

IMPLEMENTATION OF REGIONAL GOVERNMENT INFORMATION SYSTEM (SIPD) IN MUNA BARAT REGENCY: AN E-GOVERNMENT ANALYSIS USING NVIVO

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ABSTRAK

Penelitian ini bertujuan untuk mengkaji implementasi Sistem Informasi Pembangunan Daerah (SIPD) di Badan Perencanaan Pembangunan Daerah (Bappeda) Kabupaten Muna Barat, Sulawesi Tenggara, serta faktor-faktor yang mempengaruhi pelaksanaannya. Metode yang digunakan adalah pendekatan kualitatif deskriptif dengan pengumpulan data melalui wawancara, dokumen resmi, arsip, dan analisis data menggunakan perangkat lunak Nvivo. Hasil penelitian menunjukkan bahwa implementasi SIPD menghadapi berbagai tantangan, termasuk kesalahan server, akses jaringan yang tidak memadai, dan kebutuhan untuk meningkatkan kualitas sumber daya manusia. Analisis berdasarkan tiga elemen keberhasilan dari Harvard JFK School of Government (Dukungan, Kapasitas, dan Nilai) menunjukkan bahwa dukungan regulasi, pembangunan kapasitas sumber daya manusia, dan dukungan kepemimpinan merupakan faktor kunci dalam keberhasilan implementasi SIPD. Dukungan kepemimpinan dan pelatihan yang berkelanjutan sangat penting untuk mengatasi hambatan dan meningkatkan efektivitas serta efisiensi sistem. Penelitian ini memberikan kontribusi signifikan dengan menawarkan pandangan komprehensif tentang faktor-faktor yang mempengaruhi implementasi SIPD serta memberikan rekomendasi untuk meningkatkan kualitas layanan publik dan transparansi dalam pemerintahan daerah.

Kata kunci

Faktor-Faktor yang Mempengaruhi, Implementasi e-Government, Sistem Informasi Pembangunan Daerah (SIPD)

ABSTRACT

This study aims to examine the implementation of the Regional Development Information System (SIPD) at the Regional Development Planning Agency (Bappeda) of Muna Barat Regency, Southeast Sulawesi, and the factors influencing its implementation. The method used is a descriptive qualitative approach with data collection through interviews, official documents, archives, and data analysis using Nvivo software. The results show that the implementation of SIPD faces various challenges, including server errors, inadequate network access, and the need to improve the quality of human resources. Analysis based on the three success elements from Harvard JFK School of Government (Support, Capacity, and Value) indicates that regulatory support, capacity building of human resources, and leadership support are key factors in the successful implementation of SIPD. Leadership support and ongoing training are crucial for overcoming obstacles and enhancing the system's effectiveness and efficiency. This study provides significant contributions by offering a comprehensive view of the factors influencing the implementation of SIPD and providing recommendations to improve public service quality and transparency in regional government.

Keywords

e-Government Implementation, Influencing Factors, Regional Development Information System (SIPD)

Introduction

The implementation of e-Government, particularly the Regional Development Information System (SIPD), plays a crucial role in enhancing transparency and efficiency in regional government operations. Research indicates that the success of e-Government implementation in Indonesia, including SIPD, is influenced by various factors. Factors such as coordination, cooperation, and the role of social actors have been identified as key elements contributing to the effectiveness of e-Government systems at the regional government level (Andhayani & Eltivia, 2022; Nurdin, Stockdale, & Scheepers, 2014b). Additionally, the quality of human resources, infrastructure, leadership, and communication are important aspects affecting the success of e-Government initiatives (Kumajas, 2021). The adoption and implementation of e-Government systems are also influenced by external institutional pressures and the need for good governance practices (Nurdin, Stockdale, & Scheepers, 2012; Supratiwi, ., & Angesti Octorizki, 2019). Understanding organizational barriers, enhancing the capacity of regional governments, and addressing challenges such as stakeholder engagement, ICT literacy, and resistance to change are crucial for the success of e-Government projects (Kinemo, 2019; Nurdin, Stockdale, & Scheepers, 2011; Samsor, 2021). By addressing these factors and leveraging empirical knowledge on critical success factors, governments can optimize the implementation of e-Government initiatives such as SIPD to improve service delivery, transparency, and overall governance.

The Regional Development Information System (SIPD), according to the Regulation of the Minister of Home Affairs of the Republic of Indonesia No. 70 of 2019, is the management of regional development information, regional financial information, and other regional government information that are interconnected to be utilized in regional development administration. SIPD is a system that documents, administers, and processes regional development data into information that is presented to the public and used as a basis for decision-making in planning, implementing, and evaluating regional government performance. One form of utilizing information technology is realized in a computerized information system called SIPD. SIPD aims to improve the quality of the planning process in the regions, particularly related to the input of proposed programs and activities that will be accommodated in regional development planning documents.

However, the implementation of SIPD in Muna Barat Regency faces various challenges. SIPD is integrated hierarchically, starting from the village level to process community proposals or complaints that have been discussed. Village proposals are prioritized and then escalated to the sub-district level, up to the Regional Development Planning Agency (BAPPEDA) as the planning manager. Although this system aims to improve planning quality, its implementation requires cooperation and hard work from all involved agencies. Additionally, challenges such as network quality and occasional system errors pose obstacles to the implementation of SIPD in BAPPEDA Muna Barat Regency.

According to a study by Harvard JFK School of Government (Indrajit, 2007), three success elements must be possessed to implement the concept of digitalization in the public sector: Support Element, Capacity Element, and Value Element. Research in various countries also shows that leadership support, ICT infrastructure, literacy levels, and staff turnover are challenges in the e-Government implementation process (Al-Shboul, Rababah, Al-Shboul, Ghnemat, & Al-Saqqa, 2014; Samsor, 2021). Moreover,

research in Cambodia emphasizes the contributing factors and challenges affecting e-Government implementation (Sang, Lee, & Lee, 2009). Barriers to e-Government adoption have been analyzed in public sector organizations, identifying various difficulties and obstacles encountered during implementation (Ebrahim & Irani, 2005).

Research in Indonesia focuses on the effectiveness and implications of SIPD implementation in various regional government departments, such as expenditure administration (Bernika, Saerang, & Gamaliel, 2023), financial transparency (Andhayani & Eltivia, 2022), and regional development coordination (Dione, 2020). Studies on the UTAUT model mediated by government information systems in Indonesia (Hasanah, Anggiani, & Usman, 2024) reveal the intention to use local government systems like SIPD and how the implementation of government information systems affects user behavior and acceptance. Risk management in SIPD implementation has also been discussed, emphasizing the importance of analyzing and mitigating risks using established standards (Sine & Maria, 2022).

This study offers a novel contribution by integrating these technical issues with governance dynamics within inter-organizational networks. Existing literature tends to treat these barriers separately, often focusing on either the technological or governance aspects in isolation. However, this research explores how the interplay between network conditions and governance structures influences the effectiveness and adaptability of e-government systems. By addressing this gap, the study not only emphasizes the importance of robust infrastructure but also proposes that adaptive governance frameworks are critical for mitigating technical challenges and ensuring the sustainability of e-government initiatives in dynamic, resource-constrained environments.

This study aims to examine the implementation of the e-Government Regional Development Information System (SIPD) at the Regional Development Planning Agency of Muna Barat Regency, Southeast Sulawesi, and the factors influencing its implementation. This research provides significant contributions by offering a comprehensive view of the factors influencing SIPD implementation in Muna Barat Regency and identifying the challenges in its application. This is expected to benefit the improvement of public service quality and transparency in regional government.

Method

This study employs a descriptive qualitative approach and is conducted at the Regional Development Planning Agency (Bappeda) office of Muna Barat Regency. The informants selected for this research include the Secretary of Bappeda, the Head of Planning, Control and Evaluation, the Head of General Affairs Subdivision of Bappeda Muna Barat, as well as the administrators and staff responsible for SIPD at Bappeda Muna Barat. The informants were chosen purposively based on criteria relevant to the research objectives.

The data collected consists of primary and secondary data. Primary data was obtained through direct interviews with informants to gain in-depth information about the issues being studied. The interview technique involved direct questioning to elicit insights and understanding from the respondents. Secondary data was gathered from official documents, books, archives, as well as voice recordings and photos related to the research topic, collected from various sources including Bappeda Muna Barat.

For data analysis, this study uses Nvivo software to perform thematic analysis, which involves identifying, analyzing, and reporting patterns (themes) found within the data. This process includes coding the data, building categories, and identifying relationships between emerging themes. Nvivo aids in systematically organizing qualitative data, thereby facilitating the extraction of deep and meaningful conclusions. NVivo is chosen for its efficiency in managing and analyzing large volumes of qualitative data, such as the primary data from interviews and secondary data from documents and recordings. The software's advanced coding features allow for systematic identification of themes, facilitating deeper insights into the data. NVivo's visualization tools, like word clouds and models, help in clearly presenting the analysis, making findings easier to communicate. It also supports rigorous data triangulation, ensuring consistency across different data sources. Compared to manual methods, NVivo saves time and enhances accuracy, providing a structured approach to complex qualitative analysis, making it ideal for this study on Bappeda Muna Barat.

The data validation techniques used in this study include source triangulation and technique triangulation. Data validation is further strengthened through rechecking with informants to ensure that the researchers' data interpretation aligns with the informants' perspectives and experiences. Source triangulation involves using multiple data sources, such as in-depth interviews with key informants (e.g., Bappeda staff) and secondary data from official documents, records, and photos. Comparing findings from these sources helps validate the results. Technique triangulation combines different data collection methods, such as interviews and document analysis, to cross-check information.

Result and Discussion

Based on the word cloud analysis generated from Nvivo software in Figure 1, the research on the implementation of the E-Government Regional Development Information System (SIPD) at the Regional Development Planning Agency (Bappeda) of Muna Barat Regency, Southeast Sulawesi, highlights several key aspects. The main focus of this research is on SIPD as a system designed to support regional development planning and supervision. Bappeda Muna Barat plays a central role in the implementation of SIPD, managing and utilizing data for development planning.

Figure 1. Word Frequency Analysis of SIPD Implementation at Bappeda Muna Barat Nvivo (2024)



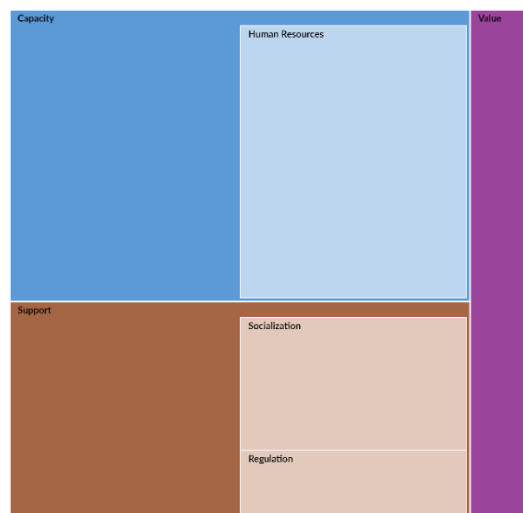
Source : Processed using Nvivo (2024)

Figure 1 shows keywords such as "data," "system," and "information," emphasizing the importance of effective data collection and management to support Bappeda's tasks. Additionally, the word "development" reflects the focus on the regional development process, while "access" and "quality" indicate challenges and opportunities in improving the accessibility and quality of the necessary data and information. System performance evaluation is also a crucial aspect, ensuring that SIPD implementation runs efficiently and effectively.

Implementation of E-Government SIPD

Based on the hierarchy chart from Nvivo in figure 2, the analysis of the E-Government SIPD implementation at Bappeda Muna Barat Regency, Southeast Sulawesi, can be outlined as follows. Capacity is the largest component in this diagram, indicating that the capability of human resources (HR) is the most dominant factor in SIPD implementation. Developing and enhancing HR competencies is crucial to ensure effective system implementation. Additionally, support plays a significant role in SIPD implementation. This support is divided into two main parts: socialization and regulation. Socialization helps introduce and disseminate information about SIPD to all involved parties, ensuring they understand its benefits and usage.

Figure 2. Hierarchy Chart of SIPD Implementation at Bappeda Muna Barat via Nvivo



Source : Processed using Nvivo (2024)

Regulation highlights the importance of policies and rules that support SIPD implementation. Clear and appropriate regulations can help enforce consistent and effective use of SIPD. Although the value or benefits derived from SIPD implementation appear smaller in the diagram, they remain an important output of all efforts in capacity and support aspects. Overall, the diagram shows that the success of SIPD implementation heavily depends on HR development and adequate support in the form of socialization and supportive regulations. The following are descriptions of each aspect.

Support

Support for SIPD implementation at Bappeda Muna Barat is provided through socialization to agencies, the community, and employees within Bappeda. This socialization is conducted by Bappeda to ensure a good understanding of SIPD implementation among various parties. The socialization materials include benefits,

functions, features, impacts, how to use SIPD, and more. This socialization is carried out regularly and continuously in accordance with the Regulation of the Minister of Home Affairs (Permendagri) Number 70 of 2019 concerning the Regional Government Information System. This regulation replaces Permendagri Number 98 of 2018, which did not regulate regional government information in an interconnected system. The SIPD website for Muna Barat Regency can be accessed by the general public and Bappeda employees via <https://munabaratkab.sipd.kemendagri.go.id/daerah>.

Capacity

The capacity of human resources at Bappeda Muna Barat is as expected. All employees have relevant skills for their tasks, such as inputting databases, duplicating, and sending data within the SIPD system. Training related to these tasks has also been conducted to support employee skills. However, Bappeda Muna Barat still needs additional HR who understand SIPD system management to assist other employees. According to data from Bappeda Muna Barat, 12 employees have attended a series of training sessions to enhance their understanding of the SIPD system on July 6, 2022.

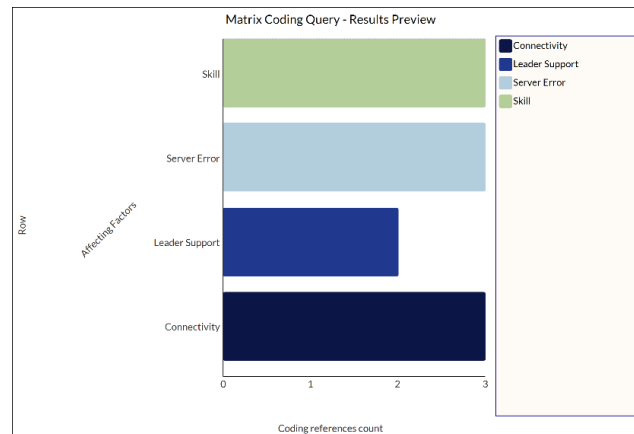
Value

Based on interviews, overall, SIPD implementation has improved the effectiveness and efficiency of the regional planning and development process. SIPD provides a stronger basis for informative decision-making and enhances accountability and transparency in the management of public resources.

Influencing Factors

Based on Figure 3. matrix coding query from Nvivo, several key factors influence the implementation of E-Government SIPD at Bappeda Muna Barat Regency, Southeast Sulawesi. The most frequently referenced factor is individual skills, with three coding references. This indicates that the competency of HR involved in SIPD implementation significantly affects the system's success, making training and skill development crucial aspects to consider. Additionally, server errors also have a high number of coding references, indicating technical issues that may occur in SIPD usage. Maintenance and improvement of IT infrastructure are necessary to reduce server errors. Leader support receives two coding references, highlighting the importance of leadership in supporting and encouraging SIPD implementation. Strong leadership can provide direction, resources, and motivation needed for the successful implementation of the system. Lastly, connectivity also receives two coding references, referring to the accessibility and reliability of the internet network used to operate SIPD. Good connectivity is essential to ensure the system can be accessed and used efficiently by all involved parties. Overall, the success of SIPD implementation in Muna Barat Regency heavily depends on improving HR skills, technical infrastructure improvement, and strong leadership support.

Figure 3. Matrix Coding of Influencing Factors via Nvivo (2024)



Source : Processed using Nvivo (2024)

Server errors are one of the hindrances in SIPD implementation in Muna Barat Regency. Laode Khairul Ashar, the Secretary of Bappeda Muna Barat, explained that the system often encounters various issues such as the application not opening, data not being input, or input data not being readable. These problems frequently occur and require comprehensive system fixes, which in turn necessitate re-inputting data every time the system is reset. Nursyamsu Abubakar, Head of Planning and Development Evaluation at Bappeda Muna Barat, also confirmed that SIPD system errors often hinder work despite being manageable by staff. Complaints related to errors are usually reported to the ministry through a created WhatsApp group.

Moreover, inadequate network access and unstable network conditions also pose significant barriers to SIPD implementation in Muna Barat Regency. Laode Khairul Ashar stated that although there is WiFi, its quality is not yet optimal to support SIPD system performance, especially in the data input and transmission process. ST. Ulya Usra, staff responsible for inputting data into SIPD, also added that poor network quality often hampers the data input process, causing staff to work twice to ensure the data is read by the system. The skills and expertise of HR are essential factors in SIPD implementation. According to the Head of Planning and Development Evaluation at Bappeda Muna Barat, improving HR skills and quality has always been a primary focus. Training organized by the ministry and facilitated by Bappeda aims to enhance staff competence in effectively managing SIPD.

Server errors, inadequate network access, and unstable connections are major barriers to e-government implementation, leading to inefficiencies in service delivery and reduced system effectiveness. Server errors disrupt online services, causing frustration and eroding trust in government systems. This is critical, as user-centered design is essential for seamless interaction with e-government platforms (Jaeger & Bertot, 2012). These errors foster perceptions of unreliability, hindering service adoption (Osman et al., 2014).

Inadequate network access, especially in developing areas with limited infrastructure, exacerbates these problems. The digital divide remains a significant barrier, as many citizens lack reliable internet access, excluding them from e-government services and reinforcing inequalities (Bhandari, 2023; Alvarenga et al., 2020). Furthermore, unstable network conditions cause service interruptions, deterring

users from engaging with e-government platforms (Osho et al., 2015). Reliable infrastructure and contingency planning are essential to mitigate these risks (Badr & Hussein, 2014).

Governance dynamics within inter-organizational networks also affect e-government success. Strong governance enables better coordination and resource sharing, essential for overcoming technical barriers (Pourcq & Verleye, 2018). However, unstable networks can limit governance flexibility, creating path dependencies that hinder innovation and responsiveness (Pourcq & Verleye, 2018). These rigidities prevent e-government from adapting to citizens' evolving needs (Khanra & Joseph, 2020).

Leadership support also has a significant impact on SIPD implementation. Laode Khairul Ashar emphasized the importance of leadership in providing moral support and facilitating staff needs to boost work morale. This was also affirmed by ST. Ulya Usra, who stated that the closeness and moral support from leadership greatly help in improving the comfort and morale of Bappeda staff. This support is considered crucial to ensuring the success and effectiveness of SIPD implementation in Muna Barat Regency.

Support for SIPD implementation in Muna Barat Regency involves socialization and regulation carried out by the Regional Development Planning Agency (Bappeda). The socialization aims to ensure that all related parties, both within Bappeda and the broader community, understand the benefits and how to use SIPD. The socialization materials, including the functions, features, and impacts of SIPD, are scheduled and conducted continuously according to the Minister of Home Affairs Regulation No. 70 of 2019. Clear and appropriate regulatory support is crucial for enforcing consistent and effective use of SIPD (Nurdin et al., 2012; Supratiwi et al., 2019).

Human resource (HR) capacity is the largest component influencing SIPD implementation in Muna Barat Regency. Skilled and high-quality HR is a dominant factor in the successful implementation of SIPD. Training organized by the ministry and Bappeda aims to improve staff competence in effectively managing SIPD. A total of 12 Bappeda Muna Barat employees participated in a series of training sessions to enhance their understanding of the SIPD system in 2022 (Kumajas, 2021; Nurdin et al., 2011). However, additional HR knowledgeable in SIPD system management is still needed to assist other employees.

Although the value or benefits of SIPD implementation appear smaller in the analysis diagram, they remain an important output of all efforts in the aspects of capacity and support. Based on the interviews, SIPD implementation has increased effectiveness and efficiency in the regional planning and development process. SIPD provides a stronger basis for informative decision-making and enhances accountability and transparency in the management of public resources (Andhayani & Eltivia, 2022; Bernika et al., 2023)

According to Nvivo analysis, several key factors influence SIPD implementation in Muna Barat Regency. The most frequently referenced factor is individual skills, with three coding references. This indicates that the competence of HR involved in SIPD implementation significantly affects the system's success. Additionally, server errors also have a high number of coding references, indicating frequent technical issues in SIPD usage. Leader support receives two coding references, highlighting the importance of leadership in supporting and encouraging SIPD implementation (Nurdin, Stockdale, &

Scheepers, 2014a). Finally, connectivity also receives two coding references, referring to the accessibility and reliability of the internet network used to operate SIPD. Good connectivity is essential to ensure the system can be accessed and used efficiently by all involved parties (Kinemo, 2019; Sine & Maria, 2022).

This research contributes to the theoretical understanding of the technical and governance challenges in e-government implementation. By examining the impact of server errors, inadequate network access, and unstable network conditions, it highlights how these barriers affect the efficiency and adoption of e-government services. The study extends existing theories on digital governance by emphasizing the importance of infrastructure reliability and user-centered design in ensuring effective e-government. Furthermore, it underscores the role of governance dynamics within inter-organizational networks, suggesting that adaptive governance structures are essential for overcoming technical barriers and fostering innovation in digital public services. This research offers a deeper insight into how technical limitations and governance structures interact to influence the success of e-government initiatives, particularly in developing regions with limited infrastructure.

Conclusion

The implementation of SIPD at Bappeda Muna Barat faces various challenges, including server issues, inadequate network access, and the need to improve the quality of human resources (HR). Analysis based on the three success elements from Harvard JFK School of Government (Support, Capacity, and Value) emphasizes that regulatory support, HR capacity building, and leadership support are key factors in the successful implementation of SIPD. Leadership support and ongoing training are crucial for overcoming obstacles and enhancing the system's effectiveness and efficiency.

The limitations of this research include the limited scope of the study, which only covers Muna Barat Regency, and the focus on a descriptive qualitative analysis that may not reveal all aspects influencing SIPD implementation. Future research development can encompass a wider area and use a quantitative approach to provide a more comprehensive picture. Additionally, further studies can delve deeper into the impact of technological and socio-cultural factors on e-Government implementation in various regions of Indonesia. This research makes a significant contribution by offering a comprehensive view of the factors influencing SIPD implementation and providing recommendations to improve public service quality and transparency in regional governance.

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