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Analysis of Village Governments' E-Readiness in Developing Villages E-monographs

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ABSTRACT

The village government's role in supporting the acceleration of national development is critical. As a result, improved village data administration is required to assist the acceleration of growth. Village data has a vital role and is required for all development processes. Village e-monographs are a type of innovation used by the Kedungluk village government in an effort to enhance the village data management process (which begins with collecting, managing/processing, displaying, using, and updating village data). The purpose of this study is to assess the Kedungluk Village Government's e-readiness in creating E-monographs). - A monograph about the village. The method used is a qualitative approach through interviews, field surveys/direct observations and documentation. The results showed that of the three indicators, namely the readiness of technological infrastructure, the readiness of human resources and the readiness of policies [1] in Kedungpeluk Village, they were quite ready. From the aspect of technological infrastructure readiness, it is necessary to add units specifically designated for the development and utilization of village e-monographs through the allocation of village budgets and through collaboration with other parties. Meanwhile, in terms of human resource readiness, it is necessary to increase the number of village officials with the necessary educational background, as well as the formation of a tax force or section/sub-section in the village government structure tasked with developing and utilizing village e-monographs, and sending village officials to the program. E-government training or village e-monographs Finally, from the standpoint of policy preparedness, Kedungluk Village laws for technical advice in the production and use of village e-monographs are required. This must be taken into account in order to ensure the success of optimal e-monograph development.

Keywords: *E-monograph, E-readiness, Village Government, Village Data.*

1. INTRODUCTION

The present village administration has a significant impact on supporting national growth. National development will be accomplished if each village is able to empower the village community. As a result, the village administration bears a disproportionate amount of responsibility for the development of rural communities. Village government, according to Law Number 6 of 2014 concerning Villages, is the management of government issues and the interests of local communities under the government system of the Unitary State of the Republic of Indonesia.

In carrying out village community development, village government operations are directed by the village head or by other names, who is aided by village officials.

Aside from village community development, the village administration is also responsible for village community empowerment and village community development. This responsibility is outlined in Villages Law Number 6 of 2014. According to the description, it is apparent that community engagement in all village development decisions is critical. This engagement should occur at each level and process of the execution of village community development. Unfortunately, many Indonesian village administrations have not included local communities in every village development process. With Indonesia's huge number of villages, it is believed that the establishment of village governments will serve as a bridge in achieving the acceleration of national development through the development of rural communities. According to the Regulation of the Minister of Home Affairs Number 147.1-4717 of 2020

about Determination of Names, Codes, and Number of Villages across Indonesia, there are 74,961 villages throughout Indonesia in 2020, with the following data.

Table 1. Number of all villages in Indonesian in 2020

No	Province	Number of villages
1	Aceh	6.497
2	Sumatera Utara	5.417
3	Sumatera Barat	928
4	Riau	1.591
5	Jambi	1.399
6	Sumatera Selatan	2.853
7	Bengkulu	1.341
8	Lampung	2.435
9	Kepulauan Bangka Belitung	309
10	Kepulauan Riau	275
11	DKI Jakarta	-
12	Jawa Barat	5.312
13	Jawa Tengah	7.809
14	DI Yogyakarta	392
15	Jawa Timur	7.724
16	Banten	1.238
17	Bali	636
18	Nusa Tenggara Barat	1.005
19	Nusa Tenggara Timur	3.026
20	Kalimantan Barat	2.031
21	Kalimantan Tengah	1.433
22	Kalimantan Selatan	1.864
23	Kalimantan Timur	841
24	Kalimantan Utara	447
25	Sulawesi Utara	1.507
26	Sulawesi Tengah	1.842
27	Sulawesi Selatan	2.255
28	Sulawesi Tenggara	1.908
29	Gorontalo	657
30	Sulawesi Barat	575
31	Maluku	1.198
32	Maluku Utara	1.063
33	Papua	5.411
34	Papua Barat	1.742
AMOUNT		74.961

Source: Minister of Home Affairs Regulation Number 147.1-4717 of 2020 concerning Determination of Names, Codes and Number of Villages throughout Indonesia in 2020 [2]

According to the facts shown above, the function and role of the village government is primarily strategic in terms of supporting the acceleration of national development. In this regard, it has been described in Law No. 4 of 2014 about Villages in relation to the authority owned by the Village Head, such authorities include: a) lead the administration of village government, b) appoint and dismiss village officials, c) hold the power of managing village finances and assets, d) stipulate village regulations, e) stipulate village income and expenditure budgets, f) foster village community life, g) foster peace and order in the village community, h) foster and improve the village economy and integrating it, h) developing the village community's socio-cultural life, i) utilizing appropriate technology, j) coordinating participatory

village development, k) representing the village inside and outside of the court or appointing a legal representative to represent it in accordance with the provisions of the legislation, and l) carry out additional responsibilities in line with the requirements of the law. Of course, the village head is aided by village officials in carrying out these responsibilities and authority. The essence of the description of the responsibilities and powers is the necessity of including the village community in every fulfilment of the village head's duties and authorities.

With improvements in technology, knowledge, and communication, the adoption of village governance cannot be ignored. As with other organizations, both public and private sector organizations at all levels continue to seek to harmonize with these advances in carrying out their organizational tasks. As a result, while creating e-government, organizational preparedness must be taken into account [3]. The alignment is undoubtedly intended at improving the effectiveness and efficiency of the work process. This is in compliance with Presidential Instruction No. 3 of the Republic of Indonesia on National Policy and Strategy for E-Government Development, issued in 2003. Where the instructions have stated the aim of e-government development, which is to carry out management systems and work processes in the government environment by optimizing the use of information technology, which comprises two activities, a) electronic data management, information management, management systems, and work processes; and b) leveraging developments in information technology to make public services simply and affordably accessible to the public.

In this sense, there is a link between village government and e-government development in accordance with government plans. Given the many different conditions of village government in Indonesia, the development of e-government by the village government is both an opportunity and a problem. The village government has a highly crucial role in creating e-government linked to village data management based on the objectives of e-government development in the government environment. Village data, which has been the foundation for the formulation of all kinds of community policies, has its own set of issues, both at the village government level and at the government levels above it (sub-district government, district/city government, provincial government, and all the way up to the central government). Given the importance of employing village data, the government's primary focus should be the process of collecting, maintaining, and utilizing village data.

An unsolved issue is the variety of approaches used in the process of collecting, managing/processing, and utilizing village data in each village administration. So far. The technique is still mainly done by hand and is not

sustainable. Few village governments have been successful in establishing and implementing e-government to carry out their responsibilities and authority. Limitations, particularly human resources and the scarcity of information technology infrastructure, appear to be the major impediments to every village government in Indonesia creating and implementing e-government within the jurisdiction of the village government. This circumstance, however, does not dampen the village government's excitement, as seen by the village government's sincerity in exploring the development and usage of e-government. The Sidoarjo Regency Government is one of the local administrations that is concerned about creating and implementing e-government at the village level. Sidoarjo Regency, which has 348 villages, has worked to establish a consolidated village information system. The table below shows the number of villages in Sidoarjo Regency in 2020.

Table 2. Number of villages in Sidoarjo Regency in 2020

No	District	Number of Villages
1.	Tarik	20
2.	Prambon	20
3.	Kremlung	19
4.	Porong	16
5.	Jabon	14
6.	Tanggulangin	18
7.	Candi	24
8.	Tulangan	22
9.	Wonoayu	23
10.	Sukodono	19
11.	Sidoarjo	24
12.	Buduran	15
13.	Sedati	16
14.	Waru	17
15.	Gedangan	15
16.	Taman	24
17.	Krian	22
18.	Balong Bendo	20
AMOUNT		348

Source: processed from the Central Statistics Agency, 2020 [4]

The data on the number of villages in Sidoarjo Regency show that there is a huge possibility to create e-government within the scope of village government. The government of Sidoarjo Regency, through the Office of Communication and Information, has undertaken attempts to establish a village information system in conjunction with other authorities. However, it appears that the village information system is merely informational, and so it is unable to meet the demands of the village administration in processing village data. This is evident in the menu/features of the village information system that has been built, as seen in the figure below.



Figure 1. Menu/features on the village information system

Kedungpeluk's village government is one of those that has begun to focus on establishing e-government at the village government level. This is based on village authorities' recognition of the necessity of employing information technology to assist in the execution of each local data procedure. Given that the village information system developed by the Sidoarjo Regency Government has not been optimally used to assist the village government in carrying out tasks related to village data, the Kedungluk Village Government seeks to develop an information system to aid in the processing of village data. Starting with data collection, management/processing, and usage, and ending with data updating for the community. Based on these conditions, this paper will examine the Kedungluk Village Government's e-readiness analysis in the construction of village e-monographs.

2. LITERATURE REVIEW

A. E-Government and E-Monograph

According to Huai [5], one definition of e-government is the use of ICT to enhance access and supply of public services by the government to its citizens. ICT application is a complicated challenge involving several stakeholders, sophisticated technology, and procedures. The goal of adopting e-government is to improve the efficiency, responsiveness, transparency, and affordability of governmental services. Furthermore, e-government, as defined by McClure [6], is the use of technology in public administration, particularly internet-based applications, to access and distribute information and provide public services to the community, business partners, workers, and other government agencies. With the adoption of e-government, it will be simpler, cheaper, faster, and more precise to engage with the government and the community.

B. E-Readiness

The term "e-readiness" arose as a result of the high failure rate of e-government development, particularly in poor nations. Whereas in poor nations, 85 percent of e-government implementation projects fail. Only 15% of

the 85 percent are deemed effective in adopting e-government, with 35 percent outright failure and 50 percent partial failure [6]. Several research on models and indicators for assessing e-readiness have been conducted. As a result, several models were developed that may be used to assess the level of government readiness/e-readiness in the development of e-government using various techniques. It is possible to infer that no assessment model covers all issues and offers the requisite comprehensive data collection. As a result, it is not unusual for researchers to experiment with different techniques.

Several studies on models and indicators for measuring e-readiness have been carried out. As a consequence, many models that may be used to measure the level of government readiness/e-readiness in the development of e-government using diverse methodologies have been created. It is conceivable to conclude that no assessment model addresses all concerns and provides the necessary comprehensive data gathering. As a result, it is not uncommon for researchers to try out new approaches.

The Technology Acceptance Model is another method proposed by Davis (TAM) [7]. Furthermore, the Computer System Policy Project (CSPP) (in Yusif et al. 2017) defines e-readiness as follows: 1) infrastructure, 2) access, 3) application and service, 4) economics, and 5) enabler. Furthermore, Al-Oasimi (2008) created the STOPE framework for the future e-readiness assessment model, which stands for strategy, technology, organization, people, and environment [8]. The STOPE model framework is depicted in the diagram below.



Figure. 2 Framework model stope

By assessing e-readiness, the government may identify challenges that impede e-government adoption and develop relevant alternative methods. The findings of the e-preparedness assessment can assist governments in determining their readiness stage, identifying gaps, and redesigning their specific government policies. The level

of e-readiness is also essential in Iran's strategies for the growth of e-government [8].

3. METHOD

The Kedungluk Village Government, Candi District, Sidoarjo Regency, performed this study on village government e-readiness in the production of village e-monographs. A qualitative technique is used in this research procedure [9]. The village head and the village apparatus of Kedungluk were the research subjects in this study. While the data collecting approaches employed were focus group discussions, interviews, field surveys/direct observations, and documentation through relevant regulations/policies, photographs, and village statistics/profiles.

4. RESULT AND DISCUSSION

The purpose of this study is to examine and assess the village government's e-readiness in the construction of village e-monographs in Kedungluk Village, Candi District, Sidoarjo Regency, using three indicators from Peter's e-readiness measurement model [1]. The indicators are as follows: a) technology infrastructure preparedness, b) human resource readiness, and c) policy readiness. The findings of the three indicators' study may be interpreted as follows:

A. Technology Infrastructure Readiness

The element of technology infrastructure preparedness may be defined as the organization's availability and capacity to acquire the technology infrastructure required for the growth of e-government. In this study, infrastructure preparedness is assessed based on the availability of technological infrastructure at the Kedungluk Village government that can enable the construction of village e-monographs. According to the findings of direct interviews, direct field observations, and documentation, the Kedungluk Village administration is technologically prepared to carry out the creation of e-monographs.

The Kedungluk Village administration already has the technology infrastructure required to create village e-monographs. This readiness may be observed in the inventory and purchase of infrastructure that has been carried out to enable the establishment of village e-monographs. There is already a) computer equipment, b) a wifi network, c) a laptop, and d) a printer available in Kedungluk Village. The provision of infrastructure with ready-to-use standards to facilitate the establishment of village e-monographs in Kedungluk Village. The following graphic depicts the availability of the aforementioned infrastructure:



Figure 3. Availability of technology infrastructure in the village of kedungluk (Researcher Documentation)

According to the findings of the field data, the availability of technological infrastructure in Kedungluk Village is mostly not committed to the creation of village e-monographs. As a result, the quantity of technological infrastructure available is still relatively restricted. The following are the number and specifications of the technology infrastructure:

1. Computer equipment: There are two computer units in Kedungpeluk Village, each having a CPU specification of Core I3, 6 Gb RAM, 1.6 Gb Intel HD Graphics, and 512 Gb HDD.
2. ZTE Wifi Router: There is a ZTE Wifi Roter network with up to 1 unit and a Speedy Indihome Speed connection of 30 mbps.
3. Laptop: There is one laptop with Core I5 specs, 4 Gb RAM, and 256 Gb HDD.
4. Printer: There is one printer with Epson L565 specs.

Based on the field conditions, it is clear that the availability of technological infrastructure is adequate to allow the creation of village e-monographs. However, the technical infrastructure is utilized for a variety of additional reasons, including public services, archives, village administration, and so on. As a result, in order to optimize the development of e-monographs, it is required to acquire a specific technological infrastructure that will be utilized to support the development of village e-monographs.

B. Human Resources Readiness

Human resource preparedness focuses on the competencies and skills of the organization's workers in order to assist the growth of e-government. The availability of village authorities in Kedungluk Village in terms of number, capacity (degree of education), and skills (supporting training) to assist the development of village e-monographs is studied in this study. According to field data, Kedungluk Village is well prepared in terms of human resource preparedness. Although the numbers are small, the majority are young, and all village

authorities are men. The availability of village equipment can be improved to aid in the creation of village e-monographs. The following figure depicts the preparedness of village authorities in Kedungluk Village depending on gender and age:



Figure 4. Number of village officials in Kedunglukan by gender and age

According to the statistics above, the availability of as many as 8 village authorities, all of them are male and of a relatively young age, becomes the capital in supporting the growth of village e-monographs in Kedungluk Village. Despite this, the Kedungluk Village administration must prepare for extra village officials to carry out the work of creating, implementing, and maintaining the e-monograph application that will be built. Because of the quantity of current devices, the inclusion of these devices is required; they already have their respective major responsibilities and functions. In Kedungluk Village, the primary responsibilities and functions play an essential role in the administration of village government. They can be categorised based on the degree of education and training they have received, based on the number of devices listed above (there is evidence of certificates and the like). The categorization is illustrated in the figure below.

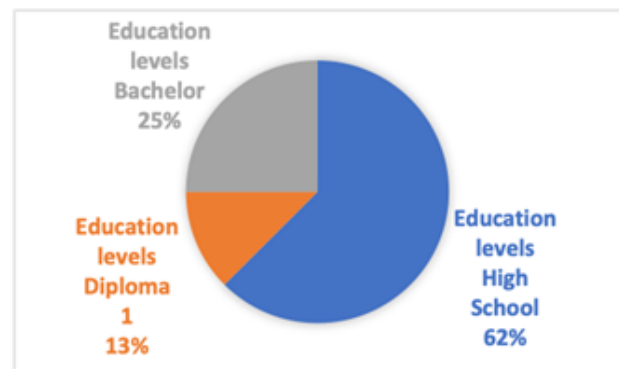


Figure. 5. The classification of the village apparatus in Kedungluk is based on the level of education (Researcher processed data)

Based on the findings of the analysis, the Kedungluk Village administration will need to make a variety of measures to ensure the success of establishing village e-monographs. Among these efforts are: a) increasing the number of village officials who are specifically positioned in developing and utilizing village e-monographs; b) the need to establish a tax force or

section/sub-section within the Kedungluk Village government's organizational structure to carry out the main tasks and development functions. as well as the usage of village e-monographs, c) collaborate with other parties such as the private sector, non-governmental organizations, local governments, universities, and so on to support human resource readiness in developing village e-monographs, and d) send existing village officials to related e-government and village e-monograph training programs.

C. Policy Readiness

The policy aspect is critical in determining how much the government supports the growth of e-government. Policies or regulations serve as fundamental guidelines or standards for every public body that plans to implement e-government development in its environment. The identification of these policies or laws reveals the extent to which public entities are prepared to create and implement e-government.

Several rules and regulations, both issued by the central government and local governments, are utilized as references in the creation of village e-monographs in Kedungluk Village, Candi District, Sidoarjo Regency. Among these policies or rules are:

1) Central government policies: These policies are issued by the central government, either through presidential directives or through ministries involved in e-government development. The following are the central government policies that act as guides in the development of village e-monographs in Kedungluk Village:

- a) *Presidential Instruction No. 3 of 2003 on National Policy and Strategy for E-Government Development:* the policy states that one of the optimizations of information technology is for data management processes, information management, management systems, and work processes to be performed electronically. According to this policy, the development of village e-monographs in Kedungluk Village is critical in order to aid in the processes of collecting village data, managing/processing village data, displaying village data, using village data, and updating village data. As a result, this development is consistent with policy.
- b) *Regulation No. 12 of 2007 of the Minister of Home Affairs concerning Guidelines for the Preparation and Use of Village and Sub-District Profile Data:* The preparation, according to this rule, consists of gathering, processing, and publishing village and sub-district profile data, which includes basic family data, village potential data, and kelurahan, as well as village and kelurahan development levels. Meanwhile, application program refers to the use of computer technology to process, analyze, and show village and sub-district profile data. According to

this explanation, the village and sub-district administrations have several chances to optimize and exploit different apps produced to aid in the process of gathering village profile data, including e-monograph applications that will be developed in Kedungluk village.

- c) *Regulation of the Minister of Home Affairs of the Republic of Indonesia No. 13 of 2012 on Village and Sub-District Monographs.* The necessity of a village monograph that must be carried out by the village government and sub-district orders that are prepared in a systematic, comprehensive, accurate, and integrated way in the administration of government has been described in the regulation. To actualize a village monograph in Kedungluk Village, a systematic, complete, accurate, and integrated procedure is required; hence, a dependable management system, one of which is the village e-monograph, is required.
- d) *Villages are governed under Law No. 6 of 2014:* According to this policy, one of the tasks and authorities of the village head is to use suitable technology. The creation of village e-monographs is in accordance with policy, in which the village head of Kedungluk carries out his duties and authorities with village officials to use suitable technology in the village data management process. Furthermore, it is stated in article 86 that the creation of a village information system is the responsibility of the local administration, in this instance the Sidoarjo Regency Government. The created village information system must incorporate village data, village development data, rural regions, and other village development-related information. Meanwhile, the village administration manages the village information system, which is accessible to the village community and all stakeholders. The Sidoarjo Regency Administration attempted to build a local information system, but the village government was unable to maximize it. The current state of the village information system in Kedungluk Village is merely informational; it cannot be maximized in terms of easing the village data management process; hence, a trustworthy information system, namely village e-monographs, is required.
- e) *Presidential Regulation No. 95 of the Republic of Indonesia of 2018 on Electronic-Based Government Systems:* According to this policy, an electronic-based government system is government administration that uses information and communication technology to offer services to SPBE users. This policy expressly allows the government, including the village government, to create an electronic-based government system. Based on this strategy, the Kedungluk Village

government is also committed to creating village e-monographs in order to optimize the electronic-based village government system, particularly in the village data management process.

2) *Local governments establish policies:* Both province and district/city governments promote the development and use of e-government through rules or laws imposed by local governments. The laws or policies established by the East Java Provincial Government and the Sidoarjo Regency Government regulate the development of the local e-monograph. Among these policies are the following:

- a) *East Java Governor Regulation No. 38 of 2020 relating to the Road Map for Regional Government Bureaucratic Reform in East Java Province 2020-2024:* That one of them has been described in the regulation in relation to the acceleration of e-government development or the use of information and communication technology in local governments in East Java Province. At this time, the province administration has highlighted the need for quicker, cheaper, and more dependable public services, thus many new solutions are required to accomplish the ideal bureaucratic reform in the digital era in every local government in East Java Province. This also opens up new potential for village governments, such the Kedungluk Village Government, to create e-monographs as an innovation in the village data management process.
- b) *Circular Letter No. 130/4522/438.1.1.1/2020 relating to Village and District Licensing and Services in Sidoarjo Regency.* The Regent of Sidoarjo issued the circular in 2020 to govern the development of the SIPRAJA application, namely the Android and web-based Sidoarjo people service application, which is available on the Google Android Playstore and the official Sidoarjo Regency ortal. SIPRAJA provides access to three sorts of services, namely type A, type B, and type C. Unfortunately, the SIPRAJA application is still being developed with an emphasis on electronic-based public services. The village data management procedure has not been touched, therefore a village e-monograph in Kedungluk Village is required to complete the application that has been built.

According to the above description, the readiness of policies in the development of village e-monographs in Kedungluk Village is quite ready, as evidenced by several policies set by the central government and regional governments (East Java Provincial Government and Sidoarjo Regency Government) related to e-commerce development. -information systems for the government and villages the graphic below depicts several regulations that serve as recommendations or the foundation for the creation of village e-monographs in Kedungluk Village.



Figure. 6 policy guidelines in the development of village e-monographs in the village of Kedungluk

Based on the findings, it is required to establish village-level rules through Kedungluk village regulations for technical instructions, operational standards, and other technical concerns for the creation and use of e-monographs in Kedungluk village. This is done to ensure that the process of creating and implementing e-monographs in Kedungluk village runs smoothly. Furthermore, the policy is required to encourage and offer instructions for village authorities, residents, and other stakeholders to use village e-monographs.

5. CONCLUSION AND SUGGESTIONS

Based on the findings of the preceding analysis and discussion, it is possible to conclude that it is critical to examine the government of Kedungluk village's e-readiness in developing village e-monographs in order to determine the extent of the government's readiness via three indicators, namely technological infrastructure readiness, human resource readiness, and policy readiness. Based on these three indicators, the Kedungluk village government's e-readiness is ready to produce village e-monographs, albeit each indicator has to be strengthened. In terms of technological infrastructure preparedness, a new unit must be purchased expressly to support the development of village e-monographs through the allocation of village finances and/or collaboration with other parties. In terms of human resource readiness, it is necessary to increase the number of village officials with the educational background required to develop and use village e-monographs by forming a task force team or part/section of the village government structure, sending equipment for related training programs, and establishing cooperation with other parties to share human resources. Finally, in order to optimize the development process, Kedungluk village laws relating to technical instructions for the development and usage of village e-monographs must be established.

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