

## Logistics optimization and inventory control in Peruvian grocery companies

Otimização logística e controle de estoque em empresas peruanas de produtos básicos de consumo

Optimización logística y control de inventarios en empresas de abarrotes del Perú

### Mirian Isela Díaz Lara

<https://orcid.org/0009-0001-6631-5430> 

Graduate Research - Faculty of Business Sciences,  
Universidad Cesar Vallejo (UCV), Peru  
[midiazl@ucvvirtual.edu.pe](mailto:midiazl@ucvvirtual.edu.pe) (correspondence)

### Manyet Jimena Pusma Huachez

<https://orcid.org/0009-0007-7051-6036> 

Graduate Research - Faculty of Business Sciences,  
Universidad Cesar Vallejo (UCV), Peru

### ABSTRACT

The company being analyzed, which specializes in selling groceries, faces significant challenges in its logistics management. Lack of supply chain visibility prevents informed inventory decisions, resulting in product overages or shortages. Supply chain delays affect profitability, and inaccurate demand planning generates additional costs and financial losses. This study, which is relevant to the Sustainable Development Goals, mainly in combating poverty through the economic success of SMEs, evaluates the effectiveness of logistics management in inventory control. The results show an increase in ending inventory by 105.12% and a decrease in inventory turnover by 29.29%, suggesting a strategic accumulation of stock. In addition, an improvement in the company's liquidity was observed, with an increase in total current assets by 107.66% and a financial restructuring oriented towards expansion projects. These findings underscore efficient logistics management's importance in optimizing resources and improving customer satisfaction. Future research should focus on the integration of advanced technologies and the implementation of sustainable financing strategies to further improve operational efficiency and profitability.

**Keywords:** operational efficiency, financial restructuring, supply chain, demand planning, advanced technologies, financing strategies.

### RESUMO

A empresa em estudo, especializada na venda de mantimentos, enfrenta desafios significativos em sua gestão logística. A falta de visibilidade da cadeia de suprimentos impede decisões informadas sobre o estoque, resultando em falta ou excesso de produtos. Os atrasos na cadeia de suprimentos afetam a lucratividade e o planejamento impreciso da demanda gera custos adicionais e perdas financeiras. Este estudo, relevante para os Objetivos de Desenvolvimento Sustentável, principalmente na luta contra a pobreza por meio do sucesso econômico das PMEs, avalia a eficácia da gestão logística no controle de estoque. Os resultados mostram um aumento no estoque final de 105,12% e uma redução no giro de estoque de 29,29%, sugerindo acúmulo estratégico de estoque. Além disso, foi observada uma melhoria na liquidez da empresa, com um aumento no total de ativos circulantes de 107,66% e uma reestruturação financeira orientada para projetos de expansão. Esses resultados destacam a importância de uma gestão eficiente da logística para otimizar os recursos e aumentar a satisfação do cliente. Pesquisas futuras devem se concentrar na integração de tecnologias avançadas e na implementação de estratégias de financiamento sustentável para melhorar ainda mais a eficiência operacional e a lucratividade.

**Palavras-chave:** eficiência operacional, reestruturação financeira, cadeia de suprimentos, planejamento de demanda, tecnologias avançadas, estratégias de financiamento.

### RESUMEN

La empresa en estudio, especializada en la venta de abarrotes, enfrenta desafíos significativos en su gestión logística. La falta de visibilidad en la cadena de suministro impide decisiones informadas sobre el inventario, resultando en excesos o déficits de productos. Los retrasos en la cadena de suministro afectan la rentabilidad y la planificación inexacta de la demanda genera costos adicionales y pérdidas financieras. Este estudio, relevante para los Objetivos de Desarrollo Sostenible, principalmente en la lucha contra la pobreza a través del éxito económico de las PYME, evalúa la eficacia de la gestión logística en el control de inventarios. Los resultados muestran un incremento del inventario final en 105.12% y una disminución de la rotación de inventarios en 29.29%, sugiriendo una acumulación estratégica de stock. Además, se observó una mejora en la liquidez de la empresa, con un aumento del activo corriente total en 107.66%, y una reestructuración financiera orientada a proyectos de expansión. Estos hallazgos subrayan la importancia de una gestión logística eficiente para optimizar recursos y mejorar la satisfacción del cliente. Futuras investigaciones deben centrarse en la integración de tecnologías avanzadas y la implementación de estrategias de financiamiento sostenibles para continuar mejorando la eficiencia operativa y la rentabilidad.

**Palabras clave:** eficiencia operativa, reestructuración financiera, cadena de suministro, planificación de la demanda, tecnologías avanzadas, estrategias de financiamiento

### ARTICLE HISTORY

**Received:** 28-03-2024

**Revised Version:** 21-06-2024

**Accepted:** 12-09-2024

**Published:** 28-09-2024

**Copyright:** © 2024 by the authors

**License:** CC BY-NC-ND 4.0

**Manuscript type:** Article

### ARTICLE INFORMATION

#### Science-Metrix Classification (Domain):

Economic & Social Sciences

#### Main topic:

Logistics optimization and inventory control

#### Main practical implications:

The study demonstrates how improved logistics management can enhance inventory control, reduce costs, and boost liquidity, offering a strategic approach for SMEs to optimize resources and increase profitability.

#### Originality/value:

This research provides empirical evidence on the direct impact of logistics management on financial performance, contributing to the understanding of inventory control and operational efficiency in SMEs.

## INTRODUCTION

Hau-Ling and Tsan-Ming (2023) noted that in China, companies face significant logistics challenges due to their limited ability to adapt to technological advances, affecting operational efficiency. Kundura et al. (2022) indicated that, in Africa, lack of adaptability generates inefficient coordination, negatively impacting purchasing and warehouse management, and decreasing the quality of product delivery.

In Mexico, Sanchez and Suarez (2023) noted that companies face serious inventory management problems due to the scarcity of critical information and lack of knowledge about specific inventory strategies. In Ecuador, Zamora-Magallanes and Rivera-Guerrero (2023) found that companies lack specialized personnel to manage inventories, with the responsibility falling on the store manager, causing significant delays due to his multiple responsibilities.

Companies in Puno have inadequate logistics planning, increasing costs and deteriorating business performance. This problem is caused by the lack of efficient logistics processes, knowledge and time constraints (Paricahua, 2022). Puno companies face disorderly spaces, lack of training, inadequate purchasing procedures, and lack of replenishment and safety stock indicators. Inadequate supplier evaluation also negatively affects logistics costs and operational efficiency (Flores et al., 2022).

In Huánuco, the growth of agricultural activity has driven the expansion of the warehouse, but without adequate updating of processes and controls. This has generated conflicts between departments due to inaccuracies in records and problems in product availability (Trigoso et al., 2023). Pizzán-Tomanguillo et al. (2022) argue that companies in the region experience continuous problems in inventory management, due to the absence of procedures and policies aligned with operational reality, and the ineffective use of records and control documents, essential for consistent product traceability.

The company under study is an expert in the sale of groceries and faces significant challenges in its logistics management. The lack of visibility in the supply chain prevents a clear, real-time view of product flow, making it difficult to make informed decisions about the inventory needed. This leads to errors in inventory control, resulting in overstocks or shortages. Delays in the supply chain lead to delays in customer service, affecting profitability. In addition, inaccurate demand planning leads to the accumulation of unsaleable inventory, generating additional costs and financial losses. This inaccuracy directly impacts inventory management efficiency and responsiveness to the market.

The study directly impacts the Sustainable Development Goals (SDGs), especially Industry, Innovation and Infrastructure, Responsible Consumption and Production, and Decent Work and Economic Growth. Improving infrastructure and upgrading industries to make them sustainable is crucial. This study evaluates the effectiveness of logistics management in inventory control at Distribuidora Sandy S.A.C., Jaen-Peru, 2023. According to Coronel et al. (2023), logistics management and inventory control are fundamental in business and operations management literature, showing how efficient management improves customer satisfaction and optimizes resources.

Practically, Rojas et al. (2023) highlight that effective logistics management and rigorous inventory control are crucial for Distribuidora Sandy S.A.C., resulting in reduced operating costs, improvements in product delivery and competitive strengthening. Methodologically, Rodriguez et al. (2023) justify the use of a case study, evaluating the relationship between logistics management and inventory control with a qualitative approach that facilitated data analysis. Socially, Camacho et al. (2023) state that this study benefits the community of Jaén-Perú, improving the availability and quality of products, which has direct effects on the well-being of the inhabitants.

The study aimed to assess the effectiveness of logistics management in inventory control within Peruvian grocery companies. The specific objectives included evaluating operational efficiency, establishing the effectiveness of supplier relationship management, and describing the effectiveness of cost management in inventory control within Peruvian grocery companies.

## LITERATURE REVIEW

Gomes et al. (2023) identified significant challenges in logistics management, with 78% overall deficiency, particularly in order volume management and warehousing (69% and 81%, respectively). The implementation of advanced technologies and effective strategies can improve logistics efficiency, minimize errors, and increase customer satisfaction, resulting in long-term loyalty and higher sales.

Singh et al. (2022) found that inventory control is deficient in 74%, demonstrating that effective control can lead to significant cost savings and optimize the use of resources, improving customer service and customer relations. Kmiecik (2022) reported inadequate forecasting at 59% and deficiencies in logistics coordination in distribution networks at 77%. 3PL companies play a crucial role in creating accurate forecasts, optimizing inventory management and transportation planning, and adding value to distribution networks.

Soria and Lema (2022) determined that 74% of logistics management was deficient, proposing the Malcolm Baldrige model as the most effective way to improve dispatch and delivery operations, increasing the quality of customer service.

Gao (2022) identified inventory levels exceeding company policies by 58%, with associated costs exceeding 65%. Efficient inventory management is crucial to achieve sustainable growth, reducing costs and wasted resources.

Almeida and Cabezas (2021) found that the logistics system is deficient in 66%, highlighting the importance of a well-implemented system that includes detailed tasks for employees, improving operational efficiency. Bou et al. (2021) reported a 63% deficient inventory control, concluding that an efficient control allows transforming systems with delays into systems without delays, facilitating the regulation of inventory levels.

Granillo-Macías (2020) demonstrated that inventory composition is 59% deficient, with associated costs exceeding 71% and inadequate operational efficiency at 62%. He proposed an innovative approach to improve operational efficiency and decision making in inventory management in disruptive and competitive supply chains.

Logistics management according to Ponte and Vela (2023) described as the management and control of goods and information from origin to consumption as a process focused on meeting customer expectations.

Logistics management is a complex process that encompasses various activities and processes specific to logistics; it has become a crucial element for the efficient operation of the supply chain and its related processes; it is so essential that it now represents a fundamental part that brings additional value to the delivery of products (Calzado-Girón, 2020; Servera-Francés, 2010; Tejero, 2007; Hernández, 2012; Quiala-Tamayo et al., 2018).

In addition, transportation logistics focuses on optimizing route selection and improvement for efficient delivery of goods; this process involves the evaluation of multiple factors such as distance, traffic, fuel costs, and time constraints; technologies such as GPS and route planning software play a crucial role, enabling more accurate and adaptive planning (Wandelt et al., 2023; Strimovskaya & Bochkarev, 2023). Likewise, sustainability is considered, seeking to reduce carbon footprint and improve fuel efficiency; transportation logistics is critical to maximize productivity and reduce costs, thus ensuring fast and reliable delivery service (Rushton et al., 2022; Sterner et al., 2023; Luneckas et al., 2021).

Operating efficiency, where Pari (2023) noted that it is the ability of a company to deliver products efficiently, maximizing quality and value for the customer and minimizing costs and delivery time. It involves optimizing processes and resources.

Galiana (2018) highlighted the importance of efficient procurement in positively influencing an institution's plans and objectives; furthermore, he stresses that suppliers and partner entities are essential for management success; therefore, procurement should be based on a thorough analysis, seeking mutual benefits for suppliers and end consumers. Cortes (2018) argued that quality management defines the quality policy and objectives, as well as the commitments acquired; this management involves concrete actions by management, implemented through planning, assurance, control and quality improvement within a quality system framework.

Supplier relationship management which, in accordance with Cariño (2023) indicated that it is the process of managing and optimizing interactions and agreements with entities that supply goods to the company. It includes the selection, negotiation, evaluation and collaboration with suppliers.

Cortes (2022) pointed out that quality management is a joint effort of managers and employees to influence the production process and constantly improve the quality of products, ensuring the excellence of products offered to end consumers. Flamarique (2017) detailed that storage management involves the proper rotation of products and the provision of optimal storage capacity; he further illustrates this with examples such as a warehouse of a manufacturing company, which needs constant inputs and outputs, and a warehouse of a transportation agency, where goods are organized for shipment to a common destination.

Cost management, according to Maldonado et al. (2023) stated that it focuses on planning, controlling and reducing the costs associated with the company's operations and processes. It includes identifying areas of savings, optimizing resources and implementing cost reduction strategies.

On the other hand, Vidal (2021) described this process as a logistics operation focused on receiving, accumulating, storing and distributing materials efficiently and safely until their final use, thus reducing damage in the warehouse, since efficient management of product rotation can significantly increase business productivity. Escudero (2019) indicates that distribution management encompasses transportation management; the storage manager is responsible for the location, organization and arrangement of products, attending to safety regulations.

Inventory control, according to Ponte and Vela (2023), is the stocks available in the warehouse are organized and classified according to their form, category and specific location.

In the words of Jerónimo et al. (2022) inventory control encompasses the processes aimed at ensuring the availability, accessibility and proper storage of products in the company, with the objective of reducing the time and costs associated with their handling. It also constitutes a method by which the organization effectively manages the movement and storage of goods, as well as the associated flow of information and resources (Zhou et al., 2023; Taheri et al., 2023; Gokbayrak & Kayis, 2023). Although this control includes several aspects, its main focus is inventory management and optimization (Theodorou et al., 2023; Boute et al., 2022; Li & Mizuno, 2022).

Inventory management is a key challenge in business management due to its impact on productivity; having excessively high inventory levels can lead to financial liquidity difficulties, as unused inventory ties up resources that could be allocated to more productive activities within the organization (Liberopoulos & Delingiannis, 2022; Svoboda et al., 2021; Darmawan et al., 2021; Wang & Zhu, 2021).

Rodriguez (2018) pointed out that inventory review is a method that allows identifying the variety of products available at a specific time by counting stock. This system is useful to prevent and detect errors in the inventory area and facilitates the verification of the quantity of products in the warehouse compared to purchases made (Tai et al., 2019). In this way, inventory review helps to ensure efficient inventory management (Wang et al., 2019).

Escudero (2019) argued that inventory distribution comprises a series of processes that allow an entity to move and distribute materials from one place to another quickly and efficiently, meeting the demands and needs of its customers. Ma et al. (2019) in turn, indicated that these processes are closely linked to the areas of sales and management. To avoid errors during the distribution of materials, each activity should be carefully reviewed and planned in advance (Transchel & Hansen, 2019). In addition, distribution involves proper organization of the company's inventories to minimize errors that can increase costs and ensure compliance with business obligations (Dos Santos & Oliveira, 2019).

The composition of the Inventory where Dueñas (2023) related that it is the variety and quantity of products or raw materials maintained by a company to meet customer demand and production processes. It implies a balance between avoiding excesses and guaranteeing availability.

Castro and Salas (2022) noted that inventory recording encompasses all activities of a company, such as receipts, issues, delivery times, and cancellation of orders. This recording can be carried out manually or through automated management systems to facilitate the tracking of goods. Inventory recording, as an essential administrative tool, allows effective control and tracking of materials entering the warehouse (Chandra et al., 2020; Chung-Yuan, 2020). On the other hand, Rodriguez (2018) emphasized that the inventory register is crucial to account for the inputs and outputs of products from the warehouse, improving the location and availability of units and preventing delays or losses. Costs associated with the inventory according to Santiago (2023) indicated that it includes expenses related to the acquisition, storage, handling and maintenance of inventory; this includes purchase costs, storage, deterioration, obsolescence and opportunity costs for capital tied up.

Barrera (2016) argued that inventory turnover is a key indicator that measures the time a product remains in the warehouse before being sold or consumed. Efficient management of this turnover leads to improvements in the company's administrative and logistical processes (Doss et al., 2020; Magrand et al., 2019). In parallel, Alvarez (2019) stressed that inventory turnover is a crucial indicator in inventory management and control, reflecting the frequency with which a product is replaced or rotated in a given period, typically a year. Similarly, inventory turnover indicates how quickly products or stocks are renewed in the warehouse, relative to their sale or use (Mahmoodi, 2019; Xinbao et al., 2019).

## **METHODS**

The research was oriented towards concrete practical objectives, seeking to influence and generate changes in the company's logistics management and inventory control (Coronel et al., 2023). With a qualitative approach, meanings, experiences and human behaviors were explored to understand the phenomena under study (Rodriguez et al., 2023). The case study design allowed the analysis of unique cases, providing valuable insights that are not generalizable but relevant to theory and practice (Rojas et al., 2023). The research was descriptive, seeking to confirm and strengthen knowledge about logistics management and inventory control (Camacho et al., 2023).

Key aspects included logistics management, operational efficiency, supplier relationship management, cost management, inventory control and composition, and associated costs. The physical and social environment of the study site was essential for an in-depth understanding of the phenomena from the perspective of the participants (Andrade et al., 2023; Vasquez et al., 2023). The research was based on the company's financial statements of 2021 and 2022, located in Jaén, a city of high economic movement. The documents analyzed included the balance sheet, income statement and cash flow statement, which are fundamental for the evaluation of logistics management and inventory control.

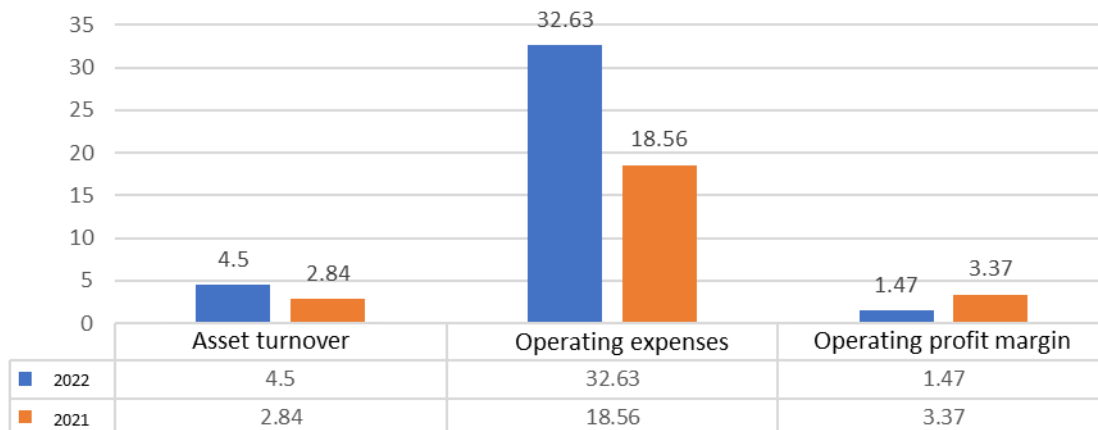
Documentary analysis made it possible to examine the financial statements, obtaining specific and relevant information (Gómez and Chaparro, 2022). An exhaustive literature review was carried out, providing a solid basis for the study and supporting each phase of the research process. Theoretical foundations, research problems and clear objectives were defined. The methodological approach and appropriate research design were identified, systematically organizing the information through a categorization matrix. The setting and study subjects were specified, detailing the context and participants.

The credibility of the study was ensured through data triangulation, gathering information through documentary analysis. Transferability was facilitated by detailed descriptions of the business context and inventory control systems. Reliability was ensured by thoroughly documenting the research process and through external audits (Vasquez, 2020; Hernandez-Sampieri and Mendoza, 2018).

Content analysis was used to categorize and examine the data, identifying patterns and trends. Triangulation complemented the documentary analysis with interviews with experts and analysis of sectoral reports. The work respected ethical and regulatory principles, ensuring academic integrity and respect for copyright through appropriate citations and the use of originality checking tools. Authorization was received from the company to publish specific data, protecting confidential information and contributing to knowledge in the business, accounting and financial fields (Coronel et al., 2023).

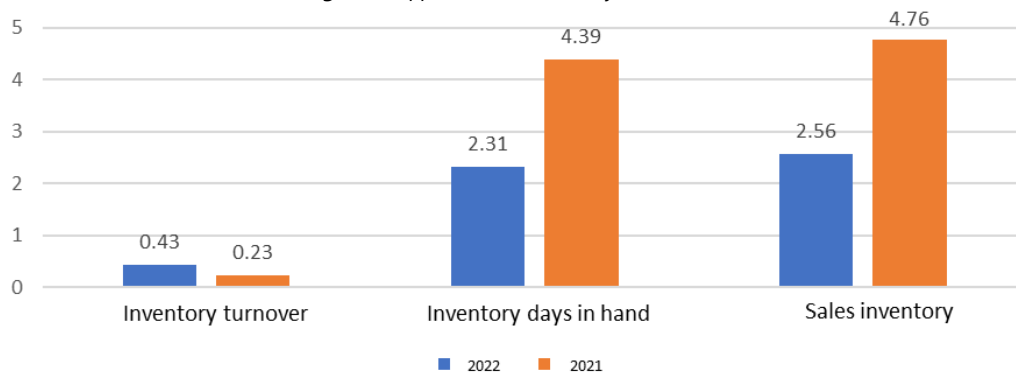
## RESULTS AND DISCUSSION

Figure 1. Application of logistics management key figures



Note: Application of ratios to the company's FS

Figure 2. Application of inventory control ratios



Note: Application of ratios to the company's FS

Table 1. Evaluating the effectiveness of the company's inventory control operational efficiency

Concept	2023 (S/)	% of Total Assets 2023	2022 (S/)	% of Total Assets 2022	Absolute variation	Relative variation
Merchandise	441000	90.62%	215000	96.72%	226000	105.12%
Total current assets	461580	94.85%	222280	100%	239300	107.66%
Total current assets	486656	100%	280	100%	264376	118.93%

Note: Data obtained from the 2023-2022 FS



**Table 2.** Establishing the effectiveness of supplier relationship management in inventory control in the company

Concept	2023 (S/)	% of liabilities and shareholders' equity 2023	2022 (S/)	% of liabilities and shareholders' equity 2022	Absolute variation	Relative variation
Trade accounts payable current third parties	81601	16.77%	70507	31.72%	11094	15.73%
Other long-term accounts payable	242967	49.93%	9780	4.40%	233187	2384.60%
Cost of sales (Operations)	-1019207	-90.41%	-944870	-92.34%	-74337	7.87%
Financial expenses	-50325	-4.46%	-8352	-1%	-41973	502.47%
Total liabilities	324568	67%	81135	37%	243433	300.00%

**Note:** Data obtained from the 2023-2022 FS

**Table 3** Describe the effectiveness of cost management in inventory control in the company

Concept	2023 (S/)	% of sales 2023	2022 (S/)	% of sales 2022	Absolute variation	Relative variation
Sales or services rendered	1127348	100.00%	1023252	100.00%	104096	10.17%
Cost of sales (Operating)	-1019207	-90.41%	-944870	-92.34%	-74337	7.87%
Gross profit	108141	9.59%	78382	7.66%	29759	37.95%
Administrative expenses	-34546	-3.06%	-55139	-5%	20593	-37.34%
Net income for the year	20943	1.86%	13402	1%	7541	56.27%
Merchandise (Inventory)	441000	39%	215000	21%	226000	105.12%

**Note:** Data obtained from the FS 2023-2022

**Table 4.** Determining the effectiveness of logistics management in inventory control in the company

Indicator	2023 (S/)	2022 (S/)	Absolute variation	Relative variation (%)
Merchandise (ending inventory)	4410000	215000	226000	105.12%
Cost of sales	-1019207	-944870	-74337	7.87%
Total sales	1127348	1023252	104096	10.17%
Gross profit	108141	78382	29759	37.95%
Operating profit	73595	23243	50352	216.67%
Inventory turnover	3.11 times	4.39 times	-1.29	-29.29%
Days of inventory	117.46 days	83.05 days	34.41	41.43%

**Note:** Data obtained from the 2023-2022 FS

The evaluation of logistics management in the company under study revealed significant findings on its inventory control and financial structure, in line with previous studies in the literature. The increase in ending inventory by 105.12% and the decrease in inventory turnover by 29.29% suggest an accumulation of stock that could be strategic to meet anticipated future demand or to avoid previous logistical problems. This phenomenon is consistent with the observations of Gomes et al. (2023), who highlighted the importance of efficient inventory management to overcome logistical deficiencies.

The absolute increase in the value of inventory of 226 thousand soles, despite the relative decrease in its percentage of total assets, indicates a more balanced asset diversification. This management reflects effective inventory management that does not compromise the company's financial stability, supporting the theory of Barboza and Ruiz (2023) on the positive correlation between logistics management and inventory control.

The increase in total current assets by 107.66% reflects a significant improvement in the company's liquidity, increasing its ability to manage short-term obligations. This change is essential for the company's financial health, allowing greater flexibility and responsiveness to market changes, as suggested by Kmiecik (2022) and Gao (2022).

The improvement in inventory turnover, from 0.23 to 0.43 times, indicates greater efficiency in stock management, reducing inventory days on hand from 4.39 to 2.31. This result reflects a more accurate synchronization between inventory and sales, resulting in a leaner and more efficient operation, aligned with the findings of Singh et al. (2022).

The financial restructuring, evidenced by the increase in long-term accounts payable and its relative variation of 2384.60%, indicates a strategic shift possibly oriented towards expansion projects. This adjustment could represent a focus on

sustainable growth and improvement of the financing structure, in line with what was proposed by Almeida and Cabezas (2021).

The analysis of cost of sales and administrative expenses suggests a more efficient management of resources, with a reduction in the proportion of these costs to total sales. This efficient management is crucial to maintain profitability and support sustained growth, as described by Soria and Lema (2022).

The results obtained show that the company under study has achieved significant improvements in operational and financial efficiency through effective logistics management. These improvements reflect not only better inventory planning and control, but also a more robust financial strategy that improves responsiveness to market fluctuations.

The study confirms the importance of proper logistics management to optimize operational efficiency and financial stability, in line with existing literature. The implementation of advanced technologies and effective inventory management strategies can continue to improve logistics efficiency, minimize errors, and increase customer satisfaction, which translates into long-term loyalty and higher sales.

These findings provide a solid foundation for future research and business practices in the field of logistics and inventory control, highlighting the relevance of comprehensive and proactive management to business success.

## **FINAL REMARKS**

The findings of the study on logistics management and inventory control in the company under study reveal significant improvements in various operational and financial aspects. The notable increase in ending inventory by 105.12%, together with the decrease in inventory turnover by 29.29%, suggests a strategic accumulation of stock to anticipate and meet future demands, as well as to mitigate previous logistical problems. This strategic accumulation is consistent with the observations of recent studies, highlighting the importance of efficient inventory management to overcome logistical deficiencies.

The absolute increase in the value of inventory, despite the relative decrease in its percentage of total assets, indicates a more balanced asset diversification. This management reflects effective inventory management that does not compromise the company's financial stability, supporting the theory of a high correlation between logistics management and inventory control. The 107.66% increase in total current assets shows a significant improvement in the company's liquidity, increasing its capacity to manage short-term obligations. This change is crucial to the company's financial health, allowing greater flexibility and responsiveness to market changes. The improvement in inventory turnover, with a decrease in inventory days on hand, reflects a more precise synchronization between inventory and sales, resulting in a leaner and more efficient operation.

The financial restructuring, evidenced by the increase in long-term accounts payable of 2384.60%, suggests a strategic shift towards expansion projects. This adjustment reflects a focus on sustainable growth and improvement of the financing structure, aligned with modern financial management strategies. The analysis of cost of sales and administrative expenses suggests a more efficient management of resources, with a reduction in the proportion of these costs to total sales. This efficient management is crucial to maintain profitability and support sustained growth, highlighting the importance of proper logistics management to optimize operational efficiency and financial stability.

However, the study has limitations, such as the lack of comparative data from other periods or similar companies, which could provide a broader context for the results obtained. In addition, variability in logistics management methods and market conditions may influence the results, requiring constant adaptation of the strategies implemented.

In terms of gaps in the literature, the need for more in-depth studies on the integration of advanced technologies in logistics management and their impact on inventory control is identified. In addition, the lack of research on the relationship between logistics management and other specific financial indicators suggests areas for future exploration.

Future lines of research could focus on the implementation of emerging technologies such as artificial intelligence and machine learning to optimize inventory management. It would also be relevant to investigate how different financing strategies can affect the financial and operational structure of companies in various sectors.

The value propositions resulting from this study include the adoption of advanced technologies to improve inventory management accuracy, as well as the development of financing strategies that support sustainable growth and operational efficiency. These measures can not only improve customer satisfaction and long-term loyalty, but also increase the company's sales and profitability.

## REFERENCES

- Almeida, E., & Cabezas, G. (2021). *Incidencia de la gestión logística e inventarios en la rentabilidad de la empresa Disprovef Ecuador S.A., en la ciudad de Guayaquil*. [Bachelor's Thesis, Universidad de Guayaquil – Ecuador]. <https://repositorio.ug.edu.ec/server/api/core/bitstreams/b157b1ec-2725-4006-80d7-5e498085ceb5/content>
- Álvarez, M. (2019). *100 ideas para el retail de la era digital: Cómo atraer y retener clientes en las tiendas del futuro* (1ra. ed.). Profit. <https://books.google.com.pe/books?id=aYaWdWAAQBAJ&printsec=frontcover#v=onepage&q&f=false>
- Andrade, D., Rosado, C., Becerra, D., López, R., Jurado, F., & Rodríguez, V. (2023). Internal Control and Procurement of Goods and Services in a Peruvian Municipality. *Journal of Law and Sustainable Development*, 11(2), e707. <https://doi.org/10.55908/sdgs.v11i2.707>
- Barrera, A. (2016). La rotación de inventarios y su incidencia en la rentabilidad de Hostería Monte Selva de la Ciudad de Baños de Agua Santa. *Library*, 2(191), 1-20. <https://n9.cl/71xzh>
- Bou, B., Abbou, R., & Loiseau, J. (2021). Inventory control of a class of logistic networks. *Systems & Control Letters*, 147, 1-11. <https://doi.org/10.1016/j.sysconle.2020.104845>
- Boute, R., Gijbrecchts, J., Jarsveld, W., & Vanvuchelen, N. (2022). Deep reinforcement learning for inventory control: A roadmap. *European Journal of Operational Research*, 298(2), 401-412. <https://doi.org/10.1016/j.ejor.2021.07.016>
- Calzado-Girón, D. (2020). La gestión logística de almacenes en el desarrollo de los operadores logísticos. *Ciencias Holguín*, 26(1), 1-11. Obtenido de <https://www.redalyc.org/journal/1815/181562407005/181562407005.pdf>
- Cariño, R. (2023). *Pagos a proveedores y la gestión administrativa en una municipalidad distrital en Ayacucho - 2023*. [Master's thesis, Universidad César Vallejo, Peru]. [https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/120169/Cari%C3%B1o\\_QR-SD.pdf?sequence=1&isAllowed=y](https://repositorio.ucv.edu.pe/bitstream/handle/20.500.12692/120169/Cari%C3%B1o_QR-SD.pdf?sequence=1&isAllowed=y)
- Castro, J., & Salas, C. (2022). La gestión de las mercancías desde una perspectiva de los inventarios en prendas de vestir: Goods management from a clothing inventory Perspective. *Revista Científica Ecociencia*, 9(2), 77-98. <https://doi.org/10.21855/ecociencia.92.650>
- Chandra, S., Zidan, A., Kumar, A., Akbar, A., & Kumar, A. (2020). An application of preservation technology in inventory control system with price dependent demand and partial backlogging. *Alexandria Engineering Journal*, 59(3), 1359-1369. <https://doi.org/10.1016/j.aej.2020.03.006>
- Chung-Yuan, D. (2020). Optimal joint dynamic pricing, advertising and inventory control model for perishable items with psychic stock effect. *European Journal of Operational Research*, 283(2), 576-587. <https://doi.org/10.1016/j.ejor.2019.11.008>
- Cortés, D. (2022). *Gestión de calidad*. Obtenido de <https://www.cesuma.mx/blog/que-es-la-gestion-de-la-calidad.html>
- Darmawan, A., Wong, H., & Thorstenson, A. (2021). Supply chain network design with coordinated inventory control. *Transportation Research Part E: Logistics and Transportation Review*, 145, 1-21. <https://doi.org/10.1016/j.tre.2020.102168>
- Delgado, F., Malca, A., Rivera, S., Rodríguez, V., Espinoza, J., Ramírez, F., & Navarro, L. (2023). Effects of Marketing Strategies on the Brand Positioning of a Tourist Hotel, Bagua – Peru. *Journal of Law and Sustainable Development*, 11(7), e491. <https://doi.org/10.55908/sdgs.v11i7.491>
- Dos Santos, F., & Oliveira, F. (2019). An enhanced L-Shaped method for optimizing periodic-review inventory control problems modeled via two-stage stochastic programming. *European Journal of Operational Research*, 275(2), 677-693. <https://doi.org/10.1016/j.ejor.2018.11.053>
- Doss, R., Trujillo-Rasua, R., & Piraumuthu, S. (2020). Secure attribute-based search in RFID-based inventory control systems. *Decision Support Systems*, 132, 1-17. <https://doi.org/10.1016/j.dss.2020.113270>
- Dueñas, P. (2023). *Mejoras en los procedimientos de planeación y control de inventarios en una empresa minera de producción de cobre*. [Final thesis, Universidad Católica de Santa María, Peru]. <https://repositorio.ucsm.edu.pe/bitstream/handle/20.500.12920/13132/44.0840.II.pdf?sequence=1&isAllowed=y>
- Escudero, M. (2019). *Gestión logística y comercial* (2da ed.). Paraninfo. <https://books.google.com.pe/books?id=9GGzDwAAQBAJ&printsec=frontcover&hl=es#v=onepage&q&f=false>
- Flamarique, S. (2017). *Gestión de operaciones de almacenaje*. Marge Books. Obtenido de <https://books.google.com.pe/books?id=YhcpDwAAQBAJ&printsec=frontcover&hl=es#v=onepage&q&f=false>
- Flores, M., Escudero, F., & Pinedo-Palacios, P. (2022). Aplicación de la gestión logística para reducir los costos logísticos de la empresa FIMSAG S.A.C., Chimbote, 2022. *Emprendimiento Científico Tecnológico*(3), 1-17. 10.54798/RZYE6124
- Galiana, J. (2018). *Manual de gestión de compras para Logísticos*. Punto Rojo. <https://books.google.com.pe/books?id=5OVcDwAAQBAJ&printsec=frontcover&hl=es#v=onepage&q&f=false>
- Gao, D., Wang, N., Jiang, Q., & Jiang, B. (2022). Inventory Management. *Enterprises' Green Growth Model and Value Chain Reconstruction*, 1(1), 251-269. [https://doi.org/10.1007/978-981-19-3991-4\\_11](https://doi.org/10.1007/978-981-19-3991-4_11)
- Gokbayrak, E., & Kayis, E. (2023). Single item periodic review inventory control with sales dependent stochastic return flows. *International Journal of Production Economics*, 255, 1-19. <https://doi.org/10.1016/j.ijpe.2022.108699>
- Gomes, A., De Lima, F., Duarte, R., De Souza, P., De Oliveira, D., Rodrigues, L., & Sousa, J. (2023). Logistics management in e-commerce: challenges and opportunities. *Revista De Gestão E Secretariado*, 14(5), 7252-7272. <https://doi.org/10.7769/gesec.v14i5.2119>
- Gómez, J., & Chaparro, A. (2022). La convivencia en el contexto de pandemia: experiencia de docentes de secundaria. *Sinéctica*(57), e1276. doi:[https://doi.org/10.31391/s2007-7033\(2021\)0057-016](https://doi.org/10.31391/s2007-7033(2021)0057-016)
- Granillo-Macías, R. (2020). Inventory Management And Logistics Optimization: A Data Mining Practical Approach. *Scientific Journal of Logistics*, 16(4), 535-547. <https://doi.org/10.17270/J.LOG.2020.512>
- Hau-Ling, C., & Tsan-Ming, C. (2023). Logistics management for the future: the IJLRA framework. *International Journal of Logistics Research and Applications*, 1(1), 1-19. <https://doi.org/10.1080/13675567.2023.2286352>
- Hernández, N. (2012). Diseño de un modelo general para la gestión de sistemas logísticos en empresas cubanas: consideraciones teóricas y prácticas. *Economía y Sociedad*(127), 188-199. <https://santiago.uo.edu.cu/index.php/stgo/article/view/206/201>
- Hernández, R., & Mendoza, C. (2018). *Metodología de la investigación: Las rutas cuantitativa, cualitativa y mixta* (1ra. ed.). McGraw Hill Education.
- Izquierdo, I., Santos, J., Rodríguez, V., Espinoza, J., Delgado, F., & Navarro, L. (2023). Intercultural Education and Student Climate in the Faculty of Organizational Management, UNIFSL-BAGUA. *Journal of Law and Sustainable Development*, 11(2), e641. <https://doi.org/10.55908/sdgs.v11i2.641>



- Jerónimo, D., Martínez, G., & Silva, F. (2022). Propuesta de control de inventarios en una empresa de alimentos. *Publicaciones E Investigació*, 16(1), 1-8. doi:<https://doi.org/10.22490/25394088.5698>
- Kmiecik, M. (2022). Logistics Coordination Based on Inventory Management and Transportation Planning by Third-Party Logistics (3PL). *Sustainability*, 14(13), 1-19. <https://doi.org/10.3390/su14138134>
- Kundu, T., Jluh-Biing, S., & Hsin-Tsz, K. (2022). Emergency logistics management—Review and propositions for future research. *Transportation Research Part E: Logistics and Transportation Review*, 164, 1-22. <https://doi.org/10.1016/j.tre.2022.102789>
- Li, M., & Mizuno, S. (2022). Comparison of dynamic and static pricing strategies in a dual-channel supply chain with inventory control. *Transportation Research Part E: Logistics and Transportation Review*, 165, 1-16. <https://doi.org/10.1016/j.tre.2022.102843>
- Liberopoulos, G., & Deligiannis, M. (2022). Optimal supplier inventory control policies when buyer purchase incidence is driven by past service. *European Journal of Operational Research*, 300(3), 917-936. <https://doi.org/10.1016/j.ejor.2021.09.002>
- Luneckas, M., Luneckas, T., Kriauciunas, J., Udris, D., Plonis, D., Damasevicius, R., & Maskelienas, R. (2021). Hexapod Robot Gait Switching for Energy Consumption and Cost of Transport Management Using Heuristic Algorithms. *Appl. Sci.*, 11(3), 1-13. <https://doi.org/10.3390/app11031339>
- Ma, X., Rossi, R., & Archibald, T. (2019). Stochastic Inventory Control: A Literature Review. *IFAC-PapersOnLine*, 52(13), 1490-1495. <https://doi.org/10.1016/j.ifacol.2019.11.410>
- Magrand, A., Li, H., & Thorstenson, A. (2019). Joint inventory control and pricing in a service-inventory system. *International Journal of Production Economics*, 209, 78-91. <https://doi.org/10.1016/j.ijpe.2017.07.008>
- Mahmoodi, A. (2019). Joint pricing and inventory control of duopoly retailers with deteriorating items and linear demand. *Computers & Industrial Engineering*, 132, 36-46. <https://doi.org/10.1016/j.cie.2019.04.017>
- Maldonado, K., Armijos, G., & Lalangui, M. (2023). Aplicación de la gestión de costos en pequeñas empresas productoras de banano, Provincia El Oro. *Polo del Conocimiento*, 8(2), 1479-1499. 10.23857/pc.v8i2.5255
- Pari, M. (2023). Control interno y eficiencia operativa en el área de producción de la empresa Marga S.R.L. de Chorrillos. *Horizonte Mpresarial*, 10(2), 1-16. <https://doi.org/10.26495/rce.v10i2.2660>
- Paricahua, H. (2022). Gestión logística y su relación con la rentabilidad de empresas constructoras en la provincia de San Román, Puno. *QUIPUKAMAYOC*, 30(62), 67-75. <https://doi.org/10.15381/quipu.v30i62.22179>
- Pizzán, Tomanguillo, N., Rosales, C., & Cris, C. (2022). Control de inventario y rentabilidad en una empresa ferretera de Manantay-Perú. *Sapienza*, 3(1), 649-666. <https://doi.org/10.51798/sijis.v3i1.246>
- Quijala-Tamayo, L., Fernández-Nápoles, Y., Vallín-García, E., Lopes-Martinez, I., Domínguez-Pérez, F., & Calderio-Rey, Y. (2018). Una nueva visión en la gestión de la logística de aprovisionamientos en la industria biotecnológica cubana. *Vaccimonitor*, 27(3), 93-101. <http://scielo.sld.cu/pdf/vac/v27n3/vac03318.pdf>
- Rodríguez, A. (2018). *Aprovisionamiento, control de costes y gestión del alojamiento rural* (1ra. ed.). IC. <https://books.google.com.pe/books?id=u1cpEAAAQBAJ&printsec=frontcover&dq=Aprovisio#v=onepage&q&f=false>
- Rodríguez, V., Morales, A., Navarro, L., Rosado, C., Espinoza, L., & Hrnandez, O. (2023). Pedagogical Leadership in the Educational Management of Peruvian Educational Institutions. *International Journal of Professional Business Review*, 8(4), e01548. <https://doi.org/10.26668/businessreview/2023.v8i4.1548>
- Rojas, S., Carrasco, M., Rodríguez, V., Espinoza, J., Delgado, F., & Navarro, L. (2023). Strategic Management and Quality of Service of Public Transportation Companies from Bagua – Peru. *Journal of Law and Sustainable Development*, 11(2), e638. <https://doi.org/10.55908/sdgs.v11i2.638>
- Rushton, A., Croucher, P., & Baker, P. (2022). *The handbook of logistics and distribution management: Understanding the supply chain*. Kogan. Page Publishers. [https://books.google.es/books?hl=es&lr=&id=-jIUAAAQBAJ&oi=fnd&pg=PR1&dq=distribution+and+transport+management+2021&ots=w\\_lcsj\\_mJD&sig=1bn-OEsvcpGn-F1kOg7WNNKXDvmU#v=onepage&q=distribution%20and%20transport%20management%202021&f=false](https://books.google.es/books?hl=es&lr=&id=-jIUAAAQBAJ&oi=fnd&pg=PR1&dq=distribution+and+transport+management+2021&ots=w_lcsj_mJD&sig=1bn-OEsvcpGn-F1kOg7WNNKXDvmU#v=onepage&q=distribution%20and%20transport%20management%202021&f=false)
- Sánchez, O., Suárez, R., & García, A. (2023). El Sistema de Control de Inventarios. Un análisis de una empresa de Giro Comercial. *Conocimiento, Investigación y Educación CIE*, 2(17), 31-38. <https://ojs.unipamplona.edu.co/index.php/cie/article/view/2549>
- Santiago, J. (2023). Teoría de inventarios aplicación de la teoría de inventarios en la empresa Kjantu Collection S.A.C. *Revista Ingeniería, Matemáticas y Ciencias de la Información*, 10(20), 127-134. <http://dx.doi.org/10.21017/rimci.2023.v10.n20.a147>
- Servera-Francés, D. (2010). Concepto y evolución de la función logística. *Innovar*, 20(38), 217-234. <https://repositorio.unal.edu.co/bitstream/handle/unal/35061/22403-77101-1-PB.pdf?sequence=2&isAllowed=y>
- Singh, A., Rasania, S., & Barua, K. (2022). Inventory control: Its principles and application. *Community Health*, 34(1), 14-19. <https://iapsmupuk.org/journal/index.php/IJCH/article/view/2264>
- Soria, M., & Lema, H. (2022). *Diseño de un modelo de gestión para la logística y distribución de productos de consumo masivo de una empresa ecuatoriana*. [Bachelor's Thesis, Milagro State University - Ecuador]. <https://repositorio.unemi.edu.ec/bitstream/123456789/6401/1/Miuner%20Stuar%20Soria%20Uriarte.pdf>
- Sterner, K., Edman, T., & Fjeld, D. (2023). Transport management – a Swedish case study of organizational processes and performance. *International Journal of Forest Engineering*, 1(1), 1--8. <https://doi.org/10.1080/14942119.2023.2202614>
- Strimovskaya, A., & Bochkarev, A. (2023). Algorithmic framework for enhancement of information control in integrated transportation systems. *Journal of Industrial Information Integration*, 35, 1-19. <https://doi.org/10.1016/j.jii.2023.100512>
- Svoboda, J., Minner, S., & Yao, M. (2021). Typology and literature review on multiple supplier inventory control models. *European Journal of Operational Research*, 293(1), 1-23. <https://doi.org/10.1016/j.ejor.2020.11.023>
- Taheri, M., Sadegh, M., Allah, A., & Mardan, E. (2023). Investigating the green inventory control problem considering liquidity risk: Application in the dairy industry. *Sustainable Cities and Society*, 92, 1-18. <https://doi.org/10.1016/j.scs.2023.104479>
- Tai, A., Xie, Y., He, W., & Wai-Ki, C. (2019). Joint inspection and inventory control for deteriorating items with random maximum lifetime. *International Journal of Production Economics*, 207, 144-162. <https://doi.org/10.1016/j.ijpe.2018.03.020>
- Tejero, J. (2007). *Logística integral: la gestión operativa de la empresa*. ESIC editorial.
- Theodorou, E., Spiliotis, E., & Assimakopoulos, V. (2023). Optimizing inventory control through a data-driven and model-independent framework. *EURO Journal on Transportation and Logistics*, 12, 1-16. <https://doi.org/10.1016/j.ejtl.2022.100103>

Transchel, S., & Hansen, O. (2019). Supply Planning and Inventory Control of Perishable Products Under Lead-Time Uncertainty and Service Level Constraints. *Procedia Manufacturing*, 39, 1666-1672. <https://doi.org/10.1016/j.promfg.2020.01.274>

Trigoso, J., Huamán, M., Bernedo-Moreira, D., & Romero-Carazas, R. (2023). Gestión logística hospitalaria y calidad de servicio del cliente interno en tiempos de pandemia. *Revista de Ciencias Humanísticas y Sociales (ReHuSo)*, 8(1), 146-161. <https://doi.org/10.33936/rehuso.v8i1.4615>

Vásquez. (2020). *Metodología de la investigación*. Unidad Académica de Estudios Generales. Available at: <https://www.usmp.edu.pe/estudiosgenerales/pdf/2019-I/MANUALES/II%20CICLO/METODOLOGIA%20DE%20LA%20INVESTIGACION.pdf>

Vasquez, J., Cruz, L., Navarro, L., Benavides, A., López, R., & Rodríguez, V. (2023). Relationship Between Internal Control and Treasury Management in a Peruvian Municipality. *Journal of Law and Sustainable Development*, 11(2), e706. <https://doi.org/10.55908/sdgs.v11i2.706>

Vidal, F. (2021). *Gestión de almacenes: Conceptos básicos para implementarla con éxito*. Stel [https://www.stelorder.com/blog/gestion-de-almacenes/#%C2%BFQue\\_es\\_la\\_gestion\\_de\\_almacenes](https://www.stelorder.com/blog/gestion-de-almacenes/#%C2%BFQue_es_la_gestion_de_almacenes)

Wandelt, S., Sun, X., & Zhang, A. (2023). AI-driven assistants for education and research? A case study on ChatGPT for air transport management. *Journal of Air Transport Management*, 113, 1-15. <https://doi.org/10.1016/j.jairtraman.2023.102483>

Wang, J., & Zhu, X. (2021). Joint optimization of condition-based maintenance and inventory control for a k-out-of-n:F system of multi-state degrading components. *European Journal of Operational Research*, 290(2), 514-529. <https://doi.org/10.1016/j.ejor.2020.08.016>

Wang, Q., Wu, J., Zgao, N., & Zhu, Q. (2019). Inventory control and supply chain management: A green growth perspective. *Resources, Conservation and Recycling*, 145, 78-85. <https://doi.org/10.1016/j.resconrec.2019.02.024>

Xinbao, L., Tianji, Y., Jun, P., Haitao, L., & Pohl, E. (2019). Replacement and inventory control for a multi-customer product service system with decreasing replacement costs. *European Journal of Operational Research*, 273(2), 561-574. <https://doi.org/10.1016/j.ejor.2018.08.029>

Zamora-Magallanes, A., & Rivera-Guerrero, A. (2023). Propuesta de un sistema de control de inventario para la empresa Luatec S.A. De la ciudad de Guayaquí. *Polo del Conocimiento*, 8(8), 154-172. 0.23857/pc.v8i8

Zhou, Q., Fu, S., Yang, Y., & Dong, C. (2023). Joint pricing and inventory control with reference price effects and price thresholds: A deep reinforcement learning approach. *Expert Systems with Applications*, 233, 1-21. <https://doi.org/10.1016/j.eswa.2023.120993>

**Contribution of each author to the manuscript:**

Task	% of contribution of each author	
	A1	A2
A. theoretical and conceptual foundations and problematization:	50%	50%
B. data research and statistical analysis:	50%	50%
C. elaboration of figures and tables:	50%	50%
D. drafting, reviewing and writing of the text:	50%	50%
E. selection of bibliographical references	50%	50%
F. Other (please indicate)	-	-

**Indication of conflict of interest:**

There is no conflict of interest

**Source of funding**

There is no source of funding

**Acknowledgments**

There is no acknowledgment