



## Innovation of Jalan Rusak Lapor Dewe Application at the East Java Bina Marga Public Works Office

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### Abstract

*The East Java Bina Marga Public Works Office created an innovation called JALAK LOEWE (Jalan Rusak Lapor Dewe). The innovation is used to facilitate the community in complaining about road damage. This research aims to discuss the public service innovation launched by the East Java Bina Marga Public Works Office through the JALAK LOEWE application. The research method used in this research is qualitative research with a case study approach. In obtaining data, researchers collect through observation, interviews, and documentation. The results of this study refer to seven innovations in digital public services in (Bertot, Estevez, & Janowski, 2016), namely: Transparent, Participatory, Anticipatory, Co-Created, Personalized, Context-aware, Context-smart. Based on the findings obtained, it explains that there are several indicators that have been running quite well, but there are still other indicators that have not been fulfilled.*

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## Introduction

One of the important infrastructures that people use daily is the road. Roads are the most common means of transportation used by the community for daily activities, so the number of vehicles passing through a road section will have an impact on the carrying capacity of the road. Given their functional importance, roads must always be in a usable state. One of the ways in which roads benefit a region is by acting as an enabler for equitable development in the region and for the development of the entire surrounding region (Asariansyah, 2013; Kadir, 2006; Karim et al., 2023;. In addition, they play an important role in the process of connecting growth centers with surrounding areas. Roads are considered by the government as essential transportation infrastructure for the smooth running of government and the economy (Lauryn & Ibrohim, 2019). Transportation and economic activities will run smoothly if roads are in good condition.

Public roads that become transit routes are often a source of complaints related to infrastructure (Narayana & Amri, 2023). The current condition of road infrastructure in Indonesia is still considered inadequate, causing many complaints from citizens (Iskandar et al., 2023). Many roads in Indonesia are still in poor condition due to the low quality of asphalt pavement, causing minor, moderate, and severe damage. This can be caused by the use of substandard materials or materials that do not meet technical specifications, the use of poor workmanship techniques, or scheduling work during bad weather. The government's involvement in this issue is important because it affects the comfort and safety of motorists (Joewono & Kubota, 2006). Due to the disruption of transportation convenience, this has become a common complaint of the local community.

Within the parameters of public services required by the 1945 Constitution of the Republic of Indonesia, the state should provide services to all citizens and residents. This is in the form of

realizing the fundamental rights and needs of citizens and fostering public trust in public service providers. This is in accordance with the Decree of the Minister of Administrative Reform Number 63 of 2003 concerning General Guidelines for the Implementation of Public Services which explains that the essence of public service is to provide excellent support to the community which is the embodiment of the duties of civil servants in government. In this case, information and communication technology (ICT) is introduced by the government to foster public participation, implement public policies, or offer services to the public sector or the public (Ndou, 2004; Uster, 2024).

Article 1 of Government Regulation No. 82/2012 on the Implementation of Electronic Systems and Transactions explains that communities, business entities, state administrators, and individuals who provide, manage, and/or operate electronic systems either individually or jointly with electronic systems for their own purposes and/or the purposes of others are considered as implementers of electronic systems. In order to foster the quality of public service delivery for the benefit of service users, e-Government, also known as electronic government, is a development-based innovation in the management of government buildings and infrastructure that utilizes or relies on electronic technology. The implementation of e-Government is one way to foster public service standards.

The East Java Provincial Bina Marga Public Works Office is the agency responsible for improving the state of provincial road services in the East Java area. The Bina Marga Public Works Office is authorized to build or repair roads. To ensure the smooth operation of land transportation, the Bina Marga Public Works Office is mandated and authorized to maintain and repair roads. East Java Province is one of the regions in Indonesia that seeks to improve infrastructure development including roads (Sugiarto & Subroto, 2019). Of course, the purpose of improving public services in each region is to optimize the potential or capabilities that exist in each region. In order to improve standards and ensure proper maintenance of provincial roads, the East Java Provincial Government through the East Java Bina Marga Public Works Office continues to present new innovative public services.

One of the innovations launched by the East Java Bina Marga Public Works Office is the Jalan Rusak Dewe Lapor alias (JALAK LOEWE) application to report damage to provincial road facilities and infrastructure. The East Java Bina Marga Public Works Office offers QRMS (Quick Response Road Management System) for the JALAK LOEWE application and within 1×24 hours, action or handling of the report will be carried out.

The East Java Bina Marga Public Works Office's innovation, JALAK LOEWE, can be downloaded for free on Google Playstore. The public can now report road damage more easily, online and in real time thanks to this application. If in the use of the application there are people who complain about damaged roads in the district / city route, the East Java Bina Marga Public Works Office will forward the report to the district / city office in East Java if the district / city government has authority over the status of the road. With JALAK LOEWE, people can get help faster by opening the app on their smartphone. The community can find relevant information in the application. A number of features offered by the JALAK LOEWE application can be used by the community to submit complaints of road damage.

Innovation and digitalization are now considered as critical decisions to ensure human development around the world. One important feature of innovation is its novelty-based nature. According to (Bertot, Estevez, & Janowski, 2016), innovation in digital public services is also possible through a combination of innovations, namely:

## **Transparent**

To ensure that citizens, civil society, and other stakeholders have access to government information and data both now and in the future through the preservation of archives in any format.

### **Participatory**

The ability for citizens and governments to interact seamlessly through digital technologies is critical to participatory innovation.

### **Anticipatory**

Proactive service delivery, commonly called anticipatory innovation, is the focus of digital services that anticipate people's needs.

### **Co-created**

Co-created services are designed, implemented and delivered through a collaborative process involving internal and external key stakeholder representatives.

### **Personalized**

Digital public services based on authentication, user profiling, and customization provided by governments to their citizens are referred to as personalized services.

### **Context-aware**

Context-aware digital public services, also called ubiquitous government, utilizing distributed applications that are cross-platform, flexible, adaptive.

### **Context-smart**

Context-smart services are digital public services that use context awareness to provide actions that are appropriate to a particular situation.

## **Methods**

The type of research used in this study is qualitative research with a case study approach. Case studies center on one thing that is raised as a case that needs to be studied thoroughly to reveal the truth about the phenomenon. The focus in this research is on describing how innovation through Jalan Rusak Lapor Dewe (JALAK LOEWE) at the East Java Bina Marga Public Works Office is based on seven innovations in digital public services by (Bertot, Estevez, & Janowski, 2016), namely: Transparent, Participatory, Anticipatory, Co-created, Personalized, Context-aware, Context-smart.

Data collection techniques in this research are through observation, interviews, and documentation. In the technique of determining informants, researchers used a sampling technique, namely purposive sampling. This sample is more suitable for qualitative research, namely research that avoids drawing broad conclusions (Sugiyono, 2013).

The data analysis technique in this study with the Miles and Huberman technique has four steps, namely data collection, data condensation, data display, and conclusions drawing and verifying. Data validity in this study is through triangulation and using reference materials.

## **Results and Discussion**

The Jalan Rusak Lapor Dewe (JALAK LOEWE) application is an application that helps to optimize services at the East Java Bina Marga Public Works Office. Jalan Rusak Lapor Dewe is used for complaints of damage to road facilities and infrastructure from the public. If the people of East Java find a damaged road, they can make a report on the JALAK LOEWE

application. The East Java Bina Marga Public Works Office is innovating Jalak Loewe to facilitate public reporting of damaged roads online and in real-time.

In knowing the digital public service innovation of the JALAK LOEWE application, researchers use seven innovations in digital public services according to (Bertot, Estevez, & Janowski, 2016) which include: Transparent, Participatory, Anticipatory, Co-created, Personalized, Context-aware, Context-smart. The following is an explanation of the research results:

### **Transparent**

Open, transparent and accountable government is the basis for an informed society. Transparency is essential for public participation in services. Transparency provides accurate and timely information that fosters public trust in government. Public service providers in this situation are often required to provide clear information about public policies and services. Since the public has the right to observe, question and hold public officials (through representatives) accountable for their authority, public service providers must be responsible for the proper use of authority (Susanto, 2022).

Through the JALAK LOEWE innovation, it allows the community to inform about road damage. The value of transparency in the innovation of the Jalan Rusak Lapor Dewe application at the East Java Province Bina Marga Public Works Office lies in the update of the work results sent by the reporter. The report is proof that the report has been handled and can be reviewed through the JALAK LOEWE application so that the public can find out the performance of the East Java Province Bina Marga Public Works Office. By uploading the report, the JALAK LOEWE innovation on the value of transparency is good.

### **Participatory**

According to Hartley in (Bertot, Estevez, & Janowski, 2016), what is important for participatory innovation is the ability of citizens and government to seamlessly engage with each other through digital technology so that there is not just one-way communication between government and society. The importance of efforts to encourage public involvement in government policies implemented by the government. To enable community participation in the programs that are run, it can encourage community involvement through the development of user-friendly policies and easy public services (Wibowo & Fanida, 2019).

The innovation of the JALAK LOEWE application aims to involve the community as road users in assisting the role of the East Java Province Bina Marga Public Works Office in handling road damage in East Java Province. The role of the community as road users is to report damage found on road facilities and infrastructure to the East Java Provincial Bina Marga Public Works Office by using the JALAK LOEWE application. The community is not involved in the formulation process of the JALAK LOEWE application. Likewise, in decision-making, the community is not included. The community is only a user of JALAK LOEWE innovation. In this case, the JALAK LOEWE application innovation carried out by the East Java Province Bina Marga Public Works Office still does not meet the indicators of community participation.

### **Anticipatory**

According to Duivenboden in (Bertot, Estevez, & Janowski, 2016), proactive service delivery, commonly referred to as anticipatory innovation, centers on digital services that take into account people's needs. Thus, the ability of the community and government to smoothly exchange data and information is the cornerstone of anticipatory services because it allows estimation of community needs.

The East Java Province Bina Marga Public Works Office has an agenda that they carry out, namely periodic maintenance and routine maintenance. The agenda is carried out by UPT which is spread across several districts / cities. Where, every day the technical implementers will conduct a survey. If they find road damage, it will be repaired immediately. The JALAK LOEWE application has limitations where there are only complaints and will be answered to the extent of what the community complains about. The JALAK LOEWE innovation itself has an account for surveyors, where they carry out surveys after validation. The surveyors will check the location point according to the reports that have been entered.

Table 1.1 Recap of East Java Provincial Road Condition Data

Road Section	Steady Road (%) in 2022	Steady Road (%) in 2023
Surabaya Technical Implementation Unit Region	90,52%	92,68%
Mojokerto Technical Implementation Unit Region	97,10%	95,61%
Bojonegoro Technical Implementation Unit Region	80,38%	80,38%
Madiun Technical Implementation Unit Region	96,68%	96,14%
Pacitan Technical Implementation Unit Region	79,79%	79,53%
Kediri Technical Implementation Unit Region	88,02%	88,17%
Malang Technical Implementation Unit Region	92,27%	92,60%
Probolinggo Technical Implementation Unit Region	83,54%	87,85%
Jember Technical Implementation Unit Region	91,24%	89,06%
Banyuwangi Technical Implementation Unit Region	87,32%	89,06%
Pamekasan Technical Implementation Unit Region	92,80%	91,07%

Source: East Java Provincial Bina Marga Public Works Office, 2024

It can be seen from the table above regarding the history of road conditions that some areas experienced an increase in road stability from 2022 to 2023. As for some areas that experienced a decrease, it can be seen that it is not far adrift and it is considered reasonable because road users have increased.

### Co-created

Public service co-creation can be defined as a process through which two or more public and private actors solve a common problem, challenge or task (Edelmann & Virkar, 2023). Co-creation requires public service providers and citizens to be involved in the service innovation process. Citizens are not only positioned as beneficiaries but also as collaborators whose needs should drive the initiative to engage in designing and implementing services (Himura & Setiawan, 2022).

All ideas related to these innovations were formed by the East Java Province Bina Marga Public Works Office. There is no collaboration or cooperation in the innovation planning process with government agencies, the private sector or the community. So that socialization is a way to introduce the JALAK LOEWE innovation to the people of East Java.

In co-creation as a service innovation process, citizens are involved as explorers, idea makers, designers and disseminators (Himura & Setiawan, 2022). In this case, the JALAK LOEWE application innovation launched by the East Java Provincial Bina Marga Public Works Office still does not meet the co-created indicator. The East Java Provincial Bina Marga Public Works Office did not involve the community in designing the service.

### **Personalized**

According to Homburgi and Djishoorn in (Bertot et al., 2016), one-on-one digital public services based on customization, user profiling, and authentication provided by governments to their citizens are referred to as personalized services. In the context of customized e-services, personalization and customization can sometimes be used interchangeably (Maksimova et al. 2021).

The innovation of the Jalan Rusak Lapor Dewe application, the community is only limited to service users. However, the East Java Province Bina Marga Public Works Office also continues to accept and consider if there is input or suggestions from the public regarding the JALAK LOEWE application. On the other hand, there are also many people who complain about road damage through other platforms such as on social media. With the innovation of the JALAK LOEWE application, the community feels facilitated in reporting and using existing innovations. Because the features displayed are easy for users to understand and quick to make reports. The report that is filled in is only in the form of photos of road damage, location and description of the complaint. In addition, the data required by the JALAK LOEWE application is the user's email.

The JALAK LOEWE application has good value in the community, where the application is in line with the suitability of the application's purpose, namely as a facility for road damage complaints, as well as easy use of the application in reporting road damage and having responsive feedback. It can be seen from an interview by one of the people of East Java that has been conducted: "The application is easy to use, simple. Most applications enter data and a lot of next-next too, this is easy to just enter the usual report"

### **Context-aware**

The JALAK LOEWE application is an innovation created by the East Java Province Bina Marga Public Works Office in digitizing public services, where people can make reports or complain anywhere and anytime. The Jalan Rusak Lapor Dewe application allows users to upload photos and send short texts related to road damage they encounter. Through this application, the people of East Java can make complaints by taking photos of road damage and providing information. Until now, the Bina Marga Public Works Office has not received any complaints of difficulties from the people of East Java in running the Jalan Rusak Lapor Dewe application. There have been many complaints from the application, which indicates that the community has understood the use of the application.

This is in accordance with (Bertot, Estevez, & Janowski, 2016), where the idea of context-aware digital services comes from human-computer interaction research that focuses on developing technologies that understand user context and provide context-specific content and services. Based on this, it can be said that the context-awareness of the Jalan Rusak Lapor

Dewe application innovation is good, meaning that people understand the use of the application. The application can also be used by the people of East Java anytime and anywhere.

### **Context-smart**

In the implementation of the JALAK LOEWE innovation, there is a development of innovations carried out by the East Java provincial Bina Marga Public Works Office. Starting from the application which is only held by a few users. But now the district / city is also added as a user. This is because many people do not know and understand the provincial and district/city authority roads. In addition, the correspondence process is long when the East Java Provincial Bina Marga Public Works Office must forward the report or complaint to the relevant district/city office.

This is in accordance with the theory used, the East Java Province Bina Marga Public Works Office utilizes context awareness in adjusting the community. So that the innovation is considered good according to the needs of the community and makes it easier to handle road damage.

### **Conclusion**

Based on the results of research that has been conducted related to the innovation of Jalan Rusak Lapor Dewe (JALAK LOEWE) application at the East Java Province Bina Marga Public Works Office which is based on seven digital public service innovations including transparent, participatory, anticipatory, co-created, personalized, context-aware, and context-smart, it has been running quite well, but there are still shortcomings in community participation and collaboration which are considered not optimal. It is hoped that there will be steps for JALAK LOEWE innovation to increase community participation. The Bina Marga Public Works Office can increase socialization related to JALAK LOEWE innovation to the community as a complaint facility for road facilities and infrastructure. As well as maximizing the availability of information technology in carrying out these innovations.

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