

Accounting Information Systems and Internal Control in the Revenue Cycle: A Case Study of PT. Trimitra Artha Jaya

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ABSTRACT

This study investigates the effectiveness of the Accounting Information System (AIS) within the revenue cycle of PT Trimitra Artha Jaya, a distribution company engaged in foodstuffs, information technology equipment, and uniforms. The research aims to assess how the existing AIS supports internal control and mitigates potential risks throughout revenue-related transactions. Adopting a qualitative case study design, data were gathered through semi-structured interviews, direct observation, and document analysis involving administrative, logistics, and finance personnel. Thematic analysis identified several critical issues in the company's revenue cycle, including dependence on manual Excel-based recording, inadequate data security and backup mechanisms, delays in customer payments, and weaknesses in payroll authorisation procedures. These shortcomings heighten the likelihood of data manipulation, human error, and fraudulent practices. The study recommends implementing an integrated AIS with automated audit trails, standardised credit policies, periodic internal audits, and secure data backup systems. The findings contribute to the AIS literature by integrating process mapping with internal control evaluation to identify fraud risk indicators within distribution-sector organisations. Practical implications are also discussed for enhancing system reliability and supporting more informed managerial decision-making.

Key words: Accounting Information System; Revenue Cycle; Internal Control; Procedures; Fraud

INTRODUCTION

In the current era of digital transformation, the implementation of Accounting Information Systems (AIS) has become a crucial element in improving the accuracy, efficiency, and reliability of financial reporting processes. AIS integrates human resources, procedures, and technology to collect, process, and disseminate financial information for decision-making and control purposes (Zahara & Firdaus, 2024). The adoption of AIS has also been proven to enhance the quality and accuracy of financial reporting (Gusherinsya & Samukri, 2020). Within organisations operating in the distribution sector, such as PT Trimitra Artha Jaya, the revenue cycle represents a vital component that directly affects liquidity, profitability, and operational sustainability. An effective AIS in this cycle can ensure that revenue-related transactions are recorded accurately, assets are safeguarded, and potential fraud risks are minimised (Dewi et al., 2022; Fathony et al., 2024).

However, despite the increasing adoption of information technology in accounting practices, many medium-scale distribution companies in Indonesia still rely on semi-manual systems that utilise basic tools such as Microsoft Excel (Ogearti, R., 2020). This practice often results in data redundancy, poor departmental integration, limited transaction traceability, and weak internal control mechanisms. Consequently, the absence of systematic audit trails and automated verification procedures exposes organisations to risks of human error, data manipulation, and fraudulent behaviour. These issues indicate a significant gap between theoretical expectations of AIS effectiveness and its actual implementation within the operational context of such companies.

Previous studies on AIS and internal control (e.g., Romney & Steinbart, 2021; Hall, 2016; Ismail & King, 2019) have mainly focused on system design, performance evaluation, or user satisfaction, but relatively few have examined the integration between process mapping and internal control assessment in specific business cycles such as revenue. Moreover, research on the contextualisation of AIS implementation in Indonesian medium-sized enterprises remains limited, particularly in the distribution industry. This lack of contextual understanding hinders the development of practical recommendations that align with the unique organisational and cultural characteristics of local enterprises (Alamin & Suryanto, 2022).

Therefore, this study aims to analyse the effectiveness of the existing AIS within PT Trimitra Artha Jaya's revenue cycle, with a particular focus on identifying weaknesses in internal controls and potential fraud risks. By employing a qualitative case study approach, the research seeks to map the company's revenue cycle processes, evaluate the adequacy of existing controls, and provide recommendations for system improvement. The findings are expected to contribute both theoretically—by extending the AIS literature through a control-based fraud risk perspective—and practically—by offering implementable strategies to enhance system reliability and decision-making effectiveness in distribution-sector organisations.

METHOD

This research employed a qualitative case study design to gain an in-depth understanding of the effectiveness of the Accounting Information System (AIS) within the revenue cycle of PT Trimitra Artha Jaya. The case study approach was selected because it enables the exploration of complex organisational processes within their real-life context, particularly when the boundaries between the system and its operational environment are not clearly defined (Yin, 2018). This approach also enables a holistic examination of interactions among individuals, technologies, and procedures in the company's revenue cycle. PT Trimitra Artha Jaya is a medium-scale distribution company located in Indonesia, engaged in the trading of foodstuffs, information technology equipment, and uniforms. The company's revenue cycle comprises several key activities, including order processing, goods delivery, invoicing, and cash collection. These activities are primarily managed through manual and semi-automated processes utilising Microsoft Excel, which provides a relevant context for assessing the adequacy of existing AIS and internal control mechanisms.

Data were collected from January to March 2025 using three complementary techniques:

1. Semi-structured interviews were conducted with eight key personnel, consisting of administrative staff, logistics officers, finance staff, and managerial representatives. Each interview lasted approximately 45–60 minutes and followed a flexible interview guide focusing on transaction recording, system usage, control procedures, and fraud prevention practices.
2. Direct observation, carried out during daily operations, to capture real-time practices in order processing, documentation, and data entry. Observations were recorded in detailed field notes.
3. Document analysis, which involved reviewing internal documents such as sales invoices, delivery orders, payment receipts, and financial statements to corroborate interview and observation data.

All interviews were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis. The data were analysed using thematic analysis following the six-step framework proposed by Braun and Clarke (2006). First, all transcripts and observation notes were read repeatedly to familiarise the researchers with the data. Second, open coding was conducted to identify significant statements related to AIS implementation, internal controls, and risk indicators. Third, codes were categorised and refined into broader themes through axial coding. Fourth, relationships among themes were interpreted to develop a conceptual understanding of system effectiveness and vulnerabilities. To enhance reliability, the coding process was conducted independently by two researchers and cross-checked for consistency. Discrepancies were discussed and resolved through consensus.

To ensure the trustworthiness of the findings, several strategies were employed. Data triangulation was achieved by comparing information from multiple sources, which Flick (2018) identifies as crucial for validating qualitative findings. Member checking was conducted with key informants to enhance credibility, following recommendations by Birt et al. (2016) that participant validation improves accuracy of interpretations. Audit trails were maintained to document all analytical steps and decisions made throughout the research process. Furthermore, the researchers adhered to ethical research principles, including informed consent, voluntary participation, and confidentiality of organisational data.

RESULTS AND DISCUSSION

Overview of Findings

The findings of this study were derived from interviews, observations, and document reviews, all of which were analysed thematically. Four dominant themes emerged, reflecting key weaknesses and challenges in the Accounting Information System (AIS) and internal control mechanisms of PT Trimitra Artha Jaya's revenue cycle:

1. Dependence on manual and Excel-based recording systems
2. Limited integration and data security controls
3. Delayed customer payments and weak receivable management
4. Inadequate authorisation and verification in payroll processing

Each of these themes illustrates how deficiencies in system design and procedural implementation contribute to operational inefficiency and increased exposure to fraud risk.

Theme 1: Dependence on Manual and Excel-based Recording Systems

Although the company utilises computers for documentation, its accounting and reporting processes still heavily rely on Microsoft Excel. Transactions are recorded manually, and files are stored locally rather than in a centralised database. This fragmented recording system leads to data duplication, difficulties with real-time monitoring, and increased susceptibility to human error. As one administrative staff member explained:

"We usually enter the sales data in Excel, and if there is any change, we have to update it manually in other sheets. Sometimes, figures do not match, and we must recheck everything."
(Administrative Officer, Interview 3)

The absence of an integrated system also hinders management’s ability to conduct timely financial analysis or detect irregularities. According to the COSO Internal Control Framework, information and communication are critical components that ensure accurate and reliable reporting (COSO, 2013). Similar findings were reported by *Gusherinsya and Samukri (2020)*, who found that the absence of an integrated AIS negatively affects data accuracy and reporting quality. Likewise, *Lestari et al. (2023)* highlighted that inadequate system integration reduces efficiency and control, especially when manual tools such as Excel are still used extensively. The current practice at PT Trimitra Artha Jaya fails to fulfil this principle, resulting in weak control over transaction completeness and data accuracy.

Theme 2: Limited Integration and Data Security Controls

The study found that there are no automated access controls or digital audit trails within the existing system. Data files can be easily modified or deleted without authorisation logs. Backups are conducted manually and irregularly, increasing the risk of data loss or manipulation.

Observation results confirmed that each department maintains its own record of invoices and delivery receipts, which are later reconciled manually. Such a fragmented approach violates the control activities principle in the COSO framework, which requires segregation of duties and systematic documentation.

The lack of encryption, restricted access, and infrequent data backups also exposes the organisation to operational and reputational risks. From a fraud triangle perspective (Cressey, 1953), this condition creates an opportunity—one of the three pillars enabling fraudulent acts—since data can be altered without detection.

Theme 3: Delayed Customer Payments and Weak Receivable Management

Interviews with finance personnel revealed that payment collection often experiences significant delays due to the absence of a structured credit policy and monitoring mechanism. Customers are frequently granted extended credit periods without formal approval, and reminders for overdue invoices are inconsistent.

“Sometimes customers delay payments for months, and we only follow up when cash flow becomes tight.” (Finance Staff, Interview 5)

The lack of systematic follow-up procedures impairs cash flow predictability and increases the risk of bad debts. This issue aligns with the COSO risk assessment element, indicating that management has not adequately identified and mitigated credit risks. Furthermore, late payments create pressure within the fraud triangle, potentially leading employees to manipulate data to conceal cash shortages (*Kaswoto et al., 2025*).

Theme 4: Inadequate Authorisation and Verification in Payroll Processing

The company’s payroll process is handled by a single staff member, with minimal review or verification from management. Payroll records are maintained in Excel, and salary disbursements are processed manually via bank transfers. This concentration of responsibility violates the segregation of duties principle and increases the risk of fictitious payments or salary misstatements.

Observation data confirmed that there is no dual authorisation mechanism for salary transfers. According to the COSO framework, control activities must include independent verification and approval of transactions to prevent both intentional and unintentional errors. The lack of such procedures reflects a severe internal control deficiency, potentially exposing the company to payroll fraud.

Risk–Control Matrix

To provide a structured overview of the findings, the following table summarises the key risks, current controls, and recommended improvements identified during the study.

Risk Identified	Existing Control	Effectiveness	Recommended Improvement
Manual Excel-based transaction recording	Periodic reconciliations by finance staff	Low	Implement an integrated AIS with real-time data entry and validation
Unauthorised data access and editing	Password-protected Excel files	Low	Establish role-based access control, digital audit trails, and automatic backups
Delayed customer payments	Informal reminders via email or phone	Moderate	Formalise credit policy, automate payment reminders, and monitor receivables ageing.
Unverified payroll transactions	Single-person processing	Low	Enforce dual authorisation and periodic internal audits
Data loss due to an irregular backup	Occasional manual backup	Low	Schedule automatic backups and cloud storage replication

Discussion

The findings clearly demonstrate that while PT Trimitra Artha Jaya possesses basic accounting processes, its AIS implementation remains underdeveloped in terms of integration, automation, and internal control. This

situation echoes prior studies suggesting that many small- and medium-sized enterprises (SMEs) in emerging economies struggle to achieve system reliability due to resource constraints and limited technical expertise (Ismail & King, 2019; O'Brien & Marakas, 2020).

From a theoretical standpoint, the weaknesses identified align with the COSO Internal Control Framework, which emphasises five interrelated components: control environment, risk assessment, control activities, information and communication, and monitoring. The study reveals deficiencies across at least three of these—namely, control activities, information and communication, and monitoring.

Simultaneously, when analysed through the Fraud Triangle Theory, the organisational environment at PT Trimitra Artha Jaya exhibits all three fraud-enabling elements: pressure (cash flow delays), opportunity (weak segregation of duties), and rationalisation (informal practices perceived as acceptable due to operational urgency). This triangulation reinforces the conclusion that system inefficiency and inadequate controls jointly elevate the likelihood of misstatement and fraudulent conduct.

The discussion also underscores the practical need for system integration. The introduction of a centralised, database-driven AIS would not only enhance data consistency and transparency but also support continuous monitoring and audit readiness. Furthermore, implementing automated authorisation workflows and credit management modules could significantly reduce manual workload and strengthen accountability.

Finally, the research contributes to theory by illustrating how process mapping, combined with internal control analysis, can more effectively reveal fraud risk indicators than traditional system audits alone. This methodological integration extends the AIS literature by demonstrating its application within a developing-country context, where manual systems and informal practices remain prevalent.

CONCLUSION

This study examined the effectiveness of the Accounting Information System (AIS) and internal control mechanisms within PT Trimitra Artha Jaya's revenue cycle, a medium-scale distribution company in Indonesia. The analysis revealed that, although the company has established basic accounting and administrative procedures, the absence of an integrated system and formalised control environment has significantly reduced operational efficiency and increased exposure to fraud risks.

Four principal weaknesses were identified:

- (1) dependence on manual, Excel-based recording systems;
- (2) lack of integration and weak data security controls;
- (3) delayed customer payments due to poor receivable management; and
- (4) insufficient authorisation and verification procedures in payroll processing.

These findings demonstrate that weaknesses in the company's AIS implementation undermine the reliability of financial reporting and the timeliness of management decision-making. When analysed through the COSO Internal Control Framework and Fraud Triangle Theory, the results indicate that deficiencies in control activities, information and communication, and monitoring have created both opportunities and pressures conducive to fraudulent practices. Consequently, system enhancement is urgently required to ensure compliance, transparency, and accountability.

This study enriches the Accounting Information Systems (AIS) literature by combining process mapping and internal control evaluation to reveal how weaknesses in control activities, information flows, and monitoring can create opportunities and pressures that increase fraud risk. The integration of the COSO Internal Control Framework and the Fraud Triangle Theory highlights that AIS is not merely a technological tool but a vital component of governance and organisational accountability. In practice, the findings emphasise the need for PT Trimitra Artha Jaya and similar organisations to modernise their AIS through integrated, automated systems, strengthen internal controls, formalise credit management and authorisation procedures, and enhance staff competence in digital accounting. These measures collectively improve data reliability, fraud prevention, and managerial decision-making.

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