

OPERATIONAL RISK ANALYSIS AT PT. KEBUN BUAH RITELINDO

ANNISA NUR OKTAVIANI
Dr. M. NOOR ARDIANSAH, S.E., M.Si., Akt.
SITI ARBAINAH, S.E., M.M.

Managerial Accounting Study Program, Department of Accounting, Semarang State Polytechnic
Semarang, Central Java, Indonesia

Abstract: Operational activities in fresh fruit retail businesses are highly exposed to operational risks due to the perishable nature of the products, complex supply chain activities, and dependence on effective inventory management. This study aims to analyze operational risks at PT Kebun Buah Ritelindo using the ISO 31000:2018 risk management framework and to develop a Priority Risk Register as a basis for improving operational risk management. A qualitative approach with a descriptive case study design was employed. Data were collected through interviews, direct observations, and documentation involving key personnel responsible for operational activities. The analysis followed the ISO 31000:2018 risk management process, including scope, context and criteria establishment, risk identification, risk analysis, risk evaluation, risk treatment, and recording and reporting. The study identified 31 operational risks across procurement, goods receiving, storage, distribution, sales, customer service, and organizational management. Based on likelihood and impact assessment, six risks were categorized as High Risk, including seasonal dependence, fruit overstock, declining fruit quality caused by delayed stock rotation, employees' lack of responsiveness to customer complaints, limited employee knowledge of product quality, and inadequate responsibility in handling customer complaints. A Priority Risk Register was developed to document priority risks, existing controls, and recommended treatment strategies. The findings provide practical guidance for strengthening operational risk management and contribute to the application of ISO 31000:2018 in retail companies handling perishable products.

Keywords: Operational Risk; ISO 31000:2018; Risk Management; Risk Register; Fresh Fruit Retail

INTRODUCTION

The retail sector plays a significant role in Indonesia's economy by ensuring the distribution of goods from producers to consumers. According to Badan Pusat Statistik (2024), the wholesale and retail trade sector contributed 13.22% to Indonesia's Gross Domestic Product (GDP) and recorded an annual growth rate of 4.86% in 2024. Despite this contribution, retail businesses face increasing operational challenges due to market uncertainty, changing consumer demand, and complex supply chain activities. These challenges are particularly critical for retailers dealing with perishable products, where operational failures may reduce product quality, increase waste, and negatively affect business performance. In Indonesia, Food Loss and Waste (FLW) reaches approximately 23–48 million tons annually, with fruits and vegetables contributing among the highest proportions due to their perishable characteristics (BAPPENAS, 2021). These conditions highlight the importance of effective operational risk management in fresh fruit retail businesses.

Fresh fruit retail operations involve procurement, storage, inventory management, distribution, sales, and customer service. Because fresh fruits have a short shelf life and require proper handling throughout the supply chain, disruptions in operational processes may result in product deterioration, inventory losses, customer complaints, and financial losses. Therefore, organizations require a systematic risk management approach to identify, assess, and control operational risks before they affect business continuity. ISO 31000:2018 provides an internationally recognized framework that supports organizations in identifying, analyzing, evaluating, treating, and monitoring risks systematically.

Previous studies have applied ISO 31000:2018 in healthcare, manufacturing, information systems, and retail organizations, demonstrating its effectiveness in identifying operational risks and supporting mitigation strategies (Aisyah & Dahlia, 2022). However, studies focusing on fresh fruit retail businesses remain limited. Existing research has mainly emphasized risk identification and mitigation, while the development of a comprehensive Priority Risk Register for operational decision-making has received relatively little attention. This limitation indicates a research gap regarding the application of ISO 31000:2018 in retail companies handling perishable products.

PT Kebun Buah Ritelindo is a fresh fruit retail company whose operations include procurement, warehousing, inventory management, distribution, and customer service. Preliminary observations indicate that operational risk management has not yet been formally documented, resulting in reactive rather than systematic risk handling. Therefore, this study aims to analyze operational risks at PT Kebun Buah Ritelindo using the ISO 31000:2018 framework. Unlike previous studies that primarily focused on risk identification and mitigation, this study develops a Priority Risk Register that integrates identified risks, existing controls, risk levels, and recommended treatment strategies into a structured operational risk management tool. This approach provides both theoretical and practical contributions to operational risk management in fresh fruit retail businesses.

THEORETICAL FRAMEWORK

Resource-Based Theory

Resource-Based Theory (RBT), introduced by Barney (1991), explains that an organization's competitive advantage depends on its ability to acquire, develop, and effectively utilize valuable, rare, inimitable, and non-substitutable (VRIN) resources. Besides tangible assets, organizational capabilities such as employee competencies, operational procedures, management systems, and organizational knowledge are considered strategic resources that contribute to sustainable organizational performance. Effective management of these resources enables organizations to improve operational efficiency while minimizing operational disruptions.

In this study, Resource-Based Theory provides the theoretical foundation for understanding operational risk management as an organizational capability. PT Kebun Buah Ritelindo relies on critical resources, including fresh fruit inventory, warehousing facilities, distribution systems, human resources, and operational procedures. Considering the perishable nature of fresh fruit products, ineffective management of these resources may increase operational risks such as product deterioration, inventory losses, and distribution delays. Therefore, implementing systematic operational risk management is essential to strengthen organizational capabilities and support sustainable operational performance.

ISO 31000:2018

ISO 31000:2018 is an internationally recognized guideline that provides a systematic process for identifying, analyzing, evaluating, treating, monitoring, and documenting organizational risks. The framework consists of principles, a risk management framework, and a risk management process that assists organizations in improving decision-making and organizational performance. In this study, the ISO 31000:2018 risk management process serves as the primary analytical framework for assessing operational risks at PT Kebun Buah Ritelindo.

Figure 1. ISO 31000:2018 Risk Management Process

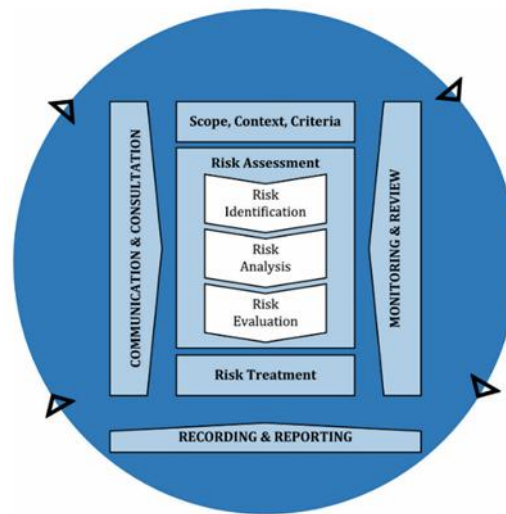


Figure 1 illustrates the ISO 31000:2018 risk management process adopted in this study. The framework serves as the basis for identifying, analyzing, evaluating, and treating operational risks at PT Kebun Buah Ritelindo.

RESEARCH METHODS

This study employed a qualitative descriptive approach using a case study design to analyze operational risks at PT Kebun Buah Ritelindo. A qualitative approach was selected to obtain an in-depth understanding of operational risk conditions, existing risk management practices, and potential operational risks encountered throughout the company's business processes. The research focused on PT Kebun Buah Ritelindo, a fresh fruit retail company operating retail stores and warehouse facilities in the Greater Jakarta metropolitan area (Jabodetabek).

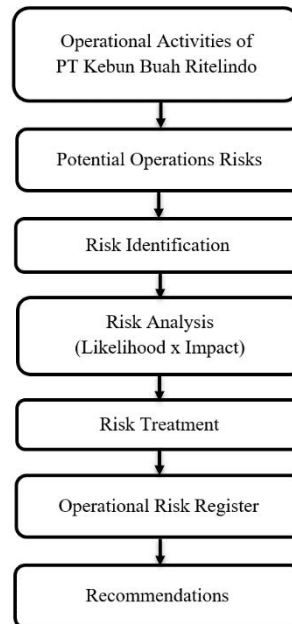
Data were obtained from both primary and secondary sources. Primary data were collected through semi-structured interviews and direct observations involving key informants responsible for operational activities, including the Operational Manager, Warehouse Coordinator, Retail Supervisor, and Store Employees. Secondary data consisted of company documents, standard operating procedures, inventory records, and other supporting documents related to operational activities and risk management.

Data collection was conducted through interviews, observations, and documentation. The interview process aimed to identify potential operational risks, existing control measures, and risk management practices implemented by the company. Observations were carried out to understand actual operational processes, while documentation was used to verify information obtained during interviews and observations.

The data were analyzed using the ISO 31000:2018 risk management process. The analysis began with establishing the scope, context, and risk criteria, followed by risk identification, risk analysis, risk evaluation, risk treatment, monitoring and review, and recording and reporting. Risk analysis was performed by assessing the likelihood and impact of each identified operational risk using a qualitative risk matrix. The assessment results were then used to determine risk priorities and develop a Priority Risk Register containing identified risks, existing controls, risk levels, and recommended treatment strategies.

Figure 1 illustrates the research procedure adopted in this study.

Figure 2. Research Procedure



RESULTS AND DISCUSSION

Operational Risk Identification

The operational risk identification process was conducted based on interviews, observations, and documentation covering the company's operational activities, including fruit procurement, goods receipt, storage, distribution, sales, customer service, and organizational management. Following the ISO 31000:2018 framework, risks were identified by examining potential events that could disrupt operational processes and affect the achievement of organizational objectives.

Table 1. Summary of Operational Risk Identification

Operational Aspect	Number of Risks
Fruit Procurement	5
Goods Receipt	4
Storage	5
Distribution	5
Sales	5
Customer Service	4
Organization	3
Total	31

The findings identified 31 operational risks distributed across seven operational aspects, namely fruit procurement, goods receipt, storage, distribution, sales, customer service, and organizational management. The largest number of risks was found in procurement and storage activities because fresh fruit products are highly dependent on supplier performance, seasonal availability, inventory management, and storage conditions. Customer service and organizational aspects also generated several operational risks related to employee competency, complaint handling, and coordination among operational units.

The predominance of risks in procurement and storage indicates that inventory management is the most vulnerable operational activity in fresh fruit retailing because product quality depends heavily on supplier reliability

and storage conditions. This finding supports Lochan et al. (2021), who argued that perishable-product retailers experience higher operational uncertainty than conventional retailers.

Operational Risk Analysis and Evaluation

Following risk identification, each operational risk was assessed based on its likelihood and impact using the ISO 31000:2018 risk matrix. The assessment was developed through expert judgment involving the General Manager, Purchase Manager, and operational employees, supported by field observations and company documentation. The evaluation classified risks into Low, Medium, and High categories to determine mitigation priorities.

The assessment results showed that six operational risks were categorized as High Risk, indicating that these risks require immediate management attention because of their potential impact on operational continuity and customer satisfaction. The identified high-priority risks include seasonal dependence in fruit procurement, fruit overstock during storage, declining fruit quality due to delayed stock rotation, employees' lack of responsiveness to customer complaints, limited employee knowledge of fruit quality, and inadequate responsibility in handling customer complaints.

Table 2. High-Priority Operational Risks

Risk Code	Operational Risk
A1.4	Seasonal dependence
A3.2	Fruit Overstock
A5.5	Decline in fruit quality due to delayed stock rotation
A6.1	Employees's lack of responsiveness to customer complaints
A6.2	Employee's limited knowledge of fruit quality
A6.3	Employee's inadequate responsibility in handling complaints

The dominance of storage- and customer service-related risks demonstrates that operational performance in fresh fruit retailing depends not only on supply chain efficiency but also on effective inventory management and employee competence. These findings are consistent with previous studies showing that operational failures in handling perishable products may accelerate quality deterioration, increase operational losses, and reduce customer satisfaction. They also reinforce the applicability of ISO 31000:2018 in systematically prioritizing operational risks based on likelihood and impact.

Risk Treatment and Priority Risk Register

Risk treatment recommendations were developed according to the characteristics and priority level of each identified risk. Although PT Kebun Buah Ritelindo has implemented several operational controls, such as supplier complaint mechanisms, warehouse monitoring, product inspections, and routine operational reporting, these practices remain informal and have not been integrated into a structured risk management system. Consequently, additional treatment strategies are required to reduce both the likelihood and impact of high-priority operational risks.

The proposed treatment strategies include supplier diversification to reduce seasonal dependence, improved inventory planning and stock rotation, periodic warehouse monitoring, employee training on product knowledge and customer service, establishment of standardized complaint-handling procedures, and implementation of regular operational risk evaluations. These recommendations are intended to strengthen existing operational controls while improving organizational preparedness in managing future operational uncertainties.

A key contribution of this study is the development of a Priority Risk Register specifically designed for fresh fruit retail operations. Unlike previous studies that mainly identified and categorized operational risks, the proposed register integrates risk identification, existing controls, risk prioritization, and treatment recommendations into a single management document that supports operational monitoring and decision-making.

CONCLUSION

This study analyzed operational risks at PT Kebun Buah Ritelindo using the ISO 31000:2018 risk management framework. The findings identified 31 operational risks across seven operational activities, namely procurement, goods receipt, storage, distribution, sales, customer service, and organizational management. Based on the qualitative assessment of likelihood and impact, six risks were classified as High Risk, indicating the need for immediate attention and appropriate risk treatment. The identified high-priority risks primarily relate to seasonal dependence, inventory management, product quality deterioration, and employee competency in customer service. These findings demonstrate that operational risks in fresh fruit retail businesses arise not only from the perishable nature of products but also from human and organizational factors that influence operational performance.

This study also developed a Priority Risk Register that documents identified operational risks, existing controls, risk levels, and recommended treatment strategies. The proposed risk register provides a systematic reference for monitoring operational risks and supports managerial decision-making in implementing more structured operational risk management practices. The application of the ISO 31000:2018 framework enables PT Kebun Buah Ritelindo to identify operational vulnerabilities comprehensively and establish appropriate mitigation strategies to improve operational effectiveness and business sustainability. Furthermore, this study contributes to the literature on operational risk management by demonstrating the practical application of ISO 31000:2018 in a fresh fruit retail company handling perishable products.

This study is limited to a qualitative case study conducted in a single fresh fruit retail company. Future studies are encouraged to examine multiple retail companies or apply quantitative risk assessment methods to provide broader generalizability.

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REFERENCES

- Aisyah, A. P., & Dahlia, L. (2022). *Enterprise Risk Management Berdasarkan ISO 31000 Dalam Pengukuran Risiko Operasional pada Klinik Spesialis Esti*. Jurnal Akuntansi Dan Manajemen, 19(02), 78–90.
- Badan Pusat Statistik. (2024). Produk Domestik Bruto atas Dasar Harga Berlaku Menurut Lapangan Usaha 2022–2024. Retrieved from BPS Indonesia website: <https://www.bps.go.id/id>
- BAPPENAS. (2021). *Food Loss and Waste in Indonesia: Supporting the Implementation of Circular Economy and Low Carbon Development*.
- Barney, Jay. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120.
- International Organization for Standardization. (2018). ISO 31000:2018 – Risk management — Guidelines. Geneva:ISO. <https://www.iso.org/standards.html>
- Lochan, S. A., Rozanova, T. P., Bezpaltov, V. V., & Fedyunin, D. V. (2021). Supply Chain Management and Risk Management in an Environment of Stochastic Uncertainty (Retail). *Risks*, 9(11), Article No. 197.