citizens. The transformation of work culture, public service mechanisms from conventional to modern ways is a fundamental goal in the implementation of e-government systems. The government continues to intensively strengthen the implementation of Bureaucratic Reform.

Presidential Regulation Number 81 of 2010 concerning the Grand Design of Bureaucratic Reform 2010-2025 mandates that a bureaucratic reform roadmap be drawn up every five years. This road map guides the expected changes so that a better bureaucracy can be realized such that it can monitor the progress of the implementation of bureaucratic reforms both at the national level and at the regional government level. The 2015-2019 Bureaucratic Reform Road Map has been stipulated through the Regulation of the Minister of Administrative Reform and Bureaucratic Reform Number 11 of 2015 (Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform, 2015). Although reform of the bureaucracy and governance has been carried out, it has not been fully able to prevent the emergence of distortions in public policy products because the process has not been completely transparent and accountable during the preparation, implementation and monitoring and evaluation.

The basic principles of good governance such as participation, transparency and accountability have not been fully implemented in the government bureaucracy and public positions. This problem is exacerbated by the fact that a system for recruiting public

officials based on the principle of meritocracy has not yet been developed, but still prioritizes primordial sentiments such as kinship, ethnicity and friendship. In general, people think that government bureaucracy is inefficient and public services are not optimal. Bureaucracy in Indonesia is still part of the problem in the success of achieving national development goals. This is stated in the Global Competitiveness Report (Table.1). The main factors are corruption, bureaucratic inefficiency, and the extremely low quality and competitiveness of the Indonesian bureaucracy. Labor productivity, a very important economic indicator, affects growth, competitiveness, and living standards. Various excellent programs and innovations have been carried out by the government to improve work ethic, mutual cooperation and integrity. In the core values, the mental revolution reinforces the value of work ethic, which is closely related to service orientation, competence, and leadership. With service orientation, competence, loyal and adaptive.

Table 1. Relationship between Global Competitiveness Index & Growth Indonesian Worker Productivity 2012-2023

<b>Year</b>	<b>Global Competitiveness Index (GCI)</b>	<b>GCI Ranking (country)</b>	<b>Worker Productivity Growth (CEIC data)</b>	<b>Ranking World Competitive Year (IMD data)</b>
2012-2013	4.40	50 out of 144	4.941	39 out of 60 countries
2013-2014	4.53	38 out of 144	5.561	57 out of 63 countries
2014-2015	4.57	34 out of 144	1.504	42 out of 63 countries
2015-2016	4.52	37 out of 140	4.702.	48 out of 63 countries
2016-2017	4.52	41 out of 138	1.846	42 out of 63 countries
2017-2018	4.68	36 out of 140	2.803	43 out of 63 countries
2019	64.6	50 out of 141	2.645	32 out of 63 countries
2020				40 out of 63 countries
2021				37 out of 64 countries
2022				44 out of 63 countries
2023				34 out of 64 countries

In the 2015-2019 National Medium-Term Development Plan, bureaucratic reform is set to be the second national development priority, namely "developing clean, effective, democratic and reliable governance". Priority work undertaken was: Building transparency and accountability of government performance; Improving and increasing the quality of National Bureaucratic Reform; and Increasing public participation in the process of making public policies (Ministry of State Apparatus Utilization and Bureaucratic Reform of Indonesia, 2016). The agenda for sustainable bureaucratic reform is to restructure government bureaucratic organizations, increase civil servants competency, strengthen monitoring and supervision of public service performance, and encourage the public to supervise public service performance. Bureaucratic reform is not only in the form of improving the government bureaucratic organization, but also covers the entire system of

governance both at the micro, meso and macro levels (Ministry of National Development Planning of the Republic of Indonesia, 2015).

#### Stages of Development of E-government

Initiatives for the development of government electronic systems in Indonesia have been carried out for a long time, starting from the national management information system (1980s), Nusantara 21 (1997), the National Information Technology Framework (1998), the Information Infrastructure Development Program (1998), the National Information System (1998). Along with the growth of technology, the Indonesian government began to adopt a new approach to modernize services in its national policy of administrative reform. Later, e-government was officially introduced in public administration which stated that the Indonesian government should use telematics technology to support good governance (Dokumen-1 2001). After the rule appeared, e-government was introduced for different purposes in government offices. The implementation of e-government in Indonesia began in 2001, where the Indonesian government officially introduced the Indonesian e-initiative to facilitate the development of e-government. Departing from the thoughts and considerations for the use of communication and information technology in government processes to improve the quality of public services that are efficient, effective, transparent and accountable for good government with an integrated system (Dokumen-2 2003).

Through the Presidential Instruction of the Republic of Indonesia Number 3 of 2003, the government ordered officials of government agencies including governors and regents/mayors to take steps to implement e-government nationally, formulate and carry-out follow-up plans. The development of e-government is expected to form a government that is clean, transparent, and able to respond effectively to demands for change. People demand public services that meet the interests of the wider community in all regions of the country, that are reliable and trustworthy, and are easily accessible interactively. They want their aspirations to be heard by the government and to facilitate public participation and dialogue in the formulation of state policies.

Indonesia needs e-government to support government with democratic government applications; support the implementation of the balance of authority between the central and regional governments; facilitating communication between central and regional governments; openness; and transformation of community data (Haryono & Widiwardono, 2012). The power of information and internet connectivity provide opportunities for governments to promote digital democracy and modernize public service delivery. Digital government is defined as the use of information and communication technologies, particularly the internet, to positively change the relationship between government and society. Governments are perceived as more responsive, accessible, transparent, accountable, participatory, efficient and effective than ever before (Veit & Huntgeburth, 2014; Fang, 2002). When the internet has been widely accepted, e-government can be used as an approach to support public service governance. E-government has transformed public sector services from traditional forms into electronic forms with easy accessibility and interaction with the public (Chircu, 2008; Huang & Bwoma, 2003).

E-government is more than a new wave of administrative modernization. The reason for using information technology as a tool to help run government systems more efficiently is so that government and public services can run more efficiently, openly, interactively, transparently, and government efficiency and public support for government (Veit & Huntgeburth, 2014; Yildiz, 2007; Mendes et al., 2004; Rose, 2004; Westcott, 2001).

The e-government maturity model can be seen from the governance model, the holistic approach model and the evolution of the e-government maturity model (Concha, Astudillo, Porrúa, & Pimenta, 2012). There are four stages of the growth model for e-government: catalog, transaction, vertical integration, and horizontal integration (Layne & Lee, 2001).

There are also e-government stages from developing Web pages to integrating government systems that differ in technological sophistication, citizen orientation, and administrative changes in the stages of initial presence, extended presence, interactive presence, transactional presence, vertical integration, horizontal integration, full presence integrated (Gil-Garcia & Martinez-Moyano, 2007). Digitalization of government through the implementation of a unified and integrated electronic-based government system.

Indonesia already has a digital-based social registration system that functions as a gateway for social protection programs with direct cash and emergency assistance sent directly to people in need. Such a digital registration system enables transparency and accountability in order to ensure social protection in a country. The initiative in question is an integrated database management standard for social protection programs. The e-government implementation model in each government institution is prepared in the form of an Institutional e-government Development Master Plan and contains the stages of e-government development and implementation in the form of: e-government conceptual framework; e-government blueprints; e-government roadmap; e-government implementation plan (Document-3 2003). The government through the Ministry of Communication and Information issued several documents related to the implementation of e-government, including: documents containing blueprints for e-government application systems for local governments; guidelines for drafting a master plan for the development of e-government institutions; government portal infrastructure development guidelines; and others.

Effective governance depends on the work of responsible and specialized officials having an honest and accurate understanding of technological advances and challenges in the digital age. The government must solve problems with a more holistic approach, more contextual with the needs of society and utilize technology (Aitken, 2018). Technology models and frameworks need to be updated frequently to accommodate the latest changes in technology (Supriyanto & Mustofa, 2016). The application of an electronic-based government system in governance is carried out in the form of developing government collaboration applications by encouraging state-owned enterprises in the telecommunications sector to develop government collaboration applications. With the existence of a governance policy, government agencies use an electronic-based government system to carry out their duties.

E-government is a strong driver for strategic overall policy implementation in efforts to transform public sector services. In supporting the implementation of e-government, there are rules in electronic systems and transactions, the Open Government Indonesia (OGI) initiative has been disseminated and implemented in stages in the government bureaucracy (Dokumen-39 2019). The e-government model based on the type of interaction between stakeholders is government to community (G2C), community to government (C2G), government to business (G2B), business to government (B2G), government to employees (G2E), government to government (G2G), government to non-profit organization (G2N), non-profit organization to government (N2G) (Fang, 2002). The development of electronic-based government service systems in Indonesia is carried out for G2B with e-procurement, e-permits; G2G with e-office, e-planning, e-budgeting, e-monitoring evaluation; G2E with e-employment, e-retirement; G2C with e-complaints, e-health, e-education (Widyantini, 2021). The application of e-government in the government bureaucracy in the form of: government to citizen through the application of e-identification cards, e-immigration; government to business through the implementation of e-procurement, in a trade, national single windows; government to government through the implementation of e-planning, e-budgeting, e-auditing. The long journey of developing the Government's electronic system in Indonesia has strengthened the existence of the Government's electronic system in all fields within government agencies. The government's e-government development strategy

is the development of a service system that is reliable, trusted and reaches the wider community. It also involves structuring the management system, work processes of the central government and regional governments holistically; optimally utilize information technology; increasing the participation of the business world, developing the telecommunication and information technology industry. In addition, developing human resources in government and increasing e-literacy in society; implementation of systematic development through realistic and measurable stages are also part of the strategy.

#### E-government in Efforts to Improve and Transform Public Services

The public sector continues to improve its services by using and relying on information technology as a means to increase the efficiency and effectiveness of government agencies. Too many IT projects are over budget and taking longer to implement, or do not meet the functional requirements desired by stakeholders. Cultural and organizational barriers that accompany managing information technology in public sector organizations (Rosacker & Rosacker, 2010). Governments invest in developing strategies to advance e-government goals. The strategy is based on knowledge of the field and the availability of relevant resources, so an analysis is needed for identification so that it is included in the guide (Gil-García & Pardo, 2005). The advancement of information technology and the wide potential for its utilization, opens up opportunities for accessing, managing and utilizing large amounts of information quickly and accurately. These changes increase efficiency, transparency, and accountability within government by reducing transaction times and eliminating layers of redundant bureaucracy. In addition, e-government helps build trust between the government and the people because e-government increases the direct interaction between government offices and the people, and makes information available for the people to access.

One service quality approach that is widely used as a reference is the service quality model developed by Parasuraman, Zeithaml, and Berry emphasizing the comparison of two main factors, namely the customer's perception of the service received (perceived service) with the service expected or desired (expected service). Through the tangible aspect, it can be seen that the completeness of online facilities that have been owned and the functioning of online facilities is related to user convenience (Karniawati, Redjo, Suwaryo, & Mulyawan, 2018). E-government in developing countries faces many challenges in providing sustainable e-government services in terms of lack of technology, and limited budget and human resources (Joshi & Islam, 2018; Sein, 2011). To overcome the limitations in supporting the government to achieve service efficiency, the active involvement of citizens is required (Joshi & Islam, 2018). The e-government model was developed through four steps: bureaucracy, information management, citizen participation, and governance in the form of e-organization, e-services, e-partnering, e-democracy. Therefore, e-government is not a product of technology, but a product of society, culture and politics (Ahn & Bretschneider, 2011; Carrizales, 2008; Al-Hakim, 2007). E-government is an effort that is considered ideal for its involvement in the new era of democracy by providing opportunities for direct public participation with the principles of transparency and accountability. Through e-government, there is an adoption of technology in government services, and it has become a global trend in public administration. Information technology in public organizations often only increases technical efficiency without causing significant organizational changes and an improve in the effectiveness, quality and efficiency of public actions and their legitimacy. It doesn't also cause major changes in the role of the state as well as a new balance of public and private activities (Michels, 2012; Coleman & Blumler, 2009; Michels & de Graaf, 2010; W. Wong & Welch, 2004; Mendes et al., 2004; West, 2004).

Another major challenge in the development of e-government is the ability and readiness of management, implementers, market mechanisms that slow down the penetration and

utilization of infrastructure information networks for government, business, public service activities, and community activities (Sosiawan, 2008). Six dimensions of Key Performance Indicators of the public value of e-government are improved public services, improved administrative efficiency, open government capabilities, improved ethical behavior and professionalism, improved trust and confidence in government, improved social values and well-being (Twizeyimana & Anderson, 2019). In increasing demand for and support for e-government services for public services, a multi-channel one-door public service provision infrastructure has been developed, including community service centers known as one-roof services and public access points such as telecentres, call centers, web portals, and so on. Improve mobile and online content development that is easy to use, engaging, and relevant information aimed at increasing the accessibility and affordability of mobile and online information and content. To achieve these four goals, e-government at the state, provincial and local levels must be built by innovating public services (G2C), innovating business services (G2B), and innovating the way government works (G2G).

#### Implementation of E-Government in Governance Administration and development

The information revolution affects the interaction of citizens with the government. Failure to implement e-government demonstrates a lack of a unified approach to understanding e-government. The factors that most influence the success of e-government implementation are citizen orientation, technology orientation, digital divide, economic growth and political stability. The implications of e-government with adequate policy support and strategic planning, then e-government can change government and promote inclusive and sustainable governance (Malodia et al., 2021). With the widespread use of the internet, information technology policy rises much higher increasing the political agenda in all countries including e-government initiatives. The e-government system focuses on utilizing the internet or website-based information systems by providing online interaction channels, including e-government portals and/or government agency websites; provide adequate information and a wide selection of electronic services that meet the needs of all stakeholders; government employees in the "back office" who process electronic services (Al-Haddad et al., 2011; Dunleavy et al., 2006).

One of the goals of the government is to provide good public services and build trust in government institutions (Osborne & Brown, 2011; Cooper & Reinagel, 2017). E-government includes government actions providing services to citizens, not by traditional face-to-face meetings, but through the use of communication technology. Integrated budget and performance, competitive, expanded electronic government, and strategic management of human resources (McNabb, 2009). The application of e-government in governance plays a role in increasing transparency and accountability, thereby facilitating public services and reducing corruption (Maria & Halim, 2021; Sofyani et al., 2020; Kurnia et al., 2017; Simarmata, 2017). Dimensions of policy, institutional, application, infrastructure, and planning can provide an overview of how e-government is implemented and what factors influence the implementation of e-government (Rahmadany, 2021).

Indonesia is a large country both in population and in area. Technology will provide a lot of assistance in running this country. Efforts to solve this by standardizing e-government implementation, establishing e-government regulations, involving other stakeholders, and developing human resources can assist in e-government implementation. This supports the realization of the democratic process that has begun to be implemented in Indonesia (Rose, 2004). E-government planning and implementation can assist government agencies and public administration bodies to build a unified policy framework for connected governance to develop adequate management (Malodia et al., 2021). E-government implementation requires strong leadership, employee professionalism, sufficient resources and organizational behavior to support e-government performance and a better understanding

of the factors that contribute to e-government (Mulyawan & Mariana, 2016; Alsaif, 2013; Carrizales, 2008; Altameem et al., 2006).

There are three main factors that influence the development of electronic data interchange, namely: organizational readiness, external pressure to adopt, and perceived benefits (Iacovou et al., 1995). E-government needs to be integrated into a wider framework of public management reforms in changing social and political behavior as well as substantial changes in the style of government to citizen (G2C) relations. The implementation of e-government has not been effective and efficient. The application of e-government has not been evenly distributed throughout the government bureaucracy. There has been overlapping application systems, and it has not been integrated. Inefficiencies in information system development, procurement and utilization of information and communication technology infrastructure are still common (Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform, 2015). A highly populated country like Indonesia can benefit from implementing e-government services in every aspect of government including increasing public trust in the government, improving service quality, and increasing convenience with government transactions. A healthy bureaucracy, competence of public officials, technical expertise of bureaucrats, ease of use of government portals with easy-to-use content, fast responses from government agencies are needed to realize high-performance digital government.

Some of the challenging factors in e-government implementation are information and data, information technology, organizational and managerial, legal and regulatory, institutional and environmental (Gil-García & Pardo, 2005). In terms of infrastructure readiness, poor internet connectivity and limited access to electricity are the two main reasons for creating the digital divide that hinders the development of e-governance in Indonesia (Sabani et al., 2019). Several obstacles hindering the development of e-government in Indonesia are the unavailability of human resources; inadequate financing in e-government; stages of e-government are still different; the information, communication and technology provider service infrastructure has not been evenly distributed to the regions because the geographical conditions and economic development of each region are very diverse. Some e-government applications can't solve the problems that arise; organizational communication and leader commitment is still limited (Nugroho & Purbokusumo, 2020; Huda & Yunas, 2016; Rose, 2004). However, there are still differences in understanding, perspective and application of e-government which have led to distortions in the creation of e-government itself. This condition occurs at various levels of the bureaucracy, from the lowest staff level to the highest level. The weak use of e-government in the bureaucratic environment which is interrelated with the still limited application has led to the slow implementation of e-government programs. The Indonesian government continues to improve these problems with careful planning efforts, namely: compatibility between the vision, mission and goals of e-government with the vision, mission and goals of the government; alignment between data information systems and bureaucratic processes; appropriate strategy; have a structured and gradual process; and adequate human and financial resource support. In its implementation, the process of evaluating the use of information and communication technology, especially within the local government environment, has not run optimally. Various obstacles faced in terms of policy, governance, services, and infrastructure. Evaluation of e-government in Indonesia is carried out periodically by the Directorate of e-government of the Ministry of Communication and Information of the Republic of Indonesia through provincial-level Indonesian e-government rankings. Indonesia's e-government ranking includes the dimensions of policy, institutional, application, infrastructure, and planning. Various obstacles faced in terms of policy, governance, services, and infrastructure. Evaluation of e-government in Indonesia which is carried out periodically by the Directorate of e-government of the Ministry of Communication and Information of the Republic of Indonesia through provincial-level

Indonesian e-government rankings. Indonesia's e-government ranking, namely the dimensions of policy, institutional, application, infrastructure, and planning.

Attitudes and intentions in organizational structuring, cultural and behavioral changes in government are important in adopting e-government transformation (Batara et al., 2017). Habib Zafarullah and Noore Alam Siddiquee in (Berman & Rabin, 2008) explained that the information gap that contributes to a lack of transparency can be substantially reduced by using information communication technology that connects organizational units, government, private, state and people. Another problem is that business processes at the macro and micro levels are not yet effective, efficient, transparent and participatory.

Since the release of Presidential Instruction Number 3 of 2003 (Dokumen-2 2003) there has been a significant increase in the existence of government domains. The number of go.id domains continues to increase until October 2017. 3,882 go.id domains have been recorded ([www.pandi.id/statistik](http://www.pandi.id/statistik)). The Ministry of National Development Planning/National Development Planning Agency organizes public service processes that are simple, transparent, participatory and e-government based. The strategy undertaken is in the form of reviewing and simplifying governance and development procedures; improving the relationship between the central and regional governments. In addition, it also includes the acceleration of integrated e-government implementation in governance and development by strengthening institutions, human resources, e-government infrastructure and optimizing integrated e-government implementation to support the development of development performance data management, control and preparation of reports, use in an integrated and online manner thereby facilitating the decision-making process quickly (Rencana Pembangunan Jangka Menengah Nasional (RPJMN) 2015-2019, 2014). It is necessary to develop the structure and organization of the government bureaucracy in developing government digitalization innovations (Söderström & Melin, 2019). The Ministry of Administrative Reform of the Bureaucratic Reform has also formed an e-government Working Team to increase synergy in the development of e-government policies, through coordination with the Ministry of Communication and Informatics, and other relevant Ministries/Institutions.

#### National Movement for Mental Revolution to Improve Electronic-Based Governance

The national development agenda stated in the vision and mission of Joko Widodo's Government in Nawacita is "to develop governance that is clean, effective, democratic and reliable". The target to be achieved in the government is to increase transparency and accountability in every process of governance and development with a system of reporting and performance of government agencies; increased public access to government performance information; more effective implementation of e-government and increased implementation of open government in all government agencies (Presidential Regulation of the Republic of Indonesia, 2015). The mental revolution targets three dimensions of change, namely the cultural revolution which changes the mind set and cultural set; functional revolution that will optimize the effectiveness and efficiency of apparatus functions; structural revolution that will optimize the system, structure and management of the state apparatus (Zakaria, 2017). Changes in people's mentality can be made possible if facilitated by structural reforms and improvements (especially development policies) carried out by the Government of Indonesia (Wirutomo, 2019). The position of Mental Revolution is very important and central in national development national development. Character and mental attitude must be be changed for the better with the encouragement of the government and the society to create an advanced, modern, superior, and nation that is advanced, modern, superior, and competitive, so that it is able to compete with other developed countries.

Most public institutions already know the root of the problem in their public services. Therefore, the Government of Indonesia needs to focus on the main problems and

implement targeted solutions. Every government institution must have an objective results assessment system (Utomo & Noormega, 2020). One of the policies and strategies for its implementation is e-government to support simple, efficient and transparent, and integrated governance and development processes. Strengthening e-government policies that regulate institutions, reinforcing integrated e-government systems and infrastructure based on information and communication technology (Nababan & Darwanto, 2015). In continuing development in Indonesia, the vision of the 2015-2019 National Medium-Term Development Plan is the realization of an Indonesia that is sovereign, independent and has a personality based on mutual cooperation. Several development policies and programs aim to increase competitiveness, improve human quality, including through mental development; utilize and restore lost potential in the maritime and marine sector; increase quality economic growth; reducing disparities between regions; restore environmental damage; and advance social life. National Revolutionary Movement Program Mental Revolution (GNRM) program is one of implementation of the Vision of the President of the Republic of Indonesia in National Medium-Term Development Plan Medium Term Development Plan Year 2020-2024, namely the Realization of Indonesia that is Sovereign, Independent, and Personalized based on Gotong royong.

The mental revolution movement aims to improve and build the character of the Indonesian nation which refers to the values of integrity, work ethic and mutual cooperation to build a dignified, modern, advanced, prosperous and prosperous national culture based on Pancasila. As a national form of support and encouragement, the President of the Republic of Indonesia Joko Widodo emphasized that disruptive innovations are needed that turn impossibility into opportunities, turn weaknesses into strengths and advantages and limitations into abundance, turn difficulties into abilities, turn worthlessness into value for the people and the nation. Simplification of the bureaucracy must continue to be carried out on a large scale. Long procedures must be cut, long bureaucracy must be cut.

The National Mental Revolution Movement has five programs, namely the Serving Indonesia Movement, the Clean Indonesia Movement, the Orderly Indonesia Movement, the Independent Indonesia Movement, and the United Indonesia Movement. The National Mental Revolution Movement encourages maximizing the role of the government bureaucracy in serving public needs through a bureaucratic reform program, which is expected to eliminate government bureaucratic inefficiencies as well as improve the quality of service to the public. This improvement in service quality was further strengthened through the Mental Revolution program in governance to strengthen a clean, serving and responsive bureaucratic culture. The manifestation of the Mental Revolution in governance is in the form of excellent public services (Draft Road Map and General Guidelines for the 2021-2024 Mental Revolution National Movement, 2017). The government is aggressively carrying out bureaucratic reforms including actions to eradicate extortion and so on. Mental Revolution to strengthen the values of integrity, work ethic, mutual cooperation, and character. Mental Revolution in governance to strengthen a clean, serving, and responsive bureaucratic culture. The success of implementing bureaucratic reform is not just about procedures or reports, but how the people we serve can feel the impact of change for the better.

One of the programs of the National Mental Revolution Movement is the Indonesia Serving Movement which focuses on increasing the human resource capacity of the state civil servants; increasing enforcement of discipline by government apparatus and law enforcers; improving service standards and innovative service systems (e-government); improving the performance-based management system of the state officials; increasing the behavior of public services that are fast, transparent, accountable and responsive. It also focuses on the improvement of laws and regulations (deregulation); simplification of bureaucratic services (de-bureaucratization); increasing the provision of facilities and infrastructure that support public services; increasing enforcement of laws and regulations in the field of

public services; application of a system of rewards and sanctions; and exemplary leadership (Document-25 2016). Improvement in public services can be seen in several programs of the Indonesia Serving Movement, namely system integration and one door. One of them is the construction of the Public Service Mall as a place for the integration of various services such as iIntegration of the population system database and identity cards and other services (Fenat et al., 2020). With this Presidential Instruction, efforts to implement e-government have become stronger and more comprehensive in various government agencies at the central and regional levels by issuing implementing regulations in the form of ministerial, governor, regent, mayor decrees at the local level. The Mental Revolution in the field of government apparatus is a change that is always being measured and planned. Every change must be followed so that we can direct the change in a better direction in accordance with national development priorities.

#### Acceleration of E-Government Transformation in Indonesia

E-government also increases efficiency, speed, transparency, public service accountability, effectiveness of government functions, and others (Sánchez-Torres & Miles, 2017). However, socio-economic disparities, organizations are a challenge in implementing digital transformation in several countries (Ho, 2002). The strategy and key to success in the development of information technology by the government are data and information; information technology; organizational management; regulation; organizational environment (Gil-García & Pardo, 2005). To address the digital divide, it is necessary to set priorities, formulate policies, legal and regulatory frameworks, allocate funds and facilitate partnerships. The Indonesian government is accelerating the digital transformation process in the following aspects: infrastructure development through the construction of a national data center and an electronic-based government system; accelerating regulation through laws and regulations in the field of informatics communication and data protection; human resource development through a superior digital talent program; strengthening international cooperation in the field of digital economy.

The e-government implementation strategy that must be carried out contains the ranking of administrative output according to the impact of E-Government on society such as cycle time, service quality, cost efficiency, also in political and social aspects (Funabashi & Grzech, 2005). Social influence and level of trust are important factors influencing individuals to use e-government services in developing countries (Susanto & Aljoza, 2015). Citizen satisfaction with e-government and citizens' trust in government are interrelated. The use of the internet in interaction and transparency in public services provides positive things and citizen trust in the government (Welch & Hinnant, 2003). The application of e-government provides benefits to the community in improving the quality of government services to its stakeholders (community, business and industry); increasing transparency, control and accountability for governance that is free from corruption, collusion and nepotism; empowering communities and other parties as government partners in the process of making various public policies in an equitable and democratic manner. It also benefits to reduce administrative costs, relations and interactions incurred by the government and its stakeholders; provide opportunities for the government to obtain new sources of revenue; and create a new community environment that quickly and accurately responds to various problems faced.

Since the issuance of Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems (Dokumen-38 2018) signed by President Joko Widodo on October 2, 2018 has shown a change for the better and the cooperation of various parties in Indonesia. This Presidential Regulation describes electronic-based government administration services in the form of integration of e-procurement, e-planning, e-government agency performance accountability reports, e-budgeting, e-monitoring

evaluation and e-state property as well as electronic-based public services in the form of e-services. The objective of an electronic-based government system in this Presidential Regulation is the realization of an integrated and comprehensive electronic-based government system to achieve high-performance bureaucracy and public services. The way this is done is by realizing good governance, improving the quality of public services and increasing community participation in the implementation of development, increasing the efficiency and integration of government system service delivery. The Master Plan for the National Electronic-Based Government System was prepared with reference to the policy directions of the 2005-2025 National Long-Term Development Plan, the 2010-2025 Bureaucratic Reform Grand Design, and the 2014-2019 National Medium-Term Development Plan.

Strategy, the structure and process of transforming government administration can be realized with a high capacity to deal with a world that is changing rapidly. Optimization of internal resources and division of roles that are clear and accountable in their implementation. Technology that is built into an integrated system and structure makes it easier to work and can improve the quality of public services (Widyantini, 2021; King & Cotterill, 2007). Increasing public innovation through network collaboration from various stakeholders (Sørensen & Torfing, 2011). In realizing the accelerated process the government works in an integrated manner and simplifies access to all information and public services in accordance with the government's main objective, services to the public are sought in real time; developing digital devices that support employee mobility; business process modification as a response to changes in behavior and community needs that are getting faster, easier, cheaper, and more transparent; the state must be closer to the community so that the community is more innovative, creative, productive for national development.

Table 2. Stages of E-Government Development in Indonesia 2016-2019

Year	Development Stage	Implementation
2016	Interaction	E-payments; school dropout identification system; e-budgeting, online procurement
2017	Transaction	Supporting information on agriculture and fisheries sector; integration of export and import reporting; civil servant management data
2018	Collaboration	Online licensing for all ministries/agencies; population data services (online birth and death certificates and child electronic identity); immunization information system
2019	Optimization	Integrated online licensing; implementation of nation single portal and national big data; e-office services in all local governments in Indonesia

Source: 2016-2019 National E-Government Roadmap

One of the implementations of the Nawa Cita Program in President Joko Widodo's Government in the context of government is the implementation of electronic-based government in the form of e-government. In Presidential Regulation Number 96 of 2014 concerning Indonesia's Broadband Plan 2014-2019, Indonesia's broadband development priorities are in five sectors, namely e-government, e-health, e-education, e-logistics and e-procurement. The Indonesian government focuses on steps that include establishing e-leadership to facilitate and coordinate e-government activities at all levels of government, developing cyber laws, building information technology infrastructure and technology, develop a pilot project priority list and phased implementation strategy, change management of each e-government program.

In the adoption of e-government services differ from other technologies in the aspect of the perceived risk to the public. This suggests that individuals are willing to use a new technology if they think it will benefit them. Trust in government and trust in e-government security systems can also affect government trust in e-government service security systems (Fakhruzzaman, 2019; Myeong, Kwon, & Seo, 2014). Government provision of network infrastructure, hardware, software; information technology and technical environment; human resources who are competent, capable, with integrity and innovative as well as mastering science and technology. To encourage the ranks of the central government and local governments to create and manage websites in a professional manner as well as to standardize government-owned domain names, the Ministry of Communication and Informatics issued Regulation of the Minister of Communication and Informatics Number 28 of 2006 concerning creating domains with the go.id extension (Dokumen-9 2006).

In an effort to accelerate this transformation, Presidential Regulation Number 39 of 2019 concerning One Indonesian Data was issued (Document 39 2019). The data to be loaded includes statistical data, geospatial data, state financial data and others. Article 2 of Presidential Regulation Number 39 of 2019 explains that the implementation of One Data Indonesia at the central level is part of the implementation of electronic-based government system data management. Indonesia's One Data Policy to regulate the administration of data governance generated by central agencies and regional agencies in supporting development planning, implementation, evaluation and control with data that is accurate, up-to-date, integrated, accountable, easily accessible and shared, and managed carefully, integrated, and sustainable. This regulation mandates the Ministry of National Development Planning/National Development Planning Agency to formulate strategic steps to implement it.

President's Mandate on 5 Steps to Accelerate Indonesia's Digital Transformation: 1. accelerate the expansion of internet access, 2. design roadmap of digital transformation in strategic sectors, 3. data integration and the establishment of the national data center, 4. preparing human resources development in the digital sector, 5. setting up regulations, funding schemes, and budgeting. In realizing this, it is necessary to work integratively at central agencies and local governments to produce an integrative, dynamic, transparent and innovative government bureaucracy, as well as improve the quality of public services that are integrated, effective, responsive and adaptive. The work steps taken are structuring and strengthening the organization and governance of an integrated electronic-based government system; developing electronic-based public services that are integrated, comprehensive, and reach the wider community; build an integrated, safe and reliable information and communication technology foundation; and building competent and innovative human resources based on information and communication technology. The National Electronic-Based Government System Coordination Team chaired by the Minister of State Apparatus Empowerment and Bureaucratic Reform needs to develop a strategy to improve the implementation of the Electronic-Based Government System where one of the improvements is strengthening telecommunications infrastructure which is one of the lowest points in the assessment. In addition, strengthening the aspects of governance, services and human resources whose value is still only slightly above average, needs to be a concern in order to maximize the implementation of the Electronic-Based Government System in Indonesia.

Primary legislation in the ICT sector is Law Number 11 of 2020 on Job Creation in the Postal, Telecommunication, and Broadcasting Sector; Law Number 11 of 2008 on Electronic Information and Transactions as amended by Law Number 19 of 2016; Government Regulation Number 71 of 2019 on Electronic System and Transaction Provision, and its implementing regulations; Government Regulation Number 46 of 2021 on Postal, Telecommunication and Broadcasting; Ministerial Regulation Number 5 of 2020

on Electronic System Providers for Private Purposes. The President's vision for accelerating digital transformation and digital literacy for the Minister of Communication and Informatics 5 presidential directives to accelerate digital transformation: Design roadmap of digital transformation on strategic sectors, accelerate the expansion of internet access,

Table 3. E-Government Development Index (EGDI) Indonesia 2003-2022

	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
	<b>E-Gov Development Index</b>										
Indonesian (Rank)	77	88	107	116	106	97	109	106	96	85	70
Indonesian (Values)	0.71600	0.66120	0.52580	0.44784	0.44874	0.49486	0.40264	0.41070	0.38186	0.39090	0.42243
	<b>E-Participation Index</b>										
Indonesian (Rank)	37	57	92	114	110	66	86	135	34	32	41
Indonesian (Values)	0.71590	0.75000	0.61800	0.37288	0.29411	0.21050	0.12857	0.04545	0.28571	0.26229	0.25860

Source: [www.publicadministration.un.org](http://www.publicadministration.un.org)

The implementation of an Electronic-Based Government System by the Indonesian government has shown an increase. In table 2, the results of the e-Government Development Index (EGDI) survey conducted by the United Nations show that Indonesia is ranked 77 out of 193 countries in 2022. It has increased by 30 rankings from the previous assessment in 2018, where Indonesia was ranked 107. This result is of course good news for the implementation of e-government in Indonesia. It is hoped that all aspects of the nation will continue to be fully committed to supporting digital governance and sustainable development in order to win global competition. Indonesia is capable of making progress in the transformation of a digital-based government system. As an example, Indonesia already has a digital-based social registration system that functions as a gateway for social protection programs with direct cash assistance and emergency assistance sent directly to people in need. Overall, Indonesia scored a score of 0.71600 in the High e-Government Development Index (EGDI) group in the 2022 UN e-Government Survey. Leadership commitment to government agencies is important in carrying out continuous improvement to realize concrete increases in the implementation of electronic-based government systems. This shows that efforts to develop and implement an Electronic-Based Government System have gone well. The results of hard work and neat cooperation between all teams implementing the Electronic-Based Government System in ministries, institutions, and local governments. The survey results are a strong sign that digitalization must be realized immediately, especially in government so that public services from the State Civil Apparatus are always improving, continuing to encourage digital government to serve as directed by President Joko Widodo in Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems, so that the public can feel the benefits more broadly.

### Several E-Government Information Technology Systems and Applications Developed to Accelerate and Improve Public Services

Modernization of public services with digital government provides an opportunity for the government to serve the public by increasing their participation and collaboration in creating services that suit the needs of the community. Technological innovation has been applied in the preparation of government and democracy policies and regulations. Government transformation through the use of information technology requires persistence and discipline to achieve the long term. changes in government transformation through digital government programs occur in jurisdictions where those responsible for information technology can lay the foundation for continuous improvement through the utilization of information technology in the government sector (Sandoval-Almazán et al., 2017).

Massive technological developments such as cloud computing, social media, mobile technology, provide opportunities for the government to serve the public and increase public participation and collaboration in producing public services. This is done by the government as an effort to modernize public services through the adoption of digital technology and integrating it in the public sector which is called digital government. In an effort to transform e-government, the Ministry of Communication and Informatics has compiled digital literacy framework is used as a basis in designing Indonesia's digital literacy programs and curriculum for 2020-2024. The ability of individuals who understand the use of Information Communication Technology (hardware, software and operation system) to increase their productivity (digital skills); individual ability by getting used to behavior in the digital space in building a national insight in the values of Pancasila and Bhinneka Tunggal Ika (digital culture); individual ability to create habits with integrity, maintain ethical professionalism and maintain local wisdom (digital ethics); individuals who have the ability to recognize, collaborate, implement, and increase awareness of personal data protection and digital safety (digital safety).

Several e-government developments have been carried out by the Directorate of e-government of the Ministry of Information and Informatics in the form of an online licensing system known as the Intelligent Application of Integrated Licensing Services for the Public. One of the areas that has become an example of successfully carrying out online licensing by the Investment Coordinating Board and the Corruption Eradication Commission specifically is West Java Province. The success of the Regional Government cannot be separated from the support of regional leaders and the readiness of human resources in managing the implementation of online permits. The Investment Coordinating Board has implemented one-stop integrated services, information service systems and investment licensing electronically connected to 34 provinces.

Local governments that have utilized hosting facilities in data centers, namely the Development Acceleration Unit for Papua and West Papua Provinces, NTB Province, Bangli Regency, Dairi Regency, Demak Regency, North Gorontalo Regency, Indragiri Hilir Regency, Kudus Regency, Kuningan Regency, Lahat Regency, East Lombok Regency, Malang City, Maros Regency, Padang Pariaman Regency, Siak Regency, Sukoharjo Regency, Pasaman Regency, Bitung City, Jambi Province. Ministry of Communication and Information, Coordinating Ministry for Politics, Law and Human Rights, Ministry of Marine Affairs and Fisheries, Directorate of Taxes, Ministry of Finance, LKPP, BN2TKI, Directorate General of Population Administration, Ministry of Home Affairs, Provincial Governments of West Java, East Java, DI Yogyakarta, South Sumatra, Jambi, Gorontalo, Government of Demak, Banyuasin, Kudus, Maros Regencies. Lamongan, Padang Pariaman, City Government of Surabaya, Malang, Surakarta.

Some of the systems and applications developed are integration management applications and data exchange (called MANTRA). The MANTRA application is used to bridge the exchange of data between government agencies even though they have different databases,

applications and operating systems. The MANTRA application can function as a GSB (Government Service Bus) and Web-API (Application Programming Interface). The MANTRA application has been used in the Ministry of Foreign Affairs, Directorate General of Population and Civil Registry, Ministry of Home Affairs, BNP2TKI, Ministry of Communication and Information Technology, Directorate General of Taxes, Ministry of Finance, LKPP, Government of Bangka Regency, Government of Pekalongan City, Government of West Java Province. Based on the Minister of State Apparatus Empowerment and Bureaucratic Reform Regulation Number 6 of 2011 concerning Electronic Service Manuscripts in Government Agencies, the MAYA office administration application (siMAYA) was developed. SiMAYA implementation is carried out through the cloud computing method and the non-cloud computing method. There is also a PNSMail email service for civil servants throughout Indonesia with a quota of up to 250 MB.

Networks among government agencies were built by Private Network Security (PNS-Box) with local ISPs. PNS-Box as a router in interconnection across government agencies, interconnection across data centers, Content Delivery Network, local data exchange (file sharing), High Availability across locations, interoperability of cross-government applications, VoIP and Video Conference, and Disaster Recovery Center. PNS-Boxes have been installed at the Ministry of Health, Ministry of Foreign Affairs, Directorate of Taxes, Ministry of Finance, Ministry of Maritime Affairs and Fisheries, Coordinating Ministry for Political, Legal and Human Rights, and communications and information services in several districts and cities in Indonesia. Some local governments have shown significant progress with good achievements in e-government development. Technology built in an integrated system and structure to make it easier to work, and can improve the quality of public services. The Ministry of Communication and Informatics has issued Regulation of the Minister of Communication and Informatics Number 4 of 2016 concerning Information Security Management Systems which has adopted the SNI/ISO 27001:2013 standard in implementing digital government strategies to increase trust.

## Conclusion

The transformation of government administration can be realized by digitizing government through the implementation of an unified and integrated Electronic-Based Government System. The use of e-government is carried out due to fundamental changes in the life of the nation and state, from an authoritarian and centralized system of government to a democratic system one, and applying a balance of authority between the center and autonomous regions. The changes that occur require the formation of a government that is clean, transparent, and able to respond effectively to demands for change. E-government is implemented because there are demands for public services that meet the interests of the wider community in all regions of Indonesia. E-government is reliable and trustworthy, it is easily accessible interactively. The implementation of e-government is the desire of the people to have their aspirations heard so that the government must facilitate public participation and dialogue in the formulation of state policies. The performance of digital government cannot be separated from the government's ability to create and implement programs and public policies in an efficient, effective and responsive manner. In the implementation of e-government in Indonesia, there are still some outstanding weaknesses such as the services provided have not been supported by an effective management system and work process, regulatory readiness, procedures and limited human resources; the absence of a strategy, as well as the inadequate budget allocated for e-government development; initiatives in e-government efforts by agencies are carried out separately; and gaps in people's ability to access the internet network. The forms of using e-government are e-budgeting, e-procurement, e-audit, e-catalog, e-payment, e-controlling, even to e-health. Several local governments have implemented a smart windows system (SWS), a

service that allows the public to manage permits via a smartphone. In fact, the public can print their own licensing documents. The key to Indonesia's e-government success is highly dependent on President Joko Widodo's strong leadership in digitalization. Its tangible manifestations are changes in mindset and work culture, active participation of the public, provision of basic information and communication technology infrastructure, and development of competent human resources. President Joko Widodo's leadership is supported by a strategy in implementing the e-government system, that includes developing a reliable service system with an even communication network throughout Indonesia so that it can be reached by the wider community; organize government work systems and processes and regional government autonomy; prepare human resources who are familiar with technology; utilization of information technology in providing information to the public; increase the participation of the business world and develop the telecommunication and information technology industry; and carry out development in a systematic, realistic and measurable manner, namely through the stages of preparation, maturation, consolidation and utilization. The government's commitment is realized by providing guidance and informal education in the fields of technology, information and communication for state apparatus and society, resources for the development of e-government and digital communities; commitment and strong leadership character in developing e-government (Huda & Yunas, 2016). The commitment of the Government of President Joko Widodo through the Mental Revolution Movement Program in building clean, effective, democratic and reliable government governance. This national program is an attempt to respond to citizens' demands for transparency and accountability, to become more inclusive and thereby restore citizens' trust in the Indonesian government. The Indonesian government has also allocated sufficient budget in the state financial structure to build access to telecommunications networks, the internet and other communication media that can be used by citizens to access public service sites widely. Through e-government, the Government of Indonesia can become more efficient, providing better services.

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