



## **EFFECTIVENESS OF DIGITALIZING ACCOUNTING INFORMATION SYSTEMS IN PT KAI DAOP ASSET MANAGEMENT**

**Cahyo Andrianto<sup>1</sup>, Umi Pratiwi<sup>2</sup> and Masahiro Ishimoto<sup>2</sup>**

<sup>1</sup>Economic and Business Faculty, Jenderal Soedirman University

<sup>2</sup>Osaka International University

\*Email Corresponding Author: [cahyo.andrianto@mhs.unsoed.ac.id](mailto:cahyo.andrianto@mhs.unsoed.ac.id)

### **Abstract**

Digitalization of accounting information systems has been the most significant aspect in improving the effectiveness and efficiency of asset management in numerous sectors, including the transportation sector. PT KAI DAOP 5 Purwokerto, as part of the inseparable components of train operation within the region, has implemented a digital-based accounting information system to improve the asset management of the company. The objective of this research was to analyze the effectiveness of the system implementation in facilitating more organized and precise asset management. The research approach utilized was primary experience via the magang program, observational field study, involvement in the daily work process, and interview with managers and employees involved. The research found that computerization of accounting systems has enhanced precision of asset records, sped up the reporting process, and enabled real-time asset monitoring. Moreover, the implementation of this system also enabled the optimization of asset utilization, improved transparency in financial recording, and improved decision-making based on data. PT KAI DAOP 5 Purwokerto was able to manage assets more structurally and sustainably, improve operating efficiency, and improve the company's competitiveness in the transportation business through this system.

**Keywords:** *Accounting Information System, Digitalization, Asset Management, Effectiveness, PT KAI DAOP 5 Purwokerto*

### **Abstrak**

Digitalisasi dalam sistem informasi akuntansi telah menjadi salah satu hal kunci dalam meningkatkan efektivitas dan efisiensi pengelolaan aset di sejumlah industri, termasuk industri transportasi. PT KAI DAOP 5 Purwokerto sebagai salah satu bagian penting dari operasional kereta api di wilayahnya, telah menerapkan sistem informasi akuntansi berbasis digital untuk memperkuat pengelolaan aset perusahaan. Penelitian ini bertujuan untuk menganalisis efektivitas penerapan sistem tersebut dalam mendukung pengelolaan aset yang lebih terstruktur dan akurat. Metode penelitian yang digunakan meliputi pengalaman langsung melalui program magang, observasi lapangan, partisipasi dalam proses kerja sehari-hari, serta wawancara dengan karyawan dan manajer terkait. Hasil penelitian mengungkapkan bahwa digitalisasi sistem informasi akuntansi telah meningkatkan akurasi pencatatan aset, mempercepat proses pelaporan, dan mempermudah pemantauan aset secara real-time. Selain itu, penerapan sistem ini juga berkontribusi pada optimalisasi pemanfaatan aset, meningkatkan transparansi pencatatan keuangan, dan memperkuat pengambilan keputusan berbasis data. Dengan adanya sistem ini, PT KAI DAOP 5 Purwokerto dapat mengelola aset secara lebih sistematis dan berkelanjutan, mendukung efisiensi operasional, dan memperkuat daya saing perusahaan di industri transportasi.

**Keywords:** *Accounting Information System, Digitalization, Asset Management, Effectiveness, PT KAI DAOP 5 Purwokerto*

## **A. INTRODUCTION**

Daop 5 is part of PT KAI (Persero), which is the state-owned company responsible for railway transportation in Indonesia. PT KAI DAOP 5 Purwokerto, in its management, uses a digital-based accounting information system to assist in asset management. We have established the implementation of a digitalized accounting system as part of the efficiency in recording, monitoring and reporting of assets. This system is expected to simplify asset management by enhancing data access speed, recording accuracy, and facilitating analysis and decision-making processes.

In practice, however, asset management remains fraught with challenges. A significant barrier is the static nature of data updates, as real-time data updates make locating accurate information more difficult to find. This can lead to differences between the real condition of the assets in the field and the information recorded in the system. Data localisation often leads to a misalignment which can break asset monitoring and management processes and slow down decisions that depend on stale asset data. Another problem is incorrect historical data in the master data. As a result, in some cases, recorded asset information is no longer aligned to the physical state of the assets currently. Buildings, for example, can be listed as in good condition despite being badly damaged or unusable. This is leading to incorrect classification of assets and make it difficult to classify the asset as Ready for Operation (SO) or Not Ready for Operation (TSO). This classification is critical for strategic asset management, so any inaccuracies in the data can ultimately influence the long-term planning process and resource distribution throughout the organization.

Moreover, the company's asset must comply with Government Accounting Standards (SAP), which are the set of standards that govern how to report financial information in government agencies and state-owned enterprises. When the asset records do not adhere to these standards, it results in errors in the financial reports which eventually

leads to a complicated and prolonged auditing process resulting in flawed financial performance evaluations. Inevitably, consistent discrepancies can act as a catalyst to dilute transparency in asset management, hindering their ability to create effective long-term strategies driven by accurate asset data.

To address this issue, the proposed solution is to optimize the digitalization of the accounting information system through several strategic steps. The first step is to enhance automation in asset data updates so that any changes can be immediately recorded in the system in real-time. With automatic updates, information about company assets will always remain accurate and accessible at any time by relevant stakeholders. The second is to install an automatic verification mechanism within the accounting information system that will recognize and block recording errors before data is stored within the system. This will reduce the risk of human error and verify the data entered into the system according to established standards.

The third step in this solution is the utilization of a cloud-based system, enabling asset data to be accessed more flexibly and accurately by various stakeholders, both at the operational and managerial levels. With a cloud-based system, data accessibility will improve, facilitating better coordination between work units involved in asset management. The fourth one is ongoing employee training in accounting information system usage to enhance knowledge and skill in system operation. With digitalization, once there are changes in the physical form of assets that are identified in the field, e.g., destroyed or fallen buildings, the data can be updated immediately in the SAP system. This ensures that asset records always reflect the most current conditions, which enable more accurate decision-making in determining whether an asset is Ready for Operation (SO) or Not Ready for Operation (TSO).

In implementing this solution, PT KAI DAOP 5 Purwokerto has a critical role to play, especially in ensuring the integration of digitalization technology with the existing systems. The implementation of a more

sophisticated and contemporary system not only requires robust technological infrastructure but also full support from the management and trained personnel. Therefore, the company needs to ensure that all workers involved in asset management are fully aware of optimal use of the accounting information system and are aware of the importance of accurate recording of assets in terms of appropriate standards.

With a more advanced accounting information system, supported by better-trained personnel, the effectiveness of asset management is expected to be significantly enhanced. This program is expected to enhance the efficiency of asset recording and reporting while promoting more accurate and transparent asset management in line with the general principles of digitalization of business and accounting. Aside from these improvements, the digitalization of the accounting information system gives additional benefits such as increased accountability, simplified asset audits and valuations, and improved resource utilization in asset-related processes. Last but not least, this transition is a strategic move to promote more effective and sustainable asset management in PT KAI DAOP 5 Purwokerto, allowing the company to stay on top of evolving industry demands and ensure long-term business excellence.

## **B. IMPLEMENTATION AND METHODS**

The internship took place at PT KAI DAOP 5 Purwokerto, which is located at Jl. Jend. Sudirman No.209, Brubahan, Purwanegara, East Purwokerto District, Banyumas Regency, Central Java 53116. The internship continued for four months from August to November 2024, according to the planned internship schedule. This internship was designed to envelop participants in the work environment itself, with primary focus on accounting procedures and incorporating digital asset management systems. By immediate involvement in routine operations, the internship aimed at connecting theoretical instruction with real implementation, both progressing technical skills and practical knowledge of the company's asset

management processes.

The internship participant is a participant from the Diploma III Accounting Study Program, Faculty of Economics and Business, Universitas Jenderal Soedirman. As a graduate of accounting education, the participant has a fundamental understanding of financial management and accounting information systems. Through this internship program, the participant should apply the theory studied at college to actual work, especially digital asset management in PT KAI DAOP 5 Purwokerto.

The internship scheme followed an on-the-job training methodology, with the interns having the opportunity to gain hands-on experience by directly engaging in company operations. Interns could learn through observation, analysis, and direct involvement in various stages of the asset management cycle. The exposure provided them with a good understanding of the company's operational processes, enabling them to understand how digital accounting systems are employed in real-world asset management. By constant interaction with the employees of the company and direct exposure to day-to-day operations, interns were able to sharpen their problem-solving skills and gain a better sense of complexity associated with asset management in a large transport company.

The materials presented during the internship activities include:

### **a. Recording and Updating Asset Data**

Interns are responsible for re-recording and updating asset data that has not been updated in real time, ensuring alignment with physical conditions in the field.

### **b. The Implementation of Digital-Based Accounting Information Systems**

Interns utilize digital information systems for asset recording and monitoring processes, including real-time data updates in the SAP system to ensure data accuracy and quick access.

### **c. Asset Data Verification and Validation**

Intern participants are involved in verifying asset conditions, determining the asset status as Ready for Operation (SO) or Not Ready for Operation (TSO), and ensuring that asset data complies with Government

Accounting Standards (SAP).

d. Training on the Use of Accounting Information Systems

Interns receive training in the use of digital accounting software and cloud-based systems to enhance the efficiency and accuracy of asset recording, while also preparing themselves for future challenges in the professional world.

**C. RESULT AND DISCUSSION**

The implementation of digitalization in the accounting information system for asset management at PT KAI DAOP 5 Purwokerto was carried out by replacing the old standalone software with a more integrated SAP system. Previously, asset recording was done using internal software that required extensive manual input, often causing data update delays and potential recording errors. With the adoption of SAP, asset recording is now performed in real time, allowing any changes in asset conditions to be instantly updated within the system. This digitalization has also improved work efficiency, as data can be accessed online and includes an automatic validation mechanism that minimizes human error in asset recording.

The outcomes of this implementation can be measured through several success indicators, including increased asset recording efficiency, financial report accuracy, and transparency in asset management. With the SAP system, asset recording and reporting processes become faster compared to the previous system, which required more time due to limited access and the need for manual verification. Moreover, the implementation of this new system ensures that recorded asset data complies with Government Accounting Standards (SAP), resulting in more accurate and accountable financial reports. The success of this digitalization can also be seen through easier data access, where all asset information can be accessed by relevant parties according to their granted access rights, enhancing transparency and oversight in asset management.

Although the implementation of this new system brings many benefits, there are

several factors that drive and hinder its success. The driving factors contributing to the successful implementation of this digitalization are the full support of PT KAI DAOP 5 Purwokerto's management, the readiness of technological infrastructure, and employee training in operating the SAP system. Management support enables investment in adequate IT infrastructure and internal policies that encourage the use of technology in asset recording. However, there are also inhibiting factors, such as resistance from some employees accustomed to the old system and challenges in migrating data from the previous software to the new system. Therefore, an appropriate approach to socialization and training is necessary to ensure that all users can adapt to the new system without disrupting the company's operations.

To clarify the changes that occurred after the implementation of digitization, the following is a Comparison Table of Asset Recording Before and After Digitization:

Table 1. Comparison of Asset Recording Before and After Digitalization

Category	Implementation	
	Before	After
Method Recording	Internal Software	Integrated System (SAP ERP)
Data Update Time	Slow, requires manual input	Fast, real-time automatic
Information Access	Only accessible from certain devices	Can be accessed online on various devices
Data Accuracy	There is still a risk of human error in data input	Automatic validation, more accurate
Transparency	Access is limited to some users	Role-based access, more transparent
Data Security	Susceptible to data loss due to local	Data is secure with cloud-based

	storage	storage
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From the table above, it can be seen that the implementation of a SAP-based digital accounting system has had a significant impact on increasing efficiency, transparency, and security in asset recording. With a more modern and integrated system, asset management at PT KAI DAOP 5 Purwokerto is expected to become more optimal and support the achievement of higher accounting standards in accordance with Government Accounting Standards (SAP).

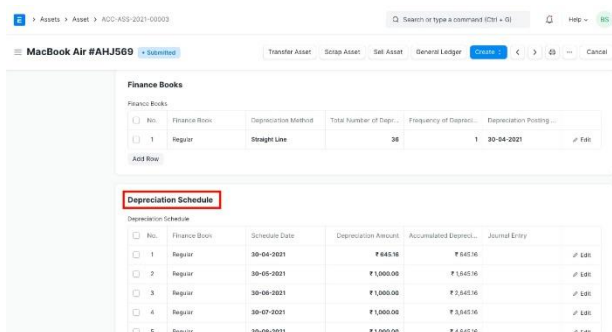


Figure 1. Display of the Asset Accounting Module in SAP ERP

The image above shows the user interface for the Asset Accounting module, where users can manage fixed asset information, including recording acquisitions, calculating depreciation, and generating asset reports. This module is integrated with other modules in SAP ERP, such as General Ledger, to ensure data consistency and financial accuracy.

#### D. CLOSING

The implementation of digitalization in the accounting information system for asset management at PT KAI DAOP 5 Purwokerto has had a positive impact on improving efficiency, accuracy, and transparency in asset recording. The adoption of the SAP system replaces the older software version, which still required extensive manual input, accelerating real-time data updates, reducing the risk of recording errors, and enabling wider and more secure cloud-based data access. With a more modern system, asset recording becomes more aligned with Government Accounting Standards (SAP), supporting more accurate and

accountable financial management.

The success of this digitalization is supported by several factors, such as the management support of PT KAI DAOP 5 Purwokerto, the readiness of technology infrastructure, and employee training in using the new system. However, several obstacles were encountered during the implementation process, including resistance from employees accustomed to the old system and challenges in migrating data from the previous system to the SAP system. Therefore, a strategic approach is needed through socialization, continuous training, and regular monitoring to ensure the implemented system operates optimally and further supports the effectiveness of asset management at PT KAI DAOP 5 Purwokerto.

To ensure the implementation of digitalization in the accounting information system for asset management at PT KAI DAOP 5 Purwokerto runs more optimally and sustainably, several improvements are necessary. Based on the analysis conducted, several advantages have been achieved, such as increased asset recording efficiency, data transparency, and financial report accuracy. However, some aspects still need enhancement, such as user adaptation to the new system and data integration optimization. Therefore, it is recommended that continuous training and socialization be carried out to improve employees' understanding and skills in using the SAP ERP system.

Furthermore, regular evaluations and system maintenance are necessary to ensure the system continues to operate smoothly and can adapt to the company's future needs. The data migration process from the old system to the new one also needs improvement to ensure data accuracy and prevent the loss of critical information. Lastly, data security must be continuously strengthened to mitigate the risk of data loss or misuse of assets. By implementing these measures, it is expected that the digitalization of the accounting information system at PT KAI DAOP 5 Purwokerto will become more effective, sustainable, and support transparency and accountability in asset management.

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