

Fraud vs. Internal Control in Inventory Management: A Case Study of a Newly Established Healthcare Trading Company in Indonesia

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Abstract

This paper investigates fraud risk in inventory management at a newly established healthcare trading company, referred to as PT A. Fraud Triangle theory and the COSO internal control framework, it examines how insufficient controls, particularly in inventory documentation and monitoring, create opportunities for asset misappropriation. Data were collected through document analysis, semi-structured interviews, and on-site observations of warehouse procedures. The findings highlight significant issues, including the absence of Standard Operating Procedures (SOPs), inadequate segregation of duties, and a lack of regular stock-taking, all of which amplify fraud risk. For example, unclear SOPs lead to inconsistent inventory practices, while insufficient task segregation enables unchecked access to sensitive processes. These weaknesses align with the Fraud Triangle theory, which links opportunity and unethical behavior to heightened fraud risk. To mitigate these risks, the study recommends implementing the COSO framework to establish a robust internal control system. This would address the lack of SOPs by standardizing inventory procedures and clarifying task responsibilities. Anti-fraud awareness training is proposed to reduce ethical pressures, while advanced IT systems can improve inventory monitoring and facilitate regular stock-taking, directly reducing opportunities for mismanagement. By linking specific findings, such as weak internal controls, to tailored recommendations like adopting the COSO framework, this paper provides actionable solutions. It contributes to the literature on fraud risk assessment, internal controls, and inventory management within highly regulated industries, offering insights into preventing fraud in newly established organizations.

Keywords: COSO, fraud, internal control, inventory management

INTRODUCTION

Corporate assets—whether tangible or intangible—are essential for sustaining daily operations and achieving long-term strategic objectives (Kabue & Kilika, 2016). These assets are particularly crucial in industries where inventory forms the core of business operations, such as the healthcare trading sector (Liu et al., 2016). In this context, inventory management must strike a balance between operational efficiency and compliance with stringent regulations, given the sensitivity of products like medical devices and pharmaceuticals (Kim et al., 2025). However, fraud—particularly in the form of asset misappropriation—poses a significant threat to an organization's financial stability and reputation (ACFE, 2022). Research indicates that newly

established companies are especially vulnerable to fraud due to weak corporate governance and underdeveloped internal control systems (Herath et al., 2023).

PT A, a newly established healthcare trading company, reflects this vulnerability. Despite an awareness of the critical importance of protecting assets, the company has faced issues of inventory shrinkage, which suggest that its current internal controls may be inadequate. This study aims to investigate the link between PT A's inadequate internal controls and the opportunities for fraud in its inventory management practices. The significance of this research lies in addressing a key gap in the literature on fraud prevention within emerging healthcare trading companies. While previous studies have highlighted the importance of fraud triangles and internal controls, limited attention has been given to the specific vulnerabilities of newly established enterprises in regulated industries (Kerrigan, 2020; Mansor & Abdullahi, 2015). By examining PT A's challenges, this research offers theoretical contributions and practical insights to guide policymakers, practitioners, and researchers in enhancing fraud prevention strategies.

The novelty of this study lies in its focus on the context of new companies in the healthcare trading industry. Previous studies have more often discussed fraud in the context of large or established companies, while this study explores the challenges faced by new companies such as PT A. Integrative approach, Combining the analysis of internal control weaknesses with the fraud triangle approach to provide a more comprehensive understanding. Focus on strict industry regulations, This research highlights the vulnerabilities of companies in highly regulated industries, which often face greater pressure to maintain operational efficiency while meeting compliance.

This study aims to analyze how weaknesses in PT A's internal control system create opportunities for fraud, especially in inventory management. Identify specific factors that increase PT A's vulnerability to fraud in a highly regulated industry. This research provides benefits, namely, Theoretical, Adding to the literature regarding fraud prevention with a focus on new companies in the healthcare trading industry, which is still rarely discussed in depth. Practical, Provides guidance for new companies such as PT A to improve their internal control system, especially in inventory management. Policy, Provide input to policymakers on the importance of regulations that encourage better internal controls in companies in highly regulated industries.

RESEARCH METHODS

This study adopts a qualitative case study design (Yin, 2018) to provide an in-depth understanding of how PT A, a newly established healthcare trading company, experiences and mitigates fraud risks in inventory management. A single-case approach was selected to capture organizational nuances and contextual factors that are often overlooked in broader quantitative studies (Wintersberger & Saunders, 2020).

Data analysis employed a thematic approach (Clarke & Braun, 2017). Audio recordings of interviews were transcribed verbatim and analyzed using an inductive coding process to identify recurring themes, which were subsequently mapped to the Fraud Triangle and COSO components. Additional details on the coding procedure and data selection process would strengthen

transparency and replicability. Observational notes added contextual depth, highlighting discrepancies between stated procedures and actual practices. Document analysis served as triangulating evidence, validating whether formal policies aligned with employee accounts and observed behaviors.

Reliability was enhanced through data triangulation and member checking, wherein interviewees reviewed summaries of emergent themes to confirm accuracy or provide clarifications (Wintersberger & Saunders, 2020). Any discrepancies were resolved through follow-up discussions or further examination of relevant documents, reinforcing the credibility of the findings. However, this study focuses on a single newly established healthcare trading company, which may limit generalizability to organizations of different sizes, maturity levels, or industries. Additionally, the relatively short data collection period may not fully capture long-term changes in internal controls. Future studies could address these limitations by incorporating a more detailed description of the data collection and analysis procedures, extending the duration of data collection, and conducting multi-case or longitudinal studies to explore how internal control practices evolve over time.

RESULT AND DISCUSSION

The findings reveal that PT A's internal control system is still at a nascent stage. Although management recognizes the importance of internal controls, there are no formalized SOPs for inventory management, and employee roles often overlap. This lack of clarity increases the risk of fraud, as employees can access and move inventory without thorough authorization or documentation, creating significant opportunity for misconduct (Machado & Gartner, 2017).

Weak Control Environment and Inadequate Risk Assessment

A major theme that emerged was the absence of a well-defined control environment (COSO). Although senior management expressed concern about inventory losses, they had not enacted a formalized code of ethics or systematic training initiatives. This omission often led staff to prioritize operational speed and sales targets over procedural compliance. Furthermore, risk assessments—where they existed—were performed sporadically, usually following an incident of asset loss. These findings mirror those in Alleyne and Elson's (2020) study, where organizations with informal approaches to risk assessment were more likely to experience recurrent fraud cases.

Gaps in Control Activities and Inventory SOPs

Despite understanding the operational complexities in healthcare trading (e.g., expiration dates, special handling requirements), PT A lacked coherent SOPs that delineated responsibilities and established checkpoints.

- 1) Overlapping Roles: Employees could both request and approve inventory movements, bypassing independent reviews.
- 2) Documentation Deficiencies: Inventory entries often relied on verbal confirmations and handwritten notes, prone to errors or deliberate alterations.

- 3) Infrequent Stock Audits: No fixed schedule for third-party or surprise stock counts existed, increasing the risk of unreported misappropriations.

Such conditions expand “opportunity,” a crucial Fraud Triangle element, enabling employees to engage in unauthorized activities with minimal detection risk (Pobrić, 2022).

Information and Communication Breakdown

Interviewees indicated that daily inventory updates and stock discrepancies were not consistently communicated to relevant personnel. For example, a middle manager stated, “We only receive stock status at the end of each month, and by then, it’s too late to trace certain missing items.” This underscores the need for integrated information systems or ERP solutions, which can provide real-time visibility of stock movements (Louwers et al., 2018). The lack of transparent communication channels further facilitates fraud concealment, aligning with earlier findings that prompt, accurate information sharing is vital for early fraud detection (ACFE).

Monitoring and the Persistence of Opportunity

The overall monitoring process at PT A was described as “reactive rather than preventative.” While incidents of missing inventory triggered ad hoc investigations, there was no systematic mechanism to deter fraud proactively. The lack of an internal audit function or routine surprise audits created an environment where fraudulent activities could persist undetected. This finding aligns with COSO’s emphasis on ongoing evaluations as a cornerstone of robust internal control systems. Without rigorous monitoring, organizations effectively leave the “opportunity” element of the Fraud Triangle unaddressed (Mansor & Abdullahi, 2015).

Fraud Triangle Elements at PT A

- 1) Pressure: Although explicit financial pressures were not universally reported, some employees felt compelled to meet demanding sales quotas. In one instance, a warehouse clerk acknowledged feeling pressured to “cut corners” to expedite deliveries—a scenario ripe for misappropriation.
- 2) Opportunity: The absence of segregation of duties, weak SOPs, and inadequate supervision collectively formed a high-opportunity environment. As an operational staff member noted, “I can move items without too many questions asked.”
- 3) Rationalization: Several respondents downplayed the significance of inventory loss, citing the company’s “growth phase” or the notion that “everyone does it.” This underlines the importance of strong ethical guidance to dismantle such justifications (Rasheed et al., 2023).

These findings reinforce existing literature that highlights the intersection of the Fraud Triangle with weak internal controls, particularly in newly established or resource-constrained settings (Herath et al., 2023; Hsiao et al., 2024). Practically, PT A’s case demonstrates the urgent need for implementing a structured framework like COSO, which directly addresses the identified shortcomings in risk assessment, control activities, communication, and monitoring (COSO). Establishing clear SOPs, segregating duties, and deploying technology for real-time oversight can substantially reduce the probability and impact of fraud (ACFE) (Nandugga, 2019).

Importance of Anti-Fraud Awareness and Technology

Increasing anti-fraud awareness is critical in preventing unethical behaviour (see “Fraud Prevention through Internal Control and Islamic Ethics”). Training sessions that clarify ethical expectations, the legal consequences of fraud, and employees’ role in safeguarding assets can cultivate a proactive culture. Moreover, leveraging technology—particularly an ERP system—provides real-time data on inventory levels, automates approvals, and flags anomalies that may indicate potential fraud (Kabue & Kilika, 2016).

Proposed Recommendations

Strengthen the Control Environment

A robust control environment lays the foundation for ethical conduct and compliance with organizational policies (COSO). While PT A’s management acknowledges the importance of ethical behaviour, the absence of a formalized ethics code hinders consistent message dissemination.

1) Develop and Communicate a Formal Code of Ethics

- a) establish a clear, written code that articulates the company’s ethical values and expectations for all employees.
- b) Integrate these values into training sessions, onboarding processes, and performance evaluations (Wu et al., 2023).
- c) Encourage open dialogue and transparency, such as through periodic ethics workshops or anonymous feedback channels (Kai et al., 2021).

2) Promote Ethical Leadership

- a) Empower top management to visibly champion ethical behaviour by modelling integrity in decision-making (Nandugga, 2019).
- b) Provide leadership development programs to ensure that senior managers and team leaders can effectively convey and reinforce ethical standards (Van Quaquebeke et al., 2022).

These actions align with recent findings indicating that a clear, consistently communicated code of ethics can reduce fraudulent behaviours by up to 30%, primarily by eliminating ambiguity around acceptable conduct (ACFE).

Implement Systematic Risk Assessment

Many organizations fail to conduct risk assessments until after a fraud event occurs (Kerrigan, 2020). Proactive and regular risk assessments help identify specific vulnerabilities before they evolve into major control breaches.

1) Periodic Risk Mapping

Employ structured frameworks (e.g., ISO 31000, COSO ERM) to identify inventory-related risks, ranging from theft to procedural lapses (Spink, 2023).

- a) Assign risk ownership to relevant departments, ensuring accountability and timely mitigation efforts (Hasan et al., 2024).
- b) Revisit and update the risk map quarterly or semi-annually to account for changes in product lines, regulations, or staffing (Herath et al., 2023).

2) Quantitative and Qualitative Indicators

- a) Use Key Risk Indicators (KRIs), such as inventory turnover or the frequency of stock discrepancies, to monitor emerging threats (Louwers et al., 2018).
- b) Combine these measures with qualitative input from employees and stakeholders to capture nuanced insights that purely quantitative metrics might miss (Kai et al., 2021).

Research shows that integrating both qualitative and quantitative risk indicators improves the accuracy of fraud prediction models and leads to more targeted preventive measures (Hsiao et al., 2024).

Enhance Control Activities

Control activities serve as the operational “checkpoints” that deter and detect fraud (Pobrić, 2022). At PT A, the lack of clearly defined Standard Operating Procedures (SOPs) and segregation of duties has exacerbated the risk of inventory misappropriation.

Establish Clear SOPs

- a) Draft comprehensive SOPs outlining responsibilities for each step of inventory handling—from receipt to dispatch (Chong et al., 2024).
- b) Incorporate approval workflows for high-value items, ensuring that no single individual can authorize and execute critical tasks alone (Philip, 2018).
- c) Update SOPs as regulations or product lines change, reflecting the dynamic nature of the healthcare trading sector (Liu et al., 2016).

Enforce Segregation of Duties

- a) Separate inventory management functions—such as requisition, authorization, recording, and reconciliation—among different personnel (ACFE).
- b) Implement a dual-signature policy for the release of high-value or controlled items to establish accountability (Kerrigan, 2020).

Studies indicate that organizations with rigorous SOPs and segregation of duties can reduce inventory-related fraud by up to 40%, underscoring the efficacy of these control activities (Spink, 2023).

Improve Information and Communication

Timely and accurate communication of inventory data is integral to early fraud detection (Louwers et al., 2018). PT A’s reliance on manual entries and inconsistent reporting intervals creates discrepancies that can conceal asset misappropriation.

1) Adopt Real-Time Tracking Systems

- a) Invest in an Enterprise Resource Planning (ERP) solution or specialized inventory management software that tracks inventory movements in real-time (Chong et al., 2024).
- b) Leverage barcoding or Radio-Frequency Identification (RFID) for automated stock checks, which reduce human error and enable immediate alerts when anomalies occur (Hasan et al., 2024).

2) Establish Clear Reporting Protocols

- a) Designate regular reporting frequencies—e.g., weekly or monthly—for inventory reconciliation and variance analysis (Kai et al., 2021).

- b) Develop an incident-reporting mechanism for suspicious activities, ensuring anonymity and protection from reprisals (ACFE).

Recent evidence suggests that real-time, tech-enabled tracking can cut fraud detection times by over 25%, consequently limiting financial and reputational damage (Van Quaquebeke et al., 2022).

Ongoing Monitoring

Monitoring transforms internal controls from static checklists into dynamic systems capable of evolving with the organization (COSO). Without routine audits and oversight mechanisms, even well-established policies may fail under real-world pressures (Nandugga, 2019).

1) Continuous Auditing and Surprise Stock Counts

- a) Employ continuous auditing platforms that review transactions and compare them against predefined thresholds, flagging high-risk activities for management review (ACFE).
- b) Schedule unannounced stock counts to verify the consistency of inventory records and deter fraudulent attempts (Rasheed et al., 2023).

2) Establish an Internal Audit Function

- a) If resources permit, create or strengthen an internal audit department focused on both financial and operational controls (Spink, 2023).
- b) Encourage collaboration between internal auditors and operational teams to provide real-time feedback and swift remediation of identified gaps (Herath et al., 2023).

Research by Mahmoud (2024) indicates that firms employing a proactive monitoring approach, including periodic surprise audits, detect fraud nearly twice as fast as organizations relying on reactive or ad hoc monitoring processes. By incorporating these recommendations—backed by COSO principles and affirmed by recent empirical studies—PT A and similarly positioned firms can significantly mitigate the risk of inventory misappropriation. Ultimately, these practical measures foster greater operational resilience, regulatory compliance, and stakeholder trust (Kai et al., 2021; Van Quaquebeke et al., 2022).

CONCLUSION

This study reveals that PT A's high vulnerability to inventory misappropriation stems from an underdeveloped control environment, inadequate risk assessment, and inconsistent monitoring—conditions that collectively provide ample “opportunity” for fraud. The manifestation of the Fraud Triangle is evident in employees' perceived pressures to meet targets, the ease of circumventing weak controls, and the rationalizations used to justify unethical behaviour. Fraud poses a tangible threat to asset security in newly established companies, particularly those reliant on inventory for their core operations. As demonstrated in the case of PT A, a weak control environment, coupled with minimal monitoring, can significantly increase the risk of inventory misappropriation. By applying the Fraud Triangle and referencing the COSO internal control framework, this study underscores the importance of robust internal controls, clear SOPs, and heightened anti-fraud awareness. Implementing more rigorous stock audits, ensuring a clear segregation of duties, and integrating an ERP system can considerably reduce fraud

opportunities. Management should regularly train employees on ethical standards and build a transparent reporting culture to diminish rationalization. Adopting these strategies will not only mitigate fraud risk but also enhance overall operational efficiency.

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