

Digitalization in Public Administration Services in Indonesia: Pseudo or Real Digitalization

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ABSTRACT

Indonesia has a plan to implement information and communication technology (ICT) across the vast majority of government functions and public service delivery systems. This is due to the expanding needs of the community, which necessitates that the government be able to deliver good and outstanding service. Previously, the government had implemented e-government, or digitalization of public service processes. However, implementation still requires improvement. It involves the methodical incorporation of innovation into ICT, which ensures bottom-up learning for a seamless digital transformation of public services. Therefore, the purpose of this study is to determine whether the digitalization of public services in Indonesia is a reality or only hype. This study employs a qualitative approach and descriptive methodologies. The study's findings indicate that the reality of digitalizing public services (e-government) is that there are still misconceptions and perspectives that need to be clarified. In general, digitization in public services in Indonesia is in the emerging and enhancing stage; only a tiny number have implemented the interactive setting, so based on the E-Government Development Index (EDGI), Indonesia is lagging among ASEAN countries. The obstacles in the implementation of e-government include low data integration, implementation of e-government, low competence of apparatus, etc., so a strategy is needed to develop digitization in public administration services.

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I. Introduction

Opportunities for cross-sector collaboration among businesses and governments emerged with the rise of the internet in the 20th century. Awareness of public rights and higher expectations for public services have been hallmarks of the 21st century, which began with the advent of mature and pervasive internet technology [1]. Early adoption of information and communication technology (ICT) is common in developed nations, and the use of ICT to improve public services has been the subject of numerous positive studies. Customers and service providers alike have profited from its implementation [2]. Perhaps the most obvious advantages of integrating ICT are the enhancements to communication and the effectiveness of public service delivery [3].

When compared to many industrialized countries, the use of ICT in public services in developing countries is still relatively shallow. Reasons for this can be found in a variety of sources, including low literacy rates, a lack of training, a lack of initiative, and a lack of resources [4].

Private and public sector internet and social media coverage often precedes the move to government services in many developing countries. Better and more efficient public services are in more demand in these nations as a result of the information revolution and widespread increases in access to knowledge [5].

The significance of e-government has resulted in governments in emerging nations adopting its concepts for public service management [6]. During the epidemic era, for instance, electronic

applications, payments, information, communications, procurement, management, and customer service concerns made Indonesia's public services more innovative. This new delivery system will save time, decrease expenses, and alleviate traditional services through counters and telephones so that civil officials can devote more time to critical duties [7].

In spite of this, e-government infrastructure has not advanced equally in all countries. E-government is still something that many poor countries need to work on implementing. There were no significant changes to the number of nations with low scores on the E-Government Development Index (EGDI) in 2016. This group included 29 of the world's least developed countries [8]. [9] reported that, over time, a number of developing nations began implementing e-government systems to enhance governance and public services.

E-government can be described as the use of information and communication technologies to improve the delivery of government services to citizens and companies. In other words, it's the use of information and communication technologies (ICTs) in governmental settings, with the aim of accomplishing public goals through [10]. According to Yidiz (2007), "e-government" is providing government services (such as information, interaction, and transactions) via electronic means. It's possible to split public service delivery companies into front and back offices. The front desk is where citizens and government employees interact, while other tasks like registration take place in the back. The widespread adoption of ICT in government has led to the proliferation of related words, such as "digital governance," "e-government," and "e-governance" [11]. But as [12] points out, e-government is about more than just how the government employs IT; it's also about how IT is utilized to reform the government [13].

Citizen participation in government can be increased through e-government in developing nations because it facilitates communication between citizens and government officials at all stages of the policy cycle [14]. Increasing participation in the civic process helps the public have more faith in its government. As a result of a strong dedication to openness and accountability, corruption is reduced, citizens have easier access to government data, government is held to a higher standard of accountability, crime rates go down, and citizens receive better overall services [15].

In their research, [16] identify economic, organizational, and technological problems as the primary causes of e-failure government's in low-income regions. Information, technological, and political issues are needed for e-government initiatives in low-income nations. [17] highlights a number of problems that prevent Indonesia from fully realizing the potential of e-government. There is a lack of leadership, resources, people, communication, and standards, and there is also a digital gap. In addition, there are a few negatives to eGovernment in Indonesia. There are many barriers to the widespread adoption of e-government at all levels of government, including (1) the lack of an overarching strategy for its implementation, (2) the continued reliance on antiquated technology, (3) low levels of e-government use in public administration and services, (4) the lack of sufficient expertise among ICT personnel, etc. According to [18], the lack of innovation in public services at the local level is due to a lack of digitalization of those services.

Considering the context of the issue at hand. That's why we're narrowing in on the root of the issue here. The researcher poses the question of whether the community's hopes are being reflected in Indonesia's actual process of digitizing public services or whether the optimism is only a language detached from reality. Challenges to Indonesia's digital transformation of government services will also be discussed. Theoretically examining the digitalization of public services in Indonesia, this research is supposed to shed light on public policy. Good public policy is influenced by outstanding and efficient public services, and the findings of this study can inform those in a position to make those improvements, particularly in the elite..

II. Methods

Methods of descriptive qualitative research were utilized in this study. The purpose of qualitative research is often to provide an overview or understanding of how and why a phenomena or reality of communication occurs [19]. A qualitative approach is a method of conducting research that generates descriptive data in the form of written or spoken words from people or observed behavior, according to Bodgan and Taylor's definition of the qualitative approach [20]. As a consequence of this, a researcher plays an important part in the process of conducting research in this setting. At the same

time, the descriptive approach investigates issues that are prevalent in society as well as practices that are utilized in society as well as certain circumstances, such as actions, perspectives, and procedures that are now taking place in addition to the outcomes of a phenomena [21]. Methods of qualitative descriptive analysis involve organizing and interpreting data in order to get a knowledge of the outcomes of data analysis as well as to ensure that the analysis is carried out in accordance with the research objectives. Since the observation was made, the data have been subjected to qualitative analysis and been interpreted using that method. In order to accomplish the goals of the research, the phenomena that take place in the community are investigated and analyzed for future consideration.

III. Result and Discussion

A. *The Reality of Digitalization (E-Government) in Indonesia*

Since the beginning of the new millennium, there has been a rise in the use of the phrase "e-Government" in Indonesia. This was marked by the issuance of Presidential Instruction (Inpres) Number 6 of 2001, which encouraged the use of telematics technology to achieve the target of good governance and accelerate the realization of the aspired democracy. This event was marked by the issuance of Presidential Instruction (Inpres) Number 6 of 2001. In a way, the use of information and communication technology within the context of e-government serves to promote interconnectivity between the government and other interested parties [22].

e-Government is characterized by the use of computerization and automation into formerly paper-based processes. This will result in new forms of leadership, different approaches to the discussion of strategies, the emergence of new mechanisms related to business transactions, the facilitation of two-way communication between citizens/communities and the government and vice versa, and the provision of a new platform for organizing and disseminating information.

This e-Government does not only work in one or two agencies but in all existing agencies. The result, of course, leads to an accurate and integrated system. Unfortunately, the journey of the e-Government project in Indonesia still encounters many obstacles. The exciting part is that these obstacles arise precisely because of misunderstandings and views [12].

At first, many people thought that e-Government was just a website for a government agency, but this system is more limited. People worry that this way of thinking will make e-Government less important. E-Government is a system that connects all of the government agencies in a country. Because the name is fairly new, some people think that e-Government is only as good as the infrastructure that is available. In fact, infrastructure is not the same thing as e-Government. Because it is "soft," e-Government is more likely to help people help themselves, while infrastructure is usually used for more special interests [3].

After that, people started to question whether or not e-Government is just about building information systems. This is not completely wrong, but so far, the way agencies in Indonesia have looked at the system has been through the lens of the bureaucratic process, which is already happening. A better way to think about it is that this system exists because it is used to help run the government in the best way possible.

The widespread coverage goal e-Government in Indonesia is attempting to achieve presents a new challenge: the perception that it is prohibitively expensive. Insufficient funding is a fact of life rather than a barrier to the development of e-Government. The degree to which a society is prepared to embrace the technology introduced by e-Government is more crucial than the sum total of its individual costs. Furthermore, if the supporting investment (which includes infrastructure and information systems) falls short of the goal, then this system might be deemed costly. When properly implemented, ICT has the potential to provide a multiplier effect that generates output advantages that are greater than the investment value, making E-Government a worthwhile endeavor [23]. There is also an assumption that emerged during the journey that e-Government requires dedicated ICT HR. As is the case with other fields: technical skills without the support of managerial skills will not produce optimal results. Leadership is essential to produce e-Gov implementation that meets expectations.

The growth of the electronic government in Indonesia is behind that of other ASEAN countries, such as Singapore, Malaysia, Brunei, Thailand, the Philippines, and Vietnam. With the exception of

Laos, all ASEAN countries' e-government rankings climbed substantially by 2020. That these nations have kept and are working to strengthen their electronic government systems.

Table 1. List of E-Government developments among ASEAN Countries

No	Country	2010	2012	2014	2016	2018	2020
1	Singapore	11	10	11	4	7	11
2	Malaysia	32	40	59	60	48	47
3	Thailand	76	92	54	77	73	57
4	Brunei	68	64	179	83	59	60
5	Philippines	78	88	51	71	75	77
6	Vietnamese	90	83	65	89	88	86
7	Indonesia	109	97	110	116	107	88
8	Cambodia	140	155	137	158	145	124
9	East Leste	162	170	186	160	142	134
10	Myanmar	141	160	172	169	157	146
11	Laos	151	153	137	148	162	167

Source: Compiled from UN E-government Survey, 2010-2020

According to Table 1, Indonesia fell from its 2014 global ranking of 110 to its 2016 global ranking of 116. Every two years, it jumped by at least ten spots, from 107th in 2016 to 88th in 2020. When Indonesia's EGDI ranking improved in 2020 to 88th place, Thailand's EGDI ranking improved by more than 15 places. EGDI-wise, Singapore is still the best in ASEAN, followed by Malaysia, Thailand, Brunei, and Vietnam.

E-Government in Indonesia is still emerging and enhancing; only a few have implemented interactive stages. The Minister of Communication and Information also said that most of the e-Government initiatives were still at the present web stage, although some had reached the transaction stage [24]. [25] assessed websites to gain a better understanding of the current condition of e-Government in Indonesia. He did this by applying a 5-stage model developed by the United Nations (2016). While 28% of local governments had advanced to the enhanced level, 55% were still in the first, emerging, stage. Only 17 percent of governments are at the active level, with only one having progressed to the transactional phase and none having reached the linked phase.

There is a need for a more obvious and comprehensive implementation of e-government, since many government organizations currently claim to have done but are actually only at the web presence level [26]. Therefore, many argue that e-government implementation may be improved, some of the services provided by the government still use manual methods, such as making ID cards, birth certificates, family cards, and so on. A citizen must come face to face with the officer concerned at the government office. This is very ineffective and inefficient because it costs more than the actual costs, and it is also felt to be very inconvenient because you have to go to the government office.

According to the results of Sosiawan's research [27], in technical terms, each Provincial Government website has followed several standards required in web development as a medium of communication and information based on provisions issued by KOMINFO. The most prominent shortcoming of the development of the Pemprov website is that it is still in the maturing stage or at the phase of providing interactive communication space only. In contrast, the phase to the advanced stage, namely the stabilization phase in the form of availability of public services and utilization in the form of cross-agency services, still needs to show that direction. The last observation still shows the same thing from the above phenomenon, even though several sites belonging to the provincial government are moving towards the third phase. The movement seems to be sluggish and not optimal. On average, the availability of information links from the Provincial Government sites that were researched was quite extensive and complete, but this is precisely what trapped the Provincial Government into not developing some actual e-government service applications, namely in the form of services such as making KTPs, e-employment, legal services, permits, etc.

Quantitatively, the district and city government websites still need to be publicized. However, in terms of good quality, they comply with several standards required for web development based on guidelines issued by KOMINFO. However, the drawbacks are the same as for almost all local government websites, namely they are still at the web presence stage or the maturation stage, although some of them are moving towards the third phase. In the ranks of higher and non-departmental institutions, quantitatively and qualitatively, there is a marked difference from the local government's

website. In general, almost every non-governmental organization has a website, and on average, the optimization of the facilities in it has been able to precede the local government website level. This indicator can be seen from the various link facilities and services available on the institution's website, which are close to the perfection of the third phase, which consists of application forms and so on. One example of an institution's website that has been optimized its website is www.ristek.go.id. From the research and technology website, it is now possible to make online registration applications in the context of grants and offers of financial assistance in research. As a result, the implementation of e-government in Indonesia is increasingly dominated by sites that are owned by the provincial government, regency government, and city government respectively. However, there is still room for improvement in terms of both the quantity and the quality of the sites that serve the community in general affairs. This indicates that the local government is hampered in its efforts to realize the optimal implementation of e-government due to a number of limits and difficulties.

B. Barriers to Digitalization (E-Government) in Indonesia

The low e-government index score indicates the existence of issues that must be addressed. The Ministry of Administrative Reform and Bureaucratic Reform, the Ministry of Communication and Information, the Ministry of National Development Planning/Agency for Planning and Development, the Agency for the Assessment and Application of Technology, and the Institute for State Administration conducted a joint study and discovered that reform implementation was difficult.

First, the government should expedite the review of e-government regulations in light of the rapid pace at which information and communication technologies (ICT) are evolving and the growing demand among the general public for digital services. Sixty-four percent of Indonesians, per the country's Ministry of Communication and Information (2019). As a result, (1) more people will utilize online services, (2) more business will be conducted online, (3) many more individuals will find employment in online-based businesses, and (4) more services will be connected to one another. Surprisingly, the dynamics of digital change were not governed by any legislation or policies from the government until 2018. (Ministry of Communication and Information of the Republic of Indonesia, 2019).

Second, the creation and implementation of greater e-government are hampered by the necessity of more data integration in e-government. In instance, numerous budget applications by government organizations have resulted in budgetary overlap. According to a survey conducted by the National ICT Council in 2018, 65 percent of Indonesian government agencies have requested funding twice to purchase the same programs. A lack of inter-institutional data integration further reduces validity and hampers sharing of information.

Third, there is a severe deficiency in the number of staff members who are technically savvy in regards to information and communication technologies. Menkominfo (2018) found that across government institutions, the vast majority of workers possessed basic computer and internet skills. However, in order to provide public services in digital formats, government employees still require expertise in areas such as programming, application development analysis, and software applications. There is a lack of a culture of electronic work, individualism, and lack of collaboration across most government ministries and agencies. Most government employees are fearful of being replaced and do not see themselves as leaders in the digital era; as a result, e-government has to be more widely accepted.

A fourth consideration is the uneven distribution of infrastructure across the country. Problems with insufficient infrastructure are hindering the rollout of e-government in Indonesia since the hardware market and ICT service providers have not been equally dispersed across the country. One of the things that slows down infrastructure building is the comparatively high cost. Many government agencies have recently constructed local area networks (LANs) in their own departments, but these LANs have not yet been interconnected.

Fifth, organizational communication; one of the barriers to e-growth Government's is that the flow of communication in its management still bumps up against bureaucratic channels. Support is required from the highest levels of management. Many e-Government projects up until this point have merely been for show. At tremendous cost, it was constructed for what seemed like a noble goal but ultimately served no useful purpose.

C. Public Service Digital Development Strategy in Indonesia

According to the study's findings, Indonesia has not yet developed an e-government or a digital government as intended. The fact that we are still working toward these targets is indicative of this. These objectives are set with the intention of fostering the development of more efficient public services and leadership structures within the relevant organizations. Many metrics show that Indonesia is not a good place to do business, from its low levels of competitiveness and ease of doing business on the world stage to its inefficient government and pervasive corruption.

Changing from a conventional model to e-government certainly has its challenges, let alone getting started. The government often needs clarification about where to start because of the need for more human and natural resources. However, initial steps must be taken immediately, for example, broadcasting regional tourism potential, general government-related information (photos and names of governors, addresses of official offices, etc.), and trade information, for example, today's chilli prices. In addition, educational information is equally important to convey, such as study hours, school profiles in certain districts, and other educational information.

Presidential Instruction (Inpres), No. 3 of 2003 establishing national policies and plans for e-government development, making e-government highly possible to adopt as a source of support for developing services to the community. Here are six initiatives from the federal government to advance public service delivery using digital means:

- a. Developing a community-wide service system that is dependable, trustworthy, and inexpensive. Equal distribution of communication networks in terms of area and quality and the establishment of government information portals are two ways to accomplish this.
- b. Government and autonomous government work systems and procedures are managed holistically. The objective is to prepare government personnel to adapt to a system that currently uses information and communication technologies.
- c. Make effective use of information and communication technologies. In addition to providing comprehensive information, the security of public service transactions is the most important aspect of the use of information and communication technology.
- d. Increasing business involvement and advancing the telecommunications and information technology industries. Participation in e-government is the responsibility of the business community, so that the government does not provide all public services.
- e. Increasing community e-literacy alongside the development of government and autonomous regional government human resource capacities.
- f. Conduct methodical development through attainable and quantifiable stages, specifically through the phases of preparation, maturity, consolidation, and application.

IV. Conclusion

Based on various research results, the government has made various efforts and initiatives to develop digitization in public services in Indonesia. However, it still needs to be more optimal and far from what was expected. Even though it is undeniable that several regions have shown good e-Government development performance, several regions still need to understand the implementation of e-Government. The government is only limited to building websites. As a result of this paradigm error, the digitalization of public services has either failed or, if not, has stalled. As a result of a number of obstacles, e-government in Indonesia has yet to take off. The ever-changing nature of information and communication technologies (ICTs) and the growing public demand for digital services necessitate a rethinking of existing e-government legislation and practices. Low data integration is another critical issue in e-government implementation; e-government implementation in public services and government administration remains minimal; the use of outdated technology isn't keeping up with the development of ICT in the industrial era; low competence of ICT apparatus; cultural mindsets and silos in government agencies; and gaps in the availability of ICT infrastructure, particularly in remote areas. Furthermore, complex bureaucracy continues. As a result, a strategy for the development of digitalization in public services is required, which includes developing a dependable service system, managing government and autonomous government systems and work processes holistically, maximizing the use of information and communication technology, increasing

business participation, and developing the telecommunications industry. In addition, information technology promotes digital literacy and systematic development in the community.

References

- [1] N. Siti Maryam, "Mewujudkan good governance melalui pelayanan publik," *JIPSI-Jurnal Ilmu Polit. Dan Komun. UNIKOM*, vol. 6, 2017.
- [2] A. Mahsyar, "Masalah Pelayanan Publik di Indonesia Dalam Perspektif Administrasi Publik," *Otoritas J. Ilmu Pemerintah.*, vol. 1, no. 2, Oct. 2011, doi: 10.26618/ojip.v1i2.22.
- [3] B. Irawan, "Studi Analisis Konsep E-Government: Sebuah Paradigma Baru dalam Pelayanan Publik," *J. Paradig.*, vol. 2, no. 1, pp. 174–201, 2017.
- [4] S. Saggaf, M. M. Said, and W. S. Saggaf, *Reformasi Pelayanan Publik di Negara Berkembang*, vol. 1. SAH MEDIA, 2018.
- [5] E. E. Supriyanto, "Kebijakan Inovasi Teknologi Informasi (IT) Melalui Program Elektronik Government dalam Meningkatkan Kualitas Pelayanan Publik di Indonesia," *JIP (Jurnal Ilmu Pemerintahan) Kaji. Ilmu Pemerintah. Dan Polit. Drh.*, vol. 1, no. 1, pp. 141–161, 2016.
- [6] D. Napitupulu *et al.*, *E-Government: Implementasi, Strategi dan Inovasi*. Yayasan Kita Menulis, 2020.
- [7] L. D. M. Putri and D. Mutiarin, "Efektifitas Inovasi Kebijakan Publik; Pengaruhnya pada Kualitas Pelayanan Publik di Indonesia," *J. Ilmu Pemerintah.*, vol. 3, no. 9, 2018.
- [8] E. UN, "UN E-Government Survey 2020. Digital government in the decade of action for sustainable development." ONU Nueva York, 2020.
- [9] V. Ndou, "E-government for developing countries: Opportunities and challenges.," *Electron. J. Inf. Syst. Dev. Ctries.*, vol. 18, no. 1, pp. 1–24, 2004.
- [10] M. Alshehri and S. Drew, "E-Government Fundamentals Author E-GOVERNMENT FUNDAMENTALS," *Proc. IADIS Int. Conf. ICT, Soc. Hum. Beings 2010*, pp. 35–42, 2010, [Online]. Available: https://research-repository.griffith.edu.au/bitstream/handle/10072/37709/67525_1.pdf.
- [11] M. Finger and G. Pécoud, "From e-Government to e-Governance? Towards a model of e-Governance," in *Proceedings of the 3rd European Conference on E-Government-ECEG*, 2003, no. CONF, pp. 119–130.
- [12] W. Kumorotomo, "Pengembangan e-government Untuk Peningkatan Transparansi Pelayanan Publik Studi Kasus UPIK di Pemkot Jogjakarta dan E-Procurement di Pemkot Surabaya," *Makal. pada Konf. Adm. Negara*, 2008.
- [13] R. M. Davison, C. Wagner, and L. C. K. Ma, "From government to e-government: a transition model," *Inf. Technol. People*, vol. 18, no. 3, pp. 280–299, Sep. 2005, doi: 10.1108/09593840510615888.
- [14] Z. Mahmood, *E-government implementation and practice in developing countries*. IGI Global, 2013.
- [15] J.-G. Cegarra-Navarro, J. R. C. Pachón, and J. L. M. Cegarra, "E-government and citizen's engagement with local affairs through e-websites: The case of Spanish municipalities," *Int. J. Inf. Manage.*, vol. 32, no. 5, pp. 469–478, Oct. 2012, doi: 10.1016/j.ijinfomgt.2012.02.008.
- [16] P. Gunawong and P. Gao, "Understanding e-government failure in the developing country context: a process-oriented study," *Inf. Technol. Dev.*, vol. 23, no. 1, pp. 153–178, Jan. 2017, doi: 10.1080/02681102.2016.1269713.
- [17] D. Novita, "Faktor-faktor penghambat pengembangan e-government: Studi kasus pemerintah Kota Palembang, Sumatera Selatan," *J. Eksplora Inform.*, vol. 4, no. 1, pp. 43–52, 2014.
- [18] A. Dwiyanto, *Mewujudkan good governance melalui pelayanan publik*. UGM PRESS, 2021.
- [19] I. Gunawan, *Metode Penelitian Kualitatif: teori dan praktik*. Bumi Aksara, 2022.
- [20] L. J. Moleong, "Metode penelitian kualitatif edisi revisi," *Bandung PT Remaja Rosdakarya*, 2014.
- [21] T. Soendari, "Metode Penelitian Deskriptif," *Bandung, UPI. Stuss, Magdal. Herdan, Agnieszka*, vol. 17, 2012.
- [22] R. Silcock, "What is e-government," *Parliam. Aff.*, vol. 54, no. 1, pp. 88–101, 2001.
- [23] R. E. Indrajit, A. Zainudin, and D. Rudianto, "Electronic government in action," *Yogyakarta*

- Andi Yogyakarta, 2005.*
- [24] R. Febriani, “Gambaran e-Government di Indonesia yang Bersistem Desentralisasi Ditinjau dari Performa Situs Web Pemerintah Daerah,” *Nirmana*, vol. 16, no. 1, pp. 64–72, 2017.
 - [25] T. W. A. Nugroho, “Analisis E-Government Terhadap Pelayanan Publik Di Kementerian Hukum Dan Ham (Analysis Of E-Government To Public Services In The Ministry Of Law And Human Rights),” *J. Ilm. Kebijak. Huk.*, vol. 10, no. 3, pp. 279–296, 2017.
 - [26] A. S. Edwi, “Tantangan dan Hambatan dalam Implementasi E-government di Indonesia,” *Telematika*, no. 13, 2011.
 - [27] E. A. Sosiawan, “Tantangan dan Hambatan dalam implementasi E-Government di Indonesia,” in *Seminar Nasional Informatika (SEMNASIF)*, 2015, vol. 1, no. 5.