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EVALUATION OF THE INTERNAL INVENTORY CONTROL SYSTEM AND OPERATIONAL EFFICIENCY LEVEL AT THE D297 FRESH FOOD 2 STORE

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Abstrak

Penelitian ini bertujuan untuk menganalisis penerapan pengendalian internal persediaan dan tingkat efisiensi operasional pada D297 Fresh Food 2 Store. Metode yang digunakan adalah metode campuran (mixed method) dengan pendekatan kualitatif melalui observasi, wawancara, dan dokumentasi, yang didukung oleh data kuantitatif melalui penyebaran kuesioner kepada 16 responden yang terlibat langsung dalam pengelolaan persediaan. Analisis pengendalian internal mengacu pada lima komponen pengendalian internal menurut COSO, sedangkan efisiensi operasional diukur menggunakan Key Performance Indicators (KPI).

Hasil penelitian menunjukkan bahwa pengendalian internal persediaan berada dalam kategori baik dengan persentase sebesar 78%, sedangkan efisiensi operasional juga berada dalam kategori baik dengan persentase sebesar 80%. Pencapaian tersebut didukung oleh adanya prosedur yang terstruktur dalam proses pengadaan, penerimaan, penyimpanan, dan pengeluaran barang serta penggunaan sistem komputerisasi dalam pengelolaan persediaan. Namun, masih terdapat beberapa kelemahan, terutama dalam pemisahan fungsi dan belum dilaksanakannya stock opname secara berkala. Penelitian ini menekankan pentingnya penguatan pengendalian internal untuk

meningkatkan efisiensi operasional serta meminimalkan risiko terjadinya kehilangan persediaan.
Kata kunci: Pengendalian Internal, Persediaan, COSO, Efisiensi operasional

Abstract

This study aims to analyze the implementation of internal inventory control and the level of operational efficiency at D297 Fresh Food 2 Store. The method used is a mixed method with a qualitative approach through observation, interviews, and documentation, supported by quantitative data using questionnaires to 16 respondents directly involved in inventory management. Internal control analysis refers to the five COSO components, while operational efficiency is measured by Key Performance Indicators (KPI). The results show that internal inventory control is in the good category (78%), while operational efficiency is also classified as good (80%). This achievement is supported by structured procedures for procurement, receipt, storage, and issuance of goods and computerized management. However, there are still weaknesses in the separation of functions and the absence of periodic stocktaking. This study emphasizes the importance of strengthening internal control to increase efficiency and minimize the risk of loss.
Keywords: Internal Control, Inventory, COSO, Operational efficiency

INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are productive businesses that serve as the backbone of the Indonesian economy due to their crucial role in job creation, income equality, and improving community welfare. Within this sector, the retail industry makes a significant contribution by competitively providing basic daily necessities while simultaneously driving local economic growth. However, despite this strategic role, retail MSMEs still face significant operational challenges, particularly related to inventory management. Inventory is a significant current asset that is vital to the smooth operation of retail companies. Common inventory issues for MSMEs include overstocking, which freezes profits and increases the risk of damaged goods, or out-of-stocking, which risks eliminating sales opportunities and reducing customer satisfaction. Furthermore, inaccurate records often lead to discrepancies between the physical quantity of goods in the warehouse and the bookkeeping due to administrative errors or fraud.

To address these risks, the implementation of structured and systematic internal controls is necessary. Internal control is defined as a process involving all entity personnel to provide

reasonable assurance in achieving the objectives of operational effectiveness, reporting reliability, and legal compliance. The components of internal control based on COSO (Committee of Sponsoring Organizations of the Treadway Commission) include the control environment, risk assessment, control activities, information and communication, and monitoring. Through control activities such as segregation of duties, valid authorization, adequate documentation, physical security, and independent audits, retail companies can reduce error rates and prevent fraud. The success of internal control over inventory is linear with increased operational efficiency, namely the organization's ability to optimize output to the maximum using minimal resources without compromising service quality. Evaluation of this efficiency can be measured using Key Performance Indicators (KPIs) which include indicators of operational activity efficiency, product quality, customer service, and resource utilization.

Several previous studies have examined the dynamics of internal control in inventory. Latifah (2024) found that the internal control environment in a small and medium-sized grocery store was generally good, but risk assessment remained weak due to the lack of definitive inventory movement records. In a different operational context, Munawar (2017) identified the failure to include unit prices in inventory checklists as a key source of fraud. Meanwhile, Rahmawanti et al. (2020) highlighted weaknesses in the separation of functions, where purchasing and finance functions were still held concurrently by a single person. Regina (2020) also identified human resource discipline issues in modern retailers such as Alfamart, where employee inconsistencies in adhering to operational procedures continued to lead to stock discrepancies and record-keeping errors despite an adequate administrative system. From an output measurement perspective, Ariyandia and Purwanti (2025) emphasized that implementing a KPI framework supported by technology-based process automation is highly effective in evaluating the efficiency of a company's operational resource utilization.

Although numerous studies on internal inventory control have been conducted, most of the previous literature focuses on established modern retailers or MSMEs with conventional dry goods (groceries) systems. There is a research gap in the object of MSME retail fresh food (fresh and processed food ingredients) which are characterized by very fast-moving goods and a much higher risk of expiration or spoilage. D297 Fresh Food 2 Store is one of the MSME fresh food retail MSMEs facing these challenges. Initial observations indicate that inventory management from receiving, storage, and recording in this store still relies solely on a single administrator. This dual

task increases the risk of manual recording errors, stock discrepancies, and financial losses due to weak physical controls. The scientific novelty of this study lies in a comprehensive analysis that integrates the five COSO internal control components with four operational performance assessment indicators (KPIs) specifically for the MSME fresh food retail business sector.

Based on this background, the problem formulation in this study is how the implementation of internal control of merchandise inventory in D297 Fresh Food 2 Store and what level of operational efficiency is achieved by the store. In line with this problem, the main objective of writing this article is to determine and analyze the implementation of internal control of merchandise inventory and measure the level of operational efficiency in D297 Fresh Food 2 Store. Through this research, it is hoped that practical recommendations based on scientific data can be formulated to improve inventory asset governance while reducing resource waste in the fresh food retail MSME business ecosystem.

RESEARCH METHOD

This study focuses on the theoretical orientation towards internal inventory control and operational efficiency level at D297 Fresh Food 2 Store located at Jalan Jaksa Naranata No. 97, Baleendah, Bandung Regency, West Java. The research approach used is a mixed method. Qualitative methods are applied to study the object in depth to understand non-numerical phenomena, while descriptive quantitative methods are used to summarize statistical data to evaluate the quality of internal inventory control.

The data types in this study include qualitative data (in the form of words, sentences, and narratives) and quantitative data (in the form of numerical scores from questionnaires). Data sources are divided into primary and secondary data. Primary data were obtained directly from the research location through in-depth interviews and questionnaires distributed to shop owners and employees. Meanwhile, secondary data were collected through documentation studies, library research, and digital studies of relevant literature.

The population in this study was 16 employees of Store D297 Fresh Food 2 whose daily duties and responsibilities are directly related to the management and internal control of inventory. The sampling technique used a census or total sampling method, in which all members of the relatively small population were used as respondents. The operational variables and measurement indicators in this study are summarized in Table 1.

Table 1 Operational Variables and Indicators

Variable	Indicator	Dimension / Component
Internal Inventory Control	1. Control environment 2. Risk assessment 3. Control activities 4. Information and communication 5. Monitoring	COSO Control Components (Sumiyana et al., 2023)
Operational Efficiency	1. Efficiency of operational activities 2. Product quality 3. Level of customer service 4. Operational costs per transaction	Operational Management KPIs (Saragih, 2024)

The data collection technique was carried out through a combination of four main methods, namely direct observation on the spot to monitor the physical and activity of the object; in-depth interviews with shop owners and shop admins as key informants; documentation studies of internal shop records; and distribution of structured questionnaires using a Likert scale assessment instrument of 1–5 (Strongly Disagree to Strongly Agree).

Qualitative data analysis was conducted interactively following the Miles and Huberman (1984) model, which includes data reduction (summarizing and grouping interview transcripts and observation notes), data display in the form of narrative text and a categorization matrix, and conclusion drawing and verification. Meanwhile, quantitative questionnaire data was processed through data tabulation and percentage calculations using the following formula:

$$P = (f / n) \times 100\%$$

Where P represents the percentage score, f represents the total number of alternative answers, and n represents the total number of ideal scores. The final percentage values are interpreted into effectiveness criteria presented in Table 2.

Table 2 Respondent Response Scores

Percentage (%)	Category
0 - 20	Very Bad
21 - 40	Not good
41 - 60	Pretty good
61 - 80	Good

81 - 100	Very good

To ensure the validity and accuracy of the data collected from the field, this study implemented a credibility test through triangulation techniques. The process of checking data reliability was carried out through three types of approaches: source triangulation (comparing data from several different informants), technical triangulation (cross-checking data from the same source using observation, interview, and questionnaire methods), and time triangulation (testing the consistency of data collected on different occasions or at different times).

RESULTS AND DISCUSSION

This research was conducted at the D297 Fresh Food 2 store located in Baleendah District, Bandung Regency. This retail business unit, which has been operating since 2022, focuses on selling daily staples, processed foods, packaged beverages, frozen foods, and fresh produce such as cut chicken and various types of fish. This store is the third branch of the D297 Fresh Food distribution network, established to meet the demand for household logistics in densely populated residential areas.

1. Respondent Identity and Characteristics

Primary data collection was conducted through the distribution of structured questionnaires to the entire active employee population at the D297 Fresh Food 2 Store, totaling 16 people (census). Demographic data and respondent profiles were grouped based on structural position, gender, last formal education level, and length of service (operational loyalty) to provide a comprehensive picture of the capacity of human resources managing inventory.

Table 3 Profile and Distribution of Characteristics of Employee Respondents

Respondent Characteristics	Category	Frequency (n)	Percentage (%)
Structural Position	Shop Admin	2	13%
	Product Display	3	19%
	Cashier	7	43%
	Staff Services	4	25%
Gender	Man	5	31%
	Woman	11	69%
Last education	High School / Equivalent	16	100%
Working Hours	Less than 1 Year	2	12%

Respondent Characteristics	Category	Frequency (n)	Percentage (%)
	12 years old	6	38%
	More than 2 Years	8	50%
Total Sample	-	16	100%

Based on the data compiled in Table 3, the majority of the workforce occupies operational cashier positions, with 7 people (43%). In terms of gender, the workforce is dominated by women at 69%. All lower-level operational organizational members (100%) have completed high school or equivalent education, which is generally considered adequate for technical retail work. Furthermore, employee retention rates are excellent, with 50% of the total staff having served for more than 2 years, indicating a thorough understanding of daily work procedures.

2. Evaluation Results of Internal Inventory Control Components

The effectiveness of the internal control system for merchandise inventory was measured using a questionnaire instrument that adopted the five components of the COSO (Committee of Sponsoring Organizations) framework. A summary of the index score calculations is presented in Table 4.

Table 4 Summary of Inventory Internal Control Index (COSO Perspective)

No	COSO Internal Control Components	Average Score	Success Category
1	Control Environment	0.72	Good
2	Risk Assessment	0.74	Good
3	Control Activities	0.75	Good
4	Information and Communication	0.77	Good
5	Monitoring Activities	0.76	Good
Average Cumulative Index		0.75	Good
System Achievement Percentage		**75%**	**Good**

The empirical data in Table 4 shows an accumulated average internal control index value of 0.75 (75%), which places the inventory management system at Store D297 Fresh Food 2 in the good classification. The Information and Communication component scored the highest (0.77), while the Control Environment scored the lowest (0.72).

3. Parameters of Store Operational Efficiency Level

Operational efficiency is analyzed to measure retail management's performance in managing merchandise availability while minimizing waste and warehouse storage costs. The distribution of efficiency indicator scores is outlined in Table 5.

Table 5 Distribution of Store Operational Efficiency Achievement Index

No	Operational Efficiency Indicators	Average Score	Classification Category
1	Efficiency of Goods Flow Operational Activities	0.79	Good
2	Product Quality and Defects Emphasis	0.77	Good
3	Customer Service Speed (Check-out Time)	0.78	Good
4	Optimizing the Use of Resource Allocation	0.82	Good
Cumulative Average		0.78	Good
Operational Efficiency Percentage		**78%**	**Good**

According to the data visualization in Table 5, the operational performance of Store D297 Fresh Food 2 is classified as Good, with a cumulative percentage reaching 78%. The resource utility allocation savings indicator (such as food refrigeration management, electricity, and automated cash registers) achieved the highest index value (0.82).

4. Deconstructive Analysis of Internal Inventory Control Vulnerabilities

Although the quantitative questionnaire data reflects an aggregate score of 75% ('Good'), in-depth field observations indicate structural flaws in the daily implementation of inventory operations. These issues are deconstructed based on the following COSO elements:

First, the Control Environment (Score 0.72). The current store organizational structure is still informal and verbal without any written legal documentation manual. The most crucial manifestation of fundamental weakness is the overlapping duties of the Store Admin role. Admin holds absolute control over the entire supply chain: identifying product needs, submitting orders to suppliers, physically receiving goods directly at the loading and unloading area, verifying the conformity of invoice notes, inputting stock data mutations into the database, and storing them in the warehouse or freezer. Furthermore, during peak retail hours, admins are also assigned as

display sales assistants and substitute cashiers. Based on the pillars of accounting governance, the lack of separation of independent functions (segregation of duties) theoretically eliminates the cross-check function, thus opening up opportunities for manipulation, fraud, or material inventory discrepancies that cannot be detected by the system.

Second, in Risk Assessment (Score 0.74) and Control Activities (Score 0.75). Retail management utilizes an automated computerized database system capable of updating inventory quantities in real-time (real-time tracking) during cashier transactions, implementing a First In First Out (FIFO) circulation system to reduce shrinkage due to spoilage. However, a fatal systemic weakness was identified in the absence of stocktaking procedures (periodic physical inventory counts). Limited administrative work time due to the burden of multiple tasks and the complexity of the large variety of product types (SKUs), prompted management to neglect physical stock matching. The implication is that the inventory balance figures displayed on the application monitor screen are illusory, because their accuracy is never verified with real conditions in the warehouse. Losses due to hidden inventory shrinkage, hidden damaged goods, or petty theft become impossible to detect early.

Third, in the Information, Communication (Score 0.77) and Monitoring (Score 0.76) aspects. Operational interaction patterns are carried out through direct verbal coordination channels supported by database integration between the admin computer and the cash register. Despite being responsive, the store does not have any written documents in the form of standard operating procedures (SOPs). Workflow is based solely on verbal instructions from the owner. Furthermore, monitoring activities rely exclusively on the owner's personal oversight through remote CCTV camera monitoring. The store does not schedule operational evaluation meetings or regular employee performance reviews, instead only issuing incidental reprimands situationally when technical issues arise in the field.

5. The Impact of Causality of Control Failure on Sustainable Efficiency

The high operational efficiency index achievement, reaching 78%, was driven predominantly by a high inventory turnover ratio for the fresh commodity category. Animal products (fresh chicken and fish) were sold out on average within 24 hours of being supplied, minimizing holding costs and the risk of product depreciation. The installation of an automatic barcode scanner in the fresh cut product service area was proven to significantly reduce queues at

the cashier counter (check-out time efficiency). In addition, savings in the use of utility energy resources (score 0.82) were able to optimally reduce store operational expenses (overhead expenses).

However, upon a more comprehensive analysis, the current high operational efficiency is illusory and unsustainable. Labor cost efficiency is achieved by imposing heavy workloads on store administrators. This imbalanced workload directly impacts the neglect of crucial asset protection activities, namely stocktaking procedures and standardized written SOPs. Within the framework of corporate risk management, efficiency that eliminates internal control functions is essentially a delay in material financial losses. Without improved governance, latent inefficiencies such as accumulated cash stock discrepancies, expired goods tucked away in warehouse corners, and the threat of moral hazard resulting from the opportunity for concurrent positions will gradually erode retail net profitability.

Therefore, in order to transform this apparent efficiency into sustainable efficiency, the management of D297 Fresh Food 2 Store is absolutely recommended to: (1) Implement the principle of separation of functions by recruiting or assigning special staff to record receipts and cashiers, separate from the admin order authorization function; (2) Formalize all operational instructions into the form of written documentation SOPs; and (3) Establish a mandatory stocktaking agenda periodically at least once at the end of each month.

CONCLUSION

Based on the results of data analysis and empirical discussion, it can be concluded that the implementation of the internal control system for merchandise inventory and the level of operational efficiency at the D297 Fresh Food 2 Store as a whole has been running well, where each variable is in the 60%–80% interval criteria with an average percentage achievement of 75% for internal control (based on the five COSO components) and 78% for operational efficiency (based on the Key Performance Indicators dimension). The success of this retail operational activity is supported by the existence of structured procurement, receipt, storage, and issuance procedures for goods, computerized administration management, consistent maintenance of the quality of fresh commodities to minimize waste, and speed of cashier transaction services. However, this study identified critical weaknesses in the form of the lack of regular physical stocktaking activities and extreme duplication of administrative functions in the store admin

section. Therefore, it is recommended for management to immediately establish a written organizational structure to enforce the separation of functional functions (purchasing, storage, and finance), formulate strict standard operating procedures (SOPs) related to logistics flows, and carry out monthly stocktaking in a disciplined manner to ensure synchronization of system data with real physical conditions in the warehouse to minimize the risk of loss.

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