

UTILIZATION OF CLOUD COMPUTING TECHNOLOGY TO OPTIMIZE COMMUNITY ADMINISTRATIVE SERVICES IN TIMUHUN VILLAGE, KUNGKUNG, BALI

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Abstract

To improve the performance of the village government to be able to provide easy and fast population administration services for rural communities, it is necessary to increase the literacy of Cloud Computing technology for Village Government officials. The purpose of this service activity is to improve the performance of the Village Government, especially the Village of Timuhun Klungkung Bali by utilizing Cloud Computing technology for better administrative services to the community. The method used is to provide education to Village Office officials about how to use various Cloud Computing Technology services, especially Google Workspace for population administration. The result of this community service activity is that the understanding of the Timuhun Village Office apparatus in serving population administration based on Cloud Computing technology has increased more than before education was carried out. In addition, the Timuhun Village Office has also created a digital form that can be accessed anytime anywhere via internet-based computer devices by village communities to request various population administration services. Another result of this activity is a module that is compiled in the form of a book to be studied again so that there is a sustainable use of Cloud Computing technology at the Timuhun Village Office.

Keywords: Cloud Computing Training, Community Service, Performance Improvement, Technology Literacy, Village Government.

INTRODUCTION

Information technology that is developing very fast also increases the human desire to access various information quickly. To compensate for this, sufficient information and technology literacy is required by information providers (Abidin et al., 2022) (Prayoga & Mandira, 2021). This also applies to the village government which serves various requests from the village community regarding population administration. Technology that has penetrated various elements of society, from cities to villages, also needs to be adopted to improve the performance of village government officials. One of the technologies that can be implemented is Cloud Computing technology. Cloud Computing is a term for the use of Internet-based (cloud) computer technology (computing), thus creating a form of processing and storage

activity, software and other services are provided like integrated virtual resources on an internet network. Various Cloud Computing technologies range from storing data on internet servers and processing office data (Word, Excel, PowerPoint), to collecting data using online forms. Cloud Computing can accelerate the implementation of work (business processes), so it is relevant to be applied in assisting bureaucratic reform in government agencies (Sudirdja, 2020). Good service quality will increase public trust in the performance of the village government.

Timuhun Village is located in Bajarangkan District, Klungkung Regency, Bali Province with an area of 375 Ha. Timuhun Village has a Village Office that serves a community of 3,341 people with various professions (Official Website of Timuhun Village, n.d.). The Timuhun Village Office has so far used several information systems obtained from the central government such as managing community data and village finances. However, in some operational cases, village officials still use a manual recording process. For example, to request a certificate, the community still has to come to the Timuhun Village Office and write a request in an application book. This will slow down the service and the community will have to spend their time coming to the Village Office just to write in their notebooks to make requests and collect certificates. This problem could have been handled if the Timuhun Village Office officials knew a more effective and efficient way of handling community requests for administrative matters, one of which was by implementing simple Cloud Computing technology.

Google Workspace is one of the Cloud Computing technologies that is very easy to implement and has a good reputation for its use. Various Google Workspace services such as Google Drive storage technology, and data processing technology, namely Google Docs, Google Sheets, and Google Forms can be accessed easily via the Internet. Of course, this technology can be used to assist the process of digitally recording and storing data so that the process becomes fast and easy. This Google Workspace technology makes data processing and storage easier and faster to access anytime anywhere via the internet. Data that is processed and stored based on the cloud is also safer, avoiding hard disk damage or being attacked by viruses so that you are not afraid of data loss which often occurs on a PC (Personal Computer) (Google Workspace, n.d.). Google Workspace has been widely used in the learning process (Akcil et al., 2021) (Palupi & Tamela, 2022), it is also widely used as a digital transformation of administrative management such as filing and correspondence (Astuti et al., 2022).

Based on the background of the problem above as a form of community service carried out in Timuhun Klungkung Village, the method of activity carried out is the provision of education and training including how to use Cloud Computing technology which can be useful in the future for easy and fast population administration services (Meri et al., 2022). With this activity, it is hoped that the Timuhun Village Office apparatus can improve its performance in serving the community based on appropriate technology so that community satisfaction with Village Office services increases. The goal to be achieved in this community service activity is to educate and implement Cloud Computing technology to support easy and fast population administration services.

IMPLEMENTATION METHOD

This community service activity was carried out at the Timuhun Village Office, Banjarangkan District, Klungkung Regency, Bali Province. This activity was carried out within two months from 6 May – 8 July 2022 starting from observation, and preparation, to education and training on the implementation of Google Workspace technology for Timuhun Village Office officials. This activity was carried out in collaboration with Lecturers and Students of the Information Technology Study Program at the National Education University under the coordination of the Institute for Research and Community Service (LP2M). The stages of the activities carried out can be described and described as follows:

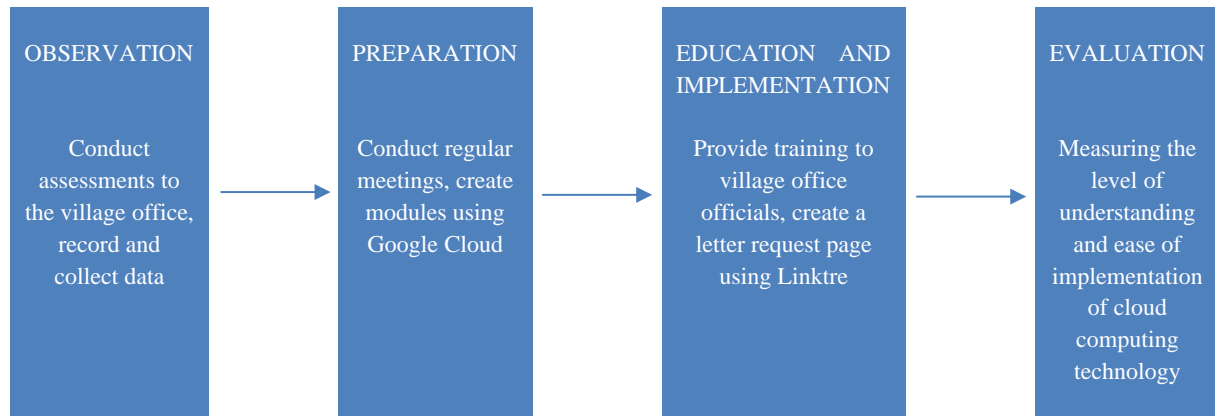


Figure 1. Method of Implementation of Cloud Computing

According to Figure 1 above, the stages of the activities carried out in providing education at the Timuhun Village Office can be described as follows:

1. Observation Stage

The initial stage of this service activity begins with observation. Observation activities were carried out to record problems regarding community services that occurred at the Timuhun Village Office. At this stage, it also collects data regarding community needs regarding population administration which are often requested by the community.

2. Preparation Stage

At this preparatory stage, regular meetings are held to discuss the technical implementation of education and the creation of modules that explain in detail the use of Google Workspace. This preparatory phase involves the study program, students, and LP2M so that the implementation of the activities can be carried out as well as possible and the material presented is easily understood by the training participants.

3. Education and Implementation Stage

Education was given to Timuhun Village Office officials on how to use Google Workspace technology to help deal with the problem of requesting letters that are still manual. Lecturers and students must have the same understanding of Cloud Computing technology and the use of Google Workspace so that it can be optimally conveyed to training participants.

RESULTS AND DISCUSSION

This community service was carried out in Timuhun Village, Banjarangkan District, Klungkung Regency, Bali Province. The work program carried out is to provide education and training to Timuhun Village Office officials regarding the use of Cloud Computing technology, especially the Google Workspace service to optimize village community administrative services. The activities carried out are by the specified activity method, namely:

1. Observation

Observations were made by visiting Timuhun Village directly to meet with the Head of Timuhun Village and staff. At this stage it was found that there were activities that were still carried out manually, namely recording requests for letters in a notebook. This will slow down the service and the community will have to spend their time coming to the Village Office just to write in their notebooks to make requests and collect certificates. At this stage, data was also recorded regarding certificates that were often requested by the community such as business certificates, certificates of incapacity, certificates of residence or domicile, as well as other letters provided by the Timuhun Village Office for the Village community.

2. Preparation

The preparation was carried out by holding several meetings starting from meetings discussing the technical implementation of education, and dividing groups to prepare training modules. The modules that have been made are also arranged in the form of a book which is submitted to the Head of Timuhun Village to be studied again after education and training.



Figure 2. Education Technical Discussion Meeting and Training Module Preparation

3. Education and Implementation

Educational activities will be held on July 8 2022 from 08.00 to 12.00 WITA. Education is carried out by providing training to all Timuhun Village Office officials on concepts and examples of using Cloud Computing technology, especially Google Workspace. Village Office officials accompanied by students directly practice how to access and create various Cloud-based letters and create digital forms to make letter requests easily anytime, anywhere.



Figure 3. Google Workspace Education and Training for Timuhun Village Officials

After conducting education and training (Figure 3), a module was also submitted in the form of a book summarizing material on the application of Cloud technology to be studied again by village officials, to create a sustainable application of Cloud technology at the Timuhun Village Office as shown in Figure 4 below.



Figure 4. Delivery of the Training Modules to the Head of Timuhun Village

The training module book that was handed over to the Head of Timuhun Village, as shown in Figure 4, is the result of a summary of all the training materials presented for easy understanding. The book can be studied again to reinforce knowledge about understanding Cloud Technology that has been taught.

4. Evaluation

The evaluation was carried out by giving a questionnaire that contained several questions about how village officials understood the use of Cloud technology in providing administrative services to the community. The results of the evaluation are then summarized and compared before and after the training.



Figure 5. Group photo after evaluating the implementation of the training

The results of the evaluation collected from 10 Village Office staff (as shown in Figure 5) show that the Timuhun village officials are very knowledgeable about using Cloud technology to facilitate administration services to the community which previously these officials did not understand. The following is a comparison table before and after the implementation of community service activities in Timuhun Village, Banjarangkan District, Klungkung Regency, Bali Province.

Table 1. Comparison of Before and After Cloud Technology Education.

No	Before Assistance	After Assistance
1	Understanding of Cloud Computing technology is still lacking	Timuhun Village officials already understand Cloud Computing technology
2	Village officials have never used the Google Workspace service in community administration services	Village officials understand how to use Google Workspace to help the community request letters and create letters using Google Workspace
3	Still using manual processes in recording and storing data	Village officials will replace manual processes using Cloud technology according to the knowledge gained from education and training
4	Does not have a digital form that can be accessed by the public to request letters anytime, anywhere	Already have a digital form that is easily accessible by the community in making requests for various certificates provided by the Village Office.
5	Does not have literacy about Cloud Computing technology	Having a module in the form of a book the result of the collaboration of lecturers and students to be studied again so that there is a sustainable use of technology in the Timuhun Village Office

Table 1. describes the development of understanding of Village Office officials before and after being given training. It can be seen that the understanding of Village Office officials as a whole has increased.

CONCLUSION

The conclusion of this community service activity is to increase the knowledge of Timuhun Village officials about the use of Cloud technology to help make community administration services easier and faster. With this community service, village officials have forms that can be accessed digitally by the community. The Village Office is also given a module which is made in the form of a book to be studied again so that there is a sustainable use of technology at the Timuhun Village Office. In the future, activities like this will continue to be carried out by other Village Governments to create an easy, fast, and efficient working atmosphere to support optimal village community administrative services. Future suggestions for subsequent activities are to make modules that are easier to implement and target other activities that are still manual which can be optimized using appropriate technology that is easy and cheap.

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