JLASA (Journal of Law and State Administration)
E-ISSN: 2986-4356 P-ISSN: 2986-4348
Volume 02, Number 02, September 2024 pp.57-67
https://journal.yhmm.or.id/index.php/JLASA

Implementation of Mobile Government in Banjar Negeri Village to Improve Services

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Article

Keywords:
Mobile;
E-Government;
Village services;
Banjar Negeri Village.

Article History
Received: Juli 26, 2024;
Reviewed: August 10, 2024;
Accepted: August 14, 2024;
Published: Sept 30, 2024.

Abstract

Mobile Government is a government system that is made mobile-based so that the data can be accessed using *Android phones*. Meanwhile, in Banjar Negeri Village, the mobile government-based information system has not been adopted, so that in the process of serving the community it is still manual, this can slow down the administrative process and be less effective and efficient. That way, a mobile government-based digital information system is needed to improve services in Banjar Negeri Village. The data collection methods used are observation, literature study and observation. Meanwhile, the method of developing information systems in Banjar Negeri Village was built using *the waterfall method*. The results of the study show that the presence of the Mobile Government information system has reduced bureaucracy and accelerated the government administration process in Banjar Negeri Village. The public can apply for permits, access population information, and report problems through the easy-to-use mobile application. By implementing a mobile government-based information system, it is hoped that it can have a positive impact in improving services in Banjar Negeri Village. That way, the service process in Banjar Negeri Village can increase significantly.

INTRODUCTION

In the current era of globalization, the development of information and communication technology is urgently needed in all aspects of human life. The existence of *a global* information system can result in public information disclosure. As a result of the development of information technology for government officials, especially with the enactment of Law No. 14 of 2008, concerning Public Information Disclosure is one of the Indonesian legal products issued in 2008 and promulgated on April 30, 2008, and came into effect two years after it was promulgated (Law No. 14, 2008). The law, which consists of 64 articles, essentially provides an obligation to each Public Agency to open access for every applicant for public information to obtain public information, except for certain information in an effort to realize good governance (Wibawa, K. C. S. 2019). Banjar Negeri Village is a village located in Gunung Alip District, Tanggamus Regency. According to perkim.id, the number of people in Gunung Alip District is 22.610 people. Based on a large enough population, a public service information system is needed to manage accurate, easy and fast population data. *Mobile Government* is an effort to develop the implementation of electronic-based government. The *e-Government* Indonesia

(PeGI) ranking is an activity organized by the Directorate of *e-Government*, Directorate General of Applications and Telematics, Ministry of Communication and Information Technology which is attended by Government institutions throughout Indonesia. The PeGI movement was held with the aim of finding out the plan of the state of the use of Information and Communication Technology (ICT) as a whole in government institutions in the Indonesian region. There are 5 dimensions in the PeGI assessment, namely policy, institutional, infrastructure, application, and planning.

Information and Communication Technology (ICT) is part of Science and Technology (IPTEK), Information Technology is also used to process data such as creating, processing, storing, and various other activities to produce quality, accurate and relevant information. According to the research conducted by Maria Yuniarti Nggewa and Ferdinandus Lidang Witi (2021) explained that based on the results of research on the design and construction of the Manulondo Village Information System, it can be concluded that the design of the Manulondo Village information system with PHP programming language and *MYSQL* database as well as software design using *DFD*, and table relationships that produce an information system for Manulondo Village and can help make it easier for the village government to serve the community and the community to access information about the Village. According to research by Wayan Gede Suka Parwita (2021), explaining that the implementation of community service on the implementation of the Web-Based Village and Population Information System in Kukuh Village, Kerambitan District, Tabanan Regency has been carried out optimally with a participatory method carried out in three stages, namely 1) The stage of registration of the desa.id domain to the Ministry of Communication and Informatics; 2) The stage of setting up *servers* and *hosting* by utilizing the services of web hosting vendors, as well as 3) the implementation of the Village and Population Information System. The implementation of information systems can result in a temporary decrease in performance due to adjustments to the implementation of new business processes that use village and population information systems. The performance of village apparatus will increase and even exceed the old business process when information technology has been used fluently. The application of technology requires training and time so that village officials can get used to using the village and population information system. According to research by Agus Dendi Rachmatsyah (2020), it is explained that the management of the Public Service Information System in the Web-Based City Fortress Village with the *RAD Method* is the Web-Based Public Service Information System in the Village of the Web-Based City Fortress with the *RAD Method* can facilitate the administrative part in handling population public services. And this system is accessible to the administration department. The formation of *this website* is expected to make the work at the Benteng Kota Village Office faster and the existing difficulties will be easier, in dealing with the problem of delays at the Benteng Kota village office. This *website* can also help minimize and minimize the process of data confusion recording and calculation of data reappitulation that is done and processed by officers (human *error),* when compared to the activities that are currently running in the manual system, as well as from the *data security process* that is guaranteed authentication. This results in the data processing process in the designed system is more guaranteed in accuracy and correctness, because there are better control activities, as well as activity logs from incoming data inputs that have been checked for validity first. Advances in computer and information technology and the availability of components that support the use of this technology, it is very appropriate if the Benteng Kota Village office uses this system to facilitate the performance process of a system. The public service information system in the village is web-based using the *RAD* methodology, one of the most-short methodologies, and it is easy to use and analyze. According to Ajib Susanto (2021), explained that the implementation of the Hulosobo Village SID makes it easier for residents to access information and interact with village officials for correspondence services and residents' complaints. For village officials, it is easier to provide the latest information related to the village through *website* media, serving residents who need

correspondence and everything related to residents can be done faster and more efficiently. According to Mukhsin (2020), it is explained that *E-Government* is an effort to improve digital-based government administration. An arrangement of a work process management system in the government environment by optimizing the use of information and communication technology. The implementation of the application of information technology in the Village Government is to support the availability of computer networks, objective human resources and the availability of adequate facilities so that village services can run effectively and efficiently.

One of the resources that can be used by the village community is Information and Communication Technology (ICT). The development of technology and science is inseparable from the increase in human needs. The existence of technology can not only be used to improve community services, but also useful in the data processing process to support the decision-making process. From the above research, several different findings were found, some studies still use *the RAD* method and some apply the participatory method, and there are even studies that still use the waterfall model. That way, this study will implement a more effective village information system using *Mobile Government*. The advantage of the implementation *of Mobile Government* in Banjar Negeri Village is that people can access government services from anywhere and whenever they want to access them, by using *mobile devices* such as *smartphones*. With this system, the village government can improve the quality of the village in providing better services to the community, saving operational costs, and being responsive.

The Village Information System (SID) is a digital platform specifically designed to facilitate the management of information and public services at the village level. The implementation of a mobile government-based information system can have a positive impact on improving public services. The use of *mobile government technology* aims to speed up the government administration process and facilitate public access to public services. With the existence of a mobile government-based information system, accessibility to government information has increased significantly. The public can quickly access population information, licensing, tax payments, and community complaints through the application. This helps speed up the government's administrative process and reduces the cost and time required in public services.

Thus, the implementation of a mobile government-based information system in Banjar Negeri Village has significant benefits in improving the efficiency and quality of public services. The object of this research is how to design and build a Mobile Government-based information system in Banjar Negeri Village and how to implement the information system in Banjar Negeri Village. The purpose of this research is to produce the design and construction of a Mobile Government-based village information system in Banjar Negeri Village to improve the quality of the village. This research also aims to increase accountability in Banjar Negeri Village. The village information system aims to increase efficiency and transparency in village administration management and strengthen community participation in the decision-making process.

METHOD

In this section, the researcher will explain the data collection process, system development methods, and research *road map*. The chosen method will support the purpose of this research to gain a deep understanding of the phenomenon being studied. In the data collection process, the researcher carried out several stages, namely: observation, interviews, and literature studies.

2.1 Data Collection Process

a. Observation

Researchers conducted research at the Banjar Negeri Village Hall on Tuesday, June 6, 2023, at 09:48 WIB. The researcher obtained information from the Village Secretary named Mira Fitri Yanti. Based on observations at the Banjar Negeri Village Hall, it was found that the results of this observation include aspects that occur in daily activities carried out by village officials, namely how village officials serve the community in the village administration process, then see firsthand the processes and management systems used by

village officials in completing their tasks. From the results of the researcher's observations, information was obtained about the information system that has been implemented at the Banjar Negeri Village Hall, namely there are several applications used to help village officials in data management, each field holds a different application. In the financial sector, using an application called "siskudes", for the asset management field, using an application called "sipades", then for the government sector, holding an application called "prodeskel", and in the field of public services and welfare, holding an application called "puskesos". However, Banjar Negeri Village does not have a *website,* and does not have an application or *platform* provided by the village government to connect residents with the services provided, such as submitting letters, applying for permits, or complaints. Village communities still rely on direct communication through the Village Hall or telephone, which can slow down the administrative process and hinder community participation in decision-making.

b. Literature Study

Through this study, it was found that the Banjar Negeri Village Hall faced several obstacles in the data collection process. The lack of accessibility and flexibility in collecting data efficiently and accurately is one of the main problems faced. In addition, the limitation of information technology infrastructure is also an obstacle in adopting *a mobile* government information system. In relation to the lack of implementation *of the mobile government* information system, this study aims to uncover the benefits that can be obtained from the implementation of this technology at the Banjar Negeri Village Hall. It is hoped that with the adoption of *the mobile government* information system, the data collection process will become more efficient, transparent, and well integrated. This will enable the use of mobile-based technology to collect, manage, and share information with citizens more quickly and easily. This study is expected to provide valuable insights to the Banjar Negeri Village Hall in overcoming existing data collection obstacles and considering the implementation of *mobile government* information systems as an effective solution. In addition, this research can also contribute in the context of developing public services at the village level in a more efficient and targeted manner.

c. Interview

The researcher conducted an interview at the Banjar Negeri Village Hall, with the Village Secretary named Mira Fitri Yanti, questions and answers were carried out to obtain the information needed in order to achieve the research objectives. From the results of the interview, it was found that the Banjar Negeri Village Hall did not have a *website,* and there were several obstacles in the data collection process. The lack of accessibility and flexibility in collecting data efficiently and accurately is one of the main problems faced. In the process of serving the community is also still manual, this can be seen from people who come directly to the Banjar Negeri Village Hall to make an application, which can slow down the administrative process and is less effective and efficient.

2.2 Information System Development Methods

In this study, the researcher used the waterfall method with an explanation.

a. Waterfall Method

There is a system design stage, the researcher uses the waterfall method to help create the system. The following is a presentation of the *waterfall method The* waterfall *method* is a development concept that emphasizes systematic steps. Thus, the process of creating a system must be carried out sequentially, starting from the stage of identifying needs to the maintenance process.

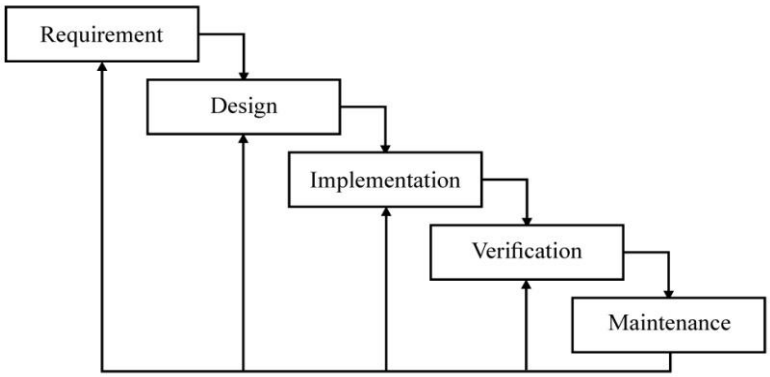

Figure 1 Waterfall Method

The following is an explanation of the *waterfall method.*

1. ***Requirement***
   The first stage of the waterfall method is needs analysis. Researchers must conduct research to identify what are the needs of users of the system being built. This can be a reference in determining services or features that need to be developed. There are several ways to obtain this information, some of which are through interviews, *surveys*, or participating in related forum discussions to gain insights and related information.
2. ***Design***
   The second stage of *the waterfall* method is the design and development process based on information on user needs. The design is certainly carried out to make the work process easier and get a detailed overview of the appearance of a system. In addition, the design stages in this method also serve to identify *the hardware* and system needs needed for the entire development process.
3. ***Implementation***
   The third stage of *the waterfall method* is the implementation that leads to the coding process. The system development process will go through stages in the form of small modules that will be combined in the next stage. In addition, the inspection of each module that has been made is also checked in this phase. The goal is to ensure that the module meets the established functions and is up to standard.
4. ***Verification***
   At this stage, it can be concluded that the final stage in creating *a website* can be concluded. At this stage, the user will test whether the system has run smoothly or not. In accordance with the initial design that the user had expected. This stage is indeed the final stage, but a program will be *upgraded* to improve the *website system*.
5. ***Maintenance***
   After the above series of systematic steps, the maintenance of the system that has been made is the last stage of this method. The system has been distributed and used by users. The thing that still has to be done is maintenance and ensuring that the system continues to run properly according to its function. This process typically includes fixing system unit implementations, fixing *remaining or newly detected errors, and improving system performance tailored to user needs.*

RESULTS AND DISCUSSION

After searching for the required data and analyzing the data in this section, it will reveal the findings found through data analysis and participant assessment. The results of this study are expected to provide in-depth insights into the benefits and challenges in the implementation of *M-Government* and provide recommendations for future development and improvement.

3.1 System Design

a. Diagram Context

In the context diagram below it is explained that there are several entities involved in it, namely village admins, village officials, and the community.

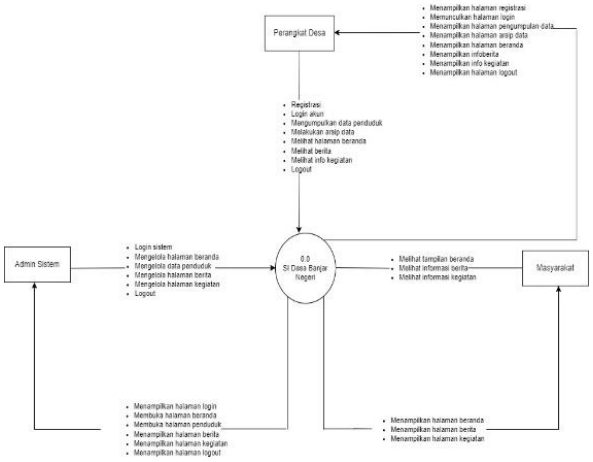

Figure 2 Diagram Context

1. DFD Level 0 & Level 1

DFD level 0 explains the process model of the entire system, where the admin inputs the data into the system and then the system will process the data and produce the required information.

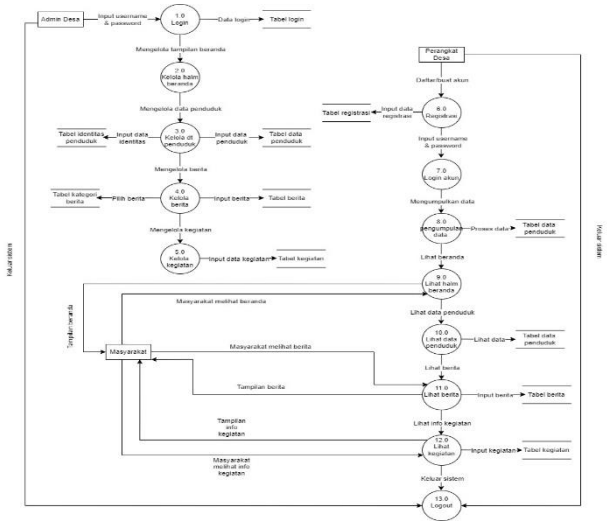

Figure 3. DFD Level 0

The Data Flow Diagram Level 1 explains 6 processes consisting of the login process, managing population data, identity data input, family data input, migration data input, and activity data input.

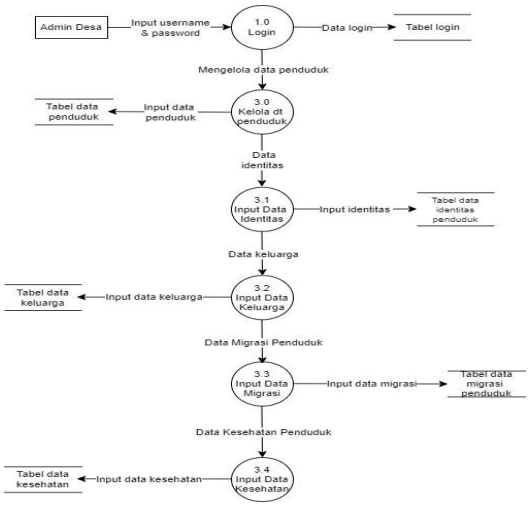

Figure 4 DFD Level 1 Process 3

2. ERD (Entity Relationship Diagram)

In the Entity Relationship Diagram (ERD) image below, it is explained that there are 6 tables involved, namely the login table, the population data table, the population identity data table, the news table, the news category table, and the activity table.

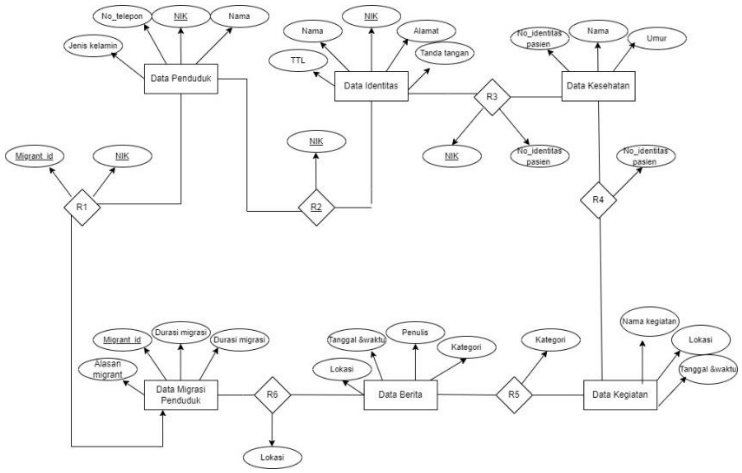

Figure 5 ERD (Entity Relationship Diagram)

3.2 Interface Design

a. Menu Login

The admin login menu is a part of the interface that allows administrators or users with special access privileges to log in to the research system as an admin.

Figure 6 Village Admin Login Menu Display

b. Registration Menu

The registration menu is designed to facilitate the registration process of research participants. The goal is to make it easier for research participants to apply as research subjects and provide the information needed by researchers.

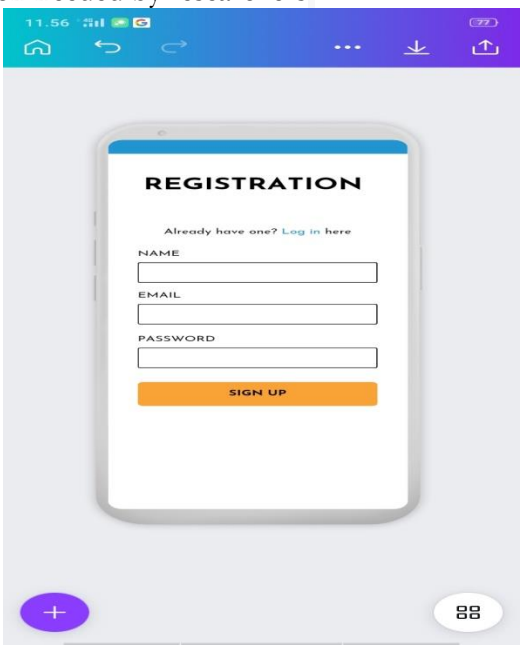

Figure 7 Village Apparatus Registration Menu Display

3.3 Implementation

The implementation of Mobile Government information system research in Banjar Negeri Village aims to produce an information system that meets needs. This mobile app will provide the following features:

The implementation of the home display menu consists of a Banjar Negeri Village profile, population data reports, activity reports, and development reports.

Figure 8 Implementation of Banjar Negeri Village Home Display

The implementation of the village profile display displays the latest posts and comments menu.

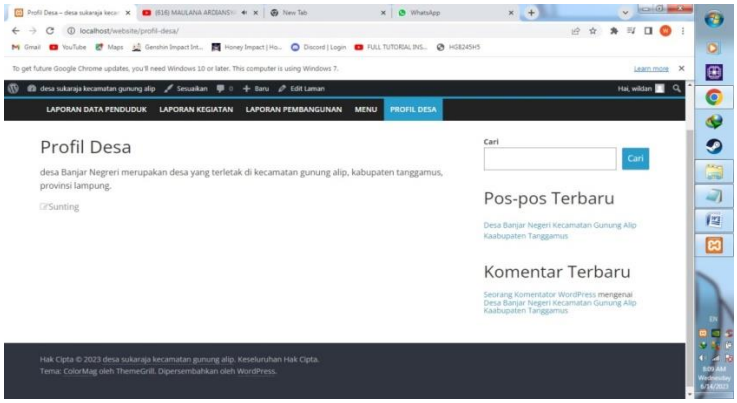

Figure 9 Profile View of Banjar Negeri Village

The implementation of the population data report consists of population data, the latest post pages, and comment pages.

3.4 Analysis of Research Results

The analysis of the results of the study found that using a mobile government-based information system as an information medium can have a positive impact on improving public services. As well as making it easier for the community to access information and interact with village officials for correspondence services and residents' complaints.

Supported by research:

a. Ajib Susanto & Eko Hari Rachmawanto (2021) Implementation of Village Information System (SID) for Service Improvement and Information Disclosure in Hulosobo Village
"From the implementation of the Hulosobo Village SID, it is easier for residents to access information and interact with village officials for correspondence services and residents' complaints. For village officials, it makes it easier to provide the latest information related to the village through *the website* media, serving residents who need correspondence and everything related to residents can be done faster and more efficiently."

b. Mukhsin (2020) The Role of Information and Communication Technology in Implementing Village Information Systems in Village Information Publication in the Era of Globalization.
"E-Government is an effort to improve digital-based government administration."

c. Wayan Gede, Suka Parwita & Rizkita, Ayu Mutiarani (2021) Implementation of Web-Based Village and Population Information System Applications in Kukuh Kerambitan Village.
"The implementation of information systems can result in a temporary decrease in performance due to adjustments to new business processes that use village and population

information systems. The performance of village officials will increase and even exceed the old business process when information technology has been used."

d. Agus, Dendi, Rachmatsyah & Feri, Prasetyo, H (2020) Web-Based Public Service Information System in Benteng Kota Village Using the Rad Method.
"With the implementation of the population public service information system, it can overcome problems and improve the work process that has been slow so that now it is faster and the handling in verifying is now better."

e. Eka Ridhawati & Didi Susianto (2022) Development of E-Government-Based Village Potential Governance and Information Media in Tiyuh Karta Sari Village.
"With the existence of Information System in Tiyuh Karta Sari, Tulang Bawang Barat Regency, it will greatly help the community and the government in searching for data and being used as a medium to provide an overview of the potential that exists in Tiyuh Karta Sari. With this system, data can be searched in a short time so that it can minimize time, costs, and errors that may occur."

This research reveals that the implementation of the Mobile Government information system in Banjar Negeri Village has a significant impact on improving the accessibility of public services and community participation. Through the Mobile Government platform, the people of Banjar Negeri Village can easily access information and conduct government administration transactions through their mobile devices. The results of the study show that the presence of the Mobile Government information system has reduced bureaucracy and accelerated the government administration process in Banjar Negeri Village. The public can apply for permits, access population information, and report problems through the easy-to-use mobile application. In addition, this study also found that the adoption of Mobile Government in Banjar Negeri Village has expanded community participation in decision-making and monitoring of village development. Through the input and complaint submission feature in the Mobile Government application, the community can actively contribute to the planning and implementation of village government programs. However, while Mobile Government information systems provide significant benefits, the study also identifies some challenges that need to be addressed. One of them is the limited accessibility of the internet in rural areas, which can affect the use of mobile applications by some people. The government needs to ensure the availability of adequate network infrastructure to ensure wider accessibility. In addition, greater efforts are needed to increase digital literacy and public awareness regarding the benefits and ways of using the Mobile Government information system. Training and socialization campaigns need to be carried out regularly so that the community can take full advantage of the potential of this system.

CONCLUSION

Based on the results of the above discussion, it can be concluded that the implementation of the Mobile Government information system in Banjar Negeri Village has a significant impact on improving the accessibility of public services and community participation. The development of information systems in Banjar Negeri Village was built using *the waterfall method.* Through the Mobile Government platform, the people of Banjar Negeri Village can easily access information and conduct government administration transactions through their mobile devices. The results of the study show that the presence of the Mobile Government information system has reduced bureaucracy and accelerated the government administration process in Banjar Negeri Village. The public can apply for permits, access population information, and report problems through the easy-to-use mobile application. In addition, this study also found that the adoption of Mobile Government in Banjar Negeri Village has expanded community participation in decision-making and monitoring of village development. However, while Mobile Government information systems provide significant benefits, the study also identifies some challenges that need to be addressed. One of them is the limited accessibility of the internet in rural areas, which

can affect the use of mobile applications by some people. The government needs to ensure the availability of adequate network infrastructure to ensure wider accessibility. In addition, greater efforts are needed to increase digital literacy and public awareness regarding the benefits and ways of using the Mobile Government information system. Training and socialization campaigns need to be carried out regularly so that the community can take full advantage of the potential of this system.

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