# Lapeo Village Smart Village: Innovation Towards a Website-Based Village

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**Abstract.** The development of a Village Information System based on Information and Communication Technology is starting to resonate in the villages. The Lapeo Village smart village is an initiative to improve the quality of life of rural communities through technology and innovation. This involves developing a village website that provides information about the village, public services, access to local resources, improving village infrastructure, and increasing the skills and awareness of village communities. This research was conducted with a qualitative approach. The results of the study show that village websites with developed features have become a potential medium for improving public services, especially in the information sector. The available websites are used by the village government to promote agricultural products, tourist sites, and handicraft products from small and medium enterprises. Meanwhile for village residents it can be a medium for accessing information on village development and providing suggestions for the progress of the village.

**Keywords:** village information system, smart village, website.

## 1 Introduction

The rapid development of science, especially in the field of information technology, has brought great progress in various fields of life, including industry, education, politics, economy, government and so on. The use of information technology in the field of government includes the use of information systems in processing information about village profiles and potential village resources in the form of village information system development [1]. The village information system is a system that has a very important role in efforts to publicize village governance, especially with regard to information about village resource potential, village development, public facilities and services owned as fulfillment of the rights of every citizen, especially residents in Lapeo Village itself [2].

The issue of public information services within the village government environment still faces challenges and obstacles. This is due to the limitations of communication media that are able to speed up the process of public information services within the village government, as well as within the community members. Usually service communication is provided manually and face-to-face so that achieving the target of serving all citizens requires quite a long time.

This obstacle usually occurs due to limited Human Resources (HR) both among the community and village officials who master Information and Communication Technology

(ICT). So that both the services provided by the village government and the reception of villagers' information needs become inefficient. From these conditions, efforts are needed to develop Information and Communication Technology (ICT) facilities for the process of development of information services by the village government to its village residents.

The results of preliminary observations indicate that officials in Lapeo Village still feel that they have not been able to develop their village information system. In addition, villages are still not optimal in identifying village potential, so village data is still very immeasurable. Based on the speech of the head of Lapeo Village, that the village still needs competent people in the field of information system development. Therefore, the limited village human resources also trigger the emergence of various kinds of problems that must be immediately provided with alternative solutions.

Smart Village is a concept of a development approach that encourages villages to transform the use of technology aimed at improving the quality of basic services and community empowerment-based village development that is inclusive and sustainable. The efforts made are through increasing human resources in the effective use of technology to encourage the creation of innovative local development solutions and the establishment of a Smart Village network that involves various stakeholders in a sustainable manner to encourage the achievement of the Sustainable Development Goals (SDGs) [3].

The current condition of the implementation of the public service system carried out by the Lapeo village government has not yet optimized ICT. Based on this and referring to Law Number 6 of 2014 concerning Villages, the third part regarding the Information System for Village Development and Development of Rural Areas, Article 86 paragraph (1), (2) and (3) encourages village government to play a role in providing information that can be accessed by village communities and stakeholders as well as basic services included in a village information system.

Therefore, to support the success of bureaucratic reform, transparent communication leadership is needed, so that government programs related to efforts to improve welfare can be known transparently. Transparent communication leadership patterns in government institutions, it is appropriate to be developed [4]. That is why the government is trying to develop development programs, one of which is in the ICT sector that reaches the rural community. The development of the Universal Services Obligation (USO) program by the government through the Ministry of Communication and Informatics is a manifestation of the government's seriousness in overcoming the digital divide (digital divide) that still exists. This is because the internet has functions and roles that really support active communication and community information seeking. That's why the presence of the internet to the middle of lifepublic villages in general received a positive response [5].

Apart from encouraging equal distribution of internet access and optimizing public services, digital literacy is also very important in the digital transformation era. As new media they are expected to support the needs of society, especially as a medium for access to communication and information. Related to this problem, the existence of a website-based village government service program developed by the village government.

The existence of village websites has a close relationship with rural world governance. The existence of the village website is not only a medium for disseminating information (mobilization info) from the village but also for encouraging the growth of economic actors marketing superior products in the rural world (resource mobility). If the trend in a number of villages is able to be replicated by other villages, then it is not impossible that in the next 5-10 years, the village will be able to become the front guard for national economic growth [6].

The hope of this information system is aimed at assisting the village government in documenting village-owned data, useful in searching data and speeding up services to residents. Dissemination of information and the potential possessed by a village by using technology that has been developed increases the accuracy and quality available. This era of technology and globalization is also increasingly encouraging the emergence of the need for fast and precise information. This is currently felt by people in various fields.

Based on the explanation that has been submitted, the researcher conducted research (1) on how to develop a website-based village information system in Lapeo Village, Polewali Mandar Regency?

## 2 Research Method

The type of method used in this research is qualitative research, which is based on philosophy post positivism or also called the interpretive paradigm in which social reality is researched seen as something holistic/comprehensive, complex, always changing, having various meanings, and the relationships or symptoms that occur are interactive [7]. This research was conducted through a qualitative approach with the hope that this method would be able to explain the existing and occurring phenomena more clearly, namely how to develop a website-based village information system in Lapeo Village to achieve a public information service process in the implementation of Law no. 14 of 2008 concerning Public Information Disclosure can take place at the village government level.

The subjects in this study were the Village Government as a public body that organizes website-based public communication and information services. The village government referred to here is the Lapeo Village Government, Campalagian District, Polewali Mandar Regency, West Sulawesi Province. The selection of the subject of this study was based on the consideration that they had provided online public information services through the use of the village website as a medium of communication and information related to government activities and communication and information services to villagers and other related parties.

Data collection was carried out in three stages, namely observation, in-depth interviews, and documentation, where the researcher described or constructed in-depth interviews with research subjects. This research will explore the use of ICT carried out at the village level in supporting village development and independence, provide an overview of the use of ICT in villages and capture the success of these villages in carrying out ICT support development activities.

The process of data analysis is based on techniques analysis data from Miles and Huberman which describes activities in qualitative data analysis interactively and continuously so that data saturation is obtained, namely a condition where extracting new data does not add new information for analysis purposes [8].

Data analysis activities began by collecting observational data and in-depth interview results obtained from informants in the form of recorded interviews in the form of voice notes, videos, and notes from researchers when conducting interviews with informants and when making observations. The process of data analysis uses data analysis techniques Miles and Huberman which describes activities in qualitative data analysis in an interactive and continuous manner so that data saturation is obtained, namely a condition where extracting new data does not add new information for analysis purposes [8].

# 3 Results and Discussion

## 3.1 Lapeo Village Profile

Polewali Mandar Regency has 16 Districts, one of which is Campalagian District. Campalagian District consists of 17 Villages and 1 Village. Lapeo Village is one of the 17 villages and 1 sub-district in Campalagian District, Polewali Mandar Regency, which is the main village of Laliko Village and Kenje Village.

The area of Lapeo Village as a whole has an area of 2,192.2 Ha which consists of 4 hamlets namely, Lapeo Hamlet, Parabaya I Hamlet, Parabaya II Hamlet and Ba'batoa Hamlet are sea and land areas where the majority of the work of the population is fishermen and farmers/planters. The mainstay of plantations is coconut trees. In Lapeo Village there is also a religious tour which has become an icon of Lapeo Village, namely the Nurut Taubah Mosque or better known as the Imam Lapeo Mosque.

Demographically, based on AKP (Participatory Population Analysis) data in 2023 the population of Lapeo Village is 3,883 people, consisting of 1,942 men and 1,941 women. The majority of the population with the highest education is SD, second place is SLTA, SLTP and a few have graduated from tertiary institutions. Not/Not Yet Schooled: 560 people; Not yet finished elementary school: 126 people; elementary school graduates: 631 people; Junior high school graduates: 257 people; High school graduates: 373 people; College graduates: 135 people.

In addition to the still limited potential of human resources, Lapeo Village has several potentials that have been explored as well as those that have not been explored. From the plantation sector, namely coconut, agriculture, namely rice fields, animal husbandry, namely goats, marine tourism at Ba'Batoa beach and religious tourism, namely the Imam Lapeo Mosque, then salted fish and several other fish products such as shredded meat, fertilizer and so on. All the potential of this village is promoted on the Lapeo Village website, Instagram and Facebook.

## 3.2 History of the Development of the Lapeo Village Website

In order to realize good governance with the level and quality of service and transparency of government administration, Lapeo Village is committed to utilizing Information and Communication Technology (ICT) in administering government and public services. For this reason, Lapeo Village has made the decision to build an official website for the Lapeo Village government. "Our wish turned out to have the support of various parties including the government of Polewali Mandar Regency, represented by the Office of Communication, Informatics and Encryption of Polewali Mandar Regency."

This desire was even greater after the arrival of the Indonesian RTIK (Information and Communication Technology Volunteers) Team from Polewali Mandar Regency who provided an explanation (socialization) of the benefits and importance of managing a website for village development. In the end this activity produced results, namely immediately preparing the ICT team to take part in internet training (TIK), namely building a village website, the Lapeo Village website page that was built can be accessed at https://lapeo.website.desa.id

With the establishment of the Lapeo Village website, now the Lapeo Village government has de facto status as a village website-based government. Furthermore, through the village

website, the village government is committed to providing more optimal community services. Following up on this commitment, static and dynamic service features are built according to the needs of information that will be distributed to the community or the public.

Since the establishment of the village website, the Lapeo Village government has continued to make efforts to optimize the use of ICT through the operationalization of the village website to improve information services to its people. Thus the goal orientation to be achieved is to increase public insight into knowledge and skills as social capital to build a smart village. That is why the Lapeo Village government is working hard to realize the village website program as a medium for disseminating village development information.

Previously, in order to prepare for the management of the village website to be built, the village government had formed a team managing the Village Internet Network and Governance (JARTAKIDES) of 6 people who were not village officials but village people who had capabilities in the management sector.system information that is studentsStrata 1 (S1) Computer ScienceUniversity West Sulawesi (UNSULBAR).

The training which was held in collaboration with RTIK Polewali Mandar Regency was not wasted on training. As a result, they already have skills, although they still need to be developed. At least in the initial process through ICT training they have been able to operate the website as a communication and information service medium in the neighborhood village government. This can be proven by various activity village government activities and various dynamics of village community development can be seen in the features of the village website.

## 3.3 Development of Service Features on the Lapeo Village Website

The Internet as a communication medium has a dynamic interactive offering to its use. With the advantages of the internet, the effects of internet-mediated communication become more varied. In this study, the authors tried to look at the effectiveness of internet media, namely the village website. The effects of messages propagated through village website features include cognitive, affective, and conative effects [9]. In interpersonal studies, according to research [10], there are interpersonal factors in the perspective of cyberspace communication, including; openness, in cyberspace communication is very helpful for those who do not dare to express a message directly; empathy, which is limited by physical proximity cannot be replaced by virtual thoughts; and a supportive attitude in cyberspace communication that must be maintained so that the expected communication is achieved.

So, it is hoped that in this study there will be changes at each level of effect and increase in factors interpersonal that supports the overall effectiveness of communication. In the early stages, it seemed that all parties were very supportive of the existence of the village website media. Why not, from the aspect performance is very interesting, from the aspect of function it is very beneficial for all parties both for the village government and the community, the community has increasingly easy access to communication and information with the village government. For the village government itself, it has the opportunity to be more transparent and get a lot of input through aspirational messages from participating residents using the village website as a means of communication for village development.

**Figure 1.** Lapeo Village Website Features

Based on Figure 1 above, several features have been developed on the Lapeo Village website, including Village Profiles, Governance, TP PKK Lapeo, Services (Letters), Information (News, Announcements, etc.), Village Potential and Legal Products. In addition, there is also a personal contact in the form of a WhatsApp (WA) number that is directly connected to the Head of Lapeo Village.

The following description will briefly describe these features: 1) Service features, this village service feature includes information about village services such as correspondence, including cover letters such as applications for making e-KTP, certificates such as death certificates, disability statements, and so on other. As well as a statement letter such as a statement of not being married, and others. In this feature, several types of letters will be displayed according to the needs of the community. There are approximately 23 types of letters informed in these features. That way, people who want to make a letter of application, for example, just need to open the Lapeo Village website. This will obviously make it easier for the community to access village public services because information can be easily accessed via the internet. 2) Information features, information features are one of the most important on the Lapeo Village website. Through this feature, various news and announcements related to Lapeo Village are uploaded. People can access the news so that they know what is happening around them. Information in the form of news and announcements is updated regularly and of course provides a lot of information to the public. For example, on February 25, 2023, news was uploaded about the Smart Village presentationIn front PJ Governor of West Sulawesi. 3) Village Potential Features, village potential features display some of the potential that exists in Lapeo Village, for example the marine tourism which is famous for Ba'Batoa Beach, the location is not far from religious tourism which is also very famous and has become an icon of Lapeo Village, namely the Nuruttaubah Lapeo Mosque which was founded by KH. Muhammad Thahir or more popularly known as the Imam Lapeo Mosque. Lapeo Village has several potentials, both those that have been updated and those that have not been updated. From the plantation sector, namely coconut, agriculture, namely rice fields, animal husbandry, namely goats, and several processed fish products caught by fishermen, such as shredded meat, fertilizer and so on. All the potential of this village is promoted on the Lapeo Village website, Instagram and Facebook of Lapeo Village. 4) WhatsApp features, features WhatsApp is a very special feature for the Lapeo Village

community because it is directly connected to the Lapeo Village Head, with this feature the Lapeo Village community can directly submit their complaints and aspirations to the Lapeo Village government.

The existence of a community atmosphere can be felt by website users when interacting with internet opinion leaders on social media, namely chatting on WhatsApp, Facebook and Instagram in Lapeo Village. This is because social media is a form of virtual community that connects individuals who have the same interests, in this case interest in the development of village websites in Indonesia. One of the activities and processes of internet media communication is participating in forums to communicate which is the beginning of exploring community characteristics such as common goals, norms and traditions [11].

The Lapeo Village Government has committed to realizing that its government is developing well, and can realize what is expected to become a government that is more open, transparent and integrates with the will of the citizens. Village website development is a form of policy for implementing Information and Communication services in a more open manner to its citizens. With the news feature, the government has provided opportunities for villagers to participate in building their villages. The village community through the village website can provide criticism and suggestions, and more than that the residents are also expected to be able to encourage the development of their village to be more advanced through their writings which are uploaded through the village website.


## 4  Conclusion

From the discussion of the village website development program as a media for public information services related to service online village administration, indicating the dynamics of communication and information at the village community level. Currently the village government as well as the villagers feel quite happy with the existence of the village website facility as a medium that can communicate two interests.

First, the interest of the village government which really needs a forum or communication media to disseminate information about public services for the village government process to erase the image of a government that is not transparent and democratic. So with the current village website these concerns can be eliminated or at least minimized. This is because the village government through the village website can communicate directly about the whereabouts of the village government's performance in carrying out the tasks under its control and accountability the use of the budget to finance village development can be socialized through information service features on the Lapeo Village website.

The second is the interests of the villagers who need information related to the mechanism service the village government can immediately find out by access through the village website, as well as other necessary information needs. They can directly access the village website and can find out what information they need, of course, to the extent that has been provided by the village website manager. In addition, for village communities, it is very easy to convey their aspirations through the personal contact of the Village Head which has been provided by the village government.

Thus, the existence of a village website will greatly assist the establishment of communication between the village government and its citizens. This is certainly a positive value that needs to be maintained and developed to build effective communication and develop a democratization system in the implementation of increasingly dynamic village governance by utilizing a website-based village information system. Villages, sub-districts and

regencies are the first foundation for building smart village-based governance. If the smallest sector does not change, it will be difficult for the city/district government to realize a smart village.

Various things that need to be recommended are the existence of village website management that needs to be maintained and improved by completing village data that has not been socialized. To maximize the performance of the system that has been built, training is needed for system management personnel so that the system can run as expected. To maintain data and information consistency as well as system reliability, system maintenance is required. Coordination with village government advisors and village website development partners also needs to be continually worked on to add information on village website development that is even better for the interests of the village government and villagers in achieving the goals of village community welfare.

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