The Impact of a Website-Based Village Information System on Public Services (Research at the North Pangulah Village Office)

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Abstract.
The majority of residents in Pangulah Utara Village have not yet optimally utilized the web-based village service information system. The primary obstacle is a limitation in human resources—particularly among the 40-to-60 age group—who still struggle with using the internet. This study aims to examine the web-based Village Information System (SID) in Pangulah Utara Village, Karawang Regency; to assess the effectiveness of public services utilizing the Population Administration Information System in the village; and to determine the impact of the web-based Village Information System on public service effectiveness in the area. The study employs a quantitative survey method, utilizing questionnaires to collect data from a sample of 500 individuals. Data analysis techniques include instrument testing (validity and reliability), normality testing, correlation analysis, and hypothesis testing (simple linear regression and coefficient of determination analysis). The results of the simple linear regression analysis regarding the web-based Information System and public services in Pangulah Utara Village—based on data from 84 participants across five indicators (information availability, ease of use, access speed, system security, and interactive features/online services)—indicate a high level of performance, falling within the 3.40–4.19 interval range with a mean score of 4.07. Similarly, the effectiveness of public services in Pangulah Utara Village—assessed via 84 participants across four indicators (service satisfaction, process efficiency, accessibility and fairness, and transparency and accountability)—also falls into the high-performance category, situated within the 3.40–4.19 interval range with a mean score of 4.04. Regarding the influence of the web-based Village Information System on public services in Pangulah Utara Village, it is concluded that the system has a significant impact on service effectiveness, accounting for 96.8% of the effect, while the remainder is attributed to other factors not included in this study.
Keywords: *Village Information System and Village Community Services.*

I. INTRODUCTION

Village Information System (SID) is an information system that utilizes information and communication technology to support Population Administration data management at the village level. This system serves as a unity in the implementation of village government and other implementing agencies with the aim of realizing an orderly, integrated, and professional population administration on a national scale. Through SID, the rights of the population in the field of Population Administration can be fulfilled because the population data is presented accurately, completely, up to date, and easily accessible. In addition, SID also provides important information related to Population Registration and civil registration at various levels that can be used as a reference in policy formulation and Village development. The implementation of this system is in line with the mandate of Law No. 23 of 2006 on Population Administration, which emphasizes the importance of data-based public services to support more targeted development.(Parontong et al., 2020)

It is undeniable that the development of information technology, especially the internet, has brought great changes in human life, where everyone can communicate, obtain and convey information quickly without limits of space and time. The Internet, which can be accessed 24 hours a day, 7 days a week, and 30 days a month, has made it the main means in various fields, ranging from communication, education, business, to public service. In the context of government, the internet is used to support the implementation of Population Administration through the application of a network-based Population Administration Information System (SIAK) that is able to manage population data effectively, efficiently, accurately, and integrated. The presence of this system not only improves the quality of public services and accelerates data access, but also ensures the implementation of orderly, professional, and technology-based Population Administration. The application of SIAK has a strong legal basis, including Presidential Decree (Keppres)

No. 88 of 2004 on the management of Population Administration, Law (UU) No. 23 of 2006 on Population Administration, Peratuan Menteri Dalam Negeri (Permendagri) No. 18 of 2005, and government regulation (PP) No. 37 of 2007 which affirms that population data must be accurate, up-to-date, easily accessible, and become the basis for the formulation of more targeted development policies.

Population Administration Information System (SIAK) has a very important role in providing services to the entire community, because the community is a major element in the organization of government. Through SIAK, population data can be managed more accurately, orderly, and integrated, making it easier for the government to provide public services that are fast, precise, and transparent. Good community management in a small scope, such as at the village or sub-district level, will have a positive impact on improving welfare in a wider scope, as well as encouraging improvement in overall government performance. The importance of utilizing information technology in population administration has also been proven through various studies that show that information technology is able to improve the efficiency of Public Services, speed up bureaucratic processes, and assist local government agencies in carrying out their duties more effectively. Thus, the application of SIAK is not only limited to fulfilling administrative obligations, but also becomes a strategic instrument in realizing good governance (good governance) and improving the welfare of the community in a sustainable manner.

The success of Public Services has a direct effect on the level of satisfaction of the community as service recipients. Services that meet the needs and expectations will foster a sense of satisfaction while increasing trust in the government. Therefore, improving service quality is an important step that can be done through simplifying procedures, utilizing information technology, increasing the competence of personnel, and implementing a transparent and accountable system. These efforts are expected to be able to realize public services that are more effective, excellent, and oriented to the welfare of the community.(Adoe, 2021)

The implementation of the public service system in Indonesia can still be said to be not optimal because it does not fully meet service standards, such as clarity of costs, procedures, requirements, and settlement times. This condition raises doubts among the public, especially since the service process is often considered complicated and takes a long time. As a result, many people choose to use the services of intermediaries or brokers in managing population administration documents, including elderly groups who often have difficulty understanding service procedures. The perception that using the services of brokers is easier than taking care of yourself shows the weak delivery of information from the service providers. Therefore, relevant agencies should provide clear, open, and easy-to-understand information about service standards, so that people are no longer confused and the use of broker services can be minimized.

Utilization of internet-based information and Communication Technology in community service aims to improve the quality of services to make it faster, easier, and efficient. The presence of this system not only speeds up the service process, but also allows other parties to supervise the performance of the organizer, so that the results of the service are more transparent and able to provide satisfaction for the community as service users. The application of Village Information System (SID) innovation in population administration in North Pangulah Village, Karawang Regency, if optimized, is believed to bring a better service experience and provide satisfaction for the people who access these services.

From various government agencies at the district and city levels, the village has an important role that is very important because it becomes the spearhead in the process of registration and processing of population data. The village serves as the main manager of population data, ranging from population data collection to the issuance of identity cards (KTP), Family Cards (KK), birth, death certificates, to moving certificates. Given the importance of this role, population administration services at the village level must be carried out quickly, precisely, and accurately in order to be able to produce valid information while providing convenience for the community in obtaining services.

North Pangulah village, Kotabaru District, Karawang Regency, consists of 55 RT and 15 RW with a population of about 15,266 people. Currently, the village has implemented the Population Administration Information System (SIAK) online in the process of collecting population data. The presence of this system allows the village government to improve and complement the deficiencies found in the previous population data management mechanism. With SIAK online, it is expected that population administration services in

North Pangulah village can be more effective, accurate, and transparent so as to support the realization of better quality public services for the community.

Based on the observation, information was obtained that most of the people in North Pangulah village have not optimally utilized the web-based Village Service Information Systemweb. The main obstacle faced is the limited human resources, especially in the age group of 40 to 60 years, who still have difficulty in using the internet. This condition causes many people to prefer to take care of village administration manually by going to the village office directly rather than using online services that have been provided.

II. METHODS

This study uses a quantitative approach with survey methods to analyze the effect of website-based Village information system on community services in North Pangulah Village. The Data used consisted of primary data obtained through the distribution of questionnaires to respondents and secondary data in the form of official village documents, such as history, vision and mission, and organizational structure. The study population was 15,728 residents spread over four hamlets, while the sample was determined using the Slovin formula so that 84 respondents were selected by random sampling technique.

Data collection was done through observation, interviews, questionnaires, and documentation. Observation was used to determine field conditions, interviews were conducted to village officials related to the implementation of website-based information systems, questionnaires were given to the community to measure perceptions of research variables, while documentation was used to complete information about village conditions and website implementation. The research instruments were then tested through validity and reliability tests using SPSS applications to ensure that the data obtained were worthy of analysis.

Before hypothesis testing, the data were tested for normality using the coefficient of variance test. Furthermore, t test was conducted to determine the effect of variables on the website-based Village information system partially on Community Services and F test to test the effect of variables simultaneously. Data analysis using simple linear regression to see the magnitude of the influence of the independent variable to the dependent variable, while the coefficient of determination (R2) is used to determine how much the contribution of the village information system based on the website in improving the effectiveness of Community Services.

Research variables consist of website-based Village Information System as an independent variable and the effectiveness of Community Services as a dependent variable. Information System variables are measured through indicators of information availability, ease of use, speed of access, system security, as well as interactive features and online services. Meanwhile, service effectiveness is measured based on community satisfaction, process efficiency, accessibility, transparency, and accountability. This research is motivated by the lack of optimal village website data Update and low community participation in utilizing digital services, so the results of the study are expected to be a recommendation for village governments in optimizing website-based information systems to improve the quality of public services.

III. RESULT AND DISCUSSION

Village Information System (SID) which was originally known as SIDESA has two meanings, namely in a narrow and broad sense. In a narrow sense, SID is understood as an application that serves to assist the village government in documenting village data so as to facilitate the search and reuse process. Meanwhile, in a broad sense, SID is interpreted as a system that includes mechanisms, procedures, to the use of technology to manage resources owned by an organization, especially in the context of village government. Thus, SID not only serves as a technical application, but also as instrumenta managerial instrument that supports village information governance in a more effective and integrated manner.(Nasir et al., 2019)

The purpose of Management Information Systems is to produce information that has use value. Information is basically the result of data processing so that it can be utilized by users. For the information to be truly useful, it must meet three main elements, namely relevance, timeliness, and accuracy. Without these three elements, the data presented cannot be considered as information that supports the managerial process or decision making.(Full moon, 2016)

The result of the first indicator is the availability of information. The average value obtained in the first indicator is 3.91. The value is included in the qualification “high” because it enters the interval range of 3.40 – 4.19. In this case, the agency's response to the first indicator, that the website-Based Management Information System website is quite helpful in processing data, quite easy to operate website features, and quite helpful in inputting and storing data.

Then the second is ease of use, the average value obtained in the second indicator is 4.18. The value is included in the qualification “high " because it enters the interval range of 3.40 – 4.19. In this case the community's response to the second indicator, that the website-Based Management Information System website is quite helpful in obtaining information and also makes it easier to convey information to all parties.

The third indicator is the speed of access, the average value obtained in the third indicator is 3.91. The value is qualified as “high " because it is in the range of 3.40 – 4.19. In this case, the community's response to the third indicator, that the website-based Village information system website is very helpful in using features, making it easier to input and store data.

Then the fourth indicator is system security, the average value obtained in the fourth indicator is 4.13. The value is qualified as “high " because it is in the range of 3.40 – 4.19. In this case, the response of institutions and communities on the fourth indicator, that the website-based Village information system website can minimize data abuse in an organization, and is very helpful for institutions in terms of information, data processing, and so forth.

The last indicator is interactive features and online services, the average value obtained in the fifth indicator is 4.20. The value is in the qualification "very high" because it enters the range of 4.20 – 5.00. In this case, the response of institutions and communities, that the village information system based on the website has interactive features and good online services.

Based on the results of the distribution of 15 statements or questionnaires to institutions and the public as a sample. Variable category X (website-based Village information systemwebsite) can be interpreted from the results of the sum of all scores, namely 5,121, then the value obtained is 4.07, the value includes a high qualification, because it is in the interval range of 3.40 – 4.19.

According to (Indriyanti, 2011) the effectiveness of the application of Information and Communication Technology in the institutional management process there are often barriers, one of which is due to many non-technical factors that are not prepared by the institution itself, starting with the preparation of human resources, organizational mechanisms, culture to technical maintenance. But basically, the development of information technology today is not always intended for data storage and management only, but can also be used as supporting services. There are several criteria that can be used to measure the effectiveness of the work of organizations that provide services, namely: time factor, accuracy factor and service delivery style factor.

The result of the first indicator is service satisfaction, the average value obtained in the first indicator is 4.06. This value is included in the qualification "high" because it enters the interval range of 3.40 – 4.19. The response of the institution in the first indicator on community service variables, that the website-based Village information system website is able to improve the quality of the institution in facilitating services for users.

The second indicator of process efficiency, the average value obtained in the first indicator is 3.77. This value is included in the qualification “high " because it enters the interval range of 3.40 – 4.19. The response of the institution on the second indicator on community service variables, that the website-based Village information system website is able to improve the efficiency of the institution's processes that have been available so that it is easier to absorb information.

The third indicator is accessibility and justice, the average value obtained in the first indicator is 4.14. This value is included in the qualification “high " because it enters the interval range of 3.40 – 4.19. The agency's response to the third indicator on community service variables, that the website-based Village information system website is able to improve accessibility and fairness in facilitating services for users.

The results of the fourth indicator is transparency and accountability, the average value obtained in the first indicator is 4.17. This value is included in the qualification “high " because it enters the interval range of

3.40 – 4.19. The agency's response to the fourth indicator on community service variables, that the website-based Village information system website is able to create data transparency and facilitate services for users.

From the results of a simple linear regression test shows that the village Information System-based Website (X) effect on Community Services (Y). As for the description of the results of simple linear regression test obtained the value of B0 = 23.740 and B1 = 0.400, so the model obtained is: Y= 23.740 + 0.400 X or website-based Village Information System Website= 23.740 + 0.400 (Community Services). The influence of website-based Village Information System Website on Community Services = 0.400 with a value ρof 0.001. Because of the value of ③ < 0.05, it can be concluded that there is an influence of website-based Village Information System Websiteon Community Services. From this model the regression coefficient is positive meaning that the better the village Information System, the higher the community service.

The value of the coefficient of determination obtained from the data processing for the influence of the village Information System based on the Website to Community Services is the coefficient of determination R2 = 0.968, this value indicates that the influence of the village Information System based on the Website to Community Services is 96.8%, the rest is influenced by other factors that are not included in this study.

Based on the F test, the calculated F value is 2506.729 at the significance level of 0.05. Based on the results of the F test output obtained the value ρof 0.001 to linearity < 0.05, it can be concluded that there is a linear influence between Website-based Information Systems Websiteto Community Services.

In this study, it was concluded that there is a significant influence of website-based Village Information Systems Website on Community Services. This shows that the better the website-based Village Information SystemWebsite, the greater the effectiveness of Community Services.

The results of this study are in line with previous research that previous research that management information systems provide a positive and significant influence on the effectiveness of services.

IV. CONCLUSION

Based on the results of research and discussion that has been discussed in the previous chapter, the following conclusions can be drawn:

1. Sistem Informasi Desa berbasis The Website-based Village Information System in North Pangulah village, based on the results of research from 84 respondents with 5 indicators, namely information availability, ease of use, access speed, system security, interactive features and online services, is in the interval 3.40 – 4.19 with an average value of 4.07. Then it is on high qualification.
2. The effectiveness of community services in North Pangulah village based on the results of research from 84 respondents with 4 indicators, namely the availability of information, ease of use, access speed, system security are in the interval range of 3.40 – 4.19 with an average value of 4.04. Then it is in the high qualification category.
3. The influence of website-based Village Information System Websiteon Community Services it can be concluded that there is a significant influence on Website-based Village Information System Websiteon Community Services in North Pangulah village of 96.8%. While the rest were influenced by other factors that were not included in the study.

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