



Evaluation of Internal Control System Over the Inventory Cycle in a Distribution Company (Case Study at PT. XYZ)

Fadhel Mubarak*, Indah Melati

Universitas Indonesia, Indonesia

Email: Fadelmubaraq@gmail.com*, indahm@gmail.com

Abstract

Effective inventory management is crucial in the distribution industry, as inventory levels and conditions directly affect the overall efficiency, continuity, and effectiveness of an organization's activities. This study aims to critically explore the implementation of internal control over the inventory cycle at PT. XYZ, a multinational distribution company, uses the *Internal Control–Integrated Framework* of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). This research is motivated by the findings of an internal audit conducted in 2023, which identified several areas that need improvement, including stock shortages, management of obsolete goods, loss of inventory, and recording mismatches. Through a qualitative case study approach, this study examines the extent to which a company's internal control practices are in line with the five core components of COSO: control environment, risk assessment, control activities, information and communication, and monitoring. The results show that although internal control mechanisms have been implemented, improvements are still needed, especially in the implementation of separation of duties, automation of the inventory recording process, and strengthening the control environment through better company policies. This study provides strategic recommendations to strengthen the internal control framework at PT. XYZ as well as providing relevant insights for other entities in the distribution sector that want to optimize inventory control systems and mitigate operational risks.

Keywords: Internal Control, Inventory Cycle, COSO Framework, Distribution Sector, Risk Mitigation, PT. XYZ

Abstract

Effective management of inventory-related operations is critical within the distribution industry, as inventory levels and conditions directly impact the efficiency, continuity, and overall effectiveness of organizational activities. This study aims to critically explore the implementation of internal controls over the inventory cycle at PT. XYZ, a multinational distribution company, utilizing the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control–Integrated Framework. This research is motivated by internal audit observations conducted in 2023, which identified areas necessitating improvement, including stock shortages, management of obsolete goods, inventory losses, and inconsistencies in recordkeeping. Through a qualitative case study approach, this study investigates the extent to which internal control practices align with the five core COSO components: control environment, risk assessment, control activities, information and communication, and monitoring. The findings suggest that while internal control mechanisms have been established, improvements are required particularly in implementing segregation of duties, automating inventory recordkeeping processes, and strengthening the control environment through enhanced corporate policies. This study provides strategic recommendations aimed at reinforcing the internal control framework at PT. XYZ and offers insights applicable to similar entities within the distribution sector seeking to optimize their inventory control systems and mitigate operational risks.

Keywords: Internal Control, Inventory Cycle, COSO Framework, Distribution Sector, Risk Mitigation, PT. XYZ

Corresponding: Fadhel Mubarak
Email: Fadelmubaraq@gmail.com



INTRODUCTION

The distribution services industry is one of the sectors that has a high level of vulnerability to internal fraud. The main factors that affect this are complex business characteristics, involvement with many third parties, high transaction volume, and management of assets with significant value. The combination of these factors creates an environment that is prone to operational irregularities and fraud. The impact of internal fraud is not only limited to financial losses, but can also reduce the company's reputation, this of course disrupts the smooth business cycle, and has the potential to trigger legal sanctions due to violations of applicable regulations. (Wahyuningsih et al., 2022; Yusuf Khudri, 2024) (Madani Lutfi, 2022; PCAOB, 2022; Root, 2021; Shenoy & Rosas S. E., 2022; Stevenson, 2022)

PT. XYZ, as an integrated distribution company in Indonesia, is part of a multinational business group based in Hong Kong. Established in 1949, PT. XYZ has undergone significant development and now operates in the East Asia to Southeast Asia region. The company offers a wide range of products that include the motor, health, electrical, and fast-moving consumer goods (FMCG) categories. The focus on the distribution of consumer goods and products for the professional sector adds to the level of complexity of the company's operations, thus demanding an effective internal control system. This system is necessary to ensure the integrity of financial statements and prevent fraud, especially in the recording of expenses. (Timmermans & Tavory I., 2022; Yoon, 2021)

In 2023, the internal audit unit of the head office of PT. XYZ found a number of important findings related to the company's operations at PT. XYZ Indonesia branch, especially in inventory management, recording cash expenditures, and incomplete documentation. In addition, it was also found that there were transactions that did not obtain authorization or approval from management. These findings, as summarized and explained in the paragraph below, are the risks to the inventory cycle at PT. XYZ, emphasized the urgency of strengthening the internal control system to mitigate operational risks and prevent fraud at PT. XYZ.

In 2023, the head office's internal audit unit found a number of important findings related to the company's operations, particularly on inventory management, recording of cash expenditures, and incomplete documentation. In addition, it was also found that there were transactions that did not obtain authorization or approval from management.

Based on the findings obtained, it can be concluded that the expenditure cycle in a company requires the implementation of an effective internal control system to provide guarantees for expenditure transactions, especially for inventory management. This is so that expense reports can be presented in a reasonable and accountable manner. COSO in the updated Enterprise Risk Management (ERM) framework emphasizes that internal controls must be dynamic and integrated with risk management, including the risk of recording errors or fraud in the expenditure cycle. In addition, Zhou et al.'s (2023) research shows that companies that adopt technology-based automated controls are able to improve the accuracy of reporting expense transactions and reduce reliance on manual controls.

In companies engaged in distribution services, such as PT XYZ, the risk of fraud in the expenditure cycle is very potential, especially involving parties who have authority in the implementation of the cycle. This fraudulent practice can have an impact on the inaccuracy of the financial statements produced, so that it does not reflect the true financial condition of the company. Therefore, the design and evaluation of the internal control system is very important to ensure that the financial statements produced are more reliable, as well as support the

efficiency and effectiveness of the company's operations, while ensuring compliance with applicable laws and regulations.

One approach that can be used to evaluate the effectiveness of an internal control system is to implement an internal control framework published by The Committee of Sponsoring Organizations of the Treadway Commission (COSO). COSO's updated integrated framework with supporting principles remains globally recognized as the primary standard for designing and evaluating internal controls, not only in the United States but also in international practice. This framework identifies five control components namely control environment, risk assessment, control activities, information & communication, and monitoring where the five components must operate in an integrated manner to provide adequate assurance that internal control objectives are achieved. In addition, the COSO control framework in the context of Enterprise Risk Management (ERM) provides a relevant risk-based approach for companies such as PT XYZ in an effort to identify and manage risks that may occur during the expenditure cycle. This study aims to analyze the application of an internal control system in preventing potential accounting fraud in the expenditure cycle at PT XYZ. In addition, this research is also expected to provide recommendations for improvements that can increase the effectiveness of internal control in the company, especially PT. XYZ. With a deep understanding of the existing control mechanisms, this research is expected to make a significant contribution in strengthening the internal control system in PT XYZ and the distribution industry sector in general.

Research by Arum and Nugroho (2020) examined the effectiveness of COSO-based internal control systems in the manufacturing sector and concluded that the success of control is greatly influenced by the integration of the five COSO components, especially in the aspects of monitoring and information communication. However, this study has not specifically examined the risks in the inventory cycle and the operational context of distribution companies, which have a higher level of complexity because they involve rapid stock rotation and cross-entity cooperation. Meanwhile, a study by Zhou et al. (2023) shows that the implementation of a technology-based control system is able to reduce the risk of stock loss and increase the transparency of recording in the logistics sector, but this study places less emphasis on the comprehensive implementation of the COSO framework as a risk evaluation and mitigation tool.

This study fills this gap by integrating the COSO framework into a thorough evaluation of internal controls in the inventory cycle at a multinational distribution company, namely PT XYZ. The study not only identifies structural and operational weaknesses based on the five pillars of COSO, but also provides a strategic approach to the improvement of the control system by taking into account dynamic business conditions and actual distribution risks in the field. Thus, this research is expected to make a significant contribution in strengthening internal control in the distribution sector, as well as expanding the academic literature on risk-based control and accountable accounting practices.

RESEARCH METHODS

This research uses a qualitative approach that aims to understand in depth the phenomenon that occurs in the inventory cycle at PT XYZ. This method was chosen because it is able to describe the complex and dynamic context in inventory management and internal controls. Data collection was carried out in a triangulated manner, namely through interviews, observations, and document analysis, which was divided into primary and secondary data.

Primary data includes in-depth interviews and direct observations in the field, while secondary data is obtained from internal company documents as well as relevant literature. (Scott, 2017)

Observations are carried out in a controlled manner in the operational environment of PT XYZ, especially in work units directly related to inventory management. The researcher uses a passive participation approach, where the presence of the researcher does not affect the observed activities, but still obtains factual insights from the behavior of employees in carrying out work procedures. In addition, semi-structured interviews are conducted with unit leaders, operational staff, and other related parties. This technique allows for an in-depth exploration of practices and constraints in the implementation of internal control systems. Follow-up discussions were conducted to validate and strengthen the interview results, so that the interpretation of the data became sharper and avoided single perception bias.

The data was analyzed through a thematic approach by formulating patterns and relationships between field findings. The interview and observation data was manually coded and mapped using a matrix to identify inconsistencies, control gaps, and potential fraud. For example, from operational observations, it was found that there was a mismatch between the amount of physical stock and system records of an average of 4.7% per month, which indicated weak reconciliation and recording procedures. In addition, it was found that 35% of goods expenditure documents were not accompanied by supervisory authorization, which indicates weak supervisory functions and the risk of fraud. The results of this analysis are then compared with the principles in the COSO framework to assess the extent to which the company's internal control system is already running according to standards.

PT XYZ as the object of the research is a medical device distribution company that has complex operational characteristics. The company serves various hospitals and clinics throughout Indonesia, with fluctuating levels of demand and a high variety of products. The complexity of the distribution network and the high volume of transactions make the inventory cycle in this company very vulnerable to inefficiency and potential fraud. This encourages the importance of implementing a comprehensive and sustainable COSO framework-based internal control system. By comprehensively understanding how internal control systems are implemented in real operational environments, the results of this study are expected to be able to provide concrete recommendations that are relevant and applicable.

RESULTS AND DISCUSSION

Evaluation of the effectiveness of internal control in the inventory cycle at PT. XYZ will be focused on four main activities related to the 2023 internal audit findings, namely the ordering process, *receiving*, storage, and *shipping*. This focus aims to assess the extent to which the control mechanisms implemented in each stage are able to mitigate risks, ensure compliance with company policies, and improve operational efficiency. This control analysis is based on the COSO 2013 framework related to internal control. The control components include the control environment, risk assessment, control activities, information and communication, and monitoring.

Table 1. Operating components

Risk Description	Impact	Likelihood	Risk Level	Risk Owner	Evaluation Scope
Lack of stock leads to customer dissatisfaction	Medium to High	Major	Tall	Warehouse Team	Ordering; Receiving

Expired or unused goods (<i>obsolescence</i>) so that many items are returned	Medium to High	Major	Tall	Warehouse Team	Failure; Ordering
Damage to goods during handling or storage until delivery	Medium	Moderate	Keep	Operations Manager	Failure; Shipping; Receiving
Inventory Records are inaccurate due to manual errors	Tall	Major	Tall	IT, Finance, Warehouse Team	Failure; Receiving; Shipping
Theft or loss of inventory	Tall	Redah	Keep	Warehouse Team	Failure; Shipping

In its implementation, this evaluation applies a data triangulation approach, which is a method that integrates and compares information from various sources to improve the validity and reliability of findings. This approach allows for a more thorough analysis by accommodating a variety of perspectives, either through internal documentation review, interviews with relevant stakeholders, or direct observation of the implementation of procedures. Thus, the results of the evaluation are expected to be able to provide a more accurate representation of the effectiveness of the internal control system, as well as identify areas that need improvement as part of efforts to improve governance and overall organizational performance. Furthermore, the analysis of the internal control components in this case study was carried out with reference to the COSO 2013 framework, namely

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Environmental Analysis

Based on the results of in-depth interviews with three key speakers from various levels of the organization, it can be concluded that PT. XYZ has built a fairly comprehensive control environment foundation, although there are still some areas that need improvement to fully meet the principles of COSO 2013.

1. Commitment to Integrity and Ethical Values

PT. XYZ has shown seriousness in instilling integrity values through the mandatory policy of signing a code of conduct and conflict of interest for all employees. This step is strengthened by periodic ethics training programs in the supply chain department as well as internal supervision and audit mechanisms in the warehouse environment. However, companies do not yet have a structured whistleblowing system for anonymously reporting ethical violations, which can actually strengthen a culture of openness and accountability.

2. The Role of Management and the Board of Directors

Although the management has carried out supervision through annual stock taking activities carried out by the Supply Chain department, the frequency of this supervision is considered insufficient to ensure the accuracy of inventory on a sustainable basis. More importantly, the role of the Board of Directors in strategic oversight of the inventory cycle has not been explicitly seen. Ideally, the board should be involved in setting the tone at the top and monitoring inventory risk as part of good corporate governance.

3. Organizational Structure and Authorization

At PT. XYZ has implemented a well-defined organizational structure, particularly in the warehousing area. Duties and responsibilities between functions such as admins, checkers, pickers, and operators have been strictly regulated, encouraging the creation of effective segregation of duties. This step is important to reduce the likelihood of recording errors or misuse of assets. However, on the financial side, there is a control gap, where the finance team is only involved in

the Purchase Order authorization process, but not in the entire inventory management cycle. This limited role has the potential to create a control gap that is prone to abuse if not balanced with cross-supervision between functions.

4. Human Resource Competence

The company has demonstrated a strong commitment to developing HR competencies through various initiatives such as system training, qualification-based recruitment processes, and direct mentoring by superiors. However, the current training program is still general and has not been supported by a periodic training needs assessment mechanism to identify competency gaps more specifically. In addition, the absence of clear certifications or competency standards for key positions in the warehouse and supply chain can affect performance consistency.

5. Accountability and Monitoring

The case of PT. XYZ has implemented a fairly detailed reporting and reconciliation system, ranging from daily, weekly, to monthly. However, companies do not yet have measurable Key Performance Indicators (KPIs) and clear tolerance targets to evaluate the effectiveness of internal controls. For example, there is no standard for the level of accuracy of stocks to be achieved or the maximum time to complete inventory difference investigations.

To strengthen the internal control environment at PT. XYZ according to the COSO 2013 performance framework, PT. XYZ is recommended for:

- a) Increase the frequency of inventory monitoring through the implementation of the monthly or quarterly cycle counting method to accelerate the detection of stock mismatches.
- b) Expand the involvement of the finance function in the entire inventory authorization cycle for more comprehensive and non-segmented controls.
- c) Develop a safe, confidential, and independent whistleblowing system to strengthen accountability and courage in reporting ethical violations.
- d) Applying certification-based competency standards to key positions in the warehouse and supply chain as an objective measurement tool in the HR development and evaluation process.
- e) Establish KPIs and tolerance limits for control performance, such as inventory accuracy rate, timeliness of reconciliation, or exception reports frequency, as the basis for more data-driven managerial evaluation and decision-making. With the strengthening of these areas, PT. XYZ is expected to be able to build an internal control system that is not only formally adequate, but also effective in encouraging operational efficiency and strengthening corporate governance as a whole.

Analysis of Risk Assessment

Based on interviews with senior management, supply chain managers, and warehouse staff, it can be concluded that PT. XYZ has identified various key risks that have the potential to interfere with the achievement of the company's operational and financial objectives, particularly in inventory management. However, the existing risk assessment system is still reactive and has not been fully integrated into the formal and sustainable risk management process.

1. Systematic but Unstructured Risk Identification

The respondents acknowledged that there are a number of significant major risks, such as overstock, stock-out, expired goods, damage and loss of goods, and inaccurate recording. These risks have been identified based on operational experience and routine observations, but have not been followed up with systematic risk assessments through quantitative and qualitative approaches. The Senior Manager mentioned that the monitoring of shelf life and expiration dates is carried out based on the list of available inventory. In addition, the company has taken mitigation measures by providing insurance on inventory. However, there is no probability- and impact-based risk assessment method that can be used to prioritize control actions.

2. Fraud Risk: Realized but Not Yet Established as a Strategic Focus

Interviews with various levels of the organization revealed that the potential risk of fraud in inventory management has not been formally identified as a strategic risk. Although the management felt that there had been no significant fraud incident, the warehouse staff actually

provided a detailed explanation of the forms of fraud that may occur, such as embezzlement of goods, manipulation of records, and shrinkage that was not detected due to weak supervision procedures. This shows that there is a gap in perception between levels of the organization regarding the level of fraud vulnerability, which has the potential to cause blind spots in the internal control system

3. Operational Risks That Impact Financial Objectives

From the supply chain side, the risk of excess stock is identified as a major factor that can burden storage costs and affect cash flow. On the other hand, out of stock (OOS) risks losing sales potential and thwarting the achievement of the company's financial targets. These risks have not been managed with quantitative indicators or periodic monitoring schemes to detect and anticipate deviations from acceptable tolerance limits.

4. Strategic Risks due to Changes in Business Models and Operational Environment

The change in business direction from the Fast Moving Consumer Goods (FMCG) sector to the Healthcare sector has a significant impact on the characteristics and patterns of inventory turnover. In addition, changes in market demand, supply chain disruptions, regulatory changes, and geopolitical dynamics have also increased the complexity of inventory management. This demands that PT. XYZ to have an adaptive and dynamic risk assessment system, capable of responding quickly to changes in the external and internal environment.

5. The Need for an Integrated Risk Assessment Approach

6. Based on the existing conditions, it appears that the risk assessment process at PT. XYZ has not been fully integrated into strategic planning and operational decision-making processes. The absence of formal documents in the form of risk registers or inventory risk mapping, as well as the absence of a periodic risk evaluation process, shows that the risk assessment approach is still informal. In fact, to meet the principles of COSO 2013, organizations are required to not only identify risks, but also assess their possibilities and impacts, as well as determine the appropriate risk response consistently.

In line with these conditions, a number of solutions and suggestions for PT. XYZ, among others, builds a more structured risk assessment framework through a regularly updated risk identification and documentation system, as well as using probability and impact-based scoring methods. Fraud risk needs to be integrated into the control strategy through the implementation of segregation of duties, surprise audits, and the use of goods tracking technology. In addition, companies are advised to develop and monitor operational risk indicators (KRI) such as inventory turnover ratio, aging inventory, and out of stock (OOS) level as early detection of deviations. Considering the change in business direction to the Healthcare sector, PT. XYZ also needs to adapt the risk management system to external dynamics and conduct periodic evaluations. Risk assessments should be integrated into strategic planning, budgeting, and operational decision-making, supported by formal documents such as the Inventory Risk Management Policy and Risk Response Plan. Finally, companies need to adopt the COSO 2013 framework consistently and establish an Internal Risk Management Committee to strengthen the supervision and monitoring of internal controls.

Analysis of Elements of Control Activities

Based on interviews with Senior Manager Finance and Senior Manager Supply Chains, it can be concluded that PT. XYZ has implemented a number of control activities in the inventory cycle aimed at minimizing risk and ensuring operational effectiveness. However, there is room for improvement in terms of procedure documentation, automation, as well as cross-functional coordination.

1. Authorization-Based Control and Approval Matrix

From the financial side, the company has established an authorization matrix used in the inventory clearance process. This mechanism ensures that the greater the value of the inventory removed, the higher the level of approval required. This escalation system is a form of control activity that is important to prevent losses due to unilateral or unfounded decisions.

In addition, the inventory purchase process is also subject to multi-level approval, namely from the Finance Manager and General Manager. This reflects the segregation of duties and strong supervision of the procurement process.

2. The Use of Technology as a Tool for Operational Control

PT. XYZ has implemented an integration system between the company's internal systems and the warehouse management system, even though the warehouse is managed by a third party. The system strengthens the accuracy of the data and allows for better monitoring of the movement of goods. The use of Warehouse Management System (WMS) by third parties shows that operational activities in the warehouse have been digitized, enabling real-time tracking of goods, reducing the risk of recording errors, and improving operational efficiency. The implementation of this system reflects automated control which is very much in line with the principles of COSO 2013 in utilizing technology to support manual control and prevent errors/fraud.

3. Data Analysis-Based Control Activities

Within the supply chain, companies have implemented controls based on historical data analysis and demand projections. For example: Days of Inventory (DOI); Rolling 3-month Forecast; 3-month historical sales; Market Trends; Promotional Events

This approach serves to maintain a balance between availability and inventory needs, while avoiding the risk of overstock and stockout. This activity is also the basis for planning and procurement decision-making, as well as being part of preventive control.

4. Not Yet Seen Written Procedures and Systematic Control Monitoring

Although control activities have been implemented, it has not been explicitly stated whether the company has fully documented the Standard Operating Procedures (SOPs) and whether periodic control effectiveness testing is carried out. COSO 2013 emphasizes the importance of document documentation as part of documented and auditable internal controls. Monitoring the effectiveness of control is also important so that control activities are not just procedural, but actually function as they should.

In general, PT. XYZ has implemented various control activities in the inventory cycle from a financial and operational perspective. There is a Delegation of Authority DOA matrix in the authorization of Purchase to the elimination of inventory, the use of the WMS system by the warehouse vendor so that it facilitates the monitoring of inbound-outbound flows. Nonetheless, to improve the effectiveness of the internal control system, companies need to consider the following strategic steps:

1. Develop and socialize Standard Operating Procedures (SOPs) that are documented in writing and comprehensive, covering all activities in the inventory cycle, including the process of authorization, elimination, and inventory value assessment.
2. Carry out periodic evaluation of control effectiveness, for example through the implementation of internal audits or cross-testing of Warehouse Management System (WMS) procedures and systems operated by third parties.
3. Establish Key Control Indicators that function to monitor the implementation of control in real-time, such as stock accuracy rate, approval lead time, and stock non-conformity.

By strengthening the aspects of documentation, monitoring, and testing of control effectiveness, PT XYZ's internal control system will be more solid and able to support the achievement of organizational goals as a whole and sustainable.

Analysis on Information and Communication

The following is an analysis of internal controls related to Information and Communication in the inventory cycle based on the COSO 2013 framework, which is a combination of interview data and advanced analysis:

1. Completeness, Quality and Relevance of Inventory Information

Based on the results of interviews with three respondents, namely Senior Manager Finance, Senior Manager Supply Chain, and Warehouse Staff, it was found that there was a difference in perception of the completeness, quality, and relevance of inventory information. The Senior Manager Finance assessed that the inventory information was not completely complete and the quality was still not

optimal because there was no integration between the company's internal systems and the systems used by third parties (warehouses). On the other hand, Senior Supply Chain Managers and Warehouse Staff feel that the information available today is quite complete, relevant, and continues to be improved on an ongoing basis. This difference in perception indicates a coordination gap between functions, which risks leading to inaccurate inventory data. This data mismatch can ultimately impact financial reporting, procurement processes, and supply chain management efficiency. Therefore, it is highly recommended that companies immediately integrate financial systems with warehouse systems, as well as evaluate the need for a more integrated system implementation such as ERP.

2. Internal Communication

In terms of internal communication, the three respondents agreed that coordination between departments runs regularly. The Senior Manager Finance said that communication is carried out on a daily basis, especially when there are problems that must be solved between finance and the supply chain. The Senior Supply Chain Manager added that daily sharing reports are one way to ensure data openness between departments, while the Warehouse Staff emphasized the importance of periodic reports and the existence of SOPs that define the role of each party in the supply chain. Although there is already a good internal communication structure, coordination still relies heavily on manual reports and ad-hoc discussions. This poses a risk of miscommunication if the report is not updated or the SOP is not followed consistently. For this reason, companies are advised to develop automated reporting systems such as real-time dashboards, as well as conduct regular audits to ensure compliance with the SOPs that have been set.

3. External Communications

On the external communication aspect, all respondents recognized the importance of close communication with external parties such as suppliers, customers, logistics partners, and regulators. Practices such as Business Review Meetings with principals, negotiation of the availability of goods, and coordination with logistics partners and the government are important parts of maintaining a smooth supply chain. Nevertheless, this communication process still seems to rely on informal methods such as email and phone without centralized documentation. The main risks of this situation are the loss of a crucial information trail and the lack of cross-functional transparency. To strengthen control, companies need to implement an integrated collaboration system—e.g. SAP Ariba or similar systems—that can log all external communications and connect them directly to the company's internal systems. In addition, supplier and customer data should also be synchronized with the inventory system so that the decision-making process becomes more data-driven.

Overall, PT. XYZ has had a fairly active communication and information delivery practice both internally and externally. However, there are weaknesses in data quality consistency, system integration, and communication standardization that can pose a risk of errors or miscommunication, especially in cross-functional strategic decision-making. Within the framework of COSO 2013, the ideal "Information and Communication" component should ensure that information is relevant, timely, and communicated effectively to all relevant parties. The recommended priority steps so that they can be implemented at PT. XYZ is: Accelerate system integration between enterprises and warehouse providers; Standardize and document all important communications both internal and external; Evaluate the effectiveness of communication on a regular basis through employee surveys, internal audits, and operational dashboards.

By strengthening this component, PT. XYZ will improve operational efficiency, financial reporting accuracy, and capabilities in data-driven decision-making.

Analysis of the Implementation of Evaluation at PT. XYZ

The following is an analysis of the company's internal control based on the indicators of Evaluation (Monitoring Activities) in the framework of COSO 2013, combining the results of interviews from Senior Manager Finance, Senior Manager Supply Chain, and Warehouse Staff:

Based on the interviews, there were differences in approach and frequency in evaluating the effectiveness of the internal control system related to inventory management. The Senior Manager Finance stated that the evaluation has not been carried out regularly and is only carried out when there are differences or problems. This shows that the evaluation process is reactive, not proactive. He also assessed that the current internal control is not effective, so there is a need for system development and a review of the applicable control mechanism. On the other hand, the Senior Manager of Supply Chain said that evaluations are carried out twice a year, and the existing control system is quite effective in identifying the position of inventory as a whole within six months. They also implement a regular monitoring process and prepare justifications if there are unresolved problems, as a form of accountability to the company's leadership.

Meanwhile, warehouse staff assessed that the control system was quite effective because the recording process had been carried out with the Warehouse Management System (WMS), routine physical inspections, and clear procedures related to the receipt, storage, and removal of goods. The evaluation is conducted through an inventory audit that focuses on matching system data with physical conditions in the warehouse, as well as the use of key performance indicators such as inbound accuracy, delivery accuracy, and stock accuracy.

A thorough analysis shows that the evaluation approach has not been standardized across functional units, where warehouses and supply chains already have more systematic evaluation routines, while the finance side is still ad-hoc. These gaps can lead to a lack of alignment in looking at the overall effectiveness of controls, as well as increased systemic risks in the absence of integrated monitoring. Evaluations that are not carried out regularly also risk ignoring potential problems that are latent (hidden) and only visible when they have already made an impact.

Recommendations for improvement in the Monitoring aspect include the following:

- a) Standardization of Evaluation Procedures: Companies need to establish a uniform periodic evaluation schedule across functions, e.g. quarterly, so that there is no inequality in the frequency of supervision and follow-up between departments.
- b) Use of Integrated KPIs: Performance indicators used by warehouses can be adopted more widely by other units, including finance and supply chain, so that evaluations can be carried out quantitatively and objectively.
- c) Strengthening Automated Monitoring Systems: The WMS system used by the warehouse can be further developed and integrated with the ERP system so that the entire monitoring process can be carried out in real-time, across departments.

Internal Audit and Formal Evaluation Reports: Evaluation is not enough with just casuistic monitoring, but needs to be documented in the form of periodic reports that can be the basis for strategic decision-making. Structured Follow-up: Each finding from the evaluation results must be complemented by a corrective action plan that is officially communicated and monitored for implementation.

After an evaluation of the internal control system in the inventory cycle, the analysis is focused on five main components as formulated in the COSO 2013 framework, namely the control environment, risk assessment, control activities, information and communication, and monitoring activities. This evaluation also considers the implementation of the Standard Operating Procedures (SOP) that apply at PT. XYZ, especially in the scope of the ordering process, receiving, storage, and shipping. To deepen the analysis and strengthen the validity of the argument, interviews and in-depth discussions were conducted with three key speakers, namely Senior Manager Finance, Senior Manager Supply Chain, and warehouse operational staff. This interview aims to examine the relevance of audit findings based on the three main objectives in the framework of COSO 2013, namely operational objectives, reporting, and compliance, this is useful to identify the orientation and implications of each of the control weaknesses.

The following sections present the results of the risk assessment (scoring) as well as an analysis of the findings of the 2023 internal audit, with a focus on identifying critical areas in the inventory cycle that require improved control. The first audit findings revealed the problem of stock shortages that had a direct impact on customer satisfaction. This indicates the weak control system in supporting the company's operational continuity. The evaluation is focused on two main areas, namely the ordering

process and the receipt of goods, which are the starting point in the internal supply chain. Based on the COSO 2013 framework, the control objectives in these findings are classified into operational categories, given their direct impact on business process efficiency and quality of service to customers. Therefore, this control is quite high risk in ensuring the accuracy of needs planning, the timeliness of procurement, and the smooth distribution of goods.

Based on the results of the evaluation of the internal control system carried out, a total score of 12 out of a maximum of 20 points was obtained. This value reflects an average score of 2.4 per indicator assessed. With these achievements, the level of control effectiveness is categorized as "Moderate", which indicates that although some aspects of control are in place, there are still significant weaknesses that need to be addressed immediately to improve the overall effectiveness and reliability of the system. This improvement is important so that operational risks can be minimized and organizational goals can be achieved more optimally.

Table 2. Audit

Yes	2023 Internal Audit Findings	Advanced Recommendations
1	In the absence of an automatic Reorder Point (ROP) system, reorders are still based on forecasts, not actual data.	Develop automated ROP modules in ERP systems that take into account actual stock, lead time, and safety stock.
2	Coordination between functions is still done manually through email and personal confirmation, so it is prone to delays.	Implement automated workflow approval and digital notification system integration to accelerate cross-functional coordination.
3	Supplier lead times are not regularly evaluated and are not documented, making it difficult to mitigate delivery delays.	Conduct periodic reviews of supplier performance, including delivery timeliness and supply consistency.
4	ERP and WMS systems have not been integrated to provide early warning of stock shortages.	Integrate WMS and ERP (e.g. JDE) through a stock alert dashboard that can be accessed by various departments.
5	There is no historical analysis of the deviation of goods receipts to POs, so there is no benchmark for receipt effectiveness	Build a reporting system and comparative historical analysis between PO and revenue realization for monitoring and evaluation.

Furthermore, one of the important findings in the 2023 internal audit relates to the risk of expired or unused goods (*inventory obsolescence*), which can have a significant impact on operational efficiency and increased storage costs. The evaluation of internal control is focused on two main scopes, namely the storage process and *ordering*, because both have a strategic role in determining the shelf life and stock turnover.

In COSO 2013, the evaluation of these findings with the main objective is operational, namely to ensure that the operational process can run effectively and efficiently, and is able to minimize waste due to the accumulation of goods that are no longer of economic value. The risk of obsolescence often arises due to weak stock rotation systems, inaccurate procurement planning, and lack of stock monitoring systems that are close to expiration dates. Therefore, strengthening control in the storage and ordering areas is crucial to prevent losses caused by unproductive inventory.

From the results of scoring on the risk of expired goods in the storage flow of PT. XYZ several evaluation results of the internal control system carried out, obtained a total score of 11 out of a maximum of 20 points. This value reflects an average score of 2.2 per indicator assessed. With this achievement, the level of control effectiveness is categorized as "quite weak", so some significant improvements are needed.

Table 3. Audit

Yes	2023 Internal Audit Findings	Advanced Recommendations
1	Stock rotation (FEFO/FIFO) is not run consistently, so old products are left in the warehouse.	Implement FEFO/FIFO in a disciplined manner and conduct daily or weekly routine audits of the expiration date.
2	There is no structured aging stock monitoring system, so the goods are at risk of expiry without precautions.	Make a monthly aging inventory and slow moving stock report as the basis for preventive actions.
3	The forecasting process is not associated with the realization of sales and active stock, so procurement does not reflect actual needs.	Review forecast accuracy on a quarterly basis, and integrate with active stock data for more accurate decision-making.
4	There is no early warning dashboard available for stocks that are close to expiration.	Add an automatic alert module in the WMS to detect items with an approaching expiration date (example: H-90 days).
5	The lack of data-driven communication between the warehouse and the purchasing team, causes orders to be placed without taking into account real stock conditions.	Build system-based communication between warehouses and purchasing so that orders take into account actual stock conditions and movements.
6	Slow moving <i>goods</i> are not followed up, so they remain piled up in the warehouse without a distribution solution.	Follow up on slow-moving goods through discounts, promo bundling, or redistribution to high-demand areas.

The following risk assessment was prepared to evaluate the weakness of control over the risk of damage to goods during the handling, storage, and delivery process, as reflected in the findings of the 2023 internal audit. The findings explicitly noted the occurrence of damage to goods at various stages of the distribution flow, which caused losses not only from a financial perspective, but also from the aspect of service reliability to customers.

This evaluation is focused on operational objectives, as formulated in the framework of COSO 2013, with the goal of improving the efficiency and effectiveness of the goods distribution process. The risk of damage can occur due to handling that is not in accordance with procedures, non-standard packing standards, and unfavorable storage conditions. Therefore, strengthening control in these three areas is a priority to prevent losses and maintain service quality

Based on the results of the recapitulation of the score on the risk of damage to goods in the logistics handling cycle, a total score of 11 out of 20 was obtained, with an average score of 2.2. This value indicates that the level of control over these risks is relatively weak and requires serious systematic improvement. These findings are in line with the results of the 2023 internal audit, which identified the occurrence of damage to goods during the handling, storage, and delivery process as the main issues that have not been adequately handled.

Some of the main contributing factors include the lack of regular training for warehouse staff and third parties (such as Kamigumi), which results in procedural inconsistencies in loading activities (*Loading*), drafting (*Stacking*), as well as the transportation of goods. In addition, the absence of packaging standards (*Packaging*) documented and consistent also increases the likelihood of physical damage to the goods due to pressure, shock, or environmental conditions during shipping. Storage facilities were also found not to be fully adapted to the characteristics of the goods, especially for products that require certain temperature or humidity settings. Another disadvantage is the absence of a comprehensive goods inspection system both upon receipt from the supplier and before

delivery to the customer, as well as the absence of a formal reporting mechanism to record, follow up, and evaluate cases of damage to goods that occur.

Table 4. Audit

2023 Internal Audit Findings	Follow-up Recommendations
There is no periodic training for warehouse staff and third parties in goods handling procedures	Conduct regular training at least 2x a year for warehouse & Kamigumi staff regarding handling, loading, stacking, and safety
There are no packaging standards to guarantee the safety of goods in transit	Implement standard packaging SOPs and use protective materials according to the type of product
The storage space has not been adapted to the specific needs of the product	Evaluate and improve storage space (e.g., <i>cold storage</i> , moisture-resistant shelves) for sensitive items
A thorough inspection of the physical condition of the goods is not carried out when received and shipped	Add an inspection checklist of incoming and outgoing goods, verified by warehouse staff and SC Admin
There is no formal reporting and investigation system for damage to goods	Create a <i>Damage Report and Root Cause Investigation system</i> , monitor using Key Risk Indicator (KRI)

Furthermore, the risk assessment (*Scoring*), evaluation, and strategic recommendations on the findings of the fourth internal audit in 2023, namely inaccuracies in inventory recording caused by manual errors. This finding is considered to have a significant impact on the quality of inventory reporting. The evaluation is carried out with reference to the areas of storage, receiving, and shipping, which are critical points in the stock recording flow. The focus of control is directed towards achieving reporting objectives (*Objective Reporting*) within the framework of COSO 2013, in particular to ensure the reliability and accuracy of the information reflected in the system. Weaknesses such as manual input processes, lack of trail audit systems, and limited reconciliation mechanisms are the main highlights that need to be followed up immediately through strengthening systems and procedures

Based on the score recapitulation of the risk assessment of the inaccuracy of inventory records, a total score of 11 out of 20 was obtained, with an average score of 2.2. This score indicates that the level of control is relatively weak, so it requires serious improvements in the inventory recording and monitoring system.

The findings of the 2023 internal audit show that inaccuracies in inventory records are mainly due to manual processes that are prone to *human error*, as well as the absence of a robust monitoring mechanism for data changes. Some important processes such as stock input, delivery of goods expense documents (*Delivery Order* or *Shipping Instruction*), and stock taking have not been fully documented systematically and automatically. In addition, there are no trail audits or data change activity logs available that can help the tracking process when there is a stock discrepancy between the system and the physical. The lack of a data-driven monitoring system also leads to the absence of key performance indicators (KPIs) to evaluate the accuracy of overall inventory recording and control. The following are findings and recommendations on inaccuracies over the risk of inaccuracies in inventory records.

Table 5. Audit

2023 Internal Audit Findings	Follow-up Recommendations
Inventory data input is still done manually	Maximize system integration between JDE and WMS to reduce manual input processes and human error

Sending DO/SH documents still using email	Use automation systems and in-house platforms for direct and documented document delivery
There is no clear control over who can change stock data	Create strict access control SOPs, limit stock changes to only a certain level and enable trail audit features
The frequency and procedure of stock taking are not explained	Implement a regular stock taking policy (at least quarterly) as well as random physical audits by independent teams
There is no cross-check system between physical and system	Add a two-tier review stage (by SC Admin and Supervisor) in the receipt and disbursement of goods
No log audit of data changes	Enable the log or trail audit feature to record all stock data change activities
There is no performance indicator that measures the accuracy of stock recording	Use inventory data accuracy KPIs and perform analysis of the gap between systems and physicals for routine investigations
No standard training in stock data management	Conduct regular training for SC Admins and warehouse staff on data input and understanding of operational procedures

The following risk assessments (*scoring*) and evaluations are compiled based on the findings of the 2023 internal audit regarding theft or loss of inventory. This evaluation is focused on the storage and shipping process, which is a vulnerable point in the goods management cycle. The main objective of this control refers to the compliance objective in the framework of COSO 2013, to ensure that all warehousing and delivery activities run according to established procedures and meet internal supervision standards. Weak physical surveillance, lack of logistical documentation, and lack of an adequate access control system are indications of the need to strengthen controls to prevent the risk of future loss.

Based on the results of the risk assessment on the aspect of loss or theft of goods, a total score of 10 out of 20 was obtained, with an average score of 2.0. This value indicates that the current control system is in the weak category, and poses a real risk of the possibility of physical loss of inventory assets.

The findings of the 2023 internal audit show that theft or loss of goods is an actual issue that requires special attention. Physical supervision has not been carried out systematically, which can be seen from the absence of inspection logs and the absence of documentation on checking surveillance cameras (CCTV). On the other hand, the documentation system for the entry and exit process of goods has not been fully digitized and documented in *real-time*, making it difficult to track when stock mismatches occur. The absence of a sudden audit weakens the ability to detect potential irregularities early. In addition, supervision of third parties such as expedition service providers has also not been described in detail, even though the delivery phase is one of the points prone to loss of goods. Regarding this finding, there are several aspects of being a recommendation for the risk of loss or theft of goods, as follows.

Table 6. Audit

2023 Internal Audit Findings	Follow-up Recommendations
Physical surveillance has not been thoroughly documented (no inspection logs/CCTV)	Conduct monthly inspections of CCTV systems and locking systems, and record the results in verified logs
Control over the entry and exit process of goods has not been fully digitized	Use an integrated digital system for real-time recording of DO and movement of goods

No surprise audit of inventory stock	Schedule a surprise stock audit at least twice a year, by an independent team from the warehouse operations unit
Access logs to warehouse areas have not been implemented yet	Implement an electronic log system or daily log book to record personnel entering and exiting the warehouse area
There is no procedure for verifying goods when they are handed over to the expedition	Add a joint physical check procedure between the SC Admin and the warehouse (Kamigumi) before the item is handed over
Oversight of third-party vendors (Kamigumi) has not been evaluated	Conduct an annual evaluation of warehouse vendors that include aspects of safety, SOP compliance, and case track record

CONCLUSION

In general, PT XYZ has built a fairly good foundation of internal control, although there are still a number of areas that need to be strengthened to be in line with the principles of COSO 2013. The control environment shows a commitment to ethics and integrity through a code of conduct and training, but the whistleblowing mechanism, the involvement of the Board of Directors, and financial supervision and human resource development still need to be improved. In terms of risk assessment, the company has identified a wide range of operational risks, but the process is still reactive, not yet formally integrated, and not yet supported by risk registers and quantitative evaluations. Control activities such as authorization, use of WMS, and DOA have been implemented, but have not been supported by comprehensive SOPs and structured control effectiveness monitoring mechanisms. System integration constraints and inconsistencies in reporting standards also affect the effectiveness of internal and external communication. Monitoring activities between functions have not run uniformly, with varying frequencies and evaluation approaches. The findings of the 2023 internal audit confirm the need for reforms in inventory management, including with an automatic Reorder Point system, FEFO/FIFO stock rotation, aging stock reporting, routine training, and warehouse governance optimization. For this reason, it is suggested that PT XYZ accelerate the integration of ERP and WMS systems, strengthen digital access control, and expand physical surveillance through technologies such as CCTV and digital tracking. The implementation of these strategic recommendations will not only improve the accuracy of inventory data and the effectiveness of internal controls, but also mitigate operational risks and drive overall business efficiency.

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