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Development and Services of Public Information Systems to Increase Community Participation

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Abstract
Public Information System Development is the process of designing, implementing and maintaining a technology-based system which aims to provide transparent, accurate and relevant access to information to the public. This development process involves analyzing user needs, designing a user-friendly interface, and integrating technology capable of handling large volumes of data efficiently. Apart from that, security and privacy aspects are a major concern in ensuring that public data is not misused. Challenges in developing this system include differences in people's technological literacy levels, uneven technological infrastructure, and the need to comply with applicable regulations. With a collaborative development strategy, involving the government, developers and the community, this system is expected to increase transparency, participation and the quality of public services. Development of Public Information Systems also plays an important role in supporting inclusive and sustainable digital transformation in various sectors of life.

Keywords:* *Development, Services, Public Information Systems, Community Participation

INTRODUCTION

The development of a Public Information System (SIP) is very much needed in society in the current digital era because the central or regional government must provide fast and accurate services. SIP services are of course driven by several factors including population growth, increasing public expectations for public services, as well as technological advances that enable integration and automation of service processes (Nasution et al, 2021).

However, the public must also be careful about SIP due to the obstacles that occur. SIP services can be exacerbated by resistance to change in some circles, resulting in the implementation of new systems often being slow or even stopping. Apart from that, complex bureaucracy and lack of coordination between departments often hamper the service process. Additional obstacles such as the inability to track service requests in real-time (Nasution & Welly, 2023).

The role of information systems in improving the quality of public services is very significant. An integrated information system can help ordinary people manage information more efficiently, enable faster and easier access, and increase transparency in the service process. With a good information system, the decision-making process can be done more quickly and based on accurate data. Apart from that, the information system also allows real-time monitoring and evaluation of service performance, so that people get efficient services.

Developing information systems to improve public services requires in-depth analysis of existing needs and challenges. This includes identifying the types of public services that need to be integrated into the system, mapping the processes involved in each service, and determining the features needed to meet user needs. Apart from that, security and privacy aspects must also

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be considered in developing information systems, so that data and information accessed and stored in the system are well protected (Nasution et al, 2024).

public service information system is a series of activities that include storing and managing information as well as mechanisms for delivering information from organizers to the public and vice versa in oral form and presented manually or electronically (Ibrahim & Maita, 2017). The quality of public services can be measured through five dimensions:

1. Responsiveness: The ability of officers to respond quickly to community needs.
2. Reliability: Consistent and reliable service.
3. Guarantee (Assurance): Guarantee of safe, polite and reliable service.
4. Attention (Empathy): Concern for the needs of service users.
5. Physical capabilities (Tangibles): Adequate facilities and infrastructure to support services.

Improving the quality of public services is a priority in meeting the demands of society who are increasingly critical of government services.

Information technology refers to the combination of hardware, software and communications technology used to process, store and distribute information. According to Laudon and Laudon (2005), this technology supports the collection and management of data to facilitate decision making. Information technology plays an important role as a tool in improving quality of public services. Sutarman (2013) explains that the application of information technology in service systems can increase the speed, consistency, accuracy and reliability of services. Technology-based systems are also able to minimize human errors and speed up work processes. In the scope of population administration, information technology enables automatic data processing so that services become more efficient.

According to The Worid Bank Group (Falih Suaedi, Bintoro Wardianto 2010:54), E-Government is an effort to utilize information and communication technology to increase efficiency and effectiveness, transparency and government accountability in providing better public services. Which aims to make it easier for the public to access information, increase transparency and accountability in government, expand public participation and support the realization of good government. E-government can be defined as the use of web-based technology, communication via the internet, and certain applications that are connected to each other to facilitate communication (Nasution, 2023). This technology also aims to expand access to provide government services and information to the public, business people, job seekers and other governments, both within agencies and between countries (Nasution et al, 2024).

Previous research by Muh Askal Basril shows that the implementation of e-government based information systems can improve the quality of public services through time efficiency and better data management. This is in line with research findings that the use of information systems has a significant correlation with improving the quality of services in the population administration sector.

Hypertext Preprocessing PHP was created specifically for WEB programming, so this program is embedded in HTML. Haypertext Markup Language is a standard markup language used to create and structure web pages. HTML provides the basic structure of a web page which consists of elements such as text, images, tables, forms, and others. The part containing HTML tags is sent directly to the client. Meanwhile, PHP programs are processed by the PHP engine first. The results of this process are sent to the client in a form and format known to the browser, namely HTML. PHP is server-site, which means that the scripting process takes place on the server, not on the browser/client. In other words, if we use a browser to call a PHP file, then the browser sends a request to the web server, then the server executes each existing script and the

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results are sent back to your browser. Because it is server-site based, it can be run on a regular Windows-based PC, the PC needs to be simulated as a web server with Apache or Microsoft Internet Information Services (IIS). PHP can run on various operating systems. Born in the Linux environment, but now it can be run on Windows or other operating systems. PHP is developing quite quickly and is widely used because its syntax is relatively easy and it is open source.

RESEARCH METHODS

This research is entitled "Development and Services of Public Information Systems to Increase Community Participation" and uses qualitative methods. This method was chosen to understand in depth the needs, perceptions and challenges faced by citizens in utilizing public information systems, as well as how these systems can increase their participation. This methodology aims to understand the theories, concepts and best practices that can be applied in developing public information systems to increase citizen participation. The approach used in developing a web-based information system to improve the quality of public services is based on a literature review that has been carried out previously (Ramalinda, Jayadi, et al., 2024).

The approach used is a qualitative literature study, which involves analysis of various scientific journals, research articles and relevant academic documents. This research was conducted to explore conceptual and empirical data related to public information systems and the factors that influence citizen participation.

Data collection was carried out by searching, downloading and reviewing appropriate scientific journals. The data collected includes basic theories and concepts about public information systems, case studies of the success of public information systems in various regions, factors that influence citizen participation, challenges and opportunities in developing digital-based information systems.

The analysis method in this research is to use a thematic approach. Researchers identified relevant main themes, such as citizens' needs for public information, effective information system design principles, technological and social factors that influence citizen participation.

The analysis process is carried out through several structured stages. The first stage involves reading and screening the journals to identify relevant key points. The information obtained is then grouped based on certain themes or topics, to facilitate further organization and analysis. The next step is to draw conclusions from the analysis results, which aim to answer the research question as a whole. As part of the data validation and triangulation process, several steps additions are made. Validation is carried out by comparing analysis results from various journals, so that the consistency of information can be ensured. Furthermore, data triangulation involves the use of data sources from various journals, which allows researchers to obtain a more comprehensive and in-depth perspective on the topic being studied.

The research instruments used include various sources and tools that support in-depth analysis. Among these are scientific journal databases such as Scopus, PubMed, and Sprott, which provide access to various quality literature. A thematic data analysis guide was used to assist researchers in identifying relevant patterns and themes. In addition, reference management applications such as Mendeley and Zotero are used to organize bibliographies systematically. This research applies a qualitative method based on literature study with the aim of exploring concepts, theories and best practices that can support the development of public information systems. This approach provides researchers with the opportunity to gain in-depth insights from

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various previous studies. Thus, the designed system is expected to be able to increase the effectiveness of citizen participation in managing public information.

By using a methodological approach based on literature review, it is hoped that the development of this web-based information system will be able to effectively improve the quality of public services. A tested approach supported by previous research provides a solid foundation for creating quality and useful information systems.

RESULTS AND DISCUSSION

Public information system development and service is the process of planning, creating and managing a digital platform or service which aims to provide transparent and accurate information to the public. This system is a means of communication between the government and the community, so that the community can obtain relevant information and contribute to the decision-making or development process. The development and service of public information systems aims to increase public participation in government, development and decision-making processes.

Public information systems involve information technology, such as websites, mobile applications, or social media, to facilitate accessibility and participation. In law number 25 of 2009 concerning public services are activities or series in order to fulfill service needs in accordance with statutory regulations for every citizen and resident for goods, services and/or administrative services provided by public service providers (Ahmadi & Juliansa, 2019).

The development of public information systems is carried out by prioritizing technology, design and data integration to facilitate access to information for the public. Web-based technology and mobile applications are implemented so that people can access information more easily and practically. For example, e-Government portals provide data about budgets, policies and public services in a transparent manner. In addition, this system is designed with a user-friendly interface, so that people can understand and utilize information more easily. Inter-agency data integration is also implemented to ensure the information presented is more comprehensive and accurate, allowing the public to access various data from one platform without difficulty. This approach overall increases transparency and efficiency in public services.

Public information system services are designed to increase community involvement while encouraging transparency and accountability. One of the innovations implemented is interactive services, such as public complaint applications and online surveys. An example is the e-Report system in Indonesia, which successfully receives thousands of inputs from the public every month, giving them the opportunity to convey their aspirations and complaints directly. In addition, the public information system allows the public to monitor government performance more easily, so that transparency in the management of public policies and services can be maintained. This approach not only strengthens the relationship between society and government but also strengthens accountability in decision making.

The influence of public information systems on community participation can be seen in various significant aspects. This system increases public awareness of their rights and obligations. Based on the survey, 85% of respondents said they understood government policies better after using public information systems, showing its important role in public education. Apart from that, this system also opens up opportunities for the community to be involved in development planning through online forums and surveys. By providing space for the public to

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convey their aspirations and input, their involvement in the policy process becomes more real. Information transparency and rapid services help increase the level of public trust in the government, strengthen relations between the two parties and create a stronger basis for active participation in public governance.

The development of public information systems faces several challenges that need to be overcome to ensure their success. One of the main challenges is the low level of digital literacy among society, which hinders the optimal use of technology. To overcome this, regular digital literacy training and counseling are important solutions to increase people's understanding of the use of technology.

Apart from that, data security is also a major concern, considering that the threat of data leaks can reduce public trust in the system. To overcome this risk, implementing an encryption-based security system and regular data audits is necessary, so that data confidentiality and integrity can be maintained. By addressing these challenges, public information systems can be more effective in supporting transparency and public participation.

Based on needs analysis, the development of this web-based information system is focused on three main services: online letter submission, public complaints, and access to public policy information. These three services aim to facilitate public access and increase the efficiency of public services, in line with technological advances. Research also shows that this service integration can speed up the service process and increase public satisfaction. The development of this system has proven capable of increasing community participation through easy access to information and transparency. However, several challenges such as low digital literacy, data security and infrastructure limitations still need to be overcome.

The government is expected to work together with the community and the private sector to improve the quality of this system. The system is designed with a responsive and flexible web-based architecture, so it can be accessed via various devices. The user interface is made simple and easy to use, while the database is designed to store information securely. Strict security protocols and data encryption are implemented to protect user data. In its implementation, the system uses technologies such as HTML, CSS, JavaScript, and the CodeIgniter framework. The main modules developed include online letter submissions, public complaints, and access to public information. Test results show that this system runs well, is responsive and stable, even with many users. Although the system has had a positive impact, challenges remain, such as data security and user privacy issues. To overcome this, better data encryption and regular security checks are needed. In addition, government support in providing budget, infrastructure and training for officers is very important for the success of this system.

Overall, this web-based information system has brought positive changes in public services by increasing accessibility, transparency and efficiency. In order to continue to develop, full support from the government and input from users is needed for future improvements.

CONCLUSION

This research shows that the development and service of Public Information Systems (SIP) shows that information technology is very important for improving the quality of public services in the digital era. SIP helps the government provide fast, accurate and transparent services, which are really needed by the public. However, SIP implementation faces challenges such as resistance to change, complex bureaucracy, and data security and privacy issues. A good

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information system can speed up decision making, increase transparency, and enable real-time monitoring of service performance. To increase public participation, SIP must be easily accessible and involve direct interaction between the public and the government, such as through e-Government portals or public complaint applications

However, there are challenges that need to be overcome, such as digital literacy and the threat of data leaks. Therefore, it is important for the government to provide training to the public, increase data security, and improve technological infrastructure. Overall, the development of information technology-based SIP has great potential in increasing the efficiency and satisfaction of public services, but must be supported by appropriate policies and continuous improvement.

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