

Rural Digitalization Problematics In Indonesia

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui problematika digitalisasi Desa sebagai evaluasi adopsi digitalisasi desa dalam mewujudkan *good governance*. Pada saat ini, pemerintah Indonesia menerapkan strategi nasional untuk transformasi digital, sehingga penelitian ini diharapkan akan dapat memberikan wawasan atau gambaran tentang bagaimana problematika dalam proses digitalisasi dan bagaimana penyesuaian mereka tentang aspek-aspek tertentu dari proses digitalisasi tata kelola yang berguna untuk menilai kebijakan digital saat ini dan kebijakan masa depan. Metode yang digunakan dalam penelitian ini adalah metode kualitatif. Pendekatan yang peneliti gunakan adalah studi pustaka. Hasil penelitian ini menunjukkan bahwa masalah digitalisasi desa terletak pada kesenjangan infrastruktur, pola pikir (*mindset*) digital, dan kualitas pengembangan digitalisasi. Perlu adanya komitmen dari pemerintah desa untuk pengembangan e-government yang berakar pada perubahan budaya kerja dari tradisional menjadi elektronik dengan memanfaatkan perangkat teknologi informasi. Penelitian selanjutnya dapat berfokus pada evaluasi komitmen pemerintah desa dalam penyesuaian digitalisasi desa.

ABSTRACT

This study aims to determine the problems of village digitalization as an evaluation of village digitalization adoption in realizing good governance. At this time, the Indonesian government is implementing a national strategy for digital transformation, so it is hoped that this research will be able to provide insights or descriptions of how problematic the digitalization process is and how they adjust to certain aspects of the governance digitization process that are useful for assessing current digital policies. this and future policies. The method used in this research is qualitative method. The approach that researchers use is literature study. The results of this study indicate that the problem of village digitization lies in infrastructure gaps, digital mindset, and the quality of digitalization development. There needs to be a commitment from the village government for the development of e-government which is rooted in a change in work culture from traditional to electronic by utilizing information technology tools. Future research can focus on evaluating the village government's commitment to adjusting village digitization.

Kata kunci

Digitalisasi, Pemerintahan, Problematika dan Desa

Keywords

Digitalization, Governance, Problems, and Villages

Introduction

Villages are an essential component of national development. This was expressed in one of Jokowi's Nawacita, which declared that Indonesia should be developed from the periphery by strengthening regions and villages within the framework of a unitary state, followed by a national development plan. According to the 2015-2019 RPJMN growth plan, the RPJMN shall be able to eliminate/minimize current imbalances, particularly those across regions and between villages and cities (Alvaro & Octavia, 2019). Researchers (Ayim et al., 2022) discovered that the need to solve concerns connected to climate change, food security, and rural livelihoods in rural areas is a driver of ICT innovation in developing nations. Village digitalization attempts to equalize digital-based living patterns of rural and urban communities in an effort to minimize the divide between village people and city people, as well as the gap between traditional and modern lifestyles, as well as village economic growth (Tambouris et al., 2015).

Village digitization can include information in the service sector, security, ambulance services, certificates, SOS robbery theft, natural disaster emergencies, realizing the dream of becoming an independent village through agriculture, small industry, village tourism, repairing/adding village facilities/infrastructure, improving the quality of village human resources through education and outreach, and increasing the village's original income (Katharina & Jaweng, 2020). Digitizing the village government system is one manifestation of bureaucratic change through the increased and widespread use of information technology (Liang & Yueping, 2018). Government digitalization is both a solution and a requirement for improving public services. Digital transformation in government administration also covers how to integrate all service sectors in order to offer added value for the public as service consumers. Web history was initially acknowledged in Indonesia in the 1990s (del/HUMAS MENPANRB, 2020).

E-government enables individuals to communicate with the government and get services more easily. In other words, e-government facilitates people's access to and usage of public services, such as paying parking tickets with a mobile phone or acquiring personal papers without visiting a public authority's office. E-government entails reforming administrative roles and procedures, lowering obstacles to public administration collaboration, and measuring government performance in terms of public service delivery (Alhanatleh et al., 2022; Loka et al., 2022). In this scenario, e-government has improved one of the country's essential functions, namely public service delivery (besides policy and regulation making (Indrajit et al., 2005; Sudirman et al., 2022).

Globally, information and communication technology is evolving at a breakneck pace. This trend, however, raises worries about rising inequality (Kurniawatik & Khaerunnisa, 2021). Inequality is defined as the state that occurs in society in some settings of not having the capacity and skills to acquire efficient access to global

knowledge (Ciesielska et al., 2022). To minimize development gaps between urban and rural regions, a paradigm shift in rural development was implemented (Ferro et al., 2011), which blends improvements in information and communication technology with local wisdom, where both will undoubtedly strengthen one another. Digitalization has the potential to improve sustainability through increasing environmental stewardship and societal well-being. At the same time, it has the potential to be disruptive by marginalizing players who are unable to adapt to change. When designing a new system for rural regions, it is critical to carefully evaluate the special characteristics of rural problems in order to maximize the possible beneficial benefits while minimizing the negative implications.

Epstein and Nganje (2020) conducted research that is relevant to this research, stating that cities across countries have increasingly adopted a broad range of digitalization services with the capacity to improve the delivery of government services to citizens and stakeholders, particularly in developing countries (B. A. Baheer, S. Sousa, 2014) if they don't want their country to be left behind (Haase & Buus, 2020). Another interesting study on the application of information technology in rural areas was carried out by (Oliveira & Siqueira, 2022). This study found considerable discrepancies in the usage of information technology between rural and urban populations, with rural groups having more difficulty acquiring and utilizing information technology (Ismail et al., 2022). The primary distinction between this study and earlier studies is its more particular focus on digitization of villages in Indonesia that confront varied difficulties and concerns. Additionally, the purpose of this study is to investigate further in greater detail the adverse effects of the digitalization of rural areas on rural communities, which have received less attention in previous studies.

The goal of the research is to assess the problems of digitalization in rural regions in Indonesia and propose recommendations for the development of more inclusive and sustainable information technology in rural areas. We anticipate that this study will give a more thorough knowledge of the phenomena of rural digitalization in Indonesia, particularly in terms of the obstacles and concerns that rural populations face. With a greater knowledge of this phenomena, this research may give more precise and effective recommendations for addressing existing difficulties and fostering the development of more inclusive and sustainable information technology. Furthermore, this research has the potential to promote scientific advancement, particularly in the field of government science. Rural digitalization is a critical problem in government that must be thoroughly understood. Governments may use this information to design more effective strategies to solve the issues that occur as a result of rural digitalization.

Method

The library study method is used in this study, which is a data gathering strategy that involves collecting and evaluating materials, including written documents, photographs, and electronics. The preparation of the literature in a descriptive concept that considers the sustainability of rural digitalization in the form of hurdles and the influence of digitalization on village governance that has been researched before by experts. The authors performed an in-depth research of digitalization challenges to arrive at this third notion. To collect data and information regarding e-government adoption in villages, the authors of this study employed a qualitative research technique and a literature review strategy. Supporting data is included in reference books, internet news, and research journal publications. The qualitative analysis in this research involves several stages, namely data collection, data reduction, data presentation, and drawing conclusions.

Result and Discussion

The beginning of the digitalization age is defined by unrestricted access to information and the transfer of technology from industrialized to developing countries like Indonesia. Because of Indonesia's wide geography, which consists of a group of islands, globalization does not always have a positive influence on the Indonesian state, causing inequity in both access to knowledge and development. Equitable access to information and communication technologies thus plays a critical role in fostering a country's growth

1. Vulnerability of Infrastructure

According to the kind of digital divide proposed by (S. Molnar, 2003), Indonesian rural populations are still in the early phases of the digital divide. This is because rural communities lack communal access to ICT. Despite the fact that the 2010-2020 National ICT roadmap predicted that by 2013, the Indonesian people would have entered the information society phase, which is defined by the connection of all provincial capitals by fiber optic internet networks, the availability of broadband internet in all districts/cities, and an increase in e-service, e-health, and education for all people. As Mandela (1999) stated in (Hadiyat, 2014), the ability to communicate is the primary key to human rights in the twenty-first century. Remove the disparities between the information rich and the information poor, as well as the economic disparities between the north and the south, to improve the quality of life for all people.

According to (Tayo et al., 2015) 's research, there are several variables that contribute to the digital gap in rural regions. The first problem is financial constraints, which cause individuals to be less able to buy computers or subscribe to internet access; just 20% of respondents in this survey can afford computers and internet connection, which they believe is rather costly. The second factor is the community's lack of knowledge and ability to use computers or access the internet; 90% of

respondents said they felt satisfied when they first used computers and the internet, and they also had a positive impression of the presence of computers and the internet in community libraries in their area. Approximately 70% of respondents stated that the existence of ICT is helpful in managing daily problems, interacting, doing commercial transactions, and discovering career possibilities (Oktavianoor et al., 2016).

One of the contributing variables for persons' access to ICT is their geographical location. Despite the fact that ICT provides an alternative solution for communicating with geographically isolated people, it is still hoped that rural residents will be able to take advantage of the benefits of ICT, as they are still being left behind by urban communities due to limited telecommunication infrastructure and cultural issues. According to the study's findings (Chen & Wellman, 2004), geographic location is one of the most important variables influencing people's access to the Internet. Feldman's 2001 study (Hadiyat, 2014) indicated that rural areas are more likely to be hesitant to accept new technologies, including products and services, when compared to metropolitan populations, which are more prepared to become trendsetters. Feldman contends that top-down state initiatives, particularly in the telecommunications sector establishing information highways, are more suited for encouraging ICT proliferation at an early stage.

Nowadays, most Indonesians cannot avoid internet-based communication activities. The number of internet users in Indonesia continues to grow; by 2022, there will be 175.4 million internet users (Amrozi et al., 2022). However, internet users in Indonesia are not spatially dispersed equitably. The majority of internet users in Indonesia live in the western half of the country, specifically on the islands of Java (particularly in major cities like Jakarta and Surabaya), Bali, and Sumatra. Information and communication from the center may be carried out utilizing these highways in areas where internet connection has been achieved, however in places where internet access has not been achieved, information and communication are distributed manually, especially via post. These two distinct things have a basic difficulty in common: the varied delivery timeframes, where those delivered via the internet may be accessed instantly while those delivered by the post must, of course, wait a few days (Kurniawan, 2015).

According to the APJII survey results, the majority of internet users in Indonesia live in the western area, particularly on the island of Java (Marius Parlindungan & Sapto, 2015). This digital disparity has since become the key factor for the government in carrying out fair development distribution in Indonesia, which was previously exclusively available to central government areas. The above image of digital inequality reflects the digital inequality of Indonesian citizens in general, both in the central government and in rural areas. In addition to the internet gap that exists on the islands of Java, Maluku, and Irian Jaya, the Indonesia Netizen Survey indicates that around 83.4% of internet users in Indonesia dwell in metropolitan regions,

namely in urban areas that are government centers. Indirectly, this data shows the uneven development of Indonesia's internet infrastructure and the availability of the same internet connection services in every region of the country, despite the fact that having reliable internet access in every region, including rural areas, has been identified as a key factor for development.

Because the internet or the digital world is the major entrance in order to accelerate the speed of development of a region, the digital gap that exists between urban areas and suburban regions would further expand the distance (GAP) of development progress between urban areas and suburban areas. When we look deeper into the problem of rural areas (rural), we see that there are still many village officials or villagers who have low human resources (HR), which is contrary to the prerequisites for accepting the development of information technology, which requires the advancement of human resources as the main key. So far, it appears that the regional development path is still driven by a policy that prioritizes rural community development after city growth (kelurahan). Despite the fact that the majority of Indonesia's population lives in rural regions, their level of life remains low (M. Mulyadi, 2009).

This government development emphasis has resulted in suburban villages becoming increasingly marginalized due to broken roads, lack of information access to the village, or a lack of amenities and infrastructure supplied by the government in suburban villages. The dominance of urban growth has caused a schism between urban and rural communities. The difference between the two is caused not only by physical development (infrastructure), but also by human resource development, such as the availability of suitable schools, and economic sectors, such as the availability of markets or public administration. Not rarely, the growing distance between cities and villages has infused both cultures with a distinct flavor.

Aside from the digital divide, development disparity between urban and rural regions (rural development) is hampered by the existence of customary laws that link a village and traditional cultures that refuse to adopt new understandings or technology as a result of globalization (Pamungkas, 2015). To eliminate development gaps between urban and rural regions, a paradigm shift in rural development must be implemented, combining improvements in information and communication technology with indigenous wisdom, where both will mutually support one another. Information and communication technology will increase access to knowledge and collaboration with other areas or nations, whilst local wisdom will function as a feature of the village with other villages or as the natural pattern of a village. It is evident that by shifting the paradigm of rural development, Indonesian growth will become more equal and will build a global community with local wisdom (Oktavianoor et al., 2016).

2. Digital mindset in Rural Communities

According to Benke (2013) in (Adi Permana, 2021), a digital mindset is a collection of knowledge structures built on mental experiences produced by living in a digital society that engages with digital technology on a daily basis. A digital mentality is made up of two parts: the cognitive component, which relates to knowledge, and the action component, which refers to rejection or acceptance of the use of digital technology.

In the case of Indonesian digitalization, the use of e-government is due to fundamental changes in the life of the nation and state, such as the transition from an authoritarian and centralized government system to a democratic government system, as well as the implementation of a balance of central and autonomous regional authority. The current changes necessitate the establishment of a clean, transparent government capable of effectively responding to calls for change. First, the government management system, which had previously been a system of sectoral command and authority hierarchies, has been transformed into a network organizational management system capable of shortening the decision-making line and expanding the breadth of control (Dhevina E, 2018).

Second, e-government is implemented in Indonesia due to various but closely related societal demands, namely: (a) Demands for public services that meet the interests of the wider community in all parts of Indonesia, are reliable and trustworthy, and are easily accessible interactively; and (b) Demands for public services that are easily accessible interactively because the community wants its aspirations to be heard, the government must encourage public participation and discourse in the development of state policy.

The extent to which the notion of an information society reaches the proper position and part in all situations of social evolution is an evident challenge in comprehending the digital information society. Essentially, the information society is ingrained in all stages of current civilization. Every social society has requirements and desires for communicative-informative action. However, the evolution of human history places communication in the context of an industrial information society triggered and aided by technology capable of compressing the constraints of space and time (Marysca, 2021). Most village authorities are still inexperienced with the digital world, therefore intensive support will be required in the future. During the pandemic, technology became a new activity in which the implementation was moved to the digital realm and completed entirely online. Because the benefits of digitizing villages outweigh the drawbacks, many villages in Indonesia have used information technology and technology to support public services and government administration (Putrawan et al., 2021).

When assessing the driving forces for digital transformation, the existing conditions might be classified as regulatory change drivers. The onset of the Covid-19 pandemic prompted the government to establish new rules requiring that

everything be done through digital media / in the network during the epidemic, so that everyone, like it or not, had to obey these restrictions. Additionally, prior to the pandemic, the economic sector in Indonesia was dominated by platform provider companies/organizations. Because of the convenience they give to consumers, the introduction of Gojek, Grab, and similar enterprises has left previously established companies/individuals (taxi, motorbike taxi, car rental, etc.) perplexed. Consumers may easily select the mode of transportation to employ to go to their desired location. Consumers can also submit feedback on their experiences using the services supplied, allowing company management to become more aware of their deficiencies. The rise of online shop platforms like Tokopedia, Shopee, and Bblibli, among others, has made it simpler for many customers to disseminate their work while also getting what they desire.

In addition to the previously indicated elements, the researcher also lists other aspects that are still connected to these characteristics. These additional features are (1) digital capabilities and (2) digital technologies. The goal of digital capabilities (digital capabilities) is for an organization to have digital-based skills, mentality, and culture if it wishes to adapt digitally. These three factors will converge on the usage of digital technology by the government. Organizations will employ digital technology correctly if their human resources are knowledgeable on how to use digital technology. Understand how to utilize it and be able to integrate it into current organizational procedures so that it becomes an intrinsic part of the organization's everyday operations. Digital technology is one of the catalysts for the creation of possibilities that enterprises may capitalize on. The opportunity might be anything that transforms one or more components of the company (business model, operational model, customer experience, etc.) into a competitive advantage, such as the production of new value (value creation).

On the one hand, the influence of digital technology is not restricted to practical problems of mastering equipment and instruments. Digital has swiftly and dramatically changed the way we engage with one another, as well as with data and information on a variety of occasions. A digital mentality encompasses much more than only dependability and interest in technology, as well as abilities in using and maintaining cellphones and popular apps like Facebook, Twitter, and Instagram. A digital mentality is a pattern of behavior that a person exhibits when confronted with a circumstance rife with changes that occur in the digital era. What type of attitude appears to require to be established and cultivated in this period of complete transparency? The answer is an abundant mindset, essentially a mindset with an open spirit. This approach will stress the desire for diversity while also opening up opportunities for collaboration and respect. This attitude also tends to receive larger amounts, which makes things easier for someone in interaction and daily activities.

Following that, another attitude that will be critical for life in the digital era is a growth mindset, or a mindset that is continually looking to grow. Someone with this

attitude would surely commit their entire energy to constantly pursuing and learning new things, as well as encountering new obstacles in life. Naturally, the digital thinking will be very different from the traditional perspective. Because this approach encourages innovation, out-of-the-box thinking, creativity, and a strong emphasis on problem solving. Meanwhile, the conventional thinking is just the established mindset, and it is less inventive (Sumarna, 2020).

3. Digital mindset in Rural Communities

Human resources, rules, money, facilities, and infrastructure must all be ready before e-government can be implemented. One of the goals of establishing e-government is to enable government entities to deliver better and more efficient public services (Suharyana, 2017). In this sense, the government's strong dedication is required to pioneer and initiate new things in the bureaucracy. The use of e-government for bureaucracy is projected to be a viable option for bureaucratic reform in the direction of better and more efficient services (Putera, 2009).

The emergence of online information technology has opened eyes to an astonishing universe and knowledge of new interactions and outputs, as well as a global corporate network with no limits (Rachmatullah & Purwani, 2022). The web's presence as an infrastructure and network has tremendously contributed to the efficacy and efficiency of an organization's operations, particularly in terms of its role as a method of publication, communication, and getting the many types of information we require. The majority of information on the web is distributed via a page known as a website (website), which is built using the HTML (Hypertext Markup Language) computer language. The web is a new communication arena with the potential to become a mainstream media outlet (Alcianno, 2020).

Conditions in villages are generally found in the field of village administrative management, which is still not orderly and inadequate, including monthly reporting activities on population data and annual reports of all register books, which are frequently late from a predetermined schedule and procedural materials. Even filling cannot be described as excellent. Aside from that, what happened in the village in general, service performance was not optimized, so it was frequently the subject of community discussion, such as the many village offices that only served the community half a working day, the length of time to process documents needed by the community due to the lack of professionalism of the village officials' human resources. The relatively limited capacity of apparatus and equipment resources, as well as supporting resources in the form of software and hardware, is one of the reasons of this difficulty (Nurkholis et al., 2022).

As part of the policy dimension, ICT management and policy procedures in rural regions must be enhanced (Hernikawati, 2013); if they do not already exist, they must be established and then implemented continually. The usage of ICTs is thought to provide higher benefits in terms of governance. Administrative law, as the legislative body that governs how a government operates, must thus encourage the

use of ICT at all levels of government, including village government. Other appropriate ICT-related rules and legislation are required to regulate and serve as the foundation for e-government implementation in order to stimulate its deployment.

There are currently no provisions in laws or regulations that explicitly govern the extent to which electronic systems are used in village government. UU No. 11 of 2008 only indirectly states that one of the purposes for its use is to increase the effectiveness and efficiency of public services through the use of information technology and electronic transactions, but it does not specify which public services must be carried out more effectively and efficiently in this manner. (Part 4 Letter C of Law No. 11 of 2008).

Although there are no rules or regulations that particularly control e-government, the existence of laws and regulations at the national level has fostered the use of e-government in government administration (the desire to make laws). Article 12 paragraph (2) letter j of Regional Government Law Number 23 of 2014 (UU Number 23 of 2014), which regulates one of the affairs (compulsory government authority that is not related to basic services, namely communication and informatics), provides information about authority and responsibility for implementing e-government in the regions. Furthermore, in Appendix letter P of Law Number 23 of 2014, which regulates the division of government affairs between the central, provincial, and district/city governments, the implementation of e-government is listed as a Communication and Informatics sub-business, namely the Informatics Application sub-business.

Digital systems are still being developed, particularly in the context of New Public Governance (NPG), where factors of public satisfaction are being prioritized through improved service quality. In this scenario, the quality of administering local government websites/portals is always being enhanced, and the data presented or offered must be valid (updated) data (Riswati, 2021). A well-managed village government website or portal would promote transparency in village government administration. For example, the village administration can display the status of the APBDes each year, so that the public is aware of the changes made to the APBDes posture each year.

Conclusion

Based on the description above, it is possible to infer that the village government must commit to the development of e-government, which is anchored in a shift in work culture from conventional to electronic by employing information technology tools. This is consistent with the primary goal of establishing e-government, which is to increase the quality of service to the public or the entire community, with the ultimate goal of improving community welfare by enhancing the efficiency, effectiveness, and productivity of the village government. Attempting to complete e-government supporting infrastructure, exposing minds to technology, and making

efforts to generate high-quality e-government content. With the emergence of e-government, it is envisaged that it would become one of the new breakthrough options in delivering improved public services, as well as the government's primary source of information in terms of supplying strategic information.

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