



Public Satisfaction with Online Services: (Case Study on the JEPIN Application)

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Abstract.

Purpose: This study aims to analyze the use of the JEPIN application for users, namely the community in Pontianak City. JEPIN stands for Jendela Pontianak Integration. This application was launched by the Pontianak City Communication and Information Office. Measurement uses variables consisting of infrastructure, ICT, human resources, budgeting, and digital government implementation.

Methods: The method used is a quantitative type, primary data in the form of a survey of 100 respondents who come from JEPIN application users in Pontianak City. Using the Likert Scale (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, and 5: strongly agree). The analysis technique for this study uses SmartPLS 4.

Result: The results of the study show that the infrastructure variables have a P-Value of (0.000), an ICT P-Value of (0.000), and a P-Value Budgeting of (0.002), respectively, which shows a positive and significant influence on the implementation of digital government in the implementation of the JEPIN application. On the other hand, the human resources variable has a P-Value of (0.998), which shows a positive and significant influence on the implementation of digital government in the implementation of the JEPIN application in Pontianak City.

Novelty: This study is unique because it looks at users who use the JEPIN application with a measurement indicator, namely the online services index (OSI). Most previous research on this theory has focused only on measuring how satisfied people are with online services, but this study offers a new perspective on the use of OSI in the context of application-based online services.

Keywords: JEPIN application, Digital government implementation, East Pontianak

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INTRODUCTION

At present, governments in various countries have adopted government digitalization while countries around the world continue to advance and switch to integrated information and communication technology systems [1]. Development is influenced by human rational logic and constantly changes according to the dynamics generated by human actions [2], [3]. Technology is constantly undergoing innovative evolution and improvement to continuously meet the increasingly complex and ever-changing needs of humanity [4]. To improve the performance of public services that focus on the principles of good governance, at least preparation is needed in terms of regulations, budget allocation, human resources, and infrastructure that supports e-governance policies [5], [6].

To fulfill the government's obligations towards people's rights, public services that were previously carried out manually must be improved through innovations that utilize electronic means with a focus on improving quality and efficiency [7]. The use of electronic-based public services is a growing trend in every local government in Indonesia because it can accelerate the government work process [8]. E-Government facilitates more efficient monitoring of government activities, while providing a channel for citizens to express their aspirations in various forms [9]. The implementation of electronic services in each region can create harmony and increase cooperation between government agencies, as well as reduce the possibility of conflicts between institutions that can hinder community services due to overlapping exercises in the exercise of authority [10].

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The Pontianak City Government has issued an innovation through the electronic-based Pontianak City Communication and Information Office called the JEPIN Application (Jendela Pontianak Integrasi) [11]. In Pontianak City Regional Regulation Number 7 of 2016 concerning the Establishment and Arrangement of Regional Equipment, the Pontianak City Communication and Information Office released an electronic-based information service, namely the JEPIN application as an effort to implement the smart city concept) [12]. Based on (Pontianak Mayor Regulation Number 25 of 2019 concerning Pontianak City Master Plan 2019-2028) Pontianak City has implemented and developed an information system and technology that supports the improvement of E-government-based public services by utilizing smartphones as a medium for implementing E-government [13].

JEPIN information system provides integrated services through one portal to the community, integrating urban information systems with various related parties. It connects the needs of users from the community with various local government institutions [14]. Currently, government institutions that have been connected to the JEPIN Information System include the Pontianak City Government, various Pontianak City Offices (OPD), Hospitals, PDAM Pontianak City, and Districts in Pontianak City [15]. Currently, the JEPIN Information System is available for smartphone users, especially on the Android platform, by downloading the application or accessing it online through the official website of JEPIN Pontianak City [16]. Users must register by including their email address, phone number, and other personal data before they can access JEPIN [17]. After registration, people can use the JEPIN application (Jendela Pontianak Integrasi) according to their needs [18]. In addition, the application is used as part of digitalization efforts in public services carried out by the Yogyakarta City government in the health sector through the SIMPUS application [19], SUPER Application in Sukabumi City [20], SAPAWARGA Request by Surabaya City Government [21], BAKSO application by East Lombok Regency Government [22], and the SAMBARAWA Application in West Java is considered successful in increasing the level of community satisfaction in the region [23].



Figure 1. JEPIN application display

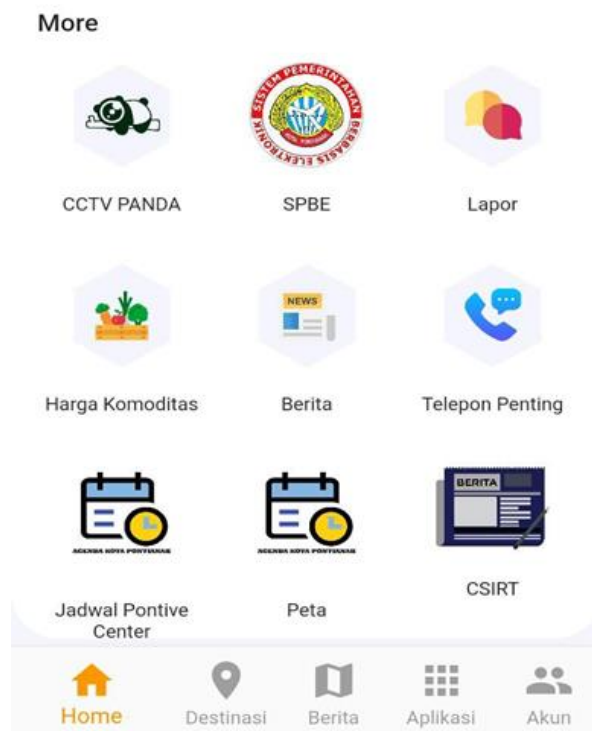


Figure 2. JEPIN application menu options

One form of online-based audience service developed in Pontianak City is the JEPIN application [24]. The JEPIN application stands for Jendela Pontianak Integrasi is an application that was launched by the Pontianak City Communication and Information Office in 2019[25]. This JEPIN application has 6 filters including in the field of Smart City, namely: Smart Government, Smart Branding, Smart Environment, Smart Economy, Smart Living, and Smart Society [26]. In addition, there are several additional filters including: CCTV Panda, SPBE (Electronic Based Government System), Report, Commodity Prices, News, Important Calls, Pontive Center Schedule, Maps, and CSIRT. The JEPIN application is expected to be able to provide transparency within the government and ensure satisfaction with the community [27]. Many studies examine the same theme, but focus more on bureaucracy [28], Organizational structure [29], and leadership [30]. Thus, to fill the gap, this study examines Public Satisfaction with Online Services: (Case study on JEPIN application).

This study aims to determine the level of public satisfaction with the implementation of digital government (JEPIN) in Pontianak City. It is hoped that this research can provide an overview of how effective the implementation is, find areas that need improvement, and increase public participation and satisfaction with digital government services. In addition, this research can help the policy-making process in the Pontianak City Government [31].

Theoretical framework

Infrastructure

Infrastructure refers to a network of public facilities, both managed publicly and privately, that have been intended to provide essential services with sustainable standards to support electronic-based government operations [32]. The existence of this infrastructure is the foundation for the implementation of e-Government [33], [34].

ICT

Information and Communication Technology (ICT) is the application of human knowledge and skills in transmitting information, science, data, and messages with the aim of helping solve various problems faced by humans, even has become a global communication standard in all fields [35]. The use of ICTs enables seamless cross-border exchange of information and contributes to the improvement of e-Government

effectiveness and accountability [36]. In addition, ICT also guarantees the availability and accessibility of e-Government services for 24 hours for users [37].

Human Resources

Human resources refers to all individuals involved in an organization or system who have knowledge, skills, and experience that can be used to achieve the goals of that organization [38], [39]. In addition, human resources in an organization can be able to support the performance and implementation of digital government implementation in various countries [40].

Budgeting

Budgeting is a financial plan prepared for a certain period, which includes estimates of income and expenses that will occur during that period [41]. It can be a very important tool for individuals, businesses, organizations, or governments in managing their finances effectively [42]. The budget is also used to show how much a country is able to run a wheel of government, both conventional-based and digital-based or e-Government [43].

Digital Government Implementation

Digital government is the implementation of all affairs and activities in the public sector, both at the local government and central government levels, by utilizing information and communication technology to increase transparency, accountability, democracy, openness, efficiency, and effectiveness [44]. In various regions in Indonesia, government digitalization has become a common practice [45]. The implementation of digital government is interpreted as an innovative step in service provision and policy making, both vertically and horizontally for the government [46].

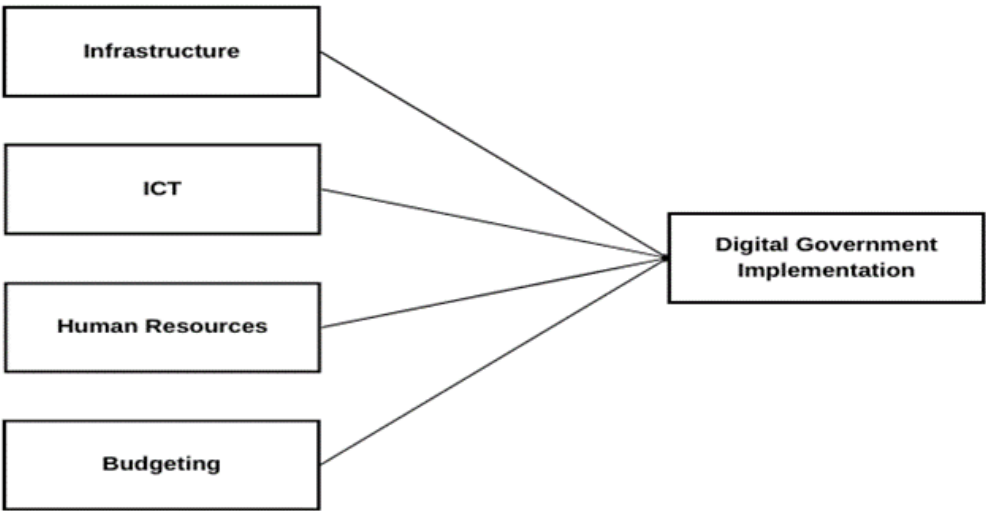


Figure 3. Theoretical framework

- H1: Infrastructure has a significant influence on the implementation of digital government.
- H2: Information and Communication Technology (ICT) has a significant influence on the implementation of digital government.
- H3: Human Resources have a significant influence on the implementation of digital government.
- H4: Budget management has a major impact on the implementation of digital government.

The primary data model obtained from the survey was used in this quantitative study. Data was collected through questionnaires filled out by those who participated. The respondents of this study were individuals who randomly used or ran the JEPIN application. SmartPLS 4 is used for data analysis and hypothesis testing. It is also used to calculate the validity and reliability of respondent data. In this study, respondents' perception of the JEPIN application was measured by a likert scale consisting of five options: (1) strongly disagree, (2) disagree, (3) neutral, (5) agree, and (6) strongly agree.

METHODS

This study uses quantitative research methods to analyze the variables of infrastructure, ICT, bureaucracy, leadership, and digital government implementation as the research object [47]. The sampling technique used is random sampling to identify respondents who use the JEPIN application. The following are the stages of the research.

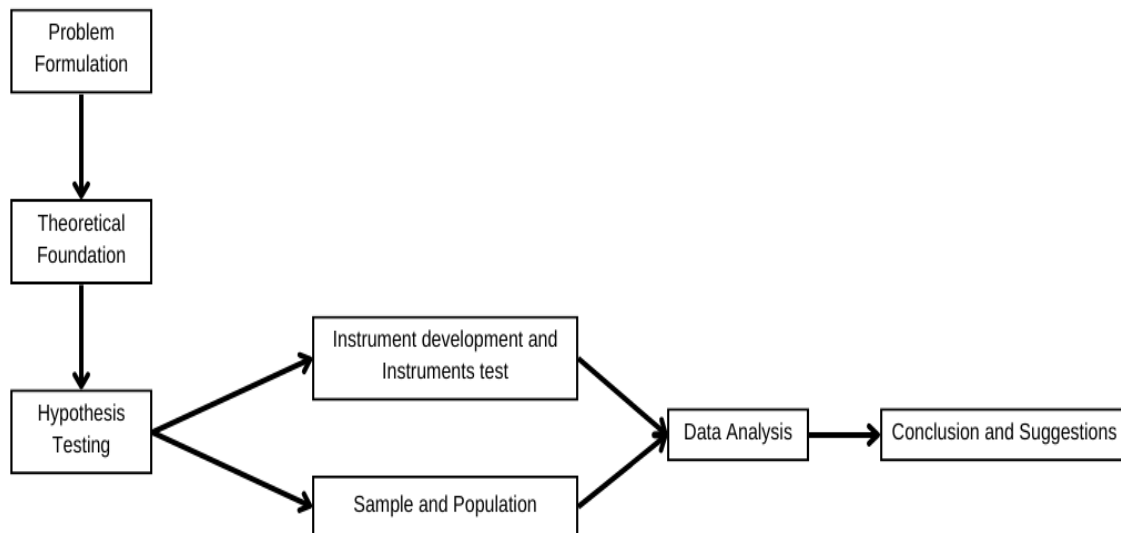


Figure 4. Stages of research

Figure 3 illustrates the stages of this research as a whole. The first stage is problem formulation, where researchers identify the main issues that are the focus of research. Next, researchers develop a theoretical foundation (Theoretical Foundation), by reviewing relevant literature and supporting theories to build a solid theoretical framework.

The next stage is hypothesis testing, which is carried out based on the theoretical foundation that has been formulated. In this stage, the researcher establishes hypotheses to be tested to explain the relationship between research variables. After that, researchers develop and test research instruments (Instrument Development and Instrument Test) to ensure the validity and reliability of the measuring instruments used. This stage goes hand in hand with sample and population determination, where researchers select a representative sample from the relevant population to collect data.

The collected data is analyzed using appropriate statistical methods to test the hypothesis made and determine the answer to the research question. The results of this data analysis become the basis for compiling conclusions and suggestions (Conclusion and Suggestions), which is the final stage of this research.

Sample

To determine the number of research respondents from the total users who use the JEPIN application as many as 5000 users, the researchers used a sample table of respondents using the slovin formula as follows [48]:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{5000}{1 + 5000 (0.1)^2}$$

$$n = \frac{5000}{51}$$

n = 98

n rounded up to 100 respondents with a total population of 5000 JEPIN application users.

Definition:

n = Sample Size

N = Population Size

e = Standart Error (10%)

This method allows the collection of a large amount of data from a representative sample, so that the results can be generalized to a wider population, in addition, this method is suitable because it can measure, test and prove dependent variables with independent variables [47], [48].

Sampling was carried out using random sampling techniques, data collection was carried out using a google form questionnaire to 100 JEPIN application users in Pontianak City. Sampling of respondents took place from February to March. Penggunaan Standart Margin Error 10% dikarenakan standart pada penelitian sosial umumnya menggunakan standart margin error 10%, selain itu untuk mentolerir kesalahan pada penelitian yang dilakukan [49].

Research instruments

The instrument used in this study is in the form of a survey to evaluate the level of satisfaction of the people of Pontianak City with online services, namely the JEPIN application. The questionnaire is based on a theory adapted from the Online Service Index (OSI), covering "Infrastructure, ICT, Human Resources, Budget, and Digital Government Implementation," which is adapted from the EDGI [50].

Table 1. Research instruments

No.	Online Service Index	Indicator	Number of Questions
1.	Infrastructure	Hardware Completeness	1
		Completeness of Internet Network	1
2.	ICT	Software Power	1
		Data Security	1
3.	Human Resources	Pyramidal Bureaucracy	1
		Operational Process Flexibility	1
		Job Specialization	1
4.	Budgeting	Ability to Plan Work	1
		Budget Capability	1
		Problem-solving Ability	1
5.	Digital Government Implementation	Sufficiency of Business	1
		Technology Intelligence	1
		Interagency Integration	1
		Accuracy of Work Results	1

Furthermore, the following is the design of the questions on the questionnaire in the study:

Table 2. Questionnaire design

No.	Variable	Question
1.	Infrastructure	The availability of a complete hardware network supports the implementation of digital government. The availability of a complete internet network supports the implementation of digital government.
2.	ICT	The implementation of digital government involves the use of sophisticated software. Data security applied in the implementation of digital government.
3.	Human Resources	In the era of digital government, bureaucracy is no longer a pyramid where only leaders control important information. Operational processes in the bureaucracy have now become more flexible.
4.	Budgeting	There is no longer an exclusive focus on one sector of work (sectoral ego). Adequate budget capacity from the government. Budget is allocated according to needs The budget spent is very sufficient.
5.	Digital Government Implementation	The Digital Government Program is designed to cover the entire spectrum of existing public services. The digital government program is the implementation of smart technology that can complete tasks at optimal speed. Digital government programs unite various government agencies in one integrated system. Digital government programs significantly increase the efficiency and effectiveness of work results.

RESULTS AND DISCUSSIONS

Mean, standard deviation, and Cronbach's alpha

The indicator to measure the correlation of the scale with the identified variable is Cronbach's alpha, Cronbach's alpha reliability criterion greater than 0.70. In Table 5, the reliability values of each valid variable are: Infrastructure = 0.714, ICT = 0.773, Bureaucracy = 0.844, Leadership = 0.872, and Digital Government Implementation = 0.878.

Table 3. Mean, standard deviation, and Cronbach's alpha (n=100)

Variable	Mean	Standard Deviation (STDEV)	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	
Infrastructure	4.065	0.724	0.809	0.891	0.889	Valid
ICT	3.432	0.744	0.865	0.847	0.772	Valid
Human Resources	3.895	0.796	0.833	0.965	0.890	Valid
Budgeting	3.995	0.776	0.877	0.931	0.865	Valid
Digital Government Implementation	3.387	0.737	0.878	0.917	0.736	Valid

Furthermore, Table 3 shows that numerical values that meet the Composite Reliability standard above 0.60 are considered valid. In addition, the variables of infrastructure, ICT, human resources, budgeting, and digital government implementation showed an Average Variance Extracted (AVE) figure above 0.50, which was also considered valid. Therefore, it can be concluded that each variable has a good number, so that it meets the standard test of validity and reliability.

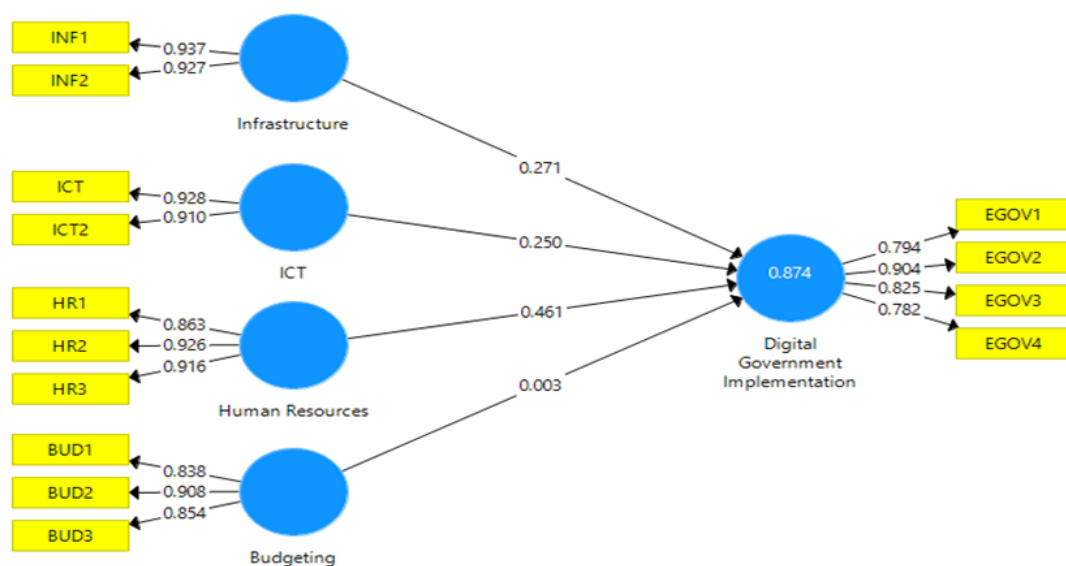


Figure 5. Validated research model

Figure 4 shows that each variable has a value that meets the validity test standards of each variable indicator. The validity test is considered valid if the value exceeds 0.70. In addition, the variables that affect the implementation of digital government have an R Square value of 0.874. According to Chin (1998), the division of the R-Square category is as follows: a value of >0.67 is considered strong, a value of >0.33 but <0.67 is considered moderate, and a value of <0.33 is considered weak. Therefore, it can be concluded that the implementation of digital government in the JEPIN application with an R Square value of 0.874 shows that the supporting variables have a very strong influence on the implementation.

Hypothesis test

Figure 5 shows that after testing the hypothesis using the bootstrap method on the variables of infrastructure, ICT, human resources, and budgeting in the implementation of digital government, the independent variables are tested against the dependent variables to evaluate the hypothesis of each variable. The test results are considered valid if the statistical T-value is more than 1.96 and the P-value is less than 0.05 [51].

Table 4. Hypothesis Testing of Digital Government Implementation on JEPIN Application

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (O/STDEV)	P Values	Hypothesis
Infrastructure	0.365	0.370	0.066	2.536	0.000	Accepted
ICT	0.330	0.320	0.076	3.595	0.000	Accepted
Human Resources	0.002	0.027	0.399	0.002	0.998	Rejected
Budgeting	0.355	0.330	0.395	4.871	0.002	Accepted

The first hypothesis, infrastructure for digital government implementation, shows a fairly high t-statistics number with a number showing 2,356 or already above the standard of 1,960, and a perfect p-value of 0.000, which shows the first hypothesis, namely that infrastructure has a positive and significant effect on digital government implementation.

The ICT hypothesis on digital government implementation has a t-statistics number of 3.595, which means it is above 1.960 and has a p-value of 0.000, which shows that the ICT variable on digital government implementation has a positive and significant effect.

The Human Resources hypothesis regarding digital government implementation has a statistical number of 0.002, which means it is still very low below the standard of 1.960 and the p-value has a value of 0.998, which means that Human Resources does not have a positive and significant effect on digital government implementation.

The Budgeting hypothesis for digital government implementation has a statistical number of 4,871 which meets the criteria for a validity number of 1,960 and a p-value of 0.002, which means that the Budgeting variable has a positive and significant effect on digital government implementation.

Discussion

The results of the hypothesis test show that there is a significant difference in the influence of infrastructure, ICT, and budgeting variables on the implementation of digital government. The first hypothesis regarding infrastructure shows a high t-statistic, exceeding the set standards, as well as a very low p-value, indicating that infrastructure has a positive and significant influence on the implementation of digital government. Similarly, the hypothesis regarding ICT shows significant t-statistical and p-value results, indicating that ICT also has a significant influence on the implementation of digital government. The results of this research on infrastructure and ICT support research [52], [53] previously stated the same thing.

However, in the Human Resources hypothesis, even though the t-statistical value is low and does not meet the set standards, a high p-value indicates that this variable does not have a positive and significant effect on the implementation of digital government. Meanwhile, this supports previous research in the same field [54]. Meanwhile, in the Budgeting hypothesis, high statistical figures and low p-values indicate that budgeting has a positive and significant influence on the implementation of digital government. This study refutes the research [55]. However, it supports previous research on the same thing in the implementation of budgeting in electronic government [19]. Therefore, these results emphasize the importance of infrastructure, ICT, and budgeting in supporting the implementation of digital government, while human resource aspects may not have a significant influence.

The variables analyzed using Smart PLS 4 show that there are variables that have a positive and significant impact on the bound variable, namely the Implementation of Digital Government. The less influential variable provides guidance for formulating policies and improving the sectors that are still lacking in the local government of Pontianak City, with the aim of improving the quality of services in the implementation of the JEPIN application in the future.

CONCLUSION

This research empirically tests the impact of Infrastructure, ICT, Human Resources, and Budgeting on digital government implementation, focusing on JEPIN application users. Significant variables influencing the government digitalization process through JEPIN include Infrastructure (P-Values 0.000), ICT (P-Values 0.000), and Budgeting (P-Values 0.002). However, Human Resources show no significant impact (P-Values 0.998). The study provides new insights into using the Online Service Index (OSI) for application-based services from an employee perspective. The JEPIN application supports effective, efficient, and accountable governance in Pontianak City. Key variables act as a foundation for sustainable digital government progress, with the OSI as a critical success indicator for e-Government.

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