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Development of Village Administration Data E-Monography Application

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Abstract

Utilization and processing of basic village data by the Kedungluk Village Government, Candi District, Sidoarjo Regency, through e-monograph is an effort by the village government to carry out a transformation process to develop an information culture. This study aims to determine the development and design of an application-based information system prototype (village monograph) that provides information and potential as well as village profiles, and provides convenience for village monograph data managers and users. In addition to providing benefits to the village government through the e-monograph application prototype, this research is also expected to contribute to learning in the State Administration Study Program by presenting a learning model that can provide opportunities for students to learn directly (become a laboratory) related to the use of information technology in designing and managing public sector organizations in accordance with the learning outcomes of the fourth study program. The research method used is the Research & Development (R&D) method where one of the models suitable for this research is the SDLC (Software Development Life Cycle) model and specifically the Waterfall model which consists of six stages of software development namely requirements, design, implementation, testing, deployment and maintenance. The output of this research is software or software.

Introduction

Law No. 6 of 2014 concerning Villages was issued with a focus on developing independent villages in Indonesia based on village potential. One form of the government's seriousness in addressing rural development is by providing and channeling village funds through the APBN and APBD villages in regions/cities. Development planning and implementation in a village requires various basic data or commonly called village monographs (Adi & Suhartono, 2017). The data describes the demographic status, institutions, characteristics and potential of the village to support the village development planning process. Village profile data is the main input in the process of analysis and programming in planning village development so that the planning and implementation of development in the village is in accordance with the needs of the community.

Empirically, according to Dako (2014) not many villages have been able to plan village development programs in an accurate and renewable manner. Observing the importance of the availability of village profile/village monograph data, it is deemed necessary to develop a design and input process for village monograph data. This aims to facilitate the village government in preparing village development plans. Budiman revealed that the existence of a Profile and Monographic Data Management System can provide an overall picture of the sub-

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district and the potentials that exist in the area so that it can make it easier for all interested parties who need data (Budiman, 2016).

Kedung Hug Village, Candi District, Sidoarjo Regency has an area of 1,1286.65 km2 with a population of 3,512 people. With the characteristics of the pond area, Kedungluk Village is one of the centers for producing shrimp, milkfish, tilapia and others in Sidoarjo Regency. Since 2013 the Sidoarjo Regency Government has designated Kedungluk Village as a minapolitan area. This potential has contributed to the growth of fish-based culinary delights such as otak-otak, presto milkfish and fishing pond tours which are currently being developed by BUMDES Kedung Peluk. Villages in the digital 4.0 era are also expected to be able to adapt to advances in information technology. Presentation of village profile data can be designed with an application program model that is connected to computer networks, the internet and market place platforms that provide various village-related information (Mulalu, 2010).

Based on initial observations in Kedungluk Village, there were several problems particularly related to the preparation of monographs faced by the Village Government. Some of the problems identified include the lack of data input staff which has an impact on the weakness of the data updating process, besides that the display format for the Development Village Index (IDM) currently available is still unattractive, so the level of legibility of village-related information is still low. The purpose of this study was to design an innovative design for presenting basic village data based on predetermined entities/variables, then to develop and design an application-based prototype information system (village monograph) that presents information and potential as well as village profiles, and the most important thing is to provide convenience for managers and users of village monograph data.

This research is expected to be able to produce innovative product prototypes based on science and technology development in the form of e-monograph applications to facilitate filling in and access to information on village potentials, problems and profiles. In addition, this research is also expected to be able to produce a contextual learning model for students of State Administration Study Program where students can learn directly about the development of the role of ICT in the public sector through the e-monograph application used by partners. This research is also a means to support the implementation of the independent campus learning curriculum in the Bachelor of State Administration Study Program through village building activities.

The success in developing the prototype of the village monograph application in Kedungluk Village can become a learning laboratory for students that supports the learning process in accordance with the independent campus learning curriculum. In addition, these activities can be carried out at the Kedungluk Village Government to improve and develop village monograph applications according to current needs and conditions. The long-term hope of this application can become a blueprint for developing applications in villages as supporting data for village development planning (Varshney et al., 2015). It is hoped that the success in developing the village monograph prototype in the Kedungluk Village Government will become a pilot village or best practice or pilot project in both Sidoarjo Regency and other districts/cities. So that this development can benefit the wider community and village governments anywhere easily.

Methods

The research method used is the Research & Development (R&D) method. The research method used to produce certain products, and test the effectiveness of these products (Sugiyono, 2015). This study aims to develop an e-monograph application that functions to facilitate the process of collecting, processing, presenting and accessing population data for

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residents of Kedungluk Village, Candi District, Sidoarjo Regency. This study uses the Software Development Life Cycle (SDLC) model which is an illustration of an attempt to design a system that will always move like a wheel (McLeod in Abdullah, 2017). In this study, researchers used the Waterfall model which consists of six stages in software development namely requirements, design, implementation, testing, deployment and maintenance.

Results and Discussion

Presentation of village profile data which contains various information data about village conditions including basic family data, potential natural resources, human resources, institutions, infrastructure and facilities as well as development progress and problems that exist in the village need to be supported in terms of technological infrastructure, especially information technology. Infrastructure readiness is analyzed from the availability of technological infrastructure in the Kedungluk Village government which can support the development of e-monographs. Villages are quite ready to develop e-monographs. Inventory and procurement of infrastructure that supports the development of village e-monographs has been carried out, including (a) computer equipment, (b) wifi network, (c) laptop, and (d) printer. However, it has not been specifically designed for the development of village e-monographs. Procurement of this infrastructure can be through, among other things, (a) allocating the village budget for the procurement of village e-monograph technology infrastructure, and (b) collaborating with other parties, for example with the private sector, non-governmental organizations, local governments, universities and so on. In addition, the support of human resources (village officials) who are competent in the field of information technology is something that needs to be fulfilled. From the data in the field, it shows that Kedungluk Village is quite ready in terms of human resource readiness. The classification can be seen in the image below.

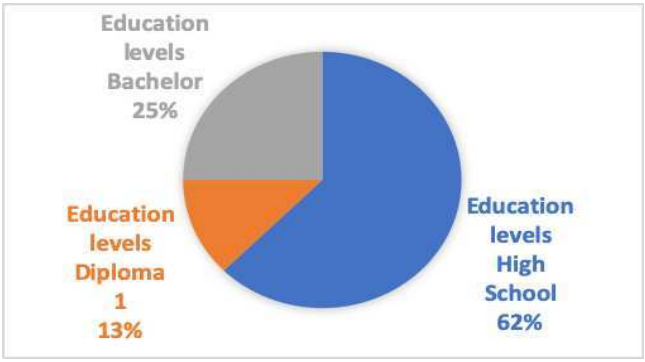

Figure 1. Classification of Kedungluk Village Apparatuses Based on Education Level

Source: Processed from the Kedungluk Village Government, 2021

From the data above, it can be seen that the availability of village officials in Kedungluk Village if classified based on education level, namely: (a) 4 people or 62% of the staff have high school education, (b) 2 people or 25% of the staff have an undergraduate education with the study program of state administration and informatics engineering, and (c) 1 person or 13% of staff with Diploma 1 education.

The legal basis for information system development is strengthened by the existence of several policy regulations and regulations which are used as references in the development of village e-monographs in Kedungluk Village, Candi District, Sidoarjo Regency, both those stipulated by the central government (Presidential Regulation, Ministry of Home Affairs, Ministry of Village) and the regional government of Sidoarjo district. Policies set by the central government: These policies are issued by the central government either through presidential

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instructions or by ministries related to e-government development. The policies set by the central government that serve as guidelines in the development of village e-monographs in Kedungluk Village are as follows: Governor of East Java Regulation Number 38 of 2020 concerning the Road Map for Bureaucratic Reform of the Regional Government of East Java Province 2020-2024: That the regulation is wrong one of which has been explained related to the acceleration of e-government development or the use of information and communication technology in local governments in East Java Province. The provincial government has identified the need for faster, cheaper and more reliable public services at this time, so that various innovative ideas are needed to realize ideal bureaucratic reform in the digital era for every local government in East Java Province. This also provides opportunities and opportunities for the village government, including the Kedungluk Village government, to develop e-monographics as an innovation in the village data management process.

The e-monograph prototype development process consists of development steps and guidelines for explaining the various menus/features on the e-monograph prototype. The development process is carried out after the problem identification and needs analysis stages are carried out. After analyzing the various problems and needs of the Kedungluk Village Government, the next step is to develop an e-monograph prototype that fits these problems and needs. The field data shows that in the e-monograph prototype development process, there are several development steps. The development steps consist of at least 4 important steps, namely (a) system requirements analysis, (b) activity design, (c) developing activities, and (d) feature testing. Implementation of e-monograph prototype development in Kedungluk Village. From the results of the implementation of the previous stage, namely the public test activity, it was found that the e-monograph prototype of Kedungluk Village needed repairs or additions in accordance with suggestions from village officials. The data from field analysis related to suggestions for improving the village e-monograph application include:

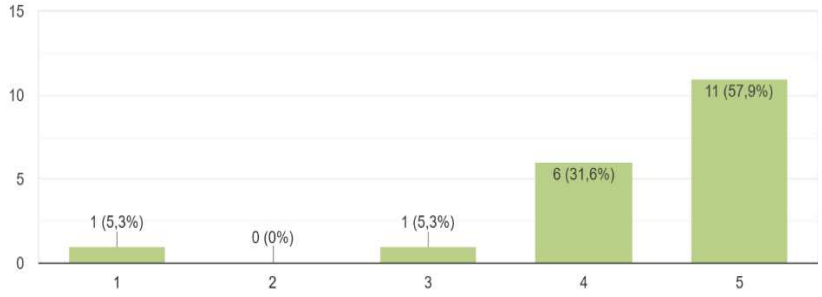

Figure 2. Graph of Effectiveness Level of E-Monography

Source: Processed by Researchers, 2022

Based on Figure 5.17 above, in detail the researcher can convey that the respondents' answers to the level of effectiveness of the E-Monography consist of 5 levels, ranging from very ineffective to very effective. For respondents' answers at level 1 (very ineffective level/level) there are 5.3% or a number of 1 person. Then at level 2 (ineffective level/level) there is 0% or nothing. Then at level 3 (level/level quite effective) there are 5.3% or a number of 1 person. Furthermore, the respondents' answers at level 4 (effective level/level) were 31.6% or a total of 6 people. The last one which is the result of the highest answer is at level 5 (very effective level/level) of 57.9% or 11 respondents. Through the results of the respondents who have collected it, it can be stated that the level of effectiveness of the E-Monography of Kedungluk Village shows level 5, or it can be stated that the E-Monography of the Village is very effective.

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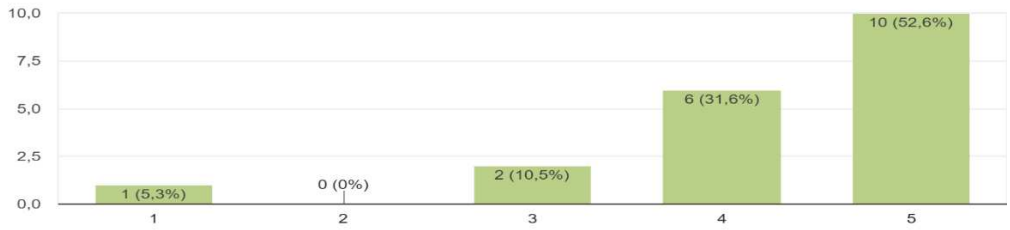

Figure 3. Graphical Level of Practicality of E-Monography

Source: Processed by Researchers, 2022

Based on figure 5.18 above, in detail the researcher can convey that the respondents' answers to the practicality level of the E-Monography consist of 5 levels, ranging from very impractical to very practical. For respondents' answers at level 1 (very impractical level/level) there are 5.3% or a number of 1 person. Then at level 2 (impractical level/level) there is 0% or nothing. Then at level 3 (level / level is quite practical) there are 10.5% or a number of 2 people. Furthermore, the respondents' answers at level 4 (practical level/level) were 31.6% or a total of 6 people. The last one which is the result of the highest answer is at level 5 (very practical level/level) of 52.6% or 10 respondents. It can be concluded, the results of the respondents stated that the practicality level of the E-Monography of Kedungluk Village showed level 5, or it could be stated that the E-Monography of the Village was very practical.

Figure 4. Graph of E-Monography Feasibility Level

Source: Processed by Researchers, 2022

Based on Figure 5.19 above, in detail the researcher can convey that the respondents' answers to the eligibility level of the E-Monography consist of 5 levels, ranging from very inappropriate to very feasible. For respondents' answers at level 1 (very inappropriate level/level) there are 5.3% or a number of 1 person. Then at level 2 (level/level not feasible) there is 0% or none. Then at level 3 (level / level is quite decent) there are 10.5% or a number of 2 people. Furthermore, the respondents' answers at level 4 (level/decent level) were 21.4% or a total of 4 people. Finally, the highest answer results, namely at level 5 (very decent level/level) of 63.2% or 12 respondents. It can be concluded, the results of the respondents stated that the feasibility level of the E-Monography of Kedungluk Village showed level 5, or it could be stated that the e-monograph of the village was very feasible.

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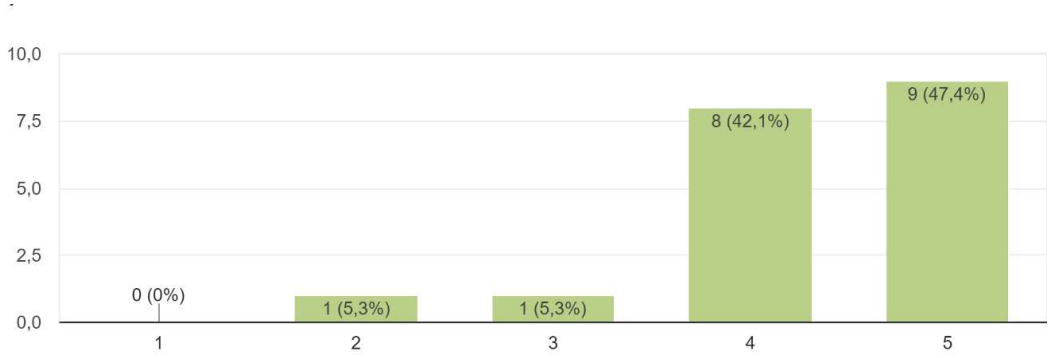

Figure 5. Graph of Similarity Level of Data in E-Monography with Data needed for SDGs

Source: Processed by Researchers, 2022

Based on figure 5.21 above, the researcher can convey in detail that the respondents' answers to the level of similarity of the data in the E-Monography with the data needed for the SDGs consist of 5 levels, ranging from very different to very similar to the data needed for the SDGs. For respondents' answers at level 1 (level/level is very different) there is 0% or nothing. Then at level 2 (level / level is not the same) there are 5.3% or a number of 1 person. Then at level 3 (quite the same level/level) there are 5.3% or a number of 1 person. Furthermore, the respondents' answers at level 4 (same level/level) were 42.1% or a total of 8 people. Finally, the result of the highest answer is at level 5 (very similar level/level) of 47.4% or 9 respondents. It can be concluded, the results of the respondents stated that the level of similarity of the data in the E-Monography with the data needed for the SDGs shows a level of level 5, or it can be stated that the village E-Monography data is very similar to the data needed in the SDGs.

Referring to the suggestions submitted by respondents in the field, stated that "Data obtained through e-monographs is supporting data as a form of improvement to the existing SDGs, but in this case it needs to be synchronized so that it becomes a good combination unit in both. Until an information system is realized which is complete, practical, feasible, and of course effective and efficient." it really needs to be done at this time.

Conclusion

Based on the results of the analysis and discussion that has been carried out, it can be concluded that the e-monograph prototype of Kedungluk Village is ready/feasible to implement. From the stages that have been carried out, including problem identification, needs identification, design activities, developing activities, feature testing and public feasibility tests have been carried out properly. From the results of the development that has been carried out then followed by the feature testing stage, it shows that the prototype e-monograph can run well. The use of the Village E-Monography information system is implemented as a form of supporting facility to help the village government carry out its service duties to the community. In addition to the village government as a user, the village community also has a role in being able to access it as a fulfillment of needs and as a means of complex information related to population and others. Through data obtained in the field, it was stated that the level of effectiveness of the Kedungluk Village E-Monography information system was considered very effective in its use. From the results of the analysis and conclusions above, the research team can provide the following suggestions: (1) To be able to optimize the implementation of the Kedungluk Village e-monograph prototype, the Village Government must make and stipulate policies or regulations on Kedungluk Village that regulate technical matters in its management such as standard operating procedures and so on; (2) The Kedungluk Village Government must add new village officials through recruitment whose special duties and functions are to manage the

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Kedungluk Village e-monograph prototype; (3) The Kedungluk Village Government must make a tax force on its organizational structure either into sections or sub-sections that are included in certain sections that are specifically relevant for the management of the Kedungluk Village e-monograph prototype; (4) Meanwhile, for its management, the Kedungluk Village Government can determine existing village officials to manage and participate in relevant training activities on the development and management of the Kedungluk Village e-monograph prototype; (5) In the future, the Kedungluk Village Government needs to communicate and coordinate with the government above it, namely the Candi District and the Sidoarjo Regency Government through the SKPD involved in integrating the e-monograph prototype of Kedungluk Village; (6) To optimize the E-Monography information system for Kedungluk Village, it is necessary to include: (a) Synchronization between E-Monography and SDGs to facilitate search, management and collection of population data by the village government; (b) Planning for ongoing scale research with the village government in order to create a system that is most suitable for implementation in the future, making E-Monography an information system that is simple, easier to understand but complete and interesting to access by the public.

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Describe anyone who directly helps your research such as funders (an institution called non-personal), may be supplemented by the research contract number. Thank you to the intended parties (if any and significant related to the study).

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