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Jurnal Pengabdian Kepada Masyarakat
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Improving Digital Literacy through Population Data Management Information System in Sawah Lebar Baru Subdistrict Bengkulu City

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Article Information:
Received January 06, 2025
Revised January 10, 2025
Accepted January 27, 2025

Keywords:
Information System; Population Data Management; Public Service; Village Office; Website Based

Abstract

This activity aims to build a population data management information system at the website-based sub-district office. This activity is motivated by the results of observations made at the Sawah Lebar Baru District office, information governance is still carried out manually by recording in ledgers that still rely on conventional bookkeeping. This performance approach is considered less effective and efficient. This impacts public services, which take a long time and often make mistakes in recording and reporting information on the state of the community. The implementation method is identification of needs, preparation and development of the system, training and technical assistance, then implementation and monitoring. After the training, an evaluation was carried out to measure the increase in participants' knowledge and skills in using the system. Based on the post-test results, the average value was in the range of 80-90%, which indicates an increase in participants' understanding and abilities. Through this activity, population data management becomes more effective and efficient and services to the community become more optimal.

A. Introduction

In the era of increasingly sophisticated technological globalization like today, human life and daily life are accelerating along with technological developments (Voronkova et al., 2020). There is hardly a space in human life that is not touched by technology. Technology is a necessity that cannot be released, even in the development of humans is increasingly dependent on the existence of technology (Song et al., 2022). Information technology has a very important role in data processing, both in the social world and the world of work (Dwivedi et al., 2020). The existence of technology in the field of information makes every human work related to information experience a leap in quality both in terms of processing speed and dissemination (Fachlevi & Syafariani, 2017). Information systems can provide optimal services and improve performance to be more effective and efficient (Marasabessy et al., 2019; Renaningtias & Apriliani, 2021).

In accordance with the Instruction of the President of the Republic of Indonesia (INPRES RI) Number 6 of 2001 concerning Telematics (Telecommunications, Media and Informatics) and the Instruction of the President of the Republic of Indonesia Number 3 of 2003 concerning National Policies and Strategies for the Development of e-Government explained that in order to create good governance conditions, every process that occurs in the government must utilize technology and telematics. Information technology can improve the quality of services so that it can create good governance. One of the villages that is the object of this service to implement information technology is Sawah Lebar Baru, Bengkulu City.

How to Cite : Renaningtias, N., Vatresia, A., Putri, T. E., Kusuma, T. N., & Ibrahim, T. A. (2025). Improving Digital Literacy through Population Data Management Information System in Sawah Lebar Baru Subdistrict Bengkulu City. *Aktual: Jurnal Pengabdian Kepada Masyarakat*, *3*(1), 39–44. https://doi.org/10.58723/aktual.v3i1.348
ISSN : 2987-6052
Published by : CV Media Inti Teknologi

Sawah Lebar Baru Village is located on Jalan Sepakat No, 23 Ratu Agung District, Bengkulu City has an area of 0.76 hectares and a population of ± 8,504 people consisting of 4,190 male and 4,314 female. The social status of the residents in the new Sawah Lebar sub-district is middle to lower with types of livelihoods including farmers, traders, civil servants, ABRI, and the private sector. Sawah Lebar Baru Village is a village that has a population in the top 3 positions in Ratu Agung District.

Based on observations made in this village, information governance is still carried out manually by being recorded in a large master book that still relies on conventional bookkeeping. This performance approach is considered less effective and efficient. This has an impact on services to the community that takes a long time and often makes mistakes when recording and reporting information about the community in the village. Fast and accurate data collection is a priority to develop the region to be more advanced (Henny, 2020).

Based on the problems faced such as inconsistent data, time-consuming data search, and the risk of data loss, the expansion towards computerization of the population data collection information system in Sawah Lebar Baru Village, Ratu Agung District, Bengkulu City is an urgent need. If you look at the human resources and equipment owned by the Village Office that are available, it is quite supportive in the design of this information system. This system can support the progress and development of institutions (Saputra et al., 2023; Sayuti et al., 2023). This is in line with the President's instructions and to increase the effectiveness of services at the Village Office. Conventional performance systems take a long time and stages, often cause errors in data processing, and are no longer able to keep up with the challenges that arise along with technological advances one of which is data collection management (Rijadi et al., 2024; Zaki & Yusri, 2020). This computerization is expected to improve weaknesses so that existing services in the Village become more optimal with digital transformation and increase knowledge and skills in the field of technology (Kamila et al., 2024; Masa et al., 2024; Ratniasih et al., 2024). So that in this service, information technology development was carried out by building a website-based population data management information system at the Sawah Lebar Baru Village office, Bengkulu City.

B. Methods

The service activity to Improve Digital Literacy through the Website-Based Population Data Management Information System in Sawah Lebar Baru Village involved a service team consisting of 3 lecturers and 3 students. This activity was carried out face-to-face and was attended by the village, the head of the RT, the head of the RW and the general public totaling 30 people from August to September 2024.

The implementation process consists of four stages, namely the identification of needs, the system development stage, program implementation and continuous socialization and assistance at the Sawah Lebar Baru Village Office. The first stage is the identification of needs, at this stage a survey and analysis of partner needs are carried out. This activity aims to find problems that are happening to partners to find solutions together in order to solve these problems. The result of the problem that often occurs is the collection of population data which is still carried out manually, namely by recording in the ledger which has an impact on services to the community that are not optimal. Furthermore, the second stage is system development, at this stage the activities carried out are to build a population data management information system at the Sawah Lebar Baru Village Office. At this stage, problem analysis, requirement analysis, logical design, decision analysis, physical design and integration, construction and testing and installation program are carried out.

Then the third stage is the implementation of the program, at this stage the necessary data preparation, socialization and guidance are carried out related to the use of the population data management information system in the new wide rice field village of Bengkulu City. The final stage of this activity is socialization and assistance on an ongoing basis, at this stage it is carried out periodically and continuously to ensure that there are no technical errors in the system and that the system can run in accordance with the design that has been made (Syifaul et al., 2024). At this stage, modules and videos on the use of the information system were also given to the parties involved such as employees at the village office, the head of the RT, the head of the RW and the general public.

C. Results and Discussion

The Digital Literacy Improvement Activity through the Website-Based Population Data Management Information System in Sawah Lebar Baru Village is divided into several structured steps to ensure effective

implementation. The first stage is the identification of needs, where the service team conducts initial discussions with the village apparatus to understand the problems faced in the manual management of population data and determine the right technology-based solutions. Based on the existing problems, a solution was given to build a website-based population data management information system in Sawah Lebar Baru village.

The second stage is the preparation and development of the system, which includes the design and creation of a website-based Population Data Management Information System according to the specific needs of the village. After the system is ready, socialization is carried out to the village apparatus, where the system is introduced in general including an explanation of the functionality, benefits, and role of technology in improving the efficiency of public services.

The next stage is technical training and mentoring. At this stage, the village head, RT head, RW head and the community are trained directly to use the system starting from the introduction of basic features to simulating the use of the system in real scenarios such as *population data input* and update. During the training, the team also provided intensive assistance to help participants who experienced technical difficulties. After the training, a *pretest* and *posttest* evaluation was carried out to measure the improvement of participants' knowledge and skills in using the system. The last stage is implementation and monitoring, where the system begins to be used in the daily activities of the village apparatus, and the service team conducts monitoring to ensure smooth operations and provide additional technical support if needed. This stage ended with a thorough evaluation to see the success of the training and the impact of the system on the efficiency of public services in the village office.

Based on the activities that have been carried out, an assessment of several aspects such as participant readiness, training effectiveness, system implementation, and its impact on public services, results were obtained for the readiness aspect of participants, most of the trainees showed high enthusiasm for the use of this population data management information system. The participants had a high desire to learn about this system even though previously some of them had limitations in their experience using the technology. However, some participants do have basic skills gaps in the use of computers and the internet, so they need additional time in the early stages of training. In terms of the effectiveness of the training, this activity is carried out in stages starting from the basic introduction of the system to the direct practice of using the system. This stage is considered effective in improving participants' understanding. Many participants managed to understand how to access, update, and manage population data using this web-based system. Furthermore, the aspect of system implementation, the system has been successfully implemented, the trainees are able to use the main features of the information system to manage population data independently and aspects of impact on public services, this system has a real impact on improving the efficiency of public services in the management of population documents. However, it is still necessary to socialize the use of this information system regularly and periodically to the community in Sawah Lebar Baru village, Bengkulu City.

Figure 1. The Team is Explaining the Material

Figure 2. Assistance in the use of information systems

Figure 3. Participants

In this activity, an evaluation was also carried out using the pretest and posttest methods. The pretest activity was carried out before the training began, containing questions related to the participants' initial understanding of population data management, the use of web-based information systems, and basic technology skills. The average pretest score is in the range of 40-50% which shows that most participants require initial debriefing that includes data management and the use of information systems. Furthermore, posttest activities were carried out to measure the improvement of knowledge and skills after training. Based on the results of the posttest, the average score was in the range of 80-90%, which showed an increase in the understanding and ability of participants in understanding this population data management information system.

D. Conclusion

The Digital Literacy Improvement Activity Using a Website-Based Population Data Management Information System in Sawah Lebar Baru Village through socialization and mentoring has succeeded in achieving the goals that have been set. The training carried out has improved the digital literacy and skills of village officials, RT heads, RW heads and the community. Based on the evaluation of the pretest and posttest showed a significant improvement in the participants' knowledge, with the average posttest score increasing substantially. The implementation of this information system not only accelerates the administrative process, but also improves the accuracy of data and the quality of public services to the community. With this population data management information system, population data management becomes more effective and efficient. Suggestions that can be given from this activity are to conduct continuous training to strengthen understanding and skills in the use of information systems and socialize to the wider community in the use of technology-based services.

E. Acknowledgment

We would like to express our gratitude to the Faculty of Engineering, University of Bengkulu for supporting the implementation of this service activity. We are also grateful to Dr. Tanimu Adam Ibrahim from the Department of Educational Foundations, Federal University Dutsin-Ma, Katsina State for being a proofreader.

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