

# Effectiveness of E-Government Implementation Through Online Services (PLAVON) Dukcapil as a Population Document Management Application in Jatikalang Village

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## ABSTRACT

**Objective:** This study aims to analyze the effectiveness of e-government implementation through the Dukcapil Online Service (PLAVON) application in managing population documents in Jatikalang Village. **Method:** A qualitative descriptive approach was applied, with data collected through interviews, observations, and documentation, and analyzed using the Miles and Huberman interactive model. **Results:** The findings show that PLAVON has improved the efficiency of population administration services by reducing queues, accelerating document issuance, and enhancing transparency and accountability. Despite these achievements, several challenges remain, including limited community digital literacy, inadequate internet access, and technical difficulties in application use. Socialization and training initiatives conducted by the village government have partially addressed these issues, helping to increase public awareness and usage of the system. **Novelty:** This research provides new insights by contextualizing the adoption of PLAVON at the village level, highlighting not only its role in improving administrative efficiency but also the socio-technical challenges that must be addressed to ensure inclusivity and sustainability in digital-based public service delivery.

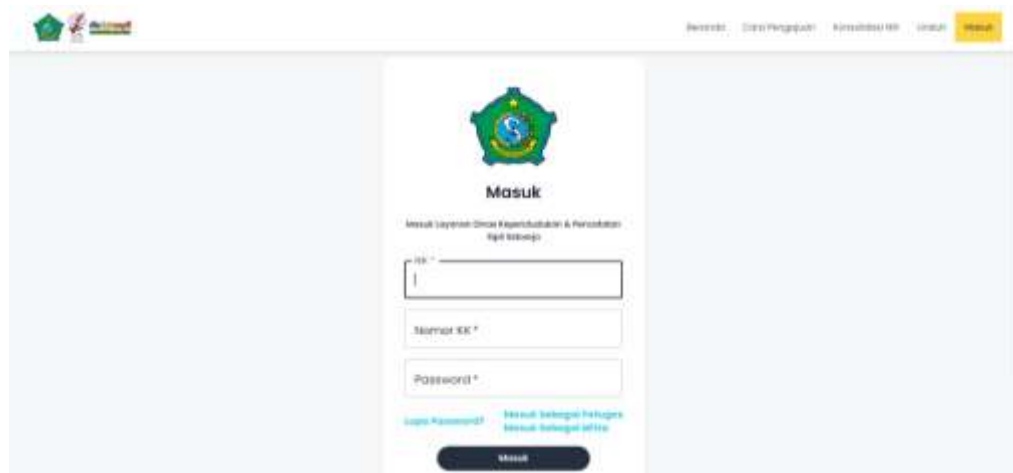
## INTRODUCTION

Public service is one of the responsibilities and obligations that must be carried out by government institutions, both at the national, district, and village levels. The provision of public services is one of the functions of the government in facilitating the community to carry out their rights and obligations. Law Number 25 of 2009 concerning public services defines public services as activities or a series of activities that aim to meet the service needs of all citizens and residents in accordance with applicable legal provisions. This includes goods, services, and/or administrative services provided by public service providers as regulated in Law Number 25 of 2009 Article 1 Paragraph 1 [1]. In the context of public services, administrative services play an important role. Administrative services, also known as administrative services, are a form of service provided by government officials to the public to take care of various required documents. These documents include citizenship status, ownership certificates, and other documents. Some types of documents that are often taken care of in administrative services include Family Cards (KK), Identity Cards (KTP), birth and death certificates, passports, Motor Vehicle Ownership Books (BPKB), Driving Licenses (SIM), property ownership certificates, and so on [2]. Before this online service, people still used manual administration services, manual services are services where people interact directly without using a website or application, obstacles often faced by manual services, both in managing letters and also archiving letters so that in this process of course there are still some obstacles in the activities of the service process because in the process of making letters it takes a fairly

long time and this is experienced by the government of the village of Larangan, Candi sub-district in the process of managing letters recorded and also archived in an agenda book and stored in a filing cabinet, this and it takes a long time to find the necessary documents. If the village head has a job outside the office [3].

E-government is the use of information technology by the government that uses technology to provide information to users in the service process. The use of E-government in services is also considered a solution to transparency and a solution to needs. The era is increasingly moving towards digitalization. In addition, the advantages of electronic public services can facilitate and accelerate the creation of public services, can also reduce service costs, be cheaper, and provide protection against collusion, corruption and nepotism [4]. In facing this situation, the government needs to actively participate in providing public services that uphold integrity, focusing on the good of the community. Therefore, the use of technology is an alternative solution to make service delivery more effective. The Government of the Republic of Indonesia insists on organizing public services online in accordance with the presidential order based on Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning the Electronic-Based Government System (SPBE) [5]. This regulation has changed to become the basis for organizing public services in a digital-based format at all levels of Indonesia, including at the national, regional, district, urban or rural levels. Social mobility today is very high, so they always improve everything to improve public service problems quickly and easily. With the application or web, transparency can be maximized, providing convenience and comfort to the public when accessing personal data. Through this system, the public can access population services such as making ID cards, birth certificates and other types of services quickly and efficiently. Since the SPBE policy was implemented, until now the system has been used in organizing administrative services in central or regional government agencies including the Population and Civil Registration Service of Sidoarjo Regency [6].

The Sidoarjo Regency Government has adopted this system to modernize population administration services in its region. The launch of online-based service innovations by the agency reflects their commitment to improving the efficiency and accessibility of services to the public. By utilizing an electronic-based government system, the process of managing population documents such as making ID cards, birth certificates, and other documents can be done faster and easier through a digital platform, so that it can increase overall public satisfaction. The e-government innovation made by the Sidoarjo Regency Government in the public service sector through the Population and Civil Registration Service is the development of online-based population administration services using the PLAVON (Online Service) Dukcapil application, which can be accessed through a website [7].



**Figure 1.** Plavon Application Main View

The image is the main display of the Plavon application. Sidoarjo residents can access the Plavon Dukcapil service through its official website <https://plavon.sidoarjokab.go.id/>. The first step that must be taken by the public is to register by entering personal data into the main menu page. This personal data includes the NIK number, KK number, and password. It is important for the public to enter this data carefully, so that after successfully entering the next page, they can choose the category of service they need. On the next page, there is a choice of types of population administration and civil registration services, including processing Electronic Population Cards, Child Identity Cards, Family Cards, Birth Certificates, Death Certificates, Marriage Certificates, Divorce Certificates, and Certificates of Moving Indonesian Citizens or Certificates of Arrival of Indonesian Citizens [8].

This application was created with the aim of making it easier for residents to manage population administration files. In addition, the purpose of creating Plavon Dukcapil is to improve the quality of population administration services that allow for flexible access anywhere and anytime. To access it, people only need to use communication devices such as smartphones or computers. In managing and submitting population administration documents, users of the Plavon Dukcapil service can choose to ask for help from the village operator or can do it independently via smartphone [9]. This option shows the ease of access in obtaining population administration services. However, the quality of service remains the main focus with the hope that this application not only facilitates access but also maintains the standards of reliability and security of user personal data. With the support of this technology, it is hoped that the process of managing population administration can be more efficient and transparent for all parties involved as an effort to improve the quality of population administration.

Several previous studies that will be used as references for the research to be conducted are: first, from researchers Titin Dwi Handayani and Isnaini Rodiyah who studied the quality of population administration services in Gempolsari Village using the Plavon Dukcapil application. Using a qualitative method, this study evaluated five

dimensions of service: tangibles, reliability, responsiveness, assurance, and empathy. The results showed that although the facilities and skills of employees were adequate, there were still shortcomings such as the lack of service flow information boards and delays in document completion times due to the verification process at the district level. The employee response to public complaints was considered good with the availability of communication facilities, such as village WhatsApp. Services are provided free of charge, and employees show empathy through friendly attitudes. It is recommended that the village government improve the management of document completion times and provide clearer procedural information to increase public satisfaction [10].

Second, from researchers Dyah Febri Rachmawati and Lailul Mursyidah who studied the Effectiveness of Online Services via the Dukcapil Plavon in Rangkah Kidul Village, Sidoarjo District, by evaluating public satisfaction with the quality of service, speed, and ease of access. The method used is qualitative research with a descriptive approach, and data collection techniques in the form of observation, interviews, and documentation. The data analysis technique follows the interactive model of Miles and Huberman through data collection, data reduction, and data presentation and drawing conclusions. The results of the study indicate that the productivity of the Dukcapil Plavon operator has been in accordance with the established rules and the responsiveness of the Rangkah Kidul Village apparatus in responding to complaints shows that the performance of the Dukcapil Plavon operator in providing services has reached an optimal level. Service efficiency has not yet reached the maximum level because some documents are not completed according to SOP, especially in the issuance of KTP and KIA documents. Public satisfaction is very important, the public feels completely satisfied with the services provided by the Dukcapil Plavon operator. However, in terms of community satisfaction, it is not yet fully optimal because the community believes that the service by coming directly to the village office is easier and they feel very helped compared to using the Plavon Dukcapil website which is considered a little complicated, especially for elderly users of the Plavon Dukcapil [11].

Third, from researchers Nafiatul and Hendra Sukmana regarding the Effectiveness of Online Services (Plavon) Dukcapil. The purpose of this study was to determine and analyze the effectiveness of Online Dukcapil Services (PLAVON) in Permisan Village, Jabon District, Sidoarjo Regency. This study uses qualitative research with a descriptive approach. The results of the study indicate that the effectiveness of Online Dukcapil Services (PLAVON) in Permisan Village, Jabon District is still not running optimally, especially in providing socialization to the community [12].

The above conditions are in accordance with the research location on the effectiveness of implementing e-government through the Dukcapil Online Service (PLAVON) application in managing population documents in Jatikalang Village, Prambon District, Sidoarjo Regency. This application is designed to facilitate the process of managing population documents digitally. However, in its implementation, there are several problems that create a gap between expectations and reality. One of the main

obstacles is the low digital literacy of the community, especially among the elderly, who have difficulty understanding and using this application. In addition, limited technological infrastructure, such as uneven and unstable internet networks, also hinders public access to digital services. The lack of socialization and education on how to use PLAVON is also a significant factor, because many residents are not familiar with this application or do not know the steps to use it. Technical constraints on the application, such as server disruptions or features that do not function properly, often worsen the user experience, while the problem reporting process is considered less responsive. On the other hand, public preference for conventional services is still quite high, because it is considered easier and faster than digital services. This problem gap has an impact on the low effectiveness of the PLAVON application in achieving its goals, namely accelerating and simplifying the administration of population documents. To overcome this, steps are needed such as improving infrastructure, ongoing education, and better technical support from the village government and application developers. Through this study, the effectiveness of the PLAVON application can be evaluated based on the achievement of goals, such as accelerating the document administration process, reducing complicated bureaucracy, and increasing public satisfaction. In addition, this study is also relevant to assessing the level of integration of the e-government system, especially how PLAVON is connected to the administrative system at the village to district levels, so that it can provide more holistic and coordinated services.

Based on these problems, the study was conducted using the theory of effectiveness according to Richard M. Steers. According to Steers, effectiveness is the extent of a program's efforts as a system with certain resources and means to meet its goals and means without paralyzing the means and resources and without putting unreasonable pressure on its implementation. Indicators of the theory of effectiveness according to Steers are, 1) Achievement of goals, 2) Integration, 3) Adaptation [13]. Based on the background of the problem, the formulation of the research problem can be formulated. First, how effective is the application of Plavon Dukcapil in managing population documents in Jatikalang Village? To what extent is this application able to support the achievement of the goal of fast, efficient, and targeted population administration services? Second, how is the level of integration of the Plavon Dukcapil application with the administrative service system at the village and district levels? Third, how do the Jatikalang Village community adapt to the use of the Plavon application and what are the obstacles faced in implementing this application and what are the solutions to increase its effectiveness?

## **RESEARCH METHOD**

This study uses a qualitative research method. According to Sugiyono (2018:213) qualitative research methods are research methods based on philosophy that are used to research in scientific conditions (experiments) where researchers are instruments, data collection techniques and qualitative analysis emphasize more on meaning. Qualitative

research methodology aims to analyze and describe phenomena or research objects through social activities, attitudes and perceptions of people individually or in groups [14]. A qualitative approach was chosen so that researchers could explore and interpret information in depth regarding the effectiveness of the Plavon Dukcapil as an application for managing population documents. The location of this research is in Jaticalang Village, Prambon District, Sidoarjo Regency. This research focuses on the effectiveness of implementing e-government through the Plavon Dukcapil as an application for managing population documents in Jaticalang Village. The informant determination technique used purposive sampling. The types of data collected include primary data and secondary data. Data collection techniques in this study were interviews, observations, and documentation. Data collection techniques are methods used to collect materials used in research [15]. Data analysis techniques using the Miles and Huberman interactive model, namely this process includes the selection, concentration, simplification, abstraction, and transformation of data into field notes in a study into 4: 1) Data collection stage, namely the process or activity carried out to reveal and capture various phenomena, information or conditions of the research location according to the scope of the study, 2) Data reduction by simplifying, focusing, and selecting data that is in accordance with the research objectives. 3) Data presentation by systematically compiling and displaying the results so that they are easy to understand in the form of tables, graphs, or narratives. 4) Drawing conclusions by creating descriptive narratives that describe the results of data analysis in detail and logically from the results of observations, interviews, and documentation [16].

## RESULTS AND DISCUSSION

### *Results*

Richard M Steers stated that effectiveness is the extent to which a program as a system with certain resources and means can fulfill its goals and means without paralyzing those means and resources and without putting unreasonable pressure on its implementation [17] with the following indicators:

#### **1. Goal Achievement**

Achievement is the whole effort to achieve goals must be viewed as a process. Therefore, in order to ensure the achievement of the final goal, stages are needed, both in the sense of stages of achieving its parts and stages in the sense of its periodization. Achievement of goals consists of several factors, namely: time period and targets which are concrete targets [18].

Plavon Dukcapil is designed to provide convenience in managing population documents online, reduce the burden of manual administration, and increase transparency in public services. Conceptually, this goal is clear and appropriate, considering the public's need for more efficient administrative services.

The implementation of Online Services (Plavon) Dukcapil is an innovative solution in answering the community's need for faster and more efficient population

administration services. With this digital-based system, the community no longer has to come directly to the Dukcapil office to take care of population documents, thereby reducing queues and administrative burdens that were previously often obstacles. The service process that previously took a long time and went through various bureaucratic stages can now be done more practically, simply by submitting an application online and waiting for the verification process by officers. This not only increases efficiency in public services but also reflects the government's commitment to supporting more transparent and accountable digitalization of administration. However, the success of this system still depends on the readiness of the technological infrastructure and the community's understanding in accessing digital services, so that ongoing socialization and technical support are needed to ensure that its benefits can be felt by all levels of society. However, although the objectives of this system are clear, implementation in Jatikalang Village still faces several obstacles, such as the lack of understanding of technology among the elderly and limited internet access for some rural communities. Therefore, more intensive assistance and socialization are needed so that the main objectives of this system are truly achieved.

**Table 1.** Data on Submission of Dukcapil Plavon Website Services at Jatikalang Village Government (Year 2024)

| <b>Management</b>        | <b>Submission Complete</b> | <b>Submission Rejected</b> | <b>Total</b> |
|--------------------------|----------------------------|----------------------------|--------------|
| <b>Birth Certificate</b> | 34                         | 12                         | 46           |
| <b>Death Certificate</b> | 26                         | 7                          | 33           |
| <b>KIA</b>               | 53                         | 4                          | 57           |
| <b>KTP</b>               | 41                         | 15                         | 56           |
| <b>KK</b>                | 19                         | -                          | 19           |
| <b>SKPWNI</b>            | 28                         | 10                         | 38           |
| <b>SKDWN</b>             | 46                         | 13                         | 59           |

Source: Research Results, 2025

The effectiveness of Plavon can be measured by the extent to which this service has succeeded in achieving its target in providing convenience and acceleration of population administration services. When viewed from this indicator, the Plavon system has accelerated the administration process, where previously document processing took up to several weeks, now it can be completed in a matter of days. The implementation of Plavon Dukcapil has made it easier for the public to process population documents, especially in terms of time efficiency. Previously, the manual process of making an ID card at the Dukcapil office often took weeks due to long queues and complex administrative procedures. However, with the Plavon system, applicants now only need to upload the required documents online, and in less than a week, the documents can be issued. This change shows that the digitization of population services can accelerate the administration process, reduce complicated bureaucracy, and increase public

convenience. However, the effectiveness of this system still depends on the smoothness of the technology infrastructure and the responsiveness of officers in handling applications, so periodic evaluations are needed to ensure that services continue to run optimally. However, several cases show that not all documents can be processed quickly, especially when there are data errors or technical constraints on the system. Therefore, even though the achievement of the objectives in terms of service acceleration has been quite successful, system improvements and data management are still needed to ensure that all applications can be processed optimally.

According to Steers, effectiveness can also be seen from how available resources are used efficiently to achieve goals. In the context of the Dukcapil Plavon, this system is designed to reduce dependence on manual processes, so that workers at Dukcapil can focus more on verification and completion of administration rather than handling queues of people directly. In Jatikalang Village, the implementation of the Dukcapil Plavon not only provides benefits for the community, but also for administrative officers in managing population services. Before this system, service offices were often filled with residents who wanted to take care of documents, who often had to go back and forth due to data errors or incomplete files. This caused long queues and slowed down the service process. However, with the online system, officers can now focus more on verifying data digitally before documents are processed, thereby reducing administrative errors and speeding up the completion of applications. Another positive impact is increased work efficiency, where officers are no longer burdened with queues of people who come directly, but can allocate their time to ensure data accuracy and more optimal services. Thus, the digitalization of services through Plavon not only increases convenience for the community but also improves administrative governance at the government level. However, the challenges faced are the continued dependence on technological infrastructure, such as servers that sometimes experience disruptions, as well as the limited human resources who understand technology at the village level. Therefore, in order for resources to be used optimally, there needs to be an increase in human resource capacity and better system maintenance.

Based on the analysis that has been conducted, the implementation of the Dukcapil Online Service (Plavon) in Jatikalang Village has shown quite high effectiveness in accelerating and simplifying the population administration process. This system has succeeded in reducing queues, accelerating document completion times, and increasing the efficiency of officers' work. In addition, Plavon also supports transparency in public services and is part of the government's efforts to digitize population administration. However, although the objectives of this system are clear and its implementation has had a positive impact, there are still several challenges that need to be overcome. Dependence on technological infrastructure, lack of public understanding of digital services, and limited internet access in several areas are obstacles to optimizing this system. In addition, there are still cases where document processing is delayed due to data errors or technical disruptions in the system. In order for the effectiveness of Plavon to continue to

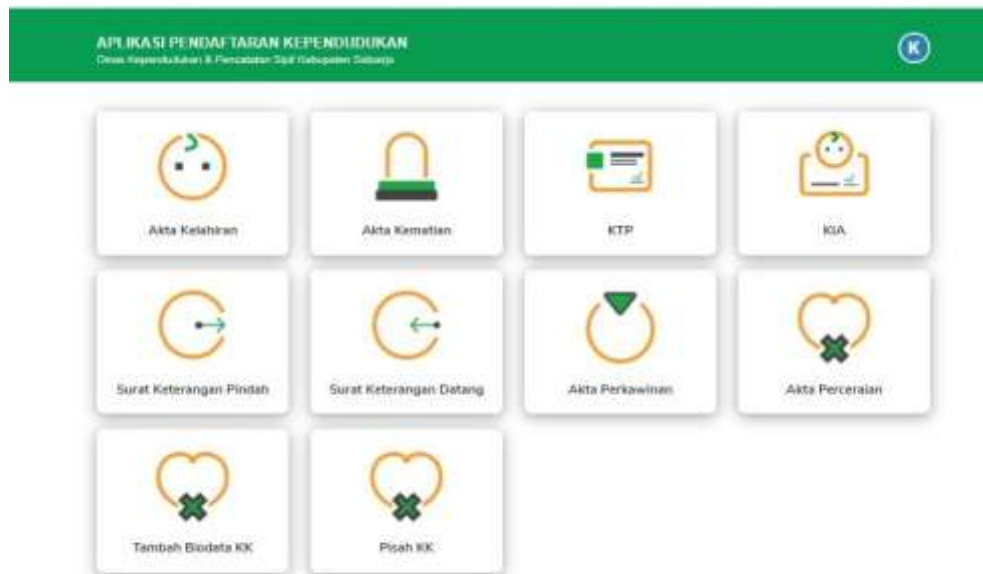
increase, more intensive assistance and socialization to the community, increased human resource capacity in system management, and better maintenance of technological infrastructure are needed. With periodic evaluations and continuous system improvements, Plavon can be a more optimal solution in providing fast, transparent, and accountable population administration services.

This is in line with the goal achievement indicators according to Richard M. Steers' theory of effectiveness, the effectiveness of a system can be measured by the extent to which an organization is able to achieve its stated goals by optimally using available resources. In the context of the Dukcapil Online Service (Plavon) in Jatikalang Village, the effectiveness of this system can be seen from its success in accelerating the population administration process, reducing the burden of manual bureaucracy, and increasing the efficiency of officer work. The goal achievement indicators in Steers' theory, such as clarity of goals, efficiency in resource use, and the system's ability to adapt to community needs, are reflected in the implementation of Plavon. Clarity of goals can be seen from the digitalization of services which aims to reduce service time and reduce administrative barriers. Efficient use of resources can be seen in the shift in officer duties from handling community queues directly to focusing on data verification and document completion digitally, which allows for faster and more accurate services.

This finding is also in line with previous research showing that digitalization of public services contributes to increasing accessibility, efficiency, and transparency in government administration. For example, research on e-Government in population services in various regions revealed that the implementation of digital systems can reduce public waiting times and increase service satisfaction. However, as also found in previous research, there are still challenges in implementing technology-based systems, such as limited infrastructure, lack of digital literacy among certain communities, and technical constraints such as server disruptions. Therefore, to ensure the effectiveness of this system in the long term, there needs to be a strategy to increase human resource capacity, maintain technological infrastructure, and provide wider socialization so that all levels of society can access these services optimally [19].

## **2. Integration**

Integration is a measurement of the level of an organization's ability to conduct socialization, consensus development and communication with various other organizations. Integration concerns the process of socialization [20]. This indicator refers to the ability of an organization to coordinate various parts of its system so that they can work harmoniously to achieve common goals. In the context of implementing the Dukcapil Online Service (Plavon) in Jatikalang Village, Prambon District, system integration plays a very important role in ensuring that this digital-based population service can run optimally. Integration is not only related to coordination between officers at Dukcapil but also with the community as service users and the technological infrastructure that supports the process of managing population documents online.



**Figure 2.** Main Menu of Plavon Dukcapil

The implementation of the Plavon Dukcapil system has brought significant changes to the population document verification process. With this system, officers no longer need physical files because all documents submitted by the public have been stored digitally. This allows officers to directly check and validate data without having to go through a manual process that is prone to errors. In addition, data integration in the system also helps in avoiding document duplication and minimizing input errors, which previously often occurred in conventional administrative processes. Thus, efficiency and accuracy in population data management are increasing, so that public services become faster, more accountable, and more transparent. The integration in the Plavon system allows for more effective data synchronization, reduces overlapping information, and improves administrative accuracy.

In addition, from the community's perspective, the integration of this system makes it easier to access services without having to come directly to the Dukcapil office. The digitalization of services through the Dukcapil Plavon has made it easier for the community to take care of population documents. With this system, applicants only need to upload documents online, without having to come directly to the Dukcapil office as before. If there is an error in the submission, officers can immediately provide notification through the system, so that the community can immediately fix it without having to repeat the process from the beginning or go back and forth to the office. This not only saves time and energy for the community, but also reduces congestion at service offices and speeds up document completion. With this mechanism, services become more efficient, transparent, and responsive to the needs of the community. This indicates that the Plavon system has created a structured, faster, and more responsive service mechanism to the needs of the community, thereby reducing administrative obstacles that have been obstacles in managing population documents.

However, even though this system has been well integrated, there are still several challenges that need to be overcome. One of the main obstacles found in the field is the lack of public understanding of the use of digital services and limited internet access in several rural areas. The implementation of Plavon Dukcapil as a digital-based population administration service provides convenience for the community, but not all residents can immediately adapt to this system. For those who are not used to using technology, such as the elderly or people with limited digital literacy, this online system can be a challenge. One resident said that at first he had difficulty using Plavon because he was not familiar with the online system. However, with the help of a family member who was more tech-savvy, he was finally able to access the service without having to come directly to the Dukcapil office. This shows that support from family or the surrounding environment plays an important role in helping people adapt to digital services. To ensure that all levels of society can optimally utilize this system, further socialization and assistance are needed for those who still face obstacles in using technology.

From a technical perspective, several officers also acknowledged that there are still technical constraints such as system disruptions or slow servers, which can hinder the data integration process. Although Plavon Dukcapil provides convenience in managing population documents, technical challenges are still an obstacle in its implementation. One of the problems that often occurs is system disruptions or long loading times, especially when many residents submit applications simultaneously. This causes the verification and completion of documents to be hampered, because officers have to wait for the system to stabilize before they can process further data. The limitations of this technological infrastructure show that the success of digital services depends not only on the system that has been designed, but also on the reliability of the server and network capacity used. Therefore, to improve service effectiveness, optimal system maintenance, increased server capacity, and better technology support are needed to ensure that services continue to run smoothly without significant disruption.

Based on the analysis results, the implementation of Plavon Dukcapil in Jatikalang Village as a digital-based population administration service system has had a positive impact in increasing efficiency, transparency, and accessibility of services. This digitalization allows the public to submit applications online, reduce queues at service offices, and speed up the document verification process. However, obstacles such as system disruptions, limited digital literacy in the community, and less than optimal technological infrastructure are still challenges in implementing this system.

When associated with Richard M. Steers' theory of effectiveness, organizational effectiveness can be measured through several indicators, including goal achievement, efficiency in resource use, and integration between parts of the system. In the context of Plavon, this system has met the goal achievement indicators by accelerating services, reducing bureaucratic red tape, and providing easy access for the public. In terms of resource use efficiency, service digitalization allows officers to focus more on accurate data verification rather than handling long queues manually. Meanwhile, in terms of

integration, this system has been able to synchronize data better, reduce input errors, and improve coordination between officers and the public.

This is also in line with previous research on the effectiveness of e-Government in public services, which shows that administrative digitalization can increase efficiency and transparency, but still requires strong technological support and community readiness to adopt new systems. Several studies have stated that without adequate infrastructure and sufficient digital education, the implementation of online systems can still face obstacles in the long term. Therefore, to ensure the maximum effectiveness of the Dukcapil Plavon, it is necessary to increase infrastructure capacity, optimize technology systems, and provide wider socialization to the community, especially for groups that still have limitations in accessing digital services [21].

### **3. Adaptation**

Adaptation is the ability of an organization to adjust to its environment. For this purpose, the benchmark for the procurement and filling of labor is used [22].

Adaptation in this context refers to the ability of an organization to adjust to changes, both in terms of technology, policies, and community needs. The adaptation process experienced by village officials in facing changes in the administrative system from manual to digital through the Plavon application, initially, they experienced difficulties because not all village officials had the skills to use digital technology. This reflects the initial obstacles in implementing technological innovation, which is common in the digital transformation process in the bureaucratic environment. However, after receiving training and socialization from Dukcapil, they began to understand how the application works and became accustomed to using it. This shows that mentoring and training play an important role in improving the ability and readiness of village officials in adopting new systems. With their increasing understanding, they can finally help the community in taking care of documents online, which is an indicator of the success of the adaptation process in implementing e-government at the village level.

The implementation of the Plavon system experienced various challenges in the early stages. Village officials who were previously more accustomed to manual administration systems faced difficulties in understanding the use of digital applications. However, with training and socialization from Dukcapil, they were slowly able to adapt and provide assistance to the community. Despite technical constraints, they have tried to adapt to new technology so that services can run more efficiently. Their efforts in providing training to village officials and the community show that the government is aware of the gap in understanding technology and is trying to overcome it through education. This is in line with the principle of organizational effectiveness, where the ability to adapt to change and improve human resource competencies are key factors in the success of digital innovation.

Significant changes in access to population administration services from manual to digital systems through the Plavon application. Previously, people had to come directly to the village office or Dukcapil to take care of documents, which required more

time and effort. With this application, services become more accessible because they can be done via mobile phones, showing efficiency in public services.

However, this also reflects the challenges in the process of community adaptation to new technology. Initially, users experienced confusion in operating the application, but with the help and explanation of the village apparatus, they were finally able to understand how to use it. This shows that assistance from village officials has an important role in increasing the digital literacy of the community, so that they can be more independent in utilizing online services.

On the other hand, there are infrastructure constraints, namely the problem of uneven internet network quality. Limited internet signals are an obstacle to accessing services optimally, which shows that the success of e-government implementation does not only depend on user readiness, but also on adequate technological infrastructure support. In addition, receiving input from users shows a participatory approach in system development. This means that Dukcapil does not only apply technology unilaterally, but also listens to the needs and obstacles faced by users in the field. With system improvements based on input, the Plavon application can be more user-friendly and in accordance with community needs, so that the effectiveness of e-government services increases.



**Figure 3.** Plavon Dukcapil Implementation Training  
Source: Head of Jatikalang Village Service Section

From the community side, adaptation is also an important factor in the effectiveness of Plavon implementation. Some residents who are not yet familiar with technology initially had difficulty accessing online services. This is reinforced by statements from the community stating that they still need guidance from village officials to submit documents online. In addition, obstacles to internet access in several areas are also a challenge in optimally utilizing this system. However, adjustment efforts continue

to be made both from the Dukcapil side and the village government, such as by providing routine training, simplifying the procedures for using the application, and improving supporting infrastructure. This shows that the organizations involved in the implementation of Plavon have carried out the adaptation process in accordance with the Steers effectiveness indicators, although there are still several obstacles that need to be overcome in order to maximize services. Overall, the implementation of e-government through Plavon has shown developments in terms of effectiveness, especially in the adaptation indicator. The better the level of adaptation of the apparatus and the community to this system, the more effective the digital services will be in supporting population administration in Jatikalang Village.

### *Discussion*

Based on the analysis conducted, the implementation of e-government through the Plavon application in population administration services in Jatikalang Village has shown quite good effectiveness, especially in the adaptation indicator as explained in the theory of organizational effectiveness by Richard M. Steers. In the context of this study, organizational adaptation can be seen from the efforts of village officials and the community in adapting to the new digital-based system. Village officials who were previously accustomed to the manual system experienced difficulties in the early stages, but after receiving training and socialization from Dukcapil, they began to understand and get used to using the Plavon application. This is in line with previous research which states that mentoring and increasing human resource capacity are the main factors in the success of technological innovation in organizations [23].

In addition, from the community's perspective, the change from manual to digital systems brings benefits in the form of service efficiency, where document management can now be done online without having to come directly to the village office or Dukcapil. However, there are still challenges in the technology adaptation process, such as low digital literacy among the community and infrastructure constraints, especially unequal internet access. Although still facing various challenges, the government through Dukcapil continues to strive to adjust the system by providing training, listening to user input, and improving application features to make them easier to use. This shows that the implementation of Plavon does not only focus on the application of technology, but also pays attention to user readiness and infrastructure aspects as supporting factors for system effectiveness.

### **CONCLUSION**

**Fundamental Finding :** This study concludes that the implementation of PLAVON Dukcapil in Jatikalang Village has been effective in accelerating population administration services, reducing queues, enhancing officer efficiency, and promoting transparency, although it still faces challenges related to digital literacy, internet access, and technical constraints. **Implication :** The findings imply that strengthening technological infrastructure, providing continuous digital literacy training, and ensuring

responsive system management are crucial to optimize the sustainability and inclusivity of digital public services. **Limitation** : Nevertheless, this study is limited by its single-village scope and qualitative descriptive approach, which may not capture broader variations in PLAVON implementation across different regions. **Future Research** : Further studies are recommended to conduct multi-village or cross-regional comparative analyses and to integrate quantitative evaluations, thereby offering a more comprehensive understanding of the effectiveness and scalability of digital-based population administration services.

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