

ARTICLE

Digital Government Stage Evaluation in Population and Civil Registry Office (Disdukcapil) of Kutai Kartanegara Regency

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ABSTRACT

Recent developments show scholars argue that when electronic government systems reach certain stages, they will develop into Digital Government. However, studies on Digital Government evaluation, especially in the Indonesian context, are still few. With that in mind, this article aims to describe the maturity of the digital government system in the Population and Civil Registry Office (Disdukcapil) of the Kutai Kartanegara Regency. It is based on the assumption that Disdukcapil has successfully implemented electronic government, as proven by their multiple recognitions and can be considered at the digital government stage. Field observation and in-depth interviews with key informants are employed to collect the relevant data. All the data are then analyzed qualitatively, and then it uses digital government evolution variables developed by [Janowski \(2015\)](#) to determine the stage of Disdukcapil digital government. The result shows that within a four-stage maturity level, the digital government of Disdukcapil of Kutai Kartanegara Regency has reached the third stage, based on the fulfilment of each stage's variables. It is hoped that this study can contribute to Digital Government studies in Indonesia.

A. INTRODUCTION

The advancement and massive development of Information and Communication Technology (ICT) have opened up a way of revolutionizing many things in human life. Inevitably, the utilization of ICT is also one of the government's priorities, given its advantages, primarily supporting the efficiency of the government's internal process to optimize public services ([Bappenas, 2018](#)). With that in mind, the term "electronic government" or "e-government" has become a trend among governments worldwide. Electronic government, however, is not as simple as a mere adaptation of ICT in government business; it has a deeper meaning and goals to create, support, and strengthen good governance. The creation of good governance stipulates a transparent, accountable, effective, and equal government, and thus, in turn, good governance serves as a perfect resemblance of democratic values within a society ([United Nations, 2008a](#)).

As a consequence of the significance of e-government, it is not surprising that the research agenda for academic subjects focused on e-government dynamics. Researchers have carried out various studies on e-government in the Indonesian context, such as research on the

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factors that encourage the success of e-government, the influence of e-government on local government performance, the effect of e-government on corruption eradication efforts and study on the evaluation of e-government implementation (Hardjaloka, 2014; Hermana & Silfianti, 2011; Jauhari, Basri, & Shabri, 2015; Juliarso, 2019; Kurniasih, Fidowaty, & Sukaesih, 2013; Sutopo, Wulandari, Adiati, & Saputra, 2017; Yunita & Aprianto, 2018).

Of the various dimensions of e-government that previous studies have carried out, one of which has received substantial attention is a study of the e-government implementation stages. Such studies aim to describe and evaluate e-government programs using several criteria. Academics have developed a variety of standards and models for assessing e-government programs and have been used widely in e-government studies (Hiller & Belanger, 2001; Layne & Lee, 2001; Moon, 2002; United Nations, 2012).

Along with the development of cloud computing, social media, and mobile technology, the concept of e-government is considered inadequate to contain and explain the recent phenomenon. Thus, a new term, "digital government," is created to describe the next level of ICT utilization in the governmental process. As mentioned by the United States government, digital government is a platform for its citizens to access information and public services anywhere, anytime, and with any device (OECD, 2016). Thus the study on the evaluation of e-government programs needs to incorporate several updates. It is where Janowski's study comes in handy. Janowski (2015) developed a four-stage model to evaluate the implementation of digital government. Given its relatively new presence, the analysis of digital government evaluation has not been explored. It also happened in the Indonesian context, where limited studies discuss digital government evaluation.

In East Kalimantan, Indonesia, one government agency that has successfully implemented electronic government and optimized the digital government is the Population and Civil Registry Office (*Dinas Kependudukan dan Pencatatan Sipil/Disdukcapil*) of Kutai Kartanegara Regency. Disdukcapil's main job is to manage citizen administration and registry, such as issuing ID cards and birth certificates. Disdukcapil of Kutai Kartanegara Regency uses the online system and mobile application to optimize their services, thus reducing the cost and time needed and creating an efficient method for delivering public service. As evidence of their success in implementing an electronic government system, Disdukcapil of Kutai Kartanegara Regency has acquired several recognitions both from the national and provincial government, such as Role Model of Public Service Administrator in the category of "excellence" from the Ministry of Administrative and Bureaucratic Reform of Indonesia in 2018, ranked 3rd in the category of Population and Citizenship Administrator in East Kalimantan Province and the most innovative office in the Kutai Kartanegara Regency, also in 2018.

During the outbreak of the Covid-19 pandemic, the government needs to continue to provide public services in social and physical limitations through electronic and digital government services. In civil administration, the Covid-19 pandemic is tricky, especially for the Kutai Kartanegara Regency Disdukcapil in providing its services (Agustino, 2020). Due to the geographical location of the Kutai Kartanegara Regency, the citizen administration process is often carried out in physical contact or process amidst the online system provided by Disdukcapil. Besides the geographic obstacles, Kutai Kartanegara citizens cannot access the online system due to limited network coverage and lack of digital literacy to use the system.

Based on that information, this article evaluates the maturity level of Disdukcapil of Kutai Kartanegara Regency's digital government as the primary system in delivering public services during the Covid-19 Pandemic. In doing so, this article will employ the evaluation framework formulated by Janowski in determining the stage of digital government based on a four-stage model of digital government evaluation: *digitization or technology in government* and second is, the *transformation of electronic government*, third is the *engagement or*

electronic governance, and four is contextualization or policy-driven electronic administration (Janowski, 2015).

B. LITERATURE REVIEW

Electronic Government (e-Government)

Electronic government initiatives are significant instruments in reinventing the government by bringing structural and comprehensive alterations to transform the government's operational system. The electronic government provides an efficient way to fulfil its primary task and deliver public services (Bonsón, Torres, Royo, & Flores, 2012). Besides that, the utilization of ICT also enables the government to manage public data effectively and avoid mismanagement (Glybovets & Mohammad, 2017).

In its implementation, scholars divide electronic government based on their relations with different actors. There are at least three categories of electronic government relations: government to citizens (G2C), government to business (G2B), and government to government (G2G) (Evans & Yen, 2005; United Nations, 2008a), as the concept suggested, the meaning of each relation located at their interaction with different actors. Government to citizens describe the implementation of ICT in supporting government relations in delivering public services. Government to business stressed ICT utilization in managing government and private sector relations. Government to government refers to the implementation of ICT in creating a system of interaction between different levels of government within a nation (national, regional, province, and regency).

Besides that, previous studies also formulated a framework for evaluating the maturity of electronic government based on specific criteria. For more details, Tables 1 and 2 provide criteria for each stage/phase.

Table 1. Electronic Government Phases According to the World Bank

	Presence	Interaction	Transaction	Transformation
<i>Strategy/Policy</i>	Public Approval	Searchable database, public response/e-mail	Competition, confidentiality/privacy, fee for transaction, e-authentication	Funding stream allocations, agency identity, big browser
<i>People</i>	Existing	Content management, increased support staff, governance	Self-services, skill set changes, portfolio management, sourcing, increased business staff	Job structures, relocation/telecommuting organization, performance accountability, multiple-programs skills, privacy reduces
<i>Process</i>	Streamline Processes	Knowledge management, e-mail, best practice, content management, metadata, data synchronization	Business Process Reengineering, relationship management, online interfaces, channel management	Integrated services, changes in the value chain, new processes/services, changed relationships (G2G, G2B, G2C, G2E)
<i>Technology</i>	Web Site Markup	Search engine, e-mail	Legacy system, links, security, information access 24/7 infrastructure, sourcing	New applications, new data structures

Source: Adapted from World Bank (World Bank, 2002)

Some studies argue that when the electronic government system reaches a particular stage, it will develop into an ICT-based digital government (cloud computing, social media, mobile technology, and the internet of things) (Ministry of National Development Plan/Bappenas, 2018; Janowski, 2015). Digital government is the derivative of electronic government that emphasizes digital technology as an integral part of the digital ecosystem's government modernization process (OECD, 2014). With that in mind, the differences between electronic government and digital government lie in restructuring multiple public services previously located in different systems/networks and integrating them all on a single portal (Borins, 2007; Pal, 2014; Tapscott & Williams, 2006). This description more or less points to the latest stage/phase of the previous electronic government framework of the World Bank and the United Nations (*transformation* and *connected*). For some scholars, digital government is the next evolution of electronic government.

That assumption leads Janowski (2015) to focus on the digital government concept. For Janowski, the digital government has four stages: first is *digitization or technology in government*, second is *transformation or electronic government*, third is an *engagement or electronic governance*, and four is *contextualization or policy-driven electronic governance* (Janowski, 2015). On The first stage, the digital government focused mainly on modernization and internal efficiency and access. The second stage is applying digital technology to improve internal processes, structures and work practices. The third stage of digital technology is the transformation of government relations and other stakeholders (G2B, G2C, G2G). It aims to improve accessibility, convenience, the effectiveness of public services, public participation in political and civil affairs, strengthen the knowledge-based and social economy and other purposes. Furthermore, as the name stands, the last stage is related to the contextualization or application of digital government to fulfil public policy goals and address their problems. According to Janowski, table 3 summarizes the evolution of digital government and its variables.

Table 2. Electronic Government Stages According to the United Nations

Emerging	Enhanced	Interactive	Transactional	Connected
The electronic government's basic stage is mainly on website pages with static information, and there is little or no interaction with citizens	The government provides more information regarding public policy online with easily accessible channels.	The next stage is where the government is capable of delivering online services and serves as a pathway to a more interactive relationship with citizens.	Two-way interaction between the government and citizens as the government becomes more ever-presence with 24/7 online services.	The highest stage is where the government establishes an integrated system that connects nearly every aspect of e-government, such as G2G, G2C, and G2B.

Source: Adapted from United Nations (United Nations, 2008b)

Table 3. Evolution of Digital Government and its Variables

Stage 1 – Digitization or Technology in Government	Stage 2 – Transformation or Electronic Government	Stage 3 – Engagement or Electronic Governance	Stage 4 – Contextualization or Policy-Driven Electronic Governance
• Access to government information in	• Organizational and	• Increasing adoption by citizens	• Contextualization of specific public policy goals at

<p>electronic formats</p> <ul style="list-style-type: none"> • Developing, analyzing and operating government websites • Technological infrastructure for digital government 	<p>management change</p> <ul style="list-style-type: none"> • Project, program and portfolio management • Development according to the stage of growth models • Information sharing and collaboration 	<ul style="list-style-type: none"> • Increasing participation and engagement • Transparency, accountability and open government • Cultural changes and trust-building 	<p>national, regional, and regency levels</p>
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Source: Adapted from Tomasz Janowski ([Janowski, 2015](#))

In the context of this article, it will focus on government to citizens (G2C) relations, where Disdukcapil of Kutai Kartanegara Regency mainly interact with citizens by providing citizen administration services. In this article, government-citizen relations are mainly discussed in the online services of Disdukcapil of Kutai Kartanegara Regency. At the same time, the frameworks of electronic government stages from the World Bank and the United Nations are still useful for evaluating and determining the state of the electronic government system of Disdukcapil of Kutai Kartanegara. This article opted to use Janowski's digital government evolution model on the assumption that electronic government stages have been successfully implemented by Disdukcapil, proven by many recognitions and appreciations from the national and regional governments. Based on that, this article is aimed to evaluate the state of the Disdukcapil digital government using Janowski's model.

C. METHOD

This article uses a qualitative approach to explain the quality of the digital government system in Kutai Kartanegara Regency. This article uses primary and secondary data with the primary source obtained by collecting relevant information using in-depth interviews with key informants from Disdukcapil of Kutai Kartanegara Regency. First, informants are selected via purposive sampling, which prefers those who have comprehensive information regarding the development of digital government in the Disdukcapil of Kutai Kartanegara Regency. For that purpose, key informants in this article are the Head of Department and Head of Division of Disdukcapil of Kutai Kartanegara Regency. Second, the relevant information is collected from data on official documents, reports, websites, mobile applications, newspapers, and journals to obtain secondary data. Third, after gathering all relevant information, the author infers that information using qualitative analysis ([Cresswell, 2017](#); [Moleong, 2017](#); [Neuman, 2017](#)). The last step is to use variables from Janowski's model of digital government evolution to determine at what stage is the digital government of Discukcapil of Kutai Kartanegara Regency lies ([Janowski, 2015](#)).

D. RESULT AND DISCUSSION

Drawing from Janowski's digital government evolution model, we can determine the stages of the Disdukcapil of Kutai Kartanegara Regency by looking at each variable's fulfilment in the respective stages. Based on the information gathered from the observation,

the result of the digital government evaluation of *Disdukcapil* of Kutai Kartanegara Regency is summarized in Table 4.

Table 4. Result of Digital Government Evaluation of *Disdukcapil* of Kutai Kartanegara Regency

Stage 1 – Digitization or Technology in Government	Access to government information in electronic formats	Developing, analyzing and operating government websites	Technological infrastructure for digital government	
	✓	✓	✓	
Stage 2 – Transformation or Electronic Government	Organizational and management change	Project, program and portfolio management	Development according to the stage of growth models	Information sharing and collaboration
	✓	✓	✓	✓
Stage 3 – Engagement or Electronic Governance	Increasing adoption by citizens	Increasing participation and engagement	Transparency, accountability and open government	Cultural changes and trust-building
	✓	✓	✓	✓
Stage 4 – Contextualization or Policy-Driven Electronic Governance	Contextualization of specific public policy goals at national, regional, and regency levels		✗	

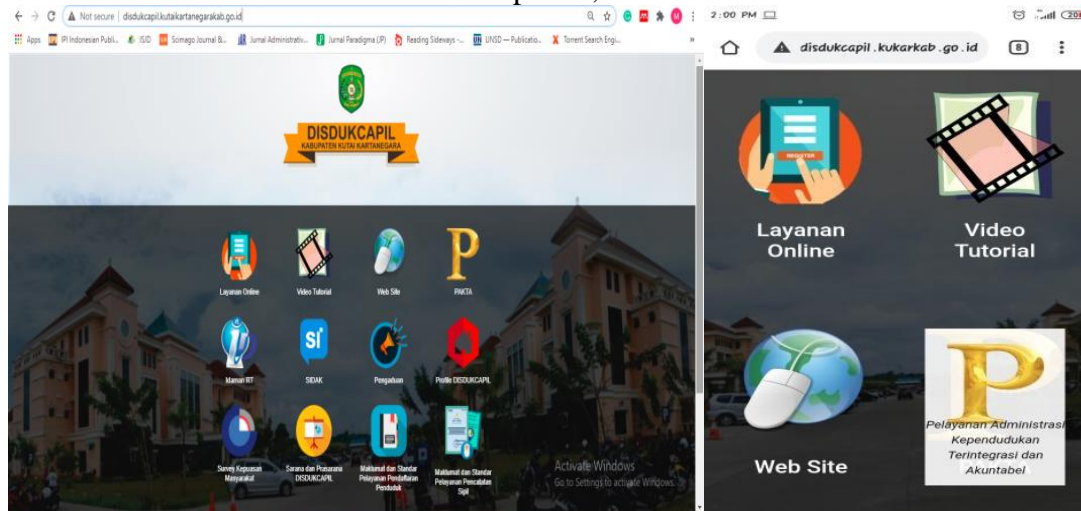
Source: Observation and Interview, 2021

Stage 1 – Digitization or Technology in Government

Based on the observation, the digital government in *Disdukcapil* of Kutai Kartanegara Regency has fulfilled all the variables in stage 1 – digitization or technology in government. These variables are accessible to government information in electronic formats, developing, analyzing and operating government websites and technological infrastructure for digital government.

The first variable presupposes that public information available in the digital format can be accessed anytime and anywhere. In this research, the availability of information regarding public service and other related documents has been archived and stored in digital format on the official website of *Disdukcapil* of Kutai Kartanegara Regency at <http://disdukcapil.kutaikartanegararakab.go.id/>. However, it is not as simple as converting analogue documents into digital form; it also requires the availability of those documents with relative ease using any device. In the case of *Disdukcapil* of Kutai Kartanegara Regency, they already have a specifically designed website that can be accessed from a desktop or smartphone. As the observation shows, the website has no problem displaying the contents when we access it from a desktop or smartphone. The website's basic features are accessible quickly without any damaged pictures or broken text on desktops and smartphones.

Picture 1. Disdukcapil of Kutai Kartanegara Regency's Website Display on Desktop and Smartphone, 2021

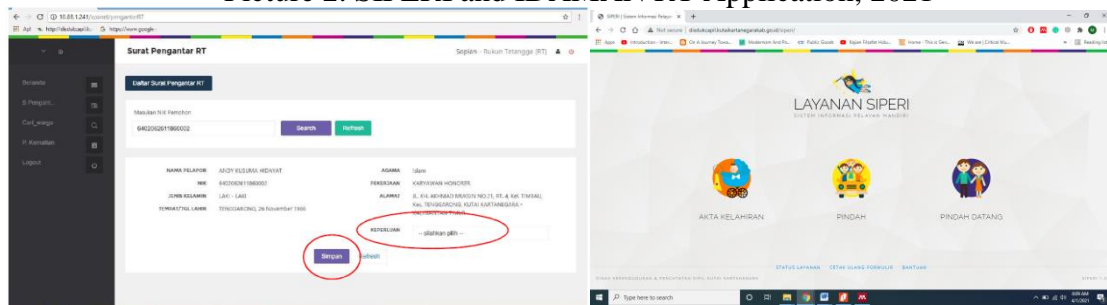


Source: <http://disdukcapil.kutai.kartanegarakab.go.id/>

The second variable is closely related to the first one because it emphasizes the institution's organization and operability of the government website. In the case of Disdukcapil of Kutai Kartanegara Regency, their websites are directly controlled and navigated under the Division of Information and Administration Management. On the social and political aspect, it is crucial to ensure that the government website reflects the needs and interests of the citizen or a website that is centred on the user (de Jong & Lentz, 2006; Elling, Lentz, de Jong, & van den Bergh, 2012). As the website shows, the online services menu can be found easily on the website's front page with simple navigation (Awoloye, Ojuloge, & Ilori, 2014; Halchin, 2004). It is also essential to keep the website safe from viruses and other security threats. Aware of that possibility, the website of Disdukcapil of Kutai Kartanegara Regency is protected by premium antivirus. They ensure that the website's management aligns with the Ministry of Home Affairs (Interview #1, 2020).

The last variable is related to technological infrastructure on information sharing, interoperability with smartphones application, and a specific application for public service (Janssen, Chun, & Gil-Garcia, 2009; Ku & Leroy, 2014; Lorenzi, Vaidya, Chun, Shafiq, & Atluri, 2014). From the observation, it can be seen that the website of Disdukcapil of Kutai Kartanegara Regency has already supported information sharing and interoperability with smartphone applications by showing the same content regardless of slightly different displays because of system adjustments on desktops and smartphones. While regarding specific applications for public service, Disdukcapil of Kutai Kartanegara Regency has already created two applications called SIPERI (*Sistem Pelayanan Mandiri/Self-Service System*) and IDAMAN RT (*Informasi Data Administrasi Kependudukan bagi Rukun Tetangga/Population Administration Data for Neighborhood Association*). Along with these application Disdukcapil of Kutai Kartanegara Regency also use SIDAK (*Sistem Informasi Pendokumentasian Administrasi Kependudukan/Population Administration Documentation System*).

Picture 2. SIPERI and IDAMAN RT Application, 2021



Source: <http://disdukcapil.kutaikartanegarab.go.id/>

Stage 2 – Transformation or Electronic Government

This stage is more about internal and organizational change brought by digital technology. The main goal is to create the value of efficiency, effectiveness, rationalization, simplification, and other reform-oriented purposes. There are four variables in this stage, organizational and management change, project, program and portfolio management, development according to the stage of growth models, and information sharing and collaboration.

We can see the connection and relationship between ICT adoption and internal management change as previous studies have explored (Cordella & Tempini, 2015; Nograšek & Vintar, 2014). One noticeable change in administration is the utilization of digital signatures. There are many protocols and regulations regarding public document validation, such as the issuance of ID Card, Birth Certificates, and others. Digital signature systems solve this problem and cut administrative work to accelerate public service delivery (Interview #2, 2020).

The following variable, project, program, and portfolio management, underline the organization's decision-making aspect. This context discusses the influence of ICT on the decision-making process and whether ICT can steer the process into more rational and oriented problem solving (Nielsen & Pedersen, 2014). For this aspect, it is safe to say that the Disdukcapil of Kutai Kartanegara Regency had nothing to do with the decision-making process. All the strategic plan regarding population administration is formulated at the national level. Local governments only act as executors of this national plan, for example, the implementation policy of electronic ID cards to replace analogue ID cards. This policy was taken and decided at the national level and was implemented throughout the nation. Besides that, this system enables governments to improve their coordination horizontally and vertically to create a network of affiliated agencies (Guha & Chakrabarti, 2014). Therefore, this description aligns with the project, program, and portfolio management variables.

The third variable is developed according to the stage of growth models, containing a set of electronic government progress models and a guideline for government organizational transition from old to new public management (Klievink & Janssen, 2009; Sawyer, Hinnant, & Rizzuto, 2008). Based on the observation, with Presidential Decree No. 39/2019 on Indonesian One Data (Satu Data Indonesia/SDI), Disdukcapil of Kutai Kartanegara Regency already took part in electronic government progress, especially on the collection and management of national population data. The Disdukcapil of Kutai Kartanegara Regency has also transformed its delivery of public services where citizens' needs and interests are primary (Disdukcapil Kab. Kutai Kartanegara, 2019). This transformation of new public management within the Disdukcapil of Kutai Kartanegara Regency resulted in the improvement of the public satisfaction index from C (less) in 2019 to B (good) in 2020, based on the survey from Kutai Kartanegara University (Disdukcapil Kab. Kutai Kartanegara, 2020). This improvement indicates the success of the new public management transformation in Disdukcapil of Kutai Kartanegara Regency.

The last variable, *information sharing and collaboration*, is a mixture of previous variables that emphasize the collaboration of multi-level government from the national to the regency. As stated before, Presidential Decree No. 39/2019 on Indonesian One Data (*Satu Data Indonesia*/SDI) served as the virtual platform for multi-level government collaboration. The Disdukcapil of Kutai Kartanegara Regency now has the authority to share information with the national and provincial governments regarding the population data. All of that resembles the information sharing and collaboration variable.

Stage 3 – Engagement or Electronic Government

The third stage is oriented toward transforming the relationship between government and other actors through digital technology, including citizens and private sectors. This transformation aims to improve accessibility, comfortability, and effectiveness of public service delivery, increase public participation, supporting the development of a technology-based economy and other public values. This stage's variables are increasing adoption by citizens, increasing participation and engagement, cultural changes, and trust-building.

On the first variable, we can see it from three different positions: the strategy to encourage society to use electronic and digital tools and services, the impact and capability to operate digital services, and the obstacles to digital adoption, including accessibility, trust, control and privacy (Cegarra-Navarro, Garcia-Perez, & Moreno-Cegarra, 2014; Pieteron, Ebbers, & van Dijk, 2007; Teerling & Pieteron, 2010). As the observation shows, that Disdukcapil of Kutai Kartanegara Regency has already employed several strategies to encourage citizens to use online services through websites, and other means of promotion (Disdukcapil Kab. Kutai Kartanegara, 2019).

The digital government system of Disdukcapil of Kutai Kartanegara Regency also positively impacted, especially in increasing the efficiency, effectiveness, and quality of public service delivery because citizens can access the service anywhere using any devices. From citizens' capability to operate digital services, almost all Kutai Kartanegara Regency areas have internet access, only a tiny part of highly remote places where internet network is not available. Besides that, nearly all citizens, especially the younger generation, are familiar with smartphones and desktops; only senior citizens might have little trouble operating the device. As mentioned earlier, the Disdukcapil of Kutai Kartanegara Regency has made its website easy. The main obstacle to digital service lies in the unfamiliarity of senior citizens with operating devices and digital services. The privacy and security aspect shows no significant problems because all the data stored in the digital service will automatically be integrated with the national server and protected with premium antivirus.

The second variable, increasing participation and engagement, emphasized the active involvement of citizens as government partners in delivering public services (Linders, 2012). Citizen participation is facilitated by a feedback mechanism where they can give substantial advice or critics to improve the service. Disdukcapil of Kutai Kartanegara Regency has provided several channels for citizen feedback, from hotline numbers to the website's online feedback platform. The latest record shows 1,159 feedback entries, and anyone can read all the citizens' input and the replies from Disdukcapil of Kutai Kartanegara Regency. The Disdukcapil of Kutai Kartanegara Regency ensures transparency and openness regarding citizens' feedback.

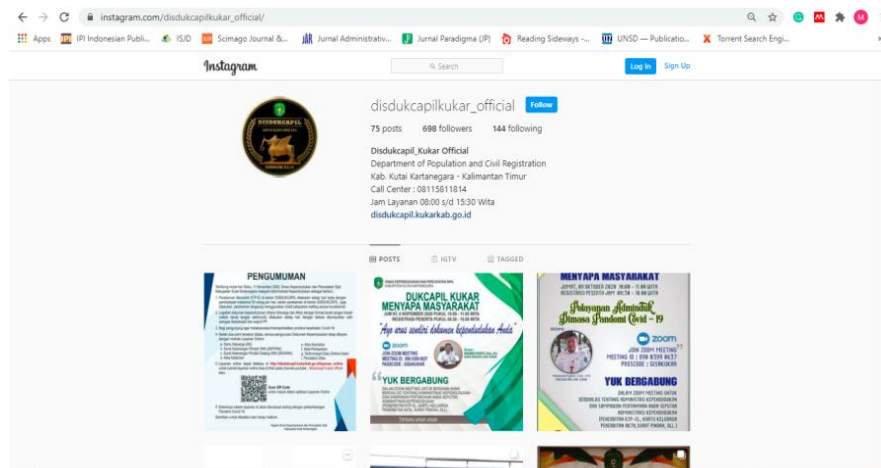
Picture 3. Feedback Platform on *Disdukcapil* Website, 2021

Source: <http://disdukcapil.kutaiartanegararakab.go.id/>

The *Disdukcapil* of Kutai Kartanegara Regency's willingness to open the repertoire of feedback so anyone can see it is closely related to the following variable, transparency, accountability, and open government. This variable centred on the regulatory framework to support transparency, accountability, and open government, as well as the utilization of social media by the government as means of available information (John C. Bertot, Jaeger, & Grimes, 2010; John Carlo Bertot, Jaeger, & Hansen, 2012). Several regulation frameworks ensure and obligate the implementation of open government and uphold government transparency and accountability, such as National Law No. 14/2008 on the Freedom of Public Information, Regional Regulation of East Kalimantan No. 15/2012 on Public Information Service within the Government of East Kalimantan Province, and Regional Regulations of Kutai Kartanegara Regency No. 10/2014 on Information and Documentation Service.

On the other hand, *Disdukcapil* of Kutai Kartanegara Regency also uses social media to extend the dissemination of public information and increase public engagement. At least there are two social media platforms that the *Disdukcapil* of Kutai Kartanegara Regency actively use, Facebook (<https://www.facebook.com/disdukcapil.kutaiartanegara.79>) and Instagram (@disdukcapilkukar_official). With their engagement on social media, the *Disdukcapil* of Kutai Kartanegara Regency can capture citizens' feedback closer. It can be seen in the comment sections where the citizens were actively expressing their opinion regarding public services. At the same time, we can see the *Disdukcapil* of Kutai Kartanegara Regency addressing citizens' feedback. Social media engagement creates a functional space where government and the citizens can interact directly in real-time, thus enabling feedback mechanisms to function optimally (Chen et al., 2020; Criado, Sandoval-Almazan, & Gil-Garcia, 2013; Haro-de-Rosario, Sáez-Martín, & del Carmen Caba-Pérez, 2018; Lee & Kwak, 2012). While social media engagement of the *Disdukcapil* of Kutai Kartanegara Regency is mainly performed via Facebook and Instagram, they seem to avoid using other social media platforms such as WhatsApp for security and privacy reasons.

Picture 4. Instagram Page of Disdukcapil of Kutai Kartanegara Regency, 2021



Source: https://www.instagram.com/disdukcapilkukar_official

The last variable in this stage is *cultural changes and trust-building*, which places the focus on the transformation of government culture and using the adoption of ICT to enhance public trust in government (Bannister & Connolly, 2011; John C. Bertot et al., 2010; John Carlo Bertot et al., 2012). The digital governance system in the Disdukcapil of Kutai Kartanegara Regency has brought several significant transformations. They are digital token validation to replace the old analogue verification methods; perspective change that prioritizes the citizens' interest; and a series of other facility improvements that demonstrate positive changes in the organizational culture of the Disdukcapil Kutai Kartanegara Regency. While the increasing trust from the citizen toward the services of the Disdukcapil Kutai Kartanegara Regency can be seen in the improvement of the public satisfaction index (Disdukcapil Kab. Kutai Kartanegara, 2020).

Stage 4 – Contextualization or Policy-Driven Electronic Governance

The last stage of Digital Government maturity evaluation is related to the contextualization or the actual implementation of ICT in addressing specific public policy goals. As Janowski (2015) states, the context of policy-driven electronic governance can be seen from the utilization of ICT in addressing the needs of vulnerable groups. Such groups as immigrant farmworkers, marginalized women, rural and poor, and low-income citizens (Naik, Joshi, & Basavaraj, 2012; Ojo, Janowski, & Awotwi, 2013; Wang & Chen, 2012; Wilson, 2014). When we put it in the context of this research, it means the availability of some application or online system specifically designed to address the citizens' needs in rural and remote areas of Kutai Kartanegara Regency, such as applications or plans to support the needs of disabled citizens.

Many things among them that characterize Kutai Kartanegara regencies are vast geographical area and social diversity. About half of the Kutai Kartanegara Regency population lives in the rural areas where the internet network is not as good as in the urban area. To deliver the service to the remote area of the regency near the upstream Mahakam River, the Disdukcapil of Kutai Kartanegara Regency needs to consider developing unique apps or websites that do not require much internet data to access them. They could be designed as light as possible so that even a low internet network can provide access to the services. Besides that, given the diversity of the Kutai Kartanegara Regency population, the Disdukcapil of Kutai Kartanegara Regency might need to consider adding local languages on their websites so that the citizens who are not familiar with *Bahasa Indonesia* can understand and still access the

service they need. Unfortunately, the application and online system in the Disdukcapil of Kutai Kartanegara Regency is still characterized by global and universal design without specific features for vulnerable groups, as mentioned earlier. Based on that, the Disdukcapil of Kutai Kartanegara Regency has not met the criteria of stage four of digital government maturity.

In achieving digital government development, Disdukcapil of Kutai Kartanegara Regency has reached the third stage, namely the Engagement or Electronic Governance stage. This stage looks more at how e-government impacts the relationship between the government and the community in an equal position. This position also explains that in the context of digital government, Disdukcapil of Kutai Kartanegara Regency is no longer at the stage of digitization and transformation but has also entered the phase of involvement.

Regarding population and civil registration, the challenge faced by Disdukcapil of Kutai Kartanegara Regency is the district's regional development dynamics, which continue to hurry due to global developments in various sectors of people's lives. This development is something that cannot be avoided. Along with international developments, it has been anticipated that multiple policies issued by the government. Of course, have implications for policies that the local government of Kutai Kartanegara Regency must be issued so that there is synergy and conformity in carrying out various programs and activities viewed from public services.

E. CONCLUSION

The digital government maturity of the Disdukcapil of Kutai Kartanegara Regency has reached the third stage based on [Janowski's framework and criteria \(2015\)](#). It can be seen from the fulfilment of variables in each step. For the first stage, *digitization or technology in government*, the Disdukcapil of Kutai Kartanegara Regency has already established an online infrastructure for delivering public service and transforming relevant public documents and information into digital forms. The second stage, *transformation or electronic government*, shows how the digital government has changed the internal management process at Disdukcapil of Kutai Kartanegara Regency. The third stage, *engagement or electronic government*, directly interacts with the government and the citizens via social media. Because their online system and applications are universal and general, the digital government of Disdukcapil of Kutai Kartanegara Regency has not met the criteria for the last stage, *contextualization or policy-driven electronic government*.

Nevertheless, by reaching the third stage of digital government maturity evolution, *the Disdukcapil of Kutai Kartanegara Regency has successfully embraced and integrated ICT to create a functional digital government*. Furthermore, this study contributes to the evaluation study of digital government in Indonesia, especially at the regency level. This study also shows that the application of digital government by a local government agency can be carried out considerably well, as demonstrated by Disdukcapil of Kutai Kartanegara.

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