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Received: 2024-12-09   Revised: 2025-02-19   Accepted: 2025-03-01   Published: 2025-12-08

## **Execution of Web-Based Population Applications as Innovations in Public Service**

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### **ABSTRACT**

This essay examines community service initiatives conducted in the village via the training and execution of web-based population applications. This project aims to enhance the effectiveness of demographic data management in the community. This program employs measures like training for village officials and the implementation of web-based apps to streamline the collection and maintenance of demographic statistics. The activity's results indicate that village officials effectively utilise the programme, enhancing public services and administrative management inside the community.

**Keywords: Demographic Management, Online Applications, Public Administration**

### **INTRODUCTION**

This action aims to empower the community, particularly in rural areas that frequently require support in technology utilisation and administrative management (Lopez, 2021). Villages continue to employ manual techniques for handling demographic data, including the registration of births, deaths, marriages, and population migrations. This manual technique

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results in service delays to the community and produces false data. Consequently, a solution is required to enhance efficiency and precision in the management of population statistics inside the village (Astuti, 2021).

This service programme addresses the suboptimal administration of demographic data. The investigation revealed that the village's data management system continues to employ inefficient manual procedures. This presents several challenges, including data inaccuracies, difficulties in rapid information retrieval, and an elevated chance of errors in population data recording (Made & Kurniawan, 2021). This issue affects multiple administrative functions and decision-making processes at the village level.

In conjunction with technical advancements, information technology-driven population data management is an excellent option. The implementation of a website-based information system in population data management enhances service efficiency and reduces recording errors (Ketonen, 2022). This technology enables real-time access to population data, facilitating faster and more accurate processing, hence enhancing the effectiveness of community services.

The Village aims to use technology through the construction of an integrated management information system to enhance public services and improve the efficiency of general population data management. This service initiative seeks to create and execute a web-based population application to facilitate more efficient management of population data by village officials. This application is developed for user-friendliness and accessibility, while enhancing the efficiency of population administration processes.

## **RESEARCH ELABORATIONS**

The primary objective of this community service initiative is the village apparatus, which is crucial in the administration of demographic data. Village officials utilise the web-based population application developed and are anticipated to enhance their efficiency in executing daily responsibilities. The training emphasises equipping them with the technical capabilities for the digital management of population data, reflecting the significance of their work. This

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training aims to ensure that village officials comprehend the fundamental use of the application and may also investigate all options available to enhance data management efficiency.

The primary objective of this initiative is to transition data management practices from manual to digital formats. This digitalisation, coupled with technology advancements, is essential for minimising errors, accelerating work processes, and enhancing service quality for the community. The use of a web-based information system for data management enhances the operational efficiency of organisations, particularly in the realm of demographic data management within village governance. The technical skills acquired from this training are anticipated to extend beyond population data management, serving as a foundation for village administrators to apply digitalisation in additional sectors necessitating structured data administration. This will enhance the capability of village apparatus to anticipate technology advancements and confront future issues.

This community service programme utilises the Participatory Action Research (PAR) method to attain optimal results. This method is particularly pertinent, as it underscores the active engagement of participants, including village leaders, throughout all phases of the program, from problem identification to solution implementation and results evaluation. This participative approach transforms community service from a unilateral activity into a dynamic interaction between the service team and the community being served.

In the preliminary phase, meetings and talks were conducted with village officials to ascertain the challenges encountered in the management of demographic statistics. This technique emphasises the acquisition of data and information directly from village officials to obtain a comprehensive understanding of current issues, including manual data management procedures, sluggish information access, and a significant risk of data entry errors. This socialisation phase is crucial to ascertain that the generated solutions, namely web-based apps, are genuinely pertinent to the requirements of village officials.

Upon identifying the problem, the subsequent stage is to develop a web-based population application capable of addressing the issue. The technical team collaborated closely with the village device in the development of this application, encompassing feature identification, user-friendly interface design, and the testing phase. A participatory approach is employed, wherein village officials actively engage in evaluating the application to guarantee its usability and alignment with their expectations.

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During the implementation phase, comprehensive training was conducted to equip village officials with the technical abilities necessary for utilising the programme. This training comprises theoretical and practical workshops, enabling village officials to master fundamental concepts of application operation while directly practising the management of population data using the application. Features including birth registration, mortality tracking, population mobility, and real-time data updates were implemented and evaluated. Consequently, village officials can directly comprehend how this programme can facilitate their tasks.

Following the training and deployment of the application, an assessment phase is conducted to analyse the efficacy of both the application and the training offered. The assessment was conducted via discussions and input from village officials who have utilised the application for an extended period. The gathered inputs are utilised to pinpoint areas requiring enhancement concerning both the application and necessary technical support. The evaluation encompasses an assessment of the extent to which these applications expedite data handling and enhance service quality for the community.

The web-based population application training occurred at the local hall and included 15 local officials as participants. Prior to the commencement of the training, the service team engaged in preliminary coordination with the Village Secretary. This coordination aims to prepare village officials for training participation and to address the technical specifics of training implementation and application launch. Invitations to partake in the program were disseminated to all village officials who were participants. The information presented encompasses the time, location, and objective of this training. The session commenced with an introduction to the concept of a web-based application, followed by a delineation of its primary features. Practical sessions are an essential component of the training, wherein each participant actively utilises the application to manage demographic data. During this session, the service staff and participating students served as facilitators, assisting attendees in comprehending and utilising the application effectively. A question and answer session was conducted alongside practice to adequately address all enquiries and clarify any confusion among participants.

The training includes practical assessment during implementation to evaluate participants' comprehension of the information and their proficiency in utilising the application. The service staff continues to assist the participants, offering specialised support for those requiring additional clarification. The material distribution was executed methodically, highlighting the

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significance of web-based apps in managing village data. The presentation concentrated on how this program might offer pragmatic solutions to challenges frequently encountered by village officials, including slow data capture, administrative inaccuracies, and obstacles to real-time data access. An inquiry and response session was conducted as part of the assessment process, allowing each village apparatus the opportunity to pose questions or offer feedback regarding the application's utilisation. This workshop ensures that each participant comprehends the application's functions and how to utilise them effectively.

Post-training, village officials anticipate operating the program autonomously, devoid of continuous technical support. The training is anticipated to furnish them with the skills to address diverse technical issues that may emerge in the future. Village officials are urged to consistently enhance their technological proficiency to effectively address growing technical challenges and remain abreast of future advancements. It is crucial to sustain the application's long-term efficacy. This program aims to have a lasting impact, enhance the efficiency of population data administration, and promote broader digitalisation across multiple sectors in the village.

## **RESULTS AND DISCUSSIONS**

Post-training, village officials anticipate operating the program autonomously, devoid of continuous technical support. The training is anticipated to furnish them with the skills to address diverse technical issues that may emerge in the future. Village officials are urged to consistently enhance their technological proficiency to effectively address growing technical challenges and remain abreast of future advancements. It is crucial to sustain the application's long-term efficacy. This program aims to have a lasting impact, enhance the efficiency of population data administration, and promote broader digitalisation across multiple sectors in the village.

This training primarily enhanced the competencies of village administrators in utilising web-based demographic apps. They are increasingly more proficient in digitally managing demographic data, including the documentation of births, deaths, and population migrations.

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This tool facilitates real-time data management, enabling village gadgets to operate more efficiently and punctually. The efficacy of this training is anticipated to motivate village authorities to utilise the application effectively in their everyday responsibilities, hence enhancing the speed and precision of the administrative processes within the village. Moreover, these newly acquired talents enhance the efficacy of public services rendered to citizens.

The created web-based population program offers numerous functions and substantial advantages for the Village. This application facilitates the digital recording and archiving of demographic data, minimises human errors, and enhances time efficiency. Furthermore, this program enables village devices to efficiently access and generate necessary reports promptly, hence enhancing accuracy in population administration management. This programme significantly accelerates administrative processes, diminishes operational expenses, and enhances the quality of public services in the community.

Table 1: Effects of Application Training and Implementation

| Field Characteristics                      | Accomplishments                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advancement of Technological Proficiencies | This training directly enhances the technological competencies of the village apparatus, which was previously more reliant on manual processes. The advent of web-based apps has enhanced the proficiency of village authorities in digitally handling demographic data, hence expediting processes and minimising the likelihood of recording errors |
| Economic Efficiency                        | The adoption of digital technology diminishes the necessity for physical records, thereby lowering operational expenses related to paper and storage. Time conserved from manual data management can be redirected to                                                                                                                                 |

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|                       | alternative duties, thereby enhancing the productivity of village administration and optimising budget allocation.                                                                                                                                                                                                                                                                                         |
| Social Responsiveness | This application enables villages to enhance their responsiveness to community demands. Well-organised population data that is readily accessible enhances the efficiency of administrative services for residents, including the management of identification cards or family cards. This also influences the enhancement of public trust in the transparency and accuracy of village government services |

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## CONCLUSIONS

The execution of the training program and the creation of web-based population applications in the village have been effective, meeting the established objectives. The enhancement of the village apparatus's skills in utilising this application demonstrates the efficacy of the training administered. The digitisation of population data using web-based applications enhances data management, rendering it more effective, efficient, and precise. This initiative has enhanced village authorities' comprehension of the significance of a computerised population data management system, hence elevating the quality of administrative services in the village. To ensure the program's continued success, continuous training and persistent technical support are advised. The advanced training will enable village officials to stay abreast of technology advancements and address technical difficulties, ensuring the application's operation remains seamless. This assistance is crucial for maintaining the proficiency of village authorities and ensuring the long-term efficacy of the population information system.

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