JOURNAL LA SOCIALE

VOL. 05, ISSUE 04 (971-987), 2024
DOI:10.37899/journal-la-sociale.v5i4.1226

Evaluation of Customer Service through PLN Mobile Application in the Framework of Electronic Government Maturity Model in Sidoarjo Customer Service Implementation Unit

Fadhil Wahyu Yulistiar[1], Arimurti Kriswibowo[1]

[1]*East Java "Veteran" National Development University*

**Corresponding Author: Fadhil Wahyu Yulistiar*
E-mail: arimurti.adne@upnjatim.ac.id

Article Info

Article history:
Received 19 April 2024
Received in revised form 30 April 2024
Accepted 20 May 2024

Keywords:
Evaluation
Services
Maturity
PLN Mobile

Abstract

PT PLN (Persero) created the PLN Mobile application to improve the quality of service to customers with aspects of flexibility, convenience, speed, accuracy and transparency. However, in the Sidoarjo Customer Service Implementation Unit (UP3), there are still many customers who experience problems and submit complaints regarding the performance of the application. This study aims to evaluate PLN Mobile in UP3 Sidoarjo using the Electronic Government Maturity Model framework, namely the five pillars of Information Dissemination, Communication, Transactions, Interoperability, and Participation. This research method uses a qualitative case study to provide an in-depth description of the evaluation of customer service evaluation through the PLN Mobile application within the framework of the e-government maturity model in UP3 Sidoarjo. The results showed that several pillars, especially Transactions and Interoperability, have not been well fulfilled by PLN Mobile in UP3 Sidoarjo. The lack of integration with other services causes some services to be inaccessible through the application, forcing customers to come to the office. Therefore, the goal of PLN Mobile in improving service quality has not been fully achieved.

Introduction

Governance involves linkages between government, the private sector and society. Public service is one of the issues that often arise in the relationship between government and society. There are various challenges faced by the government when providing public services in the modern era like today. Given the very high level of public demand for public services, the public demands that government officials provide services that are of high quality and effective and efficient (Suryadevi & Fanida, 2020). In addition, as a public service provider, the government is responsible for providing services that satisfy the community as part of efforts to improve community welfare (Styareni & Fanida, 2021).

Nowadays, there are many changes in people's lives as a result of the rapid development of technology. The changes that are currently being experienced are changes in people's mindsets that have become more critical. This change is triggered by people who are increasingly intelligent and have a deeper understanding of the rights and obligations as citizens. This situation encourages the government to meet the various needs of the community, especially in terms of receiving quality services from the government itself. The emergence of demands from the public for public services causes the government to have a more dominant role in the public sector compared to the private sector. Therefore, the government needs to make changes in its bureaucratic structure in order to provide the best service to the community, as stipulated in Law Number 25 of 2009 concerning Public Services, especially in Chapter II Section 3b which emphasizes the importance of organizing public services in accordance with the

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

principles of good governance and efficient governance. Therefore, the government should be committed with the aim of providing optimal service to the community (Rahmawati & Hertati, 2022).

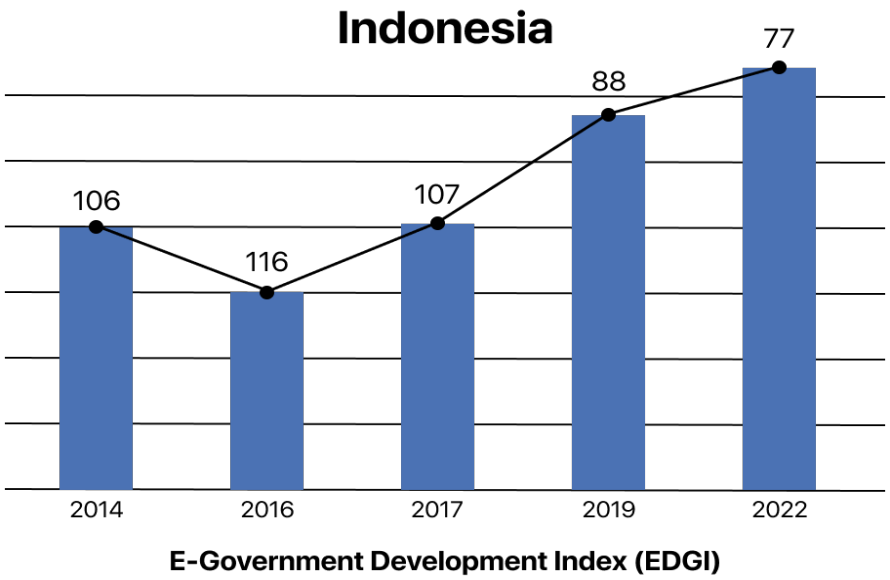

Figure 1. Results of the United Nations E-Government Survey 2022

Based on the figure above, it can be seen that Indonesia's e-government position has experienced an influential increase, which initially from rank 88 in 2020 changed to rank 77 in 2022. This reflects good progress in the implementation and development of Electronic Based Government Systems (EBSS), commonly known as e-government. The results of this survey show that digitalization, especially in the context of government, needs to be accelerated to continuously improve public services. In addition, through the proper implementation of digitalization systems, governance can be improved in terms of effectiveness and efficiency. For this reason, the government is working hard to continue developing itself to expand the utilization of technology (Laili & Kriswibowo, 2022). This achievement is expected to improve the performance of stakeholders in digital government in providing online-based services, in accordance with the President's direction in Presidential Instruction (INPRES) Number 3 of 2003 concerning National Policy and Strategy for e-Government Development, in the INPRES ordered all government agencies to carry out transformation through the utilization of information systems and information technology in providing services to the community. Websites at the central and local levels should be gradually improved to achieve integration between G2G (Government to Government), G2B (Government to Business) and G2C (Government to Citizen).

Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 18 Year (2019) concerning Amendments to Regulation of the Minister of Energy and Mineral Resources Number 27 Year 2017 concerning Service Quality Levels and Costs Associated with the Distribution of Electricity by the State Electricity Company (Persero), in Article 6A paragraph (1) explains that the level of quality of electricity services in the indicator of the length of interference is set at 1 (one) hour per month. In the sense that PT PLN (Persero) must complete the interruption service for a maximum of one hour, if it exceeds the specified time then the customer gets compensation for the delay of PT PLN (Persero) in overcoming the interruption. The level of quality of electric power services in the indicator of the length of interference is also with consideration, namely geographical conditions and existing network

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

conditions. So that PT PLN (Persero) must resolve the disturbance experienced by the customer for one hour and has the right to provide compensation to the customer if it does not meet that level.

The use of information obtained from market research has significant uses, especially in the current era of technological development that can affect the way a company works. This allows PT PLN (Persero) as a service provider to provide information and services to customers more effectively and optimally. Efforts to ensure easy, fast and convenient access for the community to meet electricity needs are also one of the main focuses of PT PLN (Persero) in providing the best service to customers. The development of information technology that is increasingly advanced and interconnected like today encourages service provider companies such as PT PLN (Persero) to develop their services, with the aim of providing convenience and the right solutions and quick responses according to customer needs. That way, customers will feel satisfied with the services provided. According to Budiarti (2023) the most important aspect for companies to maintain and improve customer satisfaction is a point of view in management. The success of a company that provides services or products can be measured through the company's ability to provide services equally to all customers optimally and in accordance with applicable procedural standards. By paying attention to the needs and desires of customers for improved service quality, PT PLN (Persero) introduced PLN Mobile Application that can be used by the public on Android-based smartphones and also IOS. PLN Mobile was released by the PLN Board of Directors on October 31, 2016 at PLN Head Office. PLN Mobile is an innovative product application from PLN in collaboration with PT Indonesia Comnet Plus as a subsidiary of PLN.

The availability of the PLN Mobile application is proof that PT PLN (Persero) has succeeded in developing e-government-based services well. This is in line with the views expressed by Hadwi Soendjojo in Pramono (2019) regarding e-government development which can be interpreted through four progressive levels. The first stage involves setting up a website as an institutional information and communication channel, as well as socialization efforts aimed at both internal and public. The second stage involves refining the program by featuring an interactive website that provides public information and has connections with other institutions. In the third stage, the focus shifted to developing a website capable of serving public service transactions and having data interoperability with other institutions. The fourth stage highlights the creation of applications that facilitate services between Government to Government (G2G), Government to Business (G2B), and Government to Citizens/Consumers (G2C). This transformation, implemented through applications, aims to simplify the delivery of information and services by PT PLN (Persero) to customers. This is in line with the concept of e-government, which is generally more focused on improving the efficiency of service delivery and increasing accessibility for citizens (Meijer & Bekkers, 2015).

With the introduction of the online system through the application, the goal is to speed up the customer transaction process and provide a more secure, effective and efficient service. However, in 2022 there was a change in the course of services where the PLN Mobile application became the only way to apply for all services. This resulted in customers having no other alternative to apply for services, as access to the website layanan.pln.co.id had been discontinued. If services can only be accessed through the PLN Mobile application and the application cannot be accessed or there are problems, it can cause problems. All services regarding electricity are currently carried out online through the PLN Mobile application which is an effort to utilize electronic government services and facilitate people who want to do services without having to come to the office. PLN Mobile is a public service innovation in terms of electricity services by utilizing internet access, so that the community or customers do

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

not need to come to the office to perform face-to-face services, the community can directly perform services through the PLN Mobile application. This change, which is carried out through the application, aims to make the delivery of information and services by PT PLN (Persero) to customers simpler. This is in accordance with the idea of e-government according to Meijer & Bekkers (2015) which generally emphasizes more on improving efficiency in providing services and increasing the availability of access for the community.

Given the large number of users of the PLN Mobile application and there are still disturbances in the work area of the PLN Sidoarjo Customer Service Implementation Unit (UP3), the application of the PLN Mobile application is still not optimal. Based on the e-Government Maturity Model theory by Fietkiewicz et al., (2017) explains that to evaluate an e-Government can use five pillars. The first pillar is the dissemination of existing information and ease of access to e-Government services. The second pillar is communication which refers to the availability of two-way communication or submitting complaints. The third pillar is transaction which refers to an e-Government can be used to conduct both financial and non-financial transactions. The fourth pillar is interoperability which refers to the connection between e-Government in the country whether it is exchanging data or integrating applications or websites. Then the last pillar is participation which refers to the availability of assessments from the public after using e-Government services as a means of criticism and suggestions. In this context, public policy evaluation by Khothimah & Hertati (2021) should be seen as a positive effort to find the right solution and overcome any shortcomings that may exist (Nurani et al., 2019).

Based on the five pillars of the e-Government Maturity Model, PT PLN (Persero) Sidoarjo experiences several obstacles that cause the use of the PLN Mobile application is still not optimal. Based on observations of the existing situation, there are still complaints from customers related to the use of e-government services that have not reached an optimal level such as not being able to access the PLN Mobile application, unable to log in to the PLN Mobile application. When people want to use the PLN Mobile application and the application cannot be accessed, which causes people to not be able to process services. In this situation, PLN Mobile as a means for citizens who want to utilize services, should ensure the availability of easy access for the community. In line with this perspective, Wibiksana et al. (2019) states that in the implementation of e-government, the government is required to have adequate information technology infrastructure which is half of the success of e-government implementation.

The initial purpose of using the PLN Mobile application is to make it easier to provide services to all customers. In addition, as part of efforts to provide better service to customers, UP3 Sidoarjo is currently actively monitoring and providing updates to customers regarding the status of their service applications and the stages of the implementation process by officers, they also provide the latest news about PT PLN (Persero). If customers experience problems or obstacles, they can easily submit them through the complaint submission feature available in the PLN Mobile application. This aims to simplify the complaint process without having to come directly to the nearest PLN office. But not all problems faced by customers can be resolved through online channels either through applications or other media, because there are still customers who have problems around electricity that must be resolved directly with officers because the problems experienced cannot be resolved online.

With the presence of the PLN Mobile application, it is expected to provide convenience to customers when they want to apply for services. However, in its implementation there are many challenges faced by customers due to their unpreparedness in facing the changes planned by PT PLN (Persero). This situation can cause uncertainty among customers. Then the second

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

pillar, namely communication, is also an obstacle where even though it has utilized the PLN Mobile application, PLN services are still not running, in line with this from the data (https://gatrik.esdm.go.id) the level of service quality of PT PLN (Persero) in 2021 states that the speed of responding to complaints is one hour. However, from observations of the existing situation, there are still complaints from customers about the unoptimized use of e-government services where there are still people who make complaints but more than five hours have not been resolved.

Therefore, based on the problem, this research was conducted to find out, analyze and describe the evaluation of customer service through the PLN Mobile application within the framework of the e-government maturity model by Fietkiewicz et al. (2017) at UP3 Sidoarjo.

Methods

The method used in this research, namely using descriptive qualitative research with a case study approach. As stated by Stake in Hidayat & Purwokerto (2019) explains that case study research is a study that conducts an in-depth analysis of a case, program, event, activity, process, or one or more individuals. These cases have certain time and activity limits, and researchers collect information comprehensively using various data collection methods according to a predetermined schedule. This process involves utilizing various research methods and techniques, and making use of diverse sources of information with the aim of effectively understanding how the individual, event, or social context operates or works according to its situation. This research uses a qualitative case study method that is written descriptively with the intention of providing an in-depth description of the evaluation of customer service through the PLN Mobile application within the framework of the e-government maturity model in UP3 Sidoarjo.

This research uses a purposive technique, which means that the selection of informants is based on certain considerations and research objectives. Informants were selected based on considerations related to the research topic, which consisted of main informants and supporting informants. This study uses data analysis techniques by Miles et al. (2014), namely data collection, data condensation, data presentation, and conclusion drawing and verification. While in data collection, this research uses data collection techniques in the form of interviews, documentation, and observation with the aim of obtaining comprehensive data, so that the data obtained becomes relevant and in-depth, and increases validity and accuracy in answering research questions.

Results and Discussion

Program evaluations are conducted to see what actually happens as a result of the implementation of a policy or program and what happens after the implementation of the policy. It is possible that the evaluation will assess how effective the policy was in achieving its initial objectives. The E-Government Maturity Model by Fietkiewicz et al. (2017) namely the Five pillars of e-Government was used to conduct this research. The purpose of this research is to determine the level of success of PT PLN (Persero) UP3 Sidoarjo's e-government. In reviewing the evaluation of e-government PT PLN (Persero) UP3 Sidoarjo seen from 5 (five) pillars, among others: Information Dissemination, Communication, Transaction, Interoperability and Participation.

Information Dissemination

The information dissemination pillar aims to show the presentation of information in e-government and the ease of access for the community or users. The difficulty of accessing e-government services, be it websites or applications, is because the display is not user-friendly,

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

making it difficult for users who use e-government services. An unfriendly e-government display will make it difficult for users or related stakeholders, impacting customer satisfaction and service performance. Therefore, ease of access and presentation of information on e-government services is prioritized. The PLN Mobile application on the pillar of disseminating information to the Sidoarjo community is carried out by means of various media both from PLN Mobile or social media such as Whatsapp, Instagram, Facebook, and others. Information dissemination through PLN Mobile includes information about electricity account bills, token transactions, electricity usage history, promos on electric power services, events, and other information such as magazines. While the dissemination of information through other media such as Whatsapp broadcasts, Instagram, Facebook, namely information about general knowledge about electricity, areas that will experience power outages, areas that will experience recovery.

Information dissemination according to Roger in Arifin (2016) explains that information dissemination is an interactive process in conveying innovations that can ultimately change the mindset and actions of individuals or groups involved or targeted. Because dissemination is not a one-way activity, but an interaction where the results not only affect the mindset of the target group but also the individual who introduces the innovation. Meanwhile, according to Hiller & Bellanger in Bouty et al. (2019), the most basic type of e-government is information dissemination, where the government only provides information to its constituents through their website. However, the biggest problem is ensuring that the data is available, accurate, and timely.

The Law No. 14/2008 on Public Information Disclosure regulates the dissemination of information by the government. This regulation requires all public bodies, including the government, to provide information to the public. In the era of modern technology, government websites are considered one of the important factors in disseminating information. However, it also serves as the government's spearhead in providing public access to information that is fast, efficient and effective. According to Arifin (2016), dissemination is an effort to encourage certain groups or individuals to obtain information, raise awareness, accept, and ultimately utilize the information. Regulation of the Minister of Communication and Information No. 17/PER/M.KOMINFO/03/2009 defines national information dissemination as the reciprocal dissemination of information to the public from the government, provincial governments, district/city governments, both requested and unsolicited, which is carried out through the mass media and other community communication institutions. The choice of communication methods and dissemination of public information will be influenced by rapid changes and advances in information and communication technology, as well as social and political dynamics.

The pillars of information dissemination in the e-government services of PT PLN (Persero) Sidoarjo Customer Service Implementation Unit are carried out in many ways, in the PLN Mobile application the information disseminated can be in the form of electricity promos, marketplaces, electricity account bills, token transactions, electricity usage history, events, magazines. This has supported the information needs of the community or customers who use electricity services through PT PLN (Persero) Sidoarjo Customer Service Implementation Unit. On the display of PLN Mobile has also displayed the information needed by the community, besides that PT PLN (Persero) Sidoarjo Customer Service Implementation Unit not only utilizes the PLN Mobile application to disseminate information related to electricity but also utilizes other social media such as broadcast whatsapp, Instagram, Facebook that can other information other than those in the PLN Mobile application which is managed directly by PT PLN (Persero) Sidoarjo Customer Service Implementation Unit so that it can fully control

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

electricity information in the Sidoarjo area, this is also in line with the opinion of Welch-Rossdan & Fasig in Setyanto & Winduwati (2017) that dissemination involves spreading and connecting an idea, innovation, or research to be accessible to the public. Furthermore, the requirement to fulfill the pillar of information dissemination is the ease of access for the public or customers to e-government services and provide benefits to its users. In line with Meijer & Bekkers (2015) that the concept of e-government is generally more focused on increasing the efficiency of service delivery and increasing accessibility for citizens. The PLN Mobile application can be accessed through all types of smartphones both accessed from Android and iOS so that the public or users can freely access the application without any device limitations.

However, based on interviews with users, the PLN Mobile application does not provide a push service feature, namely notifications on the devices of people or users who have downloaded the application so that they can find out information without having to open the PLN Mobile application so that people or users look for information themselves on PT PLN (Persero) Sidoarjo Customer Service Implementation Unit's social media channels or newspapers from the head of the local neighborhood if there are power outages and maintenance. This is in accordance with the opinion of Priliantini et al. (2018) who explain that dissemination is a synonym for the word spread. So the definition of information dissemination is the dissemination of information shown to groups or individuals in order to obtain information, raise awareness, accept, and ultimately utilize the information. In line with David K. Berlo in Syarianah (2017) explains that dissemination is the process of delivering and receiving messages, and is an interaction that communicates knowledge to the target audience, with the aim that it can be used to create change.

Figure 2. Information about electricity outages at PT PLN (Persero) UP3 Sidoarjo

Communication

In the communication pillar where the government utilizes social media or applications to disseminate information as two-way communication. In this case PT PLN (Persero) UP3 Sidoarjo uses social media as a means of two-way communication, such as disseminating information and communication to the public using e-government in carrying out public services by providing a chat feature that can be used by the public or users to conduct two-way communication and submit complaints. Based on the findings in the field, PT PLN (Persero)

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

UP3 Sidoarjo uses various facilities and infrastructure to support the development and utilization of technology in terms of communication regarding online customer service. The communication pillar is the main focus at the evaluation stage of customer service through the PLN Mobile Application. In the Electronic Government Maturity Model, effective communication between government agencies and the public is a crucial element to achieve an optimal level of maturity (Cancer Rusnita et al., 2023). In the case study of the customer service implementation unit in Sidoarjo, the emphasis on how the PLN Mobile Application facilitates efficient two-way communication will be the central point of discussion (Haq, 2022). According to Miller in Mulyana (2014), communication occurs when a source conveys a message to a receiver with the conscious intention of influencing the receiver's behavior. According to Hovland in Mulyana (2014) communication is a process that allows a person (communicator) to convey stimuli (usually through verbal symbols) to change the behavior of others (communication). In addition, Cassata and Asante in Mulyana (2014) also say that communication occurs when a source of communication, defined as one-way communication intended to change how others act. In addition, according to Hiller & Bellanger in Bouty et al. (2019), it explains that communication indicators in e-government where government sites allow constituents to communicate with the government and submit simple requests and changes. Some of these sites use e-mail exchanges, and there are thousands of such sites. Customers or the public can fill out information requests through websites provided by agencies that allow online requests. While information cannot be returned instantly over the internet, they must be sent back in the form of regular mail or via e-mail.

The communication pillar is an indicator where the government uses social media as a means of communication in e-government services by providing a chat feature so that the public or users can have two-way communication or submit complaints and complaints. Without communication in e-government services, it will not run efficiently. Based on the results of observations and interviews in the field, it is known that PT PLN (Persero) Sidoarjo Customer Service Implementation Unit uses various means to communicate with the public or customers, in the sense that the more information channels that exist in a service, the easier it is for the public to find the information needed about electricity in the Sidoarjo area. PT PLN (Persero) Sidoarjo Customer Service Implementation Unit uses communication media, namely call centers, websites, applications while for social media using Facebook, Twitter, and Instagram which are managed directly by PT PLN (Persero) Sidoarjo Customer Service Implementation Unit so that information related to electricity in the Sidoarjo area can be absorbed by the public quickly.

E-government is the application and use of information technology by the government to facilitate communication between government, society, business, and other parties involved, with the aim of providing fast and efficient services (Atthahara, 2018). PT PLN (Persero) Sidoarjo Customer Service Implementation Unit when the public or customers complain about disturbances or complaints is responded quickly by PLN while other information besides those in PLN Mobile is also disseminated through social media, the use of which is in demand by the public or customers so that it is easy to communicate to the public.

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

UP3 SIDOARJO

No		DESCRIPTION	UNIT	Declaration
1	a.	High Voltage 150 kV highest at point of use	kV	
		Lowest 150 kV High Voltage at point of use	kV	
	b.	The highest 70kV High Voltage at the point of use	kV	
		Lowest 70kV High Voltage at point of use	kV	
2	a.	Highest Medium Voltage at point of use	kV	21.00
	b.	Lowest Medium Voltage at the point of use	kV	18.00
3	a.	Highest Low Voltage at point of use	Volt	231.00
	b.	Lowest Low Voltage at the point of use	Volt	198.00
4	a.	Highest frequency at point of use	Hz	50.50
	b.	Lowest frequency at point of use	Hz	49.50
5		The length of disruption experienced by consumers	hour/month/consumer	05:00:00
6		Number of disruptions experienced by consumers	times/month/consumer	5.00
0		PB TM service speed	Working days	100.00
8	a.	PB TR Service Speed Without Network Expansion	Working days	5.00
	b.	PB TR Service Speed with Network Expansion	Working days	15.00
	c.	PB TR Service Speed with the Addition of a Transformer	Working days	25.00
16		PD TM Service Speed	Working days	100.00
10	a.	PD TR Service Speed Without Network Expansion	Working days	5.00
	b.	PD TR Service Speed with Network Expansion	Working days	15.00
	c.	Speed of PD TR Service with the Addition of a Transformer	Working days	25.00
11		Speed of Responding to Nuisance Complaints	O'clock	1.00
12		kWh Meter Reading Error	Kali/tw/consumer	0
13		Account Error Correction Time	Working days	0

Figure 3. Declaration of UP3 Sidoarjo Service Quality Levels in 2023

The implementation of the communication pillar carried out by PT PLN (Persero) Sidoarjo Customer Service Implementation Unit shows the speed of responding to complaints of interference in UP3 Sidoarjo, namely 1 hour, that two-way communication with the public or customers is in accordance with what is regulated in the Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 18 of 2019 concerning Amendments to the Regulation of the Minister of Energy and Mineral Resources Number 27 of 2017 concerning Service Quality Levels and Costs Associated with Electricity Distribution by State Electricity Companies (Persero) where the speed to answer complaints or disturbances from customers is below the specified target. This existing regulation will help the development of PLN Mobile application as a means of internet service to continue to grow and improve the quality of services provided to the community, especially electricity services. In line with the opinion of Hiller & Bellanger in Bouty et al. (2019) that e-government services make it possible to involve two-way communication, namely the government and citizens. This is in line with the opinion of Noveriyanto et al. (2018) which explains that communication technology is provided to the community to facilitate communication, both in the context of structured internal communication and communication between agencies (G2G), communication to the community (G2C), and communication to business people (G2B).

PT PLN (Persero) UP3 Sidoarjo has implemented a two-way communication strategy by increasing customer satisfaction, as can be seen from research results which show that active communication with the public or customers is in accordance with established regulations. This improvement is reflected in the handling of customer complaints or disturbances which have met the targets set in the Regulation of the Minister of Energy and Mineral Resources of the Republic of Indonesia Number 18 of 2019. In addition, this regulation supports the

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development of the PLN Mobile application as a means of internet service, which aims to continue improve the quality of electricity services provided to the community.

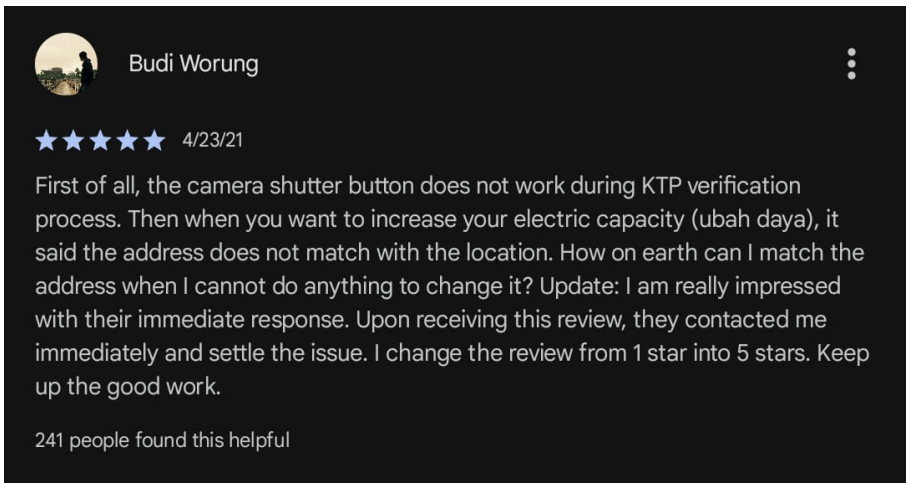

Figure 4. Public reviews on the PLN Mobile application on the Google Play Store

Transaction

The third pillar, transactions, describes how websites or apps can be used to conduct financial and non-financial transactions with public services. Financial transactions such as paying taxes, paying fines, and other payments through government apps, and non-financial transactions such as features that allow users to fill out and submit forms online through apps. Fietkiewicz et al. (2017) state that incorporating the transaction process into a government website or application increases its usability and measures people's trust in the government. This suggests that the more people enjoy the benefits, the more likely e-government is to emerge.

The transaction pillar is the next focus point in evaluating customer service through the PLN Mobile Application. In the Electronic Government Maturity Model, effective and efficient transactions between the government and society are important indicators of the level of e-government maturity. How the PLN Mobile Application facilitates transactions between customers and the customer service implementation unit in Sidoarjo will be analyzed in depth in this pillar. The transaction indicator according to the World Bank Study in Muftikhali & Susanto (2017) explains that transactions allow citizens to get government services or transact business with the government online. According to Hiller & Bellanger in Bouty et al. (2019), it explains that the transaction indicator is where the government has a website available to conduct actual transactions with constituents. Customers or the public interact with the government and conduct transactions entirely online, with web-based self-service replacing government employees in this regard. True online transactions are the most advanced level of e-government. Examples are renewing licenses, paying fines, and applying for financial assistance. In addition, according to the United Nation Maturity Model in Amalia & Adietya (2019), it explains that where government websites allow two-way communication with users or the public. This includes requesting and receiving comments on government policies, programs, and regulations. For exchanges, some form of electronic authentication of citizens' identities is required for the transaction process to be successful. Government-owned websites handle non-financial transactions where e-voting is used, downloading and uploading forms, filing taxes online, or applying for licenses, permits, and certificates. They also handle financial transactions, where money is transferred to the government through a secure network.

A website that is characterized by transactions, offers direct links to government services and is available at all times. Transact sites can increase productivity in both the public and private

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

sectors by making processes that require government assistance or approval simple, faster, and cheaper. Based on the results of interviews and observations conducted, it can be seen that it is used as a medium for financial or non-financial transactions of public services where PT PLN (Persero) Sidoarjo Customer Service Implementation Unit provides payment features through the PLN Mobile application or provides filling out forms for the collection of files as a form of non-financial transactions.

The implementation of the transaction pillar at PT PLN (Persero) Sidoarjo Customer Service Implementation Unit has been running quite well which can be proven by the results of research the majority of electricity services can be paid online or through the PLN Mobile application but some services must recheck the office such as payment of fines so that not all pemabyaran services can be done online.

In online payments through PLN Mobile, some of them include payment of token purchases, account payments, new install payments, temporary connection payments, payment of changes in electricity power so that people no longer need to make payments at the office, only through the PLN Mobile application in line with the statement of customers or people who are facilitated regarding electricity payments. In addition, customers can also see their payment history so that it is possible to see a record of costs incurred in previous months. PLN Mobile can also download invoices or receipts for proof of payment so that people have valid proof of payment. This is in line with the Regulation of the Minister of Administrative Reform and Bureaucratic Reform of the Republic of Indonesia Number 5 of (2018) concerning Evaluation of Electronic-Based Government Systems explaining that transactions are indicators where Central Agencies and Local Governments provide application systems that enable transactions, namely providing services after payment or exchange of information. In this case, SPBE users have the option to make payments through other channels, such as banking, and then receive SPBE services. Users can also upload information or documents, give approval, or provide notifications through the application system, and then the system will respond by providing SPBE services.

Figure 6. Proof of Transaction on PLN Mobile

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

Even though the implementation of the transaction pillar at PT PLN (Persero) UP3 Sidoarjo has shown quite good progress, there are still several challenges that need to be overcome in online transactions. Even though the majority of electricity services can be paid for online or via the PLN Mobile application, there are still certain services that are not fully integrated into the online transaction system. One striking example is the payment of fines, where the process still requires a direct check at the office. The main challenge in implementing online transactions is overcoming technical complexities or obstacles that may arise in system integration, so that all services can be accessed and handled efficiently through digital platforms. Apart from that, the security aspect is also a major concern, where PLN needs to ensure that online transactions carried out by customers are safe and protected from potential cyber security threats.

In addition, to ensure the success of online transactions, an inclusive approach is also needed towards customers who may not be familiar with or have limited access to digital technology. PLN needs to provide adequate education and support to customers in using the online payment system, as well as provide alternative options for those who cannot access or utilize digital platforms. By overcoming these challenges, PT PLN (Persero) UP3 Sidoarjo can improve service efficiency and expand the scope of online payment services, thereby providing a better and more comfortable experience for customers and supporting the company's overall digital transformation.

Interoperability

Data and application integration is essential for e-government because it makes one data or application interrelated and allows government agencies to use it simultaneously. In addition, interoperability describes that one website connects different government pages where each agency provides different types of services.

Interoperability, as the fourth pillar in the Electronic Government Maturity Model, is an essential focal point in the evaluation of PLN Mobile applications. In the context of e-government, interoperability highlights the ability of systems to communicate and operate together. Evaluating the extent to which PLN Mobile in Sidoarjo can be integrated with related systems in the context of customer service is the essence of this discussion. Interoperability or integration is needed in realizing an e-government, according to Hiller & Bellanger in Bouty et al. (2019) explaining that the pillar of interoperability or integration where all government services are combined which can be achieved using one portal, this allows constituents to access the services they need, regardless of which agency or department provides the service. The lack of integration of all online and back-office systems is one of the biggest barriers to conducting more online transactions between the government and its constituents. Government institutions spend expensive and time-consuming resources interacting directly with people. Integrating online and back-end systems to fulfill these customer requests can save time and costs and improve customer service. As according to the United Nation Maturity Model in Amalia & Adietya (2019), it explains that integration or connectedness where government websites have changed the way the government interacts with its people. The government proactively requests information and opinions from the public. Integrated applications allow data, knowledge, and information to be transferred from government agencies. The government has moved from a government-centered approach to a citizen-centered approach. In this approach, e-services are targeted to citizens through their lifecycle events and segmented into different groups to provide customized services. The government creates an environment where citizens can be more involved in government activities and participate in decision-making. Interoperability is essential in the public sector, where public agencies or institutions must work together to provide seamless services under a one-stop government.

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Interoperability between applications is also an urgent demand in the development of e-government in Indonesia. This is due to the need for multi-sectoral data in order to make policies to address problems that involve data from related sectors. Meanwhile, the current condition of applications in the government environment is generally still sectoral, separate, unable to communicate with each other, and heterogeneous. Interoperability between e-government applications is an important thing that needs to be solved immediately so that the problem of e-government development in Indonesia does not drag on. The interoperability pillar is one of the keys to the realization of good e-government so that it allows one application to be connected to data or applications from other government agencies that are used simultaneously, but it also means that interoperability allows connecting different services. Based on the results of interviews and observations in the field that PT PLN (Persero) Sidoarjo Customer Service Implementation Unit connects all services regarding electricity, some services that cannot be done online through the PLN Mobile application because they have to check directly at the location or require files that must be collected in the office. In addition, the form of interoperability or integration carried out at PT PLN (Persero) Sidoarjo Customer Service Implementation Unit is connecting between calls from the Sidoarjo call center so that customers or the public who make complaints or complaints to the Sidoarjo call center will be channeled to PT PLN (Persero) Sidoarjo Customer Service Implementation Unit. This is in line with the opinion of Wulansari & Inayati (2019) which explains that interoperability is cooperation between government agencies and information exchange.

The implementation of interoperability is of key importance in developing effective e-government. It enables integration between various systems and services used by government agencies, ensuring smooth data flow and integrated services. However, PT PLN (Persero) UP3 Sidoarjo still faces a number of challenges related to interoperability. While many services have been connected online, some processes, such as checking location or certain requirements, still require on-site interaction or collection of documents at the office. There are also challenges related to digital accessibility, where not all customers have sufficient skills or access to digital platforms. The integration between call centers and field services also requires further development to ensure optimal responsiveness in responding to complaints or disruptions from customers. By addressing these challenges, PT PLN (Persero) UP3 Sidoarjo can improve the efficiency and effectiveness of their services, supporting a better and more comprehensive vision of e-government.

Participation

Participation is a way to build a democratic government where public participation is important. The government must regulate the freedom of the public to participate in e-government services. One measure of the participation element is the availability of online questionnaires containing questions about public satisfaction after using e-government services, such as the Public Satisfaction Index survey and the availability of means to encourage public participation through e-government, such as criticism, suggestion, and rating columns. The existence of these features allows users to provide an assessment or value to the website or application after using it in order to improve what is lacking from the application or website submitted by customers or the public.

Participation, as the last pillar in the Electronic Government Maturity Model, reflects the level of community involvement in the decision-making process and service delivery. In the evaluation of PLN Mobile in Sidoarjo, the importance of community participation through this application will be analyzed including the extent to which the community is involved in providing feedback and utilizing the services provided through the application. Along with the increasing democratic process, democracy is also an important aspect in the governance

ISSN 2721-0960 (Print), ISSN 2721-0847 (online)

process. Democracy can be defined as the ability of people to participate directly or through their representatives in the governance process. Meanwhile, according to Antitoiko in Nurhadryani (2015), democracy in a representative system focuses on the relationship or interaction between the community, government, and government officials, and expands opportunities for the community to participate in policy making according to their respective aspirations. In addition, according to Hiller & Bellanger in Bouty et al. (2019), it is an indicator of participation where government websites that allow people to post comments, register, or vote online. Although it can be considered as part of a two-way communication process, it can be believed that it is so important that it requires a different category. In particular, when looking at how privacy concerns affect the provision of e-government, it is helpful to view this function as distinct because of the unique sensitivity of providing this feature online. Only a small number of government-owned websites allow access to this level of electronic sophistication. Individuals can use the internet to vote, which is one of the most prominent future uses of e-government that relies on online interaction with government.

The PLN Mobile application provides a review feature for the community, making it possible for PT PLN (Persero) Sidoarjo Customer Service Implementation Unit to collect criticism and suggestions given by customers or the public. This can be taken into consideration for PLN to fix what is lacking according to the community, which is in line with the opinion of Hiller & Belanger in Muftikhali & Susanto (2017) explaining that participation indicators that allow the community to provide comments, political participation and voting. A special strategy carried out by PT PLN (Persero) UP3 Sidoarjo to encourage and facilitate community participation is through the review feature provided in the PLN Mobile application. This feature allows the public to provide criticism and suggestions for services provided by PT PLN (Persero) Sidoarjo Customer Service Implementation Unit. By collecting direct input from customers or the public, PT PLN can gain a better understanding of their needs and expectations of electricity services.

The impact of this participation mechanism on the decision-making process and service improvement is significant. By paying attention to the criticisms and suggestions provided by the community through the review feature, PT PLN can design policies and strategies that are more in line with customer needs. In addition, community participation can also increase the level of customer trust and satisfaction with PLN services, because they feel that their opinions and input are considered and valued by the company. The concept of community participation in providing comments and suggestions in the PLN Mobile application is also in line with the theory of political participation described by Hiller & Belanger in Muftikhali & Susanto (2017). The community is given the opportunity to actively participate in the process of providing public services, which can overall improve the quality and relevance of services provided by PT PLN (Persero) Sidoarjo Customer Service Implementation Unit.

Conclusion

Overall, the implementation of e-government in PLN Mobile services in Sidoarjo illustrates efforts to fulfill all the pillars required in the Electronic Government Maturity Model. First, the Information Dissemination pillar underscores the importance of information dissemination through various media, including government websites and the PLN Mobile app, to ensure accessibility and openness of information to the public. The Communication pillar highlights the importance of two-way interaction between the government and the public, conducted through various communication channels such as social media and call centers, and includes aspects of responsiveness to public complaints or grievances. Furthermore, the Transaction pillar emphasizes the importance of ease in conducting online transactions, such as bill payments, which have been successfully implemented through the PLN Mobile application,

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providing convenience and efficiency for the community. Interoperability is a key pillar in ensuring integration between services and efficiency of e-government development, with PT PLN (Persero) Sidoarjo Customer Service Implementation Unit demonstrating efforts in connecting various electricity services together. Finally, the Participation pillar underlines the importance of the active role of the community in the governance process, which is realized through the review feature in the PLN Mobile application to provide space for the community to submit criticisms and suggestions, in line with the principles of democracy and transparency in public services. Thus, the implementation of all these pillars reflects the commitment of PT PLN (Persero) Sidoarjo Customer Service Implementation Unit in providing e-government services that are effective, efficient, and responsive to the needs of the community.

Based on the results of research that has been carried out by the author. Specifically, these suggestions are related to the Evaluation of Customer Services Through the PLN Mobile Application in the Framework of the Electronic Government Maturity Model Case Study of the Sidoarjo Customer Service Implementation Unit, namely the need to increase the integration of existing services in the PLN Mobile application so that e-government services cover all electricity services so that people no longer need to come to the office, improve push service or notification in terms of disruption or maintenance of electricity so that people immediately know the information in the PLN Mobile application does not need to find their own information related to disruption or maintenance, improve the appearance of the PLN Mobile application to make it easier for community customers to operate the application so that customers or the public can operate the PLN Mobile application optimally and not confuse what services will be selected by customers or the public.

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