

Research Article

Implementation of Integrated Information System in Optimization of Public Services in The Regional Revenue Agency of Deli Serdang

Nurhasanah Febriyanti Harahap^{1*}, Rizka Khairunnisya Br Sinaga², Amelia³, Siti Nurhaliza⁴, Nurul Nazwa Ayu Malinda⁵, Adrial Falahi⁶, Mhd Dani Habra⁷

1Universitas Muslim Nusantara Al Washliyah, nurhasanahfebriyantiharahap@umnaw.ac.id,

2Universitas Muslim Nusantara Al Washliyah, rizkakhairunnisyabrsinaga@umnaw.ac.id,

3Universitas Muslim Nusantara Al Washliyah, amelia@umnaw.ac.id,

4Universitas Muslim Nusantara Al Washliyah, sitinurhaliza@umnaw.ac.id,

5Universitas Muslim Nusantara Al Washliyah, nurulnazwaayumalinda@umnaw.ac.id,

6Universitas Muslim Nusantara Al Washliyah, adrialfalabi@umnaw.ac.id

7Universitas Muslim Nusantara Al Washliyah, mhddanihabra@umnaw.ac.id

Corresponding: Nurhasanah Febriyanti Harahap

Abstract: This study analyzes the implementation of an integrated information system in public services at the Regional Revenue Agency (Bapenda) of Deli Serdang, particularly in the process of managing regional taxes. The research method used is descriptive qualitative, with data collection techniques including observation, interviews, and documentation. The results of the study show that the implementation of the integrated information system provides significant benefits in improving service efficiency, transparency, and taxpayer compliance. However, several challenges such as public digital literacy, data security, and resistance to change remain obstacles in its implementation. Therefore, solutions such as education, strengthening cybersecurity, and human resource training need to be applied to ensure the sustainability of this system. With continuous development, the integrated information system is expected to enhance the effectiveness of government administration and overall community welfare. The integrated information system implemented at Bapenda Deli Serdang also provides various conveniences, including integration with banks and financial institutions that accelerate the tax payment process and allow for real-time monitoring and evaluation of tax revenues. Additionally, the available digital public information services make it easier for the public to access information related to taxes and levies in a more transparent manner. Thus, the application of technology in this system not only increases efficiency but also contributes to improved tax compliance and the optimization of regional revenue.

Keywords: Public Service, Integrated Information System, Regional Tax, Efficiency, Digitalization

Received: May, 17, 2025;

Revised: May, 31, 2025;

Accepted: June, 10, 2025

Published: June, 13, 2025

Curr. Ver.: June, 13 2025



Copyright: © 2025 by the authors.

Submitted for possible open

access publication under the

terms and conditions of the

Creative Commons Attribution

(CC BY SA) license

(<https://creativecommons.org/licenses/by-sa/4.0/>)

1. INTRODUCTION

Effective public service is the key to a government's success in serving and focusing on the welfare of its people. Today, public services have become increasingly vital to society as they can enhance well-being, fulfill basic rights, and build public trust in the government. Furthermore, quality services also contribute to increasing the productivity of the government itself. Public service is an activity carried out to meet service needs in accordance with statutory regulations for every citizen and resident, concerning goods, services, or administrative assistance provided by public service providers (Regulation of the Minister No. 31 of 2014).

One strategic approach that is becoming increasingly popular is the integration of an integrated information system into public service processes. The Regional Revenue Agency (Bapenda) of Deli Serdang plays a crucial role in managing regional revenue, particularly in tax and levy collection. With the implementation of an integrated

information system, Bapenda can manage data more efficiently, reduce the possibility of administrative errors, and improve the quality of services to the community. In addition, this system supports transparency in regional revenue management, which ultimately contributes to increased public trust in local government.

One of the most crucial public services at the Regional Revenue Agency (Bapenda) of Deli Serdang is the regional tax service. At Bapenda Deli Serdang, regional tax services include taxpayer registration, tax reporting for various sectors such as hotels, restaurants, parking, entertainment, advertising, street lighting tax (PPJ), groundwater (ABT), excavation-C, and swallow nest businesses. In addition, there is also the process of signing special letters (SKK) related to the collection of outstanding debts for Rural and Urban Land and Building Tax (PBB-P2). The application used by the Regional Revenue Agency of Deli Serdang Regency for online tax services is the SIMPADA application. SIMPADA is a web-based Regional Revenue Management Information System. This application assists local governments in managing and reporting regional income.

Although integrated information systems offer significant potential to improve public services, their implementation is not without challenges. Various aspects such as technological readiness, human resources, and supporting infrastructure are important factors that need to be considered. Therefore, this study aims to analyze the implementation of the integrated information system at the Regional Revenue Agency (Bapenda) of Deli Serdang, with a focus on optimizing public services at the Regional Revenue Agency of Deli Serdang.

2. METHODS

This study focuses on analyzing and describing the implementation of an information system in public services provided to the community for online tax payment programs through the Regional Revenue Management Information System (RRMIS) application. The type of research used in this study is a descriptive analytical method with a qualitative approach. According to Sugiyono, descriptive qualitative methods are used to study natural conditions of an object, analyzing data by describing or illustrating the collected data.

Relevant data collection techniques are essential in determining the scientific validity of a study. The techniques used in this research include observation, interviews, and documentation. According to Hardani (2020), observation is a technique or method of collecting data by observing ongoing activities. Observation is divided into three types: participatory observation, overt observation, and unstructured observation. According to Sugiyono (2020), an interview is a meeting between two individuals to exchange information and ideas through question-and-answer, from which meaning can be constructed on a specific topic. Sugiyono (2020) also states that documentation is a record of past events. Document analysis complements the application of observation and interview methods in qualitative research.

The qualitative research process was conducted through several steps, presenting both primary and secondary data. The results of this study were obtained from the Management Field Work Program (KKM), conducted on January 6, 2025, over a period of one month at the Regional Revenue Agency (Bapenda) of Deli Serdang. Primary data was collected through oral and written interview interactions with Bapenda Deli Serdang staff, as well as direct observation to understand service conditions firsthand. Secondary data was gathered through literature reviews of articles and scientific journals, including Bapenda's annual reports, regulations related to Land and Building Tax (PBB) payments, and official documentation of relevant objects or individuals at the research site.

3. RESULTS

The implementation of an integrated information system at the Regional Revenue Agency (Bapenda) of Deli Serdang is a strategic step to improve the quality of public services, particularly in regional tax management. This integrated information system is designed to integrate various administrative processes into a single digital platform that can be accessed by various relevant stakeholders. In the context of tax services, the system provides convenience for the public while promoting efficiency and transparency in regional revenue management.

At the Management Field Work (KKM) site, the implementation of the

integrated information system is clearly evident through the use of the SIMPADA (Regional Revenue Management Information System) application. This web-based application allows the public to pay taxes online without having to visit the service office in person. Additionally, the application supports real-time monitoring of tax revenues, making it easier for the local government to conduct evaluations and strategic planning. SIMPADA also facilitates integration with banks and financial institutions, accelerating the tax payment process and enabling direct monitoring of tax receipts.

In practice, the integrated information system provides several tangible benefits on the ground. One of these is the acceleration of administrative processes. Before this system, tax data management was done manually, which often took time and was prone to errors. With data digitization through SIMPADA, administrative processes have become faster and more accurate. Citizens who previously had to wait in long queues can now fulfill their tax obligations with just a few clicks. Furthermore, the system minimizes data entry errors and speeds up data validation, which is crucial in managing regional revenue.

Moreover, cooperation with banks and financial institutions is another strength of this system. At the KKM site, people can pay taxes through various payment channels such as ATMs or mobile banking, which are directly connected to the Bapenda system. This not only speeds up the payment process but also increases taxpayer convenience. This integration also reduces the risk of payment data loss and ensures that all transactions are accurately recorded.

From a transparency perspective, the integrated information system enables the public to access information related to taxes and levies openly through digital services. For example, citizens can view their tax bills or check their payment status through an online portal. Such transparency contributes to increased public trust in local government. Accurate and easily accessible information also helps the public understand their tax obligations, ultimately improving tax compliance.

However, the implementation of this system also faces challenges on the ground. One of the main obstacles is the low level of digital literacy among certain segments of the population. Many citizens are not yet accustomed to using digital technology for handling tax administration. Therefore, socialization and education efforts were carried out at the KKM location to teach people how to use the SIMPADA application. This step aims to increase public understanding and encourage the adoption of technology in daily life. Training and mentoring programs also involved community leaders and volunteers to assist residents who had difficulties using the system.

In addition, data security issues are a major concern. Bapenda Deli Serdang must ensure that taxpayer data is protected from cyber threats. Security measures such as data encryption, firewalls, and regular security audits are implemented to safeguard sensitive information. Cooperation with third parties who specialize in cybersecurity is also established to ensure the system remains secure and protected.

From a theoretical perspective, the integrated information system is part of e-government, which aims to improve bureaucratic efficiency and the quality of public services through the use of information technology. According to Laudon & Laudon (2020), integrated information systems have three main functions: improving operational efficiency, providing information to support decision-making, and enhancing services to users. These three functions are reflected in the implementation of SIMPADA at Bapenda Deli Serdang. The integrated information system also supports better decision-making by providing accurate and real-time data.

The successful implementation of the integrated information system at the KKM site shows that technology can be an effective tool in improving government governance. However, the sustainability of this program requires adequate technological infrastructure and continuous training for Bapenda staff so they can operate the system optimally. Furthermore, strengthening data security remains a priority to prevent potential breaches or misuse of information. Investments in technology infrastructure such as reliable servers, stable internet networks, and up-to-date software are essential to ensure the system runs smoothly.

Overall, the implementation of the integrated information system at the Deli Serdang Regional Revenue Agency (Bapenda) has had a positive impact on public services at the KKM location. With ongoing innovation and development, this system is expected to become a model for other regions in their efforts to improve digital-based public

service quality. Further development may include integration with other systems, such as civil registry and licensing systems, which would further enhance the efficiency and effectiveness of public services.

The Role of Integrated Information Systems in Public Services

An integrated information system is a system that consolidates various processes and data into a single digital platform accessible by all relevant stakeholders. This system is designed to improve operational efficiency, data accuracy, and information transparency, thereby accelerating data-driven decision-making processes. In today's digital era, utilizing integrated information systems is one of the key pillars in supporting good governance. In the context of Deli Serdang's Regional Revenue Agency (Bapenda), the implementation of an integrated information system is broad and strategic, covering several key features.

First, through the Online Regional Tax System, the public can make tax payments online anytime and from anywhere without having to physically visit the service office, saving both time and cost. Second, the system is integrated with various banks and financial institutions, facilitating faster transaction processes and enabling automatic and accurate tax reporting.

Third, the presence of real-time monitoring and evaluation features allows authorized officials to monitor regional revenues directly and respond quickly to any discrepancies or irregularities in the data. Lastly, the system provides digital public information services that can be accessed by the general public, thereby supporting principles of transparency and accountability in the management of regional taxes and levies. Therefore, the implementation of an integrated information system not only improves the quality of public services but also strengthens public trust in local government performance.

Implementation of Integrated Information Systems at Bapenda Deli Serdang

In implementing the integrated information system, Bapenda Deli Serdang has taken several strategic steps to ensure the system operates optimally and provides maximum benefits to the public. The first step is data and administrative process digitization, where the transformation from a manual to a digital system is carried out by building an integrated database. This enables tax and levy data management to be more systematic, efficient, and easily accessible by both staff and the public. Second, Bapenda strengthened technological infrastructure by procuring servers and supporting software, providing stable internet networks across all service offices, and developing user-friendly tax service applications and portals such as SIMPADA (Regional Tax Management Information System).

The third step is human resource training, with Bapenda routinely conducting training sessions for its employees to ensure they can operate the system effectively. Additionally, public education efforts are continuously carried out to improve digital literacy and encourage the use of online services for handling taxes and levies. Lastly, this integrated information system is also connected with financial institutions and relevant agencies, such as banks, technical departments, and the Ministry of Finance, to accelerate payment processes, enhance reporting, and improve transparency. Through these steps, the implementation of the integrated information system is expected to drive the modernization of regional revenue management and strengthen public service delivery.

Impact of the Integrated System Implementation

The implementation of the integrated information system has brought various significant benefits to improving the quality of public services within Bapenda Deli Serdang. One of the main benefits is increased service efficiency, where administrative processes that previously took a long time can now be completed more quickly and conveniently. Citizens are no longer required to physically visit tax offices, as services are accessible online through available portals.

Furthermore, the system contributes to greater transparency and accountability in managing regional taxes and levies. With a digital database that can be monitored in real-time, the potential for discrepancies is minimized, while the public can openly access information, thus strengthening trust in the local government's performance.

On the other hand, easier access to services has also led to increased taxpayer awareness and compliance. People are more encouraged to fulfill their tax obligations on time, as the process has become simpler and faster.

Another positive impact is the **optimization of regional revenue collection. A

well-organized and transparent system helps reduce revenue leakage, while accurate and integrated data provides a strong foundation for the local government to develop more targeted and effective revenue enhancement strategies.

Challenges and Solutions in Implementation

Despite the significant benefits, the implementation of the integrated information system faces several challenges that must be addressed to ensure optimal performance. One of the main challenges is the low level of digital literacy among segments of the population. Many residents are not yet accustomed to using digital technology, making it difficult for them to access and utilize available online services. To overcome this, continuous public outreach and education efforts are necessary to help people understand the benefits and usage of the system.

Another challenge is related to data security. In a digital system that manages critical information such as tax data, the potential for data breaches or misuse poses a serious threat. Therefore, Bapenda Deli Serdang must strengthen cybersecurity measures by implementing adequate data protection technologies and policies. In addition, resistance to change is another obstacle, especially among employees who are used to working with manual systems. To address this, intensive training is essential. A gradual approach in the implementation of the new system is an effective solution to ensure that the adaptation process proceeds more smoothly and is widely accepted.

With the implementation of this integrated information system, Bapenda Deli Serdang is able to provide faster and more accurate services, reduce queues at service offices, and increase public trust in the local government. In addition, this system also contributes to improving the quality of government administration by providing more accurate and easily accessible data. The convenience of online tax payments, real-time monitoring of tax revenue, and transparency of public information further enhance the effectiveness and accountability of the local government. With the continuous advancement of technology, Bapenda Deli Serdang is expected to keep innovating and developing the system to further optimize public service delivery and improve the overall welfare of the region.

4. CONCLUSION

Based on the research results, it can be concluded that the implementation of the integrated information system at the Regional Revenue Agency (Bapenda) of Deli Serdang plays an important role in improving the quality of public services, particularly in regional tax management. With this system, administrative processes become more efficient, transparent, and accountable, while also increasing taxpayer compliance. Nevertheless, challenges in its implementation still require attention, such as public digital literacy, data security, and infrastructure readiness. Therefore, efforts in public outreach, staff training, and system security enhancement must continue to ensure the sustainability and effectiveness of the system. It is hoped that further development of the integrated information system will further optimize public services and support better regional development.

In addition, digitalization in public services must continue to evolve in line with technological advancements and the growing needs of society. The implementation of this integrated information system demonstrates that technology can be an effective tool in improving governance and enhancing bureaucratic efficiency. Therefore, investment in digital infrastructure, human resource development, and increased public education are strategic steps that must be continuously pursued. Thus, the success of the integrated information system at Bapenda Deli Serdang can serve as a model for other regions in optimizing public services through the use of technology.

In the future, further research can focus on evaluating the long-term impact of this integrated information system implementation on regional tax revenue and public response to changes in digital-based public services. In-depth analysis of the obstacles and adaptation strategies carried out by the local government is also necessary to ensure that the implementation of this system becomes increasingly optimal and aligned with the needs of the community.

REFERENCES

- [1] B. Irawan, “Studi Analisis Konsep E-Government: Sebuah Paradigma Baru dalam Pelayanan Publik,” **Paradigma**, vol. 2, pp. 174–201, 2017.
- [2] Badan Pendapatan Daerah Kabupaten Deli Serdang, “Grand Launching Penerapan Tanda Tangan Digital pada Aplikasi SIMPADA,” 2023.
- [3] Dinas Kominfo Deli Serdang, “Permudah Pembayaran Pajak, Bapenda Deli Serdang Launching Aplikasi SIMPADA,” 2023.
- [4] H. Yusuf, **Inovasi Pelayanan Terhadap Perpanjangan PKB (Pajak Kendaraan Bermotor) Pada SAMSAT (Sistem Administrasi Manunggal Satu Atap) Kota Surabaya Timur**. Surabaya: Universitas 17 Agustus 1945, 2019.
- [5] I. Afandi, “Optimalisasi Penerimaan Pajak Bumi dan Bangunan Perdesaan dan Perkotaan (PBB-P2) Melalui QRIS Pada Kantor UPT Bapenda Wilayah XI Kecamatan Kulo,” **Jurnal Inovasi Global**, 2024.
- [6] Kementerian Dalam Negeri, **Transformasi Digital dalam Pelayanan Publik**. Jakarta: Kemendagri, 2022.
- [7] K. C. Laudon and J. P. Laudon, **Management Information Systems: Managing the Digital Firm**. Pearson Education, 2020.
- [8] N. F. Ramadhan, **Implementasi Program E-Samsat di Samsat Manyar Kota Surabaya**. Surabaya: Universitas 17 Agustus 1945, 2019.
- [9] Peraturan Menteri No.31 Tahun 2014 tentang Pedoman Pelayanan Publik.
- [10] R. Puspitasari and E. Supriyanto, “Analisis Tantangan dan Hambatan dalam Implementasi Sistem Informasi Pemerintah Daerah Republik Indonesia (SIPDRI),” **Nusantara Hasana Journal**, vol. 4, no. 1, pp. 100–109, 2023.
- [11] R. Tanjung, “Pengembangan Kompetensi Pelayanan Publik ASN Melalui Jalur Magang di Kabupaten Karawang,” **Jurnal Ilmiah Ilmu Pendidikan**, 2022.
- [12] R. Wibowo and N. Yuliana, “Inovasi Pelayanan Publik Berbasis Teknologi Digital: Tantangan dan Peluang,” **Jurnal Inovasi Pemerintahan**, vol. 5, no. 2, pp. 154–168, 2022.
- [13] Sugiyono, **Metode Penelitian Kualitatif**. Alfabeta, 2020.
- [14] World Bank, **Digital Governance and Public Service Efficiency**. Washington, DC: World Bank, 2021.
- [15] Yuvina et al., “Inovasi Pelayanan Publik Melalui Program E-Samsat di Kota Surabaya,” **Jurnal Penelitian Administrasi Publik**, 2021.
- [16] Z. Hardani et al., **Metode Penelitian Kualitatif & Kuantitatif**. Pustaka Ilmu, 2020.