



Accounting Data Integration Challenges in Local Government Information System Implementation: A Qualitative Case Study of the North Toraja Transportation Service

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Abstract

This study investigates the accounting data integration challenges encountered during the implementation of the Local Government Information System (SIPD) at the North Toraja Transportation Service. The research specifically examines issues that hinder the integration process, including inconsistencies in Financial Accounting and Reporting (AKLAP) features within SIPD, technical limitations, human resource constraints, and financial barriers. Using a qualitative descriptive approach through a case study conducted starting in September 2025, data were collected through interviews, observations, and documentation. The findings reveal that the primary challenges include the incompatibility between SIPD features and existing operational procedures, technical disruptions such as unstable system connectivity, limited staffing capacity, and insufficient budgeting. This study further proposes practical recommendations, including human resource training, enhancement of SIPD functional features, and transitional integration of manual systems to strengthen reporting efficiency, financial accountability, and transparency within local government operations.

Keywords: Accounting data integration; Financial accountability; Human resource constraints; Local Government Information System, Technical limitations

Introduction

Developments in the field of information and communication technology have had an impact on the progress of the public sector, especially in local governments. One form of implementation is the use of the Local Government Information System (SIPD) which is based on the provisions of Article 23 of the 1945 Constitution concerning state financial management (Savitri, 2024). SIPD was developed as the main foundation for data and information integration with the aim of improving efficiency, accountability, and transparency in regional financial management. Accounting data integration plays an important role. Because it is the basis for the preparation of accountable financial statements and as the main source of strategic decision-making within the local government.

SIPD is an application managed by the Ministry of Home Affairs that functions to help with various local government processes, such as planning, budgeting, administration, and reporting (Adietia, 2023). This system is designed to integrate data from various local government work units, so as to create effectiveness and efficiency in the management of regional finances and assets. The main goal of implementing SIPD is to realize good governance through the provision of accountable and transparent data (Sanny et al., 2023).

In accordance with the provisions of Article 1 number 12 in the Regulation of the Minister of Home Affairs Number 70 of 2019, SIPD is an information management system that integrates regional financial data, local government information, and regional development used in the implementation of regional development (Minister of Home Affairs of the Republic of Indonesia, 2019). SIPD also functions as a tool for preparation, monitoring, and evaluation of local government financial management electronically integrated between regions (Tjandra et al., 2024). Through this system, local governments can manage information more efficiently and ensure that every financial process is properly recorded and standardized.

In addition, the existence of SIPD also plays an important role in reducing the burden of local government budget costs that were previously used to develop information systems separately in each agency. With the integration of this system into the Electronic-Based Government System (SPBE), local governments no longer need to allocate additional budgets for the creation or procurement of new applications in the fields of planning, finance, and reporting in accordance with the Regional Revenue and Expenditure Budget (APBD) (menpanrb.go.id, 2022).

In 2024, all Regional Apparatus Work Units (SKPD) in North Toraja Regency are ready to adopt SIPD as the main system in the implementation of operational activities. This implementation shows the commitment of local governments to increase transparency and accountability in public financial management through the implementation of SIPD RI as the main instrument for regional financial data management. In the context of government information systems, data integration is one of the key elements of success. Data integration is the process of merging data from various sources into one unified and consistent point of view. This process ensures that the information generated is accurate, complete, and easily accessible to all parties in need. Through effective data integration, the quality of decision-making can be improved, data duplication can be minimized, and the efficiency of business processes in the government environment can be optimized.

Successful integration of accounting data in SIPD will ensure that every financial transaction is accurately recorded, consolidated automatically, and reported without duplication or discrepancies. On the other hand, if the integration does not go well, then the benefits of SIPD such as operational efficiency and the accuracy of financial statements will be compromised. This condition can lead to problems such as data mismatches, difficulties in reconciliation, and decreased trust in the reliability of regional financial information. However, the implementation of SIPD is inseparable from various challenges and obstacles. The technical aspect is one of the main obstacles, including the limitations of technological infrastructure such as inadequate hardware, unstable internet networks, and data quality that has not been standardized. This condition causes delays in the data input process and hinders interoperability between systems (Nataniel & Hatta, 2009).

In addition, the human resource factor also affects the success of the implementation of SIPD. Employees' readiness to operate the new system is still relatively low due to a lack of digital literacy, limited training, and resistance to change. Employees who are unfamiliar with technology-based systems tend to have difficulty adapting to complex information systems such as SIPD (Teken & Romarina, 2024).

In addition, financial factors are another important aspect that is often an obstacle. The implementation of information systems requires significant costs, including hardware and software procurement, training, and system maintenance. Budget constraints and differences in local government policy priorities can slow down the SIPD implementation process (Yanti & Junaidi, 2024). This study seeks to analyze in depth various obstacles to the integration of accounting data in the implementation of SIPD, with a case study at the North Toraja Regency Transportation Office. This analysis is expected to provide contextual insights into the challenges faced in the implementation of SIPD, as well as contribute to improving the

effectiveness and accountability of regional financial management. Considering that the North Toraja Transportation Agency manages strategic assets and budgets, any inaccuracies or inaccuracies in accounting data have the potential to reduce the overall credibility of the region's finances.

Methods

This study uses a descriptive qualitative method to collect in-depth information about the obstacles to integrating accounting data in the implementation of SIPD at the North Toraja Transportation Office. The researchers conducted direct observations in the field to understand the phenomenon at hand. The role of the researcher as the main instrument is crucial in qualitative research, where the researcher functions as a data collection tool through observation, direct interviews, and interaction with research subjects to obtain valid and clear information about the barriers to accounting data integration and its impact on the quality of financial statements and decision-making. The data collection process includes interviews with the finance department at the North Toraja Transportation Office, systematic observation of facts in the field, and documentation through the study of records and related materials. These techniques are used to obtain comprehensive and precise data on the constraints in the integration of accounting data in SIPD. The location of this research is at the North Toraja Transportation Office office, which is located on Jl. Tedong Bonga No. 1, Tallunglipu District, North Toraja Regency, and will start in September 2025. The data source consists of primary data collected directly by the researcher through interviews and observations with related parties, as well as secondary data, obtained from books, articles, magazines, or newspapers related to the research topic.

Results and Discussions

A. Factors That Cause Financial Accounting Reporting to Be Not Real-Time

Based on interviews, the main factor that hinders the real-time Accounting and Financial Reporting (AKLAP) running is the incompatibility of the AKLAP feature in SIPD with operational procedures at the North Toraja Transportation Office. This makes it difficult for officers to enter data directly, resulting in delays in recording. To address this issue, the agency uses manual recording systems such as Microsoft Excel as its main support, which provides flexibility but cannot update data in real time in SIPD. This is in line with the public sector accounting literature, such as research that emphasizes that timeliness in government financial statements is fundamental to accountability, where delays in data input due to system mismatches can hinder real-time integration and increase the risk of accounting errors (Alabi et al., 2022). An interview with the Treasurer revealed:

"Financial accounting and reporting (AKLAP) is not carried out in real-time because the reconciliation process cannot be carried out continuously. This is because it is necessary to wait for a Decree from the Regional Government Budget Team (TAPD) and the Ministry of Home Affairs before reconciliation can be implemented."

The data reconciliation process also takes time because it has to wait for a decree from the Regional Government Budget Team (TAPD) and the Ministry of Home Affairs, which extends the preparation of the report. In addition, annual accounting data collection takes 2-4 weeks after the end of the fiscal year, prone to technical errors such as misnomenclature, improper account codes, and tax errors. These errors are often caused by the officer's lack of thoroughness or understanding, which ultimately delays the completion of the report. The results of the interview with the PPTK section revealed:

"The AKLAP feature in the SIPD system is not fully in accordance with the operational needs of the office." Meanwhile, the results of the interview with the Treasurer added: "For the realization report that is deducted per month, we use realization data from Microsoft Excel, because if we use data from AKLAP, the results tend to be different."

Despite the delays, the results of the interviews showed that this situation did not have a significant impact on the institution's compliance with regulations, thanks to the intensive examination and reconciliation process at the end of the year in coordination with the Regional Finance and Assets Agency (BKAD). This ensures that the data remains accurate before the submission of the official report. The results of the interview with the PA section revealed:

"The annual accounting data collection process that takes 2-4 weeks after the financial year ends often experiences technical errors, such as account name errors, improper codes, and tax errors. These errors are usually caused by a lack of accuracy or understanding by the officers, resulting in late reports."

B. Factors Inhibiting the Implementation of the Local Government Information System (SIPD) in the Implementation of SIPD

Technical factors are a major obstacle in the implementation of SIPD, with unstable network issues often leading to system downtime and delays in data input. Repeated system errors, inadequate hardware infrastructure, and lack of routine maintenance worsen conditions, slow down repair processes, and reduce employee productivity. The results of the interview with PPTK said:

"We often experience unstable network issues so that the system often experiences downtime and late data input. In addition, the system also sometimes errors and repairs take a long time because the technical support is not fast. Usually, the app only works well on Fridays, while on other days it often experiences continuous downtime from 09.00 to 12.00 noon."

The human factor is also a bottleneck, with many employees being less skilled in operating the SIPD, leading to slow and error-ridden data input such as incorrect account names or inappropriate codes. The lack of training and guidance makes understanding of features low, and employees' educational backgrounds that are dominated by law and engineering are not always suitable for accounting needs. The results of the interview with the Head of the Program and Finance Subdivision said:

"One of our main obstacles in terms of human resources is that many employees, especially in the finance department, are not familiar or do not have enough skills to use the SIPD application, so when entering data it is often slow and errors occur. In addition, the training provided is also still lacking, so employees do not understand the features and procedures that must be followed, which results in frequent errors such as miswriting the account name, incorrect code, or errors in calculating taxes."

Financial factors hamper the procurement, maintenance, and training of SIPD due to limited budgets and other more pressing priorities. This results in suboptimal hardware and software, as well as low employee skills. The results of the interview with Budget Users revealed:

"The budget for the information system at the North Toraja Transportation Office is also limited, so the procurement of systems, maintenance, and staff training often experience obstacles. Often, funding for information technology has to be deferred because other budget priorities are considered more urgent, making system improvements less optimal"

and less sensitive to user needs. Staff training has also become limited due to a lack of funding, leaving many employees unskilled in using existing applications, resulting in a decrease in system effectiveness."

C. Reporting Delays Do Not Risk Affecting Service Compliance with Regional Financial Reporting

The delay in reporting AKLAP does not have a major impact on the institution's compliance with regional financial reporting regulations, because the audit is carried out at the end of the fiscal year with intensive coordination between the agency and BKAD. This process allows for the adjustment and reconciliation of data prior to the submission of official reports, so that validity is maintained. The results of the interview with the Head of the Program and Finance Subdivision revealed:

"Delays in reporting do not risk affecting the institution's compliance with regional financial reporting because, the audit is carried out at the end of the year, so good coordination and planning are needed in advance so that reporting can be prepared accurately and there is no difference between the agency and the Regional Finance and Asset Agency (BKAD)."

Despite the initial delay, formal compliance is met through a strict year-end mechanism. This suggests that regulations remain compliant overall, even if the data is not real-time throughout the year. Good coordination is key to maintaining the accuracy of reports. Delays are not a major barrier to compliance, as long as the year-end reconciliation process is effective. This minimizes the risk of non-compliance and ensures regulatory reporting.

D. Long-Term Risks If Accounting Constraints Are Not Addressed Promptly

If accounting challenges are not adequately addressed, the long-term risks that arise are not only related to data inaccuracies, but can also have broader consequences for financial governance. These inaccuracies have the potential to cause discrepancies between manual records and official systems, which is very likely to be revealed in a surprise audit conducted by the Audit Board (BPK). Data discrepancies like this are seen as weaknesses in internal controls, reduce the credibility of the institution, and trigger remediation recommendations that require organizational cost, time, and resources.

In the perspective of the ISO 31000 Risk Management Framework, these risks can be categorized as strategic risks with a medium to high level of probability. The reason is that inaccuracies in accounting data have the potential to spread to various sectors in the government ecosystem, causing systemic impacts. Possible governance consequences include disruption of strategic decision-making processes, decreased public transparency, and increased bureaucratic burdens due to the need for repetitive data verification and correction processes. The severity of the risk can even increase to the "critical" category if not addressed immediately, as it can affect regional fiscal stability and the integrity of national information systems such as SPBE (ISO 31000, 2018). Interviews with audit officials confirmed the risk. They state that:

"If the Audit Board (BPK) conducts a sudden audit when the Accounting and Financial Reporting (AKLAP) data is not updated in real-time, the BPK will find the difference between the institution's financial records and the data that should be recorded. Data that is not updated in real-time is considered invalid and unaccountable, so the auditor will record it as a weakness in internal controls."

The findings show that data inaccuracies are an indicator that the risk identification, assessment, and control process has not been carried out effectively according to the principles of ISO 31000. Thus, the resolution of accounting constraints is not only technical, but also plays an important role in strengthening governance and ensuring the sustainability of the integrity of the government's financial system. The findings show that data inaccuracies are an indicator that the risk identification, assessment, and control process has not been carried out effectively according to the principles of ISO 31000. Thus, the resolution of accounting constraints is not only technical, but also plays an important role in strengthening governance and ensuring the sustainability of the integrity of the government's financial system.

This risk also lowers public and stakeholder trust, hindering budget support or access to resources. In a government context, this can limit strategic programs and increase operational costs. It is important to update and integrate the data immediately to maintain accuracy. Resolving accounting issues will strengthen internal controls and reputation, minimizing long-term risks detrimental to operations and stakeholder trust.

E. Correction Procedure If Data Is Found to Be Incorrect

The data correction procedure is carried out through the cancellation of the Payment Order (SPM) that has been issued, with the approval of the Head of Service, Secretary, and Treasurer. This ensures the cancellation is valid and forms the basis for the correction of official data. The results of the interview with Budget Users revealed:

"The procedure for data correction if an error is found is carried out through the cancellation of the Payment Order (SPM) that has been issued. This SPM was canceled by the Head of Service, Secretary, and Treasurer. With the approval of the official, the cancellation of SPM becomes legal and can be the basis for officially correcting financial data."

The time required depends on the coordination and completeness of the documents; If it is fast, the impact on the reporting schedule will be minimal. However, if it is slow, it can delay the completion of the report. This mechanism is effective for matching the data to actual conditions.

F. The Impact of Non-Real-Time Financial Accounting Reporting

The impact of AKLAP's non-real-time reporting can be seen in regulatory compliance, where delays do not have a major impact thanks to year-end reconciliation with the Asset and Regional Finance Agency (BKAD). However, this poses a risk of being audited by the Audit Board (BPK) if data discrepancies are found, which is considered a weakness in internal controls. The results of the interview with the Treasurer revealed:

"While delays in reporting do not have a significant impact on regulatory compliance, as there are strict data review and reconciliation procedures in place at the end of the year, the use of data that is not always updated directly still poses potential audit risks. The Audit Board (BPK) can find weaknesses in the internal control system if it conducts a surprise audit and finds discrepancies between manual records and data from official systems. In addition, procedures to correct errors, such as canceling Payment Orders (SPM), can be quite cumbersome in the data correction process."

In terms of managerial decision-making, operations remain effective with a manual system, but access to up-to-date data is limited. Leaders have difficulty assessing budget performance, identifying trends, and optimal resource allocation, so strategic decisions await year-end reconciliation. The results of the interview with Budget User revealed:

"Although accounting reporting is not done in real-time, official operations are still effective thanks to a manual recording system as an alternative. However, limited access to the latest financial data hinders strategic and timely managerial decision-making processes. Service leaders have difficulty accurately assessing budget performance, recognizing spending patterns, and distributing resources efficiently. This results in important decisions often having to wait until the year-end reconciliation is complete."

Based on the results of interviews conducted at the North Toraja Transportation Office, it shows that the Accounting and Financial Reporting process (AKLAP) cannot be carried out directly due to the incompatibility between the features of the AKLAP module in the Regional Government Information System (SIPD) and the operational work procedures at the North Toraja Transportation Office. Technical factors are also one of the main obstacles in the implementation of SIPD. Because network instability often results in the system experiencing downtime and delays in entering data. System errors that occur repeatedly, coupled with inadequate technological infrastructure and lack of routine maintenance, make data processing hampered, in addition to that HR factors also affect the challenges in implementing SIPD, as many employees do not have enough skills to use the application properly. Lack of training and guidance leads to a low understanding of features and procedures, which leads to input errors such as account nomenclature errors, improper codes, and incorrect tax calculations, and budget constraints also hinder the implementation of the system, where limited local government budgets hinder the procurement, maintenance, and development of information technology. Budget prioritization for other needs often delays the allocation of funds for employee training and device upgrades, leaving user skills low and infrastructure vulnerable to disruption. As a result, the optimization of the SIPD system is not achieved, and employees are forced to rely on temporary solutions that are not integrated, which ultimately reduces the effectiveness of overall financial management.

As a result, there is a reliance on manual note-taking that uses Microsoft Excel as an alternative, although this creates errors and indicates that the key data in the SIPD is not updated automatically. The reconciliation process that requires the approval of a Decree from the Regional Government Budget Team (TAPD) and the Ministry of Home Affairs further slows down the preparation of the report.

Conclusions

Based on the results of the research and discussion, it can be concluded that Accounting and Financial Reporting (AKLAP) at the North Toraja Transportation Office cannot be carried out in real time. This is due to the incompatibility of the AKLAP feature in the Local Government Information System (SIPD) with the agency's operational procedures, which makes it difficult for officers to input data directly and rely on manual recording such as Microsoft Excel. Technical factors such as unstable networks, inadequate hardware, and minimal routine maintenance exacerbate delays. In addition, unskilled human resources, lack of training, and budget limitations that are often delayed for other priorities also hinder the effectiveness of accounting data management. Although the Accounting and Financial Reporting (AKLAP) report is delayed, this does not have a significant impact on the institution's compliance with regional financial reporting regulations. A strict data review and reconciliation mechanism at the end of the fiscal year, through intensive coordination between the institution and the Regional Finance and Assets Agency (BKAD), ensures the validity and accuracy of the data before the official report is submitted. Thus, formal compliance is maintained even if the data is not updated in real time throughout the year. However, the use of non-real-time data poses long-term risks, such as the findings of a surprise audit by the Audit Board (CPC) that can reveal discrepancies between manual recording and official systems,

which are considered weaknesses of internal controls. The procedure for data correction through the cancellation of Payment Order (SPM) also takes a long time because it involves approval from several officials, which has the potential to delay the completion of the report. Therefore, an efficient correction and coordination mechanism between offices is needed to speed up repairs without disrupting administration.

Overall, these conclusions support the study's objectives to identify barriers to accounting data integration and analyze their impact on managerial decision-making and regulatory compliance. To increase effectiveness, improvements to the SIPD system, human resource training, and better budget allocation are needed to ensure real-time and accurate reporting of AKLAP. Furthermore, decision-makers at the local and central government levels need to carefully consider the development and improvement of features in SIPD so that the system is more flexible and can adapt to various operational conditions in various regional apparatus organizations (OPDs). For further research, it is recommended that comparisons be made with other agencies or regions to gain a broader understanding and a more comprehensive understanding of the main challenges in the implementation of SIPD as a local government information system. These include technical issues such as unstable connections, lack of understanding of human resources, and financial challenges similar to those in North Toraja. The research should include an analysis of areas with high and low levels of SIPD implementation, with a focus on how the AKLAP module supports real-time reporting and identifies best practices that can be implemented.

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