Supply chain management in the hotel and tourism sector: a systematic review of barriers and challenges in inventory control

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Abstract

Effective supply chain management in the hotel and tourism sector faces multiple challenges, especially in relation to inventory control. Many companies do not have the necessary supplies to guarantee timely and quality service to tourists, which negatively affects the visitor experience and generates economic losses due to non-compliance, waste, or cost overruns. This situation highlights the need to strengthen logistics processes in the sector. The objective of this study is to analyze the main factors that limit efficient inventory management in hotel and tourism supply chains and to formulate guidelines and recommendations that contribute to their optimization. Methodologically, the research is conducted using a qualitative approach, with a descriptive scope and an academic literature review design. The analysis of the studies reviewed has identified internal barriers (such as poor planning, limited digitization, and limited staff training) and external barriers (unreliable suppliers, demand variability, and logistical constraints). It concludes that inventory management aligned with technological and collaborative planning strategies is key to improving operational efficiency, customer satisfaction, and the economic sustainability of the sector.

Keywords: Logistical barriers, Supply chain, Inventory management, Hotel and tourism sector

Introduction

The hotel and tourism sector is one of the pillars of the global and national economy, given its impact on job creation, attracting investment, and boosting other productive sectors. According to the World Tourism Organization (UNWTO, 2019), this sector accounts for about 10% of global gross domestic product, which highlights its strategic importance for the sustainable development of countries. However, its efficient operation depends on proper supply chain management, especially with regard to inventory control, where the processes of procurement, storage, and distribution of essential inputs for the provision of services converge.

Poor management of these resources can directly affect the quality of guest service and the operational profitability of establishments, generating losses due to waste, oversupply, or failure to meet demand.

In recent decades, various studies have examined the importance of optimizing logistics management in service companies, highlighting the need to adopt comprehensive approaches that combine technology, sustainability, and efficiency (Chopra et al., 2019; Aigbedo, 2021). In the hotel sector, research such as that by Gruchmann et al. (2022) has shown that lack of inventory control and poor supply planning are critical

factors that limit competitiveness. Despite theoretical advances, significant gaps remain in the literature, especially regarding the systematic identification of barriers that hinder inventory control within tourism supply chains. Most studies focus on manufacturing or retail, leaving behind the analysis of logistics management in hotel service companies, where dynamics are more complex due to the intangibility, seasonality, and variability of demand.

The central problem addressed in this research lies in the limited capacity of hotel and tourism establishments to effectively manage their inventories, which has an impact on operational efficiency and customer satisfaction. The absence of collaborative planning strategies, low digitization of processes, dependence on unreliable suppliers, and poor staff training in logistics management are some of the obstacles identified in the specialized literature. These factors, combined with changes in market conditions and growing consumer demands, make it necessary to thoroughly understand the barriers and challenges facing the sector in order to achieve modern, sustainable, and resilient inventory management.

The study is particularly important because it offers a comprehensive overview of the current challenges facing the hotel and tourism supply chain, in a context where logistical efficiency has become an essential competitive advantage. Analyzing the barriers that hinder inventory control will enable the formulation of strategies aimed at continuous improvement, technological adoption, and resource optimization, contributing to the strengthening of the sector's economic and environmental sustainability. Likewise, the results of this research can serve as a reference for designing organizational policies and training programs that enhance the management capabilities of tourism companies, promoting data-driven decision-making and collaborative work among the different actors in the chain.

The overall objective of the research is to analyze the main factors that limit efficient inventory management in the supply chains of the hotel and tourism sector, in order to propose guidelines that contribute to its optimization. Specifically, it seeks to examine current inventory control practices in the sector, identify internal and external barriers that affect their performance, and synthesize strategies documented in the literature that have proven effective in improving operational efficiency. Taken together, this systematic review aims to generate applicable knowledge that will guide the adoption of more integrated, technological, and sustainable management models capable of responding to the demands of contemporary tourism.

Theoretical Framework

The theoretical framework of this research aims to conceptually support the analysis of the factors that limit efficient inventory management in the hotel and tourism supply chain. Understanding the logistics dynamics in this area requires reviewing the theoretical foundations of supply chain management, as well as the particularities of the service sector, characterized by its high variability and dependence on immediate customer satisfaction. This conceptual framework allows us to contextualize the processes of procurement, storage, and distribution of resources within a comprehensive perspective that articulates operational efficiency, sustainability, and quality in the provision of tourism services.

In the context of systematic review, the theoretical framework not only organizes essential concepts but also provides an interpretive axis that guides critical reading of the studies analyzed. In this way, it seeks to recognize the interrelationships between logistics, digitization, and hotel management in order to identify gaps between theory and practice. In this sense, topics such as supply chain management (SCM), the particularities of the supply chain in the hotel and tourism sector, and inventory management in the hotel industry are addressed, which constitute the conceptual pillars on which the study is based.

Supply chain management

Supply chain management (SCM) is a key discipline in modern administration, encompassing the planning, execution, and control of all processes involved in the flow of products, services, information, and finances from the source to the end customer (Mishra, 2023). In this sense, SCM is no longer limited to a company's internal logistics, but transcends its organizational boundaries to articulate supply, production, and distribution networks that seek to jointly optimize their results. This evolution implies a systemic approach that considers the chain as an interrelated whole, rather than as isolated links.

The evolution of SCM has been marked by a shift from models focused on cost efficiency to schemes geared toward flexibility, speed, and customer response. For example, recent research indicates that the COVID-19 pandemic highlighted the need for more resilient, collaborative, and digitized chains capable of responding to drastic changes in demand and supply disruptions (Shen and Sun, 2021). Likewise, the role

of digital technologies and real-time visibility has increased to enable more effective coordination among chain participants.

A basic principle of SCM lies in the coordination and integration of material, information, and financial flows between the different actors in the chain. Recent studies have shown that the exchange of complete, accurate, and timely information promotes interorganizational integration and improves the overall performance of the chain (Sundram et al., 2020). Similarly, research on interorganizational systems shows that the standardization and adaptability of digital platforms through collaboration and supply chain agility (Annosi et al., 2021), effective coordination implies that supply chain partners develop trusting relationships, share strategic objectives, and align their internal and external processes to generate joint value.

In addition, SCM incorporates strategic principles such as "strategic fit" between the chain and the organization's competitive strategy, as well as the management of performance drivers (facilities, inventory, transportation, information, pricing, among others) (Jamaludin, 2021). The literature indicates that the choice and design of these drivers must be aligned with market demands, the company's mission, and the configuration of its supply network. In this way, SCM is presented as a mechanism for building sustainable competitive advantages through operational efficiency, customer response, and innovation in the chain.

Similarly, supply chain management in the contemporary context requires an integrated vision that combines efficiency, flexibility, sustainability, and digitization. Recent research suggests that, in order to remain relevant, the supply chain must incorporate elements such as advanced analytics, the Internet of Things (IoT), and big data, which enable changes to be anticipated, processes to be monitored, and decision-making to be facilitated (Stroumpoulis and Kopanaki, 2022; Chauhan et al., 2022). In this context, SCM is conceived not only as an operational function, but as an adaptive system aimed at creating value throughout the entire network of relationships. For the hotel and tourism sector, this perspective involves the integrated management of supplies, services, and experiences, so that it is possible to respond quickly to variability in demand, seasonality, and customer expectations.

Special features of the supply chain in the hotel and tourism sector

The supply chain in the hotel and tourism sector has distinctive characteristics compared to other productive sectors, due to the nature of the services it offers. Unlike manufacturing activities, where goods can be stored or transported, tourism services are characterized by their intangibility, perishability, inseparability, and variability, which conditions logistics planning and inventory management. These particularities create the need to coordinate processes in real time, ensuring that resources, supplies, and services are available just when the customer needs them (Klimova et al., 2020). Thus, supply chain management in the tourism sector involves not only the physical movement of goods, but also the efficient coordination of experiences, personnel, and technology aimed at guest satisfaction.

The intangibility of tourism services makes it difficult to standardize procurement processes and measure service quality. Since there is no physical product that can be evaluated before consumption, hotels and operators must ensure that all associated supplies and services, such as food, textiles, cleaning supplies, and maintenance, are available in the right conditions and at the right times (Vujić et al., 2020). On the other hand, perishability means that services cannot be stored, which increases the pressure on demand accuracy and inventory turnover. In hotels, an unoccupied room or excess unused food represents direct losses that impact the profitability of the business.

The variability and seasonality of tourist demand represent another fundamental challenge. Visitor numbers fluctuate according to seasons, events, holidays, or external conditions such as weather or the economic situation. This uncertainty complicates inventory planning and requires a flexible supply system that allows for rapid adjustments to stock levels and supplier contracts (Font et al., 2021). In this context, information management becomes a determining factor, as it allows for the anticipation of demand behavior and the optimization of resource availability in accordance with occupancy projections.

Furthermore, the interdependence between local and international suppliers is a key dimension of the tourism supply chain. Hotels and operators often rely on a wide network of suppliers that provide everything from perishable food to imported goods, the availability of which can be affected by logistical, political, or economic factors (Katsaliaki et al., 2022). This multiplicity of actors requires coordination, traceability, and communication mechanisms to ensure service continuity. The quality of supply and the

reliability of suppliers directly impact the customer experience, making it necessary to implement evaluation and selection strategies based on performance and sustainability.

In recent years, digitization has begun to transform tourism supply chains, incorporating data analysis tools, artificial intelligence, and ERP systems specialized in hotel management. These technologies enable real-time monitoring of occupancy, consumption of supplies, and inventory levels, facilitating more agile and accurate decision-making (Iranmanesh et al., 2022; Zamani, 2022). However, technology adoption remains uneven among establishments, especially in small and medium-sized hotel businesses facing budget constraints or training gaps. Therefore, the sector's competitiveness increasingly depends on the ability to integrate digitization with sustainable and collaborative logistics practices that respond to the dynamic nature of tourism.

Inventory management in the hotel industry

Inventory management in the hotel industry is an essential component for the efficient operation of services, as it ensures the availability of supplies at the required time and in the required quantity, avoiding both shortages and excess stock. Unlike manufacturing sectors, where inventories can be planned with relative stability, hotels face fluctuating demand that is sensitive to external factors, requiring the development of dynamic and flexible control systems (Baquero, 2023). In this context, inventory management becomes a strategic element that directly affects guest satisfaction, service quality, and the profitability of the establishment.

From a conceptual point of view, inventory management encompasses activities such as classification, storage, rotation, and replenishment of supplies, using techniques aimed at optimizing resource use and reducing operating costs. Among the most widely used models are Economic Order Quantity (EOQ), which determines the optimal order volume to minimize storage and procurement costs; Just in Time (JIT), which seeks to eliminate excess inventory through precise coordination with suppliers; and ABC classification, used to prioritize supplies according to their value or frequency of use (Nduta, 2021). These models, adapted to the hotel context, contribute to better management of the flow of materials and supplies, ensuring that critical products are always available without incurring additional costs.

In the hotel industry, inventories include a wide range of supplies: food and beverages, linens, toiletries, maintenance items, administrative supplies, and technical spare parts, among others. Proper management of these resources requires not only physical controls but also a comprehensive vision that connects logistics with financial and operational planning (Quevedo Huamanchumo, 2021). Inefficient management can lead to waste, non-compliance, or loss of customers, while an efficient control system ensures service continuity and optimizes the guest experience. That is why the best-performing hotels integrate their inventories into a broader supply chain management scheme, in which occupancy, reservation, and consumption data feed into purchasing and procurement planning.

The advance of digitalization has driven the incorporation of specialized technologies in hotel inventory management, such as ERP systems, RFID, and predictive analytics based on artificial intelligence. These tools allow real-time recording of supply usage, automated ordering, and anticipation of future demand, strengthening traceability and reducing human error (Milovanović et al., 2022; Gómez and Martínez Miranda, 2022). However, technology adoption depends largely on the financial capacity and organizational culture of each establishment. Small and medium-sized enterprises in the sector, which make up the majority of the hotel supply in Latin America, still face investment and training barriers that limit their access to these innovations.

Inventory management in the hotel industry is also closely linked to the principles of sustainability and environmental efficiency, as proper planning helps reduce food waste, energy consumption, and waste generation. Several studies emphasize that inventory optimization not only has economic benefits, but also ecological and reputational ones, by aligning operations with the Sustainable Development Goals (SDGs) promoted by the 2030 Agenda (Lee and Huang, 2023; Avi, 2023). Consequently, inventory management systems are becoming strategic tools that strengthen competitiveness, social responsibility, and sustainability in the contemporary hotel sector.

Methodology

This study takes a qualitative approach with a descriptive and analytical scope, based on a systematic review of academic literature. This methodological approach allows for a detailed examination of scientific evidence published between 2019 and 2023 on the barriers and challenges in inventory control within supply chain management in the hotel and tourism sector. This method was chosen in response to the need

to integrate existing findings in the specialized literature, identify recurring trends and knowledge gaps, and propose guidelines to orient future logistics optimization strategies in the sector.

The systematic review was conducted through a structured search of information in high-impact academic databases such as Scopus, Web of Science, Emerald Insight, and ScienceDirect, supplemented by open-access repositories such as Redalyc, Dialnet, and Google Scholar. Combinations of keywords and Boolean operators (AND, OR) were used to broaden and refine the search results. The main expressions used included: "supply chain management," "hotel industry," "tourism sector," "inventory management," "logistics challenges," "inventory control barriers," and "hospitality supply chain." These combinations allowed us to retrieve relevant studies related to inventory management, tourism logistics, and the digitization of procurement processes.

The inclusion criteria defined for the selection of the document corpus were as follows: (a) scientific articles published between January 2019 and December 2023; (b) full-text, peer-reviewed studies; (c) research focused on supply chain management or inventory control in companies in the hotel and tourism sector; and (d) publications in English or Spanish. Duplicate documents, non-peer-reviewed studies, non-academic literature (such as blogs, non-indexed reports, or press releases), and works addressing logistics management in sectors other than tourism or hospitality were excluded.

The process of searching, selecting, and refining sources was carried out following the guidelines of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, adapted to the context of the research. In the identification phase, 112 references were initially retrieved from the selected databases. Subsequently, in the screening phase, duplicates were eliminated and titles and abstracts were reviewed to verify thematic relevance, reducing the set to 78 studies. In the eligibility phase, the full texts were analyzed considering the inclusion and exclusion criteria, resulting in a final corpus of 60 documents that served as the basis for the qualitative analysis. The application of the PRISMA protocol ensured the rigor, transparency, and traceability of the entire review process.

Qualitative analysis of the information was carried out by coding and categorizing the findings of the selected studies by theme. This process allowed us to identify recurring patterns, emerging trends, and common barriers related to inventory control in the hotel and tourism supply chain, such as lack of planning, low digitization, dependence on suppliers, insufficient staff training, and challenges arising from demand variability. Finally, the results were organized into five thematic areas that structure the presentation and discussion of the findings: (1) inventory planning and control, (2) technology adoption and digitization, (3) staff training, (4) supplier management, and (5) sustainability and operational resilience.

Results

The results presented below are derived from a systematic review and analysis of academic literature, carried out in line with the study's objectives and the qualitative methodological approach adopted. In this phase, the findings obtained from the selected documentary corpus were consolidated and examined in order to identify the main barriers and challenges that limit efficient inventory control within supply chain management in the hotel and tourism sector. The analytical treatment of the information allowed the results to be structured in two complementary stages: the first, corresponding to the retrieval and refinement of bibliographic sources, and the second, focused on the thematic analysis and interpretation of the findings. This approach ensured the traceability of the process and the alignment between the data obtained and the objectives set out in the research.
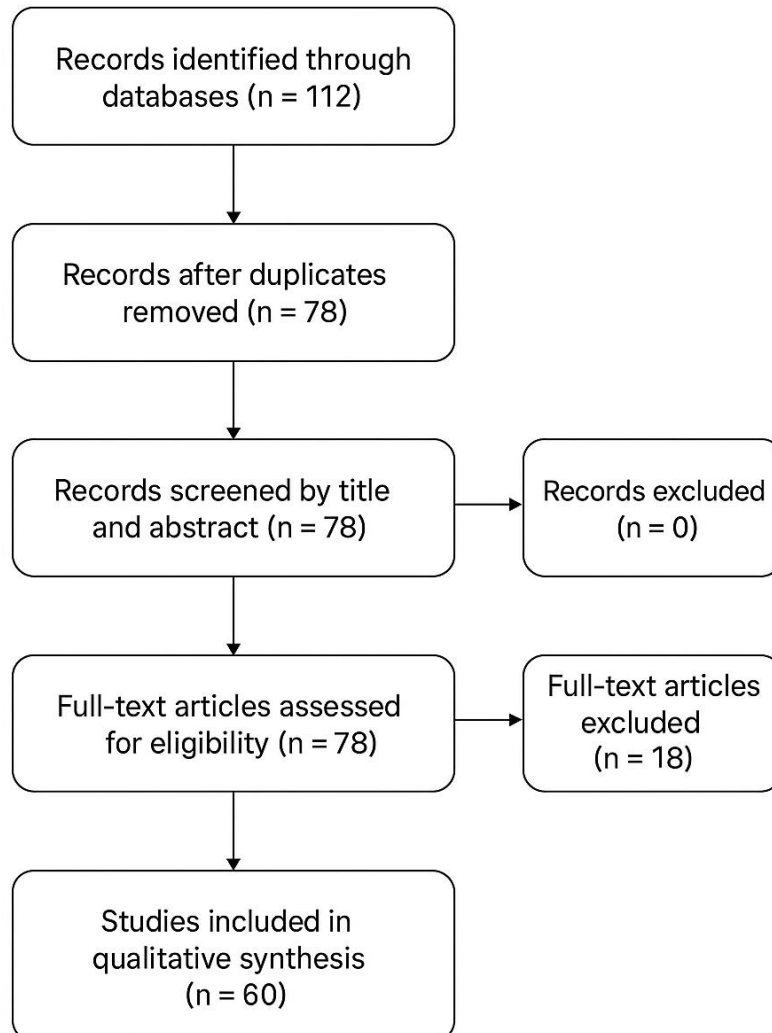
Results First stage: Retrieval of bibliographic sources

The first stage of the process consisted of identifying, selecting, and refining the academic documents that made up the final corpus for analysis. This phase was carried out following the guidelines of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, which ensured the transparency, replicability, and methodological rigor of the review. Initially, 112 studies were retrieved from the Scopus, Web of Science, Emerald Insight, ScienceDirect, Redalyc, Dialnet, and Google Scholar databases, using combinations of keywords related to inventory management, hotel logistics, and the tourism supply chain.

Subsequently, during the screening phase, duplicate records and those that did not meet the thematic relevance criteria were eliminated. In the eligibility phase, the full texts were reviewed, verifying their compliance with the defined inclusion criteria: peer-reviewed academic publications, in English or Spanish, published between 2019 and 2023, and focused on inventory control or logistics management within the

hotel and tourism sector. Finally, the inclusion phase yielded a set of 60 documents, which formed the basis of the qualitative analysis.

Figure 1. Stages of the PRISMA Protocol for selecting bibliographic sources

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┌─────────────────────────┐
│ Records identified      │
│ through databases       │
│ (n = 112)               │
└───────────┬─────────────┘
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┌─────────────────────────┐
│ Records after duplicates│
│ removed (n = 78)        │
└───────────┬─────────────┘
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┌─────────────────────────┐        ┌──────────────────┐
│ Records screened by     │───────▶│ Records excluded │
│ title and abstract      │        │ (n = 0)          │
│ (n = 78)                │        └──────────────────┘
└───────────┬─────────────┘
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┌─────────────────────────┐        ┌──────────────────┐
│ Full-text articles      │───────▶│ Full-text        │
│ assessed for            │        │ articles         │
│ eligibility (n = 78)    │        │ excluded         │
│                         │        │ (n = 18)         │
└───────────┬─────────────┘        └──────────────────┘
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┌─────────────────────────┐
│ Studies included in     │
│ qualitative synthesis   │
│ (n = 60)                │
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Note: The figure illustrates the flow of identification, screening, eligibility, and inclusion of academic sources that were included in the systematic review, following the PRISMA protocol guidelines.

The application of the PRISMA protocol allowed us to define a representative body of literature, characterized by its geographical and methodological diversity. Research with both empirical and theoretical approaches was identified, providing a broad and contextualized view of the issue under analysis. This final selection ensured the robustness of the results by integrating studies that address inventory management from technological, sustainable, operational, and training perspectives within the hotel and tourism sector.

Results Second stage: Analysis of Bibliographic Sources

The second stage involved a qualitative analysis of the documents that made up the final corpus of the systematic review. To this end, analytical matrices were used to facilitate the organization and comparison of the information contained in the selected studies, taking into account criteria such as the nature of the contributions, the methodologies used, and the main findings related to inventory management in the hotel and tourism supply chain. This process made it possible to identify thematic patterns, conceptual recurrences, and research gaps, as well as to recognize the critical areas that limit efficiency in the sector's logistics processes.

Based on a detailed reading and coding of the information, connections were established between the different theoretical and empirical approaches analyzed, revealing a general consensus in the literature on the existence of multiple barriers and challenges that affect inventory control. These difficulties are interdependently related to aspects linked to operational planning, technological incorporation, human talent training, supplier relations, and organizational sustainability. The convergence of these factors reflects the complexity of the hotel and tourism context, where inventory management cannot be understood as an isolated process, but rather as a cross-cutting component of the supply chain that articulates strategic, technical, and human decisions.

The analysis also revealed that limitations in inventory control stem from both internal factors, such as a lack of structured planning, limited digitization, and insufficient staff training, and external factors, such as demand variability, supplier dependence, and logistical constraints in the environment. Consequently, the barriers identified do not act in a fragmented manner, but rather form a network that directly affects the competitiveness, sustainability, and responsiveness of the sector.

Based on these findings, the following sections delve deeper into each of the barriers and challenges identified, systematically explaining their characteristics, causes, and repercussions within hotel and tourism supply chain management.

Inventory planning and control

Academic literature shows that planning is the cornerstone of inventory control in the hotel sector, as it ensures the availability of supplies in line with projected demand. Recent research highlights that the absence of structured plans leads to cost overruns and shortages, affecting service continuity and the guest experience (Annisa et al., 2023; Hamadneh et al., 2022). In this sense, planning not only involves forecasting requirements, but also integrating occupancy, consumption, and supplier information to anticipate scenarios of variation in demand.

Several studies agree that inventory control in the tourism context requires analytical tools that allow real-time monitoring of stock levels. Recent literature shows that hotels with data-based planning systems have greater operational efficiency and less waste of perishable supplies (Amicarelli et al., 2021). These practices help to adjust purchase orders and reduce tied-up capital, strengthening the logistical competitiveness of establishments.

From this perspective, efficient inventory management is based on the integration of planning and operational control. Some research highlights that synchronizing demand with procurement policies improves profitability and minimizes losses due to obsolescence (Peréz et al., 2021; Tadayonrad and Ndiaye, 2023). This approach allows logistics managers to make evidence-based decisions, prioritizing critical products and adjusting rotations according to tourist seasonality.

The literature review also highlights that strategic inventory planning must be linked to corporate objectives and supply chain performance indicators. Authors such as Anvari et al. (2023) and Sugut and Ondara (2023) argue that management aligned with the organization's overall planning allows for consistency between supply, demand, and financial sustainability. This requires an organizational culture focused on prevention and continuous control of resources.

Overall, the studies analyzed show that inventory planning and control are essential pillars for operational efficiency in the hotel and tourism sector. The ability to anticipate needs, manage stock based on accurate information, and adjust strategies in response to market fluctuations is a key determinant of competitiveness and customer satisfaction in highly dynamic environments.

Technology adoption and digitization

Several authors argue that digitization is one of the most influential pillars in the transformation of the hotel supply chain, as it enables automated inventory control and traceability of supplies. The most recent studies highlight that technological tools, such as ERP systems and predictive analytics platforms, allow for greater accuracy in recording movements and reducing operational losses (Yang et al., 2021; Khan et al., 2023). These technological solutions become strategic support tools for anticipating demand and optimizing supply flows.

Recent empirical evidence indicates that technology adoption is directly associated with the level of digital maturity of hotel organizations. The studies consulted show that companies that integrate cloud-based technologies, artificial intelligence, or the Internet of Things are able to strengthen the visibility of their inventories and improve interdepartmental coordination (Nam et al., 2020; Khan et al., 2022). However,

the digital divide between large and small companies continues to be a structural obstacle that limits the efficiency of the sector.

Recent publications highlight that digitization should not only be understood as a technical process, but also as a cultural and organizational transformation. Contemporary research underscores that resistance to change, lack of training, and insufficient technological investment are the main factors restricting the consolidation of sustainable digital environments in the hotel industry (Alrawadieh et al., 2020; Jayawardena et al., 2023). Therefore, technological innovation requires corporate policies aimed at knowledge management and the strengthening of digital skills.

In line with the findings of various researchers, the specialized literature reaffirms that digitization has a direct impact on strategic decision-making in the supply chain. By integrating data from reserves, consumption, and suppliers, organizations can design dynamic control systems that promote energy efficiency, reduce waste, and optimize resource use (Hallikas et al., 2021; Liu and Chiu, 2021). This holistic view makes technology a catalyst for sustainability and competitiveness.

Analysis of the studies reviewed shows that technological adoption is essential for modernizing inventory control in the hotel and tourism sector. Organizations that incorporate integrated digital solutions and promote technological literacy among their staff are moving toward more efficient and resilient management models that are better adapted to the demands of the global environment.

Staff training

The specialized review shows that staff training in logistics management and inventory control is a decisive factor in ensuring operational efficiency in the hotel sector. Recent studies argue that a lack of technical training in procurement and inventory management procedures leads to recurring errors in the planning and recording of supplies (Utama et al., 2022; Alreahi et al., 2023). This situation has a direct impact on service quality and on the costs associated with waste or shortages of essential products.

The latest academic evidence recognizes that human talent trained in inventory management provides a comprehensive view of the logistics process, enabling coordination between purchasing, storage, and distribution. Authors such as Rolf et al. (2022) and Lotfi et al. (2023) emphasize that continuous training programs strengthen staff autonomy and encourage preventive practices in the face of supply imbalances. The professionalization of human resources, therefore, is seen as a strategic investment rather than an operating expense.

Comparative findings across different regional contexts suggest that the absence of standardized training limits employees' adaptation to technological systems and changes in the environment. Recent research highlights that, although many establishments implement management software, its potential is wasted due to the low level of digital skills among those responsible for inventory (Saleem, 2020; Orobia, 2020). In this regard, technical training must be accompanied by pedagogical strategies aimed at technological appropriation and informed decision-making.

In light of the studies analyzed, it can be observed that training also has an impact on organizational culture and staff willingness to participate in collaborative processes. Research published in recent years argues that ongoing employee training strengthens communication between departments and promotes the creation of interdisciplinary teams capable of solving logistical problems with agility (Grass et al., 2020; Zainal et al., 2023). Training, therefore, acts as a cohesive factor that increases efficiency and confidence in operational management.

The body of research reviewed allows us to affirm that staff training is becoming a cross-cutting factor in competitiveness in the hotel and tourism supply chain. Companies that promote the updating of their work teams achieve greater control over their inventories, improve the traceability of inputs, and optimize the use of information, generating an institutional culture based on efficiency and continuous improvement.

Supplier management

Contemporary studies highlight that supplier management is a strategic component of inventory control, as it determines the reliability, quality, and timeliness of supply. Evidence documented in the literature shows that unstable relationships with suppliers lead to delays, cost overruns, and disruptions in the logistics chain (Van Den Bogaert and Jaarsveld, 2021; Doborjginidze et al., 2021). For this reason, hotel companies have begun to prioritize the continuous evaluation of their business partners to ensure consistency in the delivery of supplies and services.

From the perspective of recent academic research, the literature agrees that collaboration and effective communication with suppliers are determining factors for operational performance. Several authors argue that agreements based on trust, information sharing, and joint planning strengthen coordination and reduce uncertainty in inventory management (Espino-Rodríguez and Taha, 2022; Aben et al., 2021). This collaborative approach allows logistics objectives to be aligned among actors in the chain and enables a faster response to variations in demand.

The reviewed publications also show a trend toward the implementation of supplier management models based on sustainability and performance criteria. Recent research highlights that hotel chains are incorporating rating systems that assess the efficiency, traceability, and environmental responsibility of suppliers (Afrasiabi et al., 2022). Such systems contribute to strengthening transparency and minimizing risks associated with dependence on unreliable external actors.

On the other hand, academic literature warns that excessive centralization in a few suppliers can compromise the resilience of the logistics system. Studies conducted between 2021 and 2023 suggest that diversifying supply sources and building local networks reduces vulnerability to global supply disruptions (Grossman et al., 2023; Kamar et al., 2023). In this regard, flexibility and risk management emerge as essential skills for maintaining inventory stability.

The analyses derived from the review show that effective supplier management is based on strategic collaboration, risk diversification, and technological integration. Organizations that consolidate sustainable relationships with their suppliers achieve greater inventory stability, improve their responsiveness to market changes, and strengthen their competitive position within the hotel and tourism sector.

Sustainability and operational resilience

The latest academic evidence highlights that sustainability has become a cross-cutting issue in inventory management within the hotel sector, as it is integrated with policies on energy efficiency, waste reduction, and resource optimization. Various studies have shown that hotels that incorporate environmental criteria into their logistics systems achieve higher levels of efficiency and corporate reputation (Becerra-Vicario et al., 2022; Becerra et al., 2022). In this sense, sustainability represents not only an ethical responsibility but also a competitive strategy for business continuity.

Specialized literature warns that operational resilience complements sustainability by allowing organizations to maintain the continuity of their processes in the face of crises or supply disruptions. The studies consulted highlight that the COVID-19 pandemic demonstrated the need for adaptive and diversified supply chains capable of reconfiguring themselves in the face of abrupt changes in the environment (Korchi, 2022; Panwar et al., 2022). Hence, resilient inventory management combines tactical flexibility with contingency planning based on timely information.

Recent literature agrees that logistics sustainability requires a balance between economic, social, and environmental performance. Current research highlights the implementation of control systems that minimize food waste and promote responsible consumption of materials and supplies (Nikolicic et al., 2021). This three-pronged approach transforms inventory management into a shared value-oriented process, where efficiency is associated with corporate responsibility.

On the other hand, the studies reviewed argue that operational resilience is strengthened through digitization, organizational learning, and cooperation with local suppliers. Authors such as Irfan et al. (2022) argue that the combination of technology and interorganizational collaboration increases resilience to logistical contingencies. Thus, inventory management is redefined as a dynamic system that learns from experience and adjusts its protocols to avoid future disruptions.

The body of research examined allows us to affirm that sustainability and operational resilience are complementary dimensions of inventory control in the hotel and tourism sector. Integrating responsible practices with adaptive structures ensures service continuity, strengthens institutional reputation, and consolidates a management model oriented toward balancing profitability and environmental commitment.

Discussion

The results of this systematic review show that barriers to inventory management in the hotel and tourism sector are not isolated phenomena, but rather expressions of a structural framework in which operational, technological, human, and contextual limitations converge. This complexity had already been pointed out by Gruchmann et al. (2022), who highlight that tourism logistics presents particular challenges arising from

seasonality, variability in demand, and dependence on external suppliers. The findings of this study confirm this perspective and broaden its understanding by showing how these barriers interact with each other, exacerbating problems of efficiency and service continuity.

First, the review confirms that planning remains critical to inventory control, as the absence of formal structures leads to cost overruns, shortages, and waste, as reported by Annisa et al. (2023) and Hamadneh et al. (2022). This study provides additional evidence by identifying that planning deficiencies stem not only from a lack of methodologies, but also from an inability to integrate information from reserves, consumption, and seasonal patterns. This insufficient integration contradicts the principle of "strategic alignment" proposed by Jamaludin (2021), according to which inventory decisions should be aligned with the organization's overall logistics strategy. Thus, inefficient planning reveals a gap between supply chain management theory and the operational reality of hotels, especially small and medium-sized ones.

The review also shows that technology adoption is one of the most persistent barriers, despite broad academic consensus on its positive impact on inventory visibility, traceability, and accuracy (Yang et al., 2021; Khan et al., 2023). Although the literature highlights that digitization enables predictive and collaborative decisions (Hallikas et al., 2021; Liu and Chiu, 2021), the studies analyzed indicate that the technological gap between organizations is considerable. In particular, it is evident that many hotel SMEs lack ERP systems, artificial intelligence, or IoT due to financial constraints or cultural resistance, which coincides with the observations of Alrawadieh et al. (2020) and Jayawardena et al. (2023). This research deepens this diagnosis by demonstrating that insufficient digitization not only affects inventory control but also limits the ability to anticipate demand, manage suppliers, and reduce waste, impacting the entire supply chain.

Another relevant finding relates to staff training, identified as a cross-cutting barrier that influences the accuracy of records, data interpretation, and the use of technological platforms. The literature analyzed indicates that a lack of training leads to recurring errors and limits autonomous decision-making (Utama et al., 2022; Alreahi et al., 2023). These results are consistent with studies such as those by Rolf et al. (2022) and Lotfi et al. (2023), which emphasize the importance of continuous learning as a basis for logistics innovation. This review also found that poor digital literacy among staff prevents the full potential of the systems implemented from being exploited, even when they exist, coinciding with the findings of Saleem (2020) and Orobia et al. (2020). This reveals an interdependence between technology and training: without trained staff, technological investment does not translate into efficiency.

The review also confirms that supplier management is a critical factor for inventory stability. Previous literature has documented that weak relationships with suppliers increase the risk of supply disruptions (Van Den Bogaert and Jaarsveld, 2021; Doborjginidze et al., 2021), which is fully consistent with the findings of this study. The results show that lack of cooperation, low transparency, and poor joint planning hinder logistics synchronization, in line with the findings of Espino-Rodríguez and Taha (2022) and Aben et al. (2021). However, this study adds an important nuance by identifying that dependence on a few suppliers and lack of diversification increase the vulnerability of the sector, confirming the conclusions of Grossman et al. (2023) and Kamar et al. (2023) on the need to strengthen resilience through broader and more sustainable local networks.

Finally, the findings highlight that sustainability and operational resilience are emerging as essential principles for contemporary inventory management. The synthesized evidence shows that sustainable practices reduce waste, strengthen hotel reputation, and improve financial indicators, as documented by Becerra-Vicario et al. (2022), Lee and Huang (2023), and Avi (2023). Furthermore, the review shows that resilience depends on digitization, interorganizational collaboration, and the capacity for continuous learning, consistent with the findings of Irfan et al. (2022) and Panwar et al. (2022). This study provides an integrative view by showing that sustainability and resilience should not be understood as separate dimensions, but as a binomial that allows inventory management in uncertain environments affected by health crises, market fluctuations, and logistical constraints.

Overall, the results emerging from the systematic review allow us to affirm that inventory control in the hotel and tourism sector must be approached from a systemic perspective, where planning, technology, human talent, suppliers, and sustainability are understood as interdependent components. The evidence

reviewed indicates that overcoming the identified barriers requires comprehensive strategies focused on digitization, continuous training, collaborative management, and sustainable adaptation. This approach not only improves operational efficiency but also strengthens the sector's competitive resilience in the face of contemporary tourism challenges.

Conclusions

The findings of this systematic review allow us to conclude that inventory management in the hotel and tourism sector continues to face structural barriers that limit its efficiency and directly affect service quality, sustainability, and competitiveness in the sector. The evidence reviewed shows that these barriers do not act independently, but are linked in a complex system where operational, technological, human, and contextual factors converge, requiring integrated and adaptive management approaches.

Firstly, it is confirmed that inventory planning and control are fundamental pillars for ensuring the timely availability of supplies. However, most hotel establishments lack structured methodologies that integrate key information such as occupancy, projected demand, and replenishment times. This limitation reduces the ability to anticipate and increases the risks of shortages, cost overruns, or waste, affecting service continuity and the guest experience.

Likewise, the results show that technological adoption represents a substantial challenge, especially for small and medium-sized companies in the sector. Although the literature recognizes the potential of digital systems such as ERP, predictive analytics, and IoT to improve inventory traceability and accuracy, significant gaps persist due to economic constraints, cultural resistance, and a lack of technological appropriation. The absence of digitization not only hinders inventory visibility, but also limits informed decision-making and coordination with suppliers.

Another critical aspect identified relates to staff training. The review shows that the lack of training in procurement techniques, supply recording, and the use of technological tools constitutes a cross-cutting barrier that hinders the efficiency of the logistics system. The professionalization of human talent is therefore emerging as an essential condition for strengthening inventory management, reducing operational errors, and taking full advantage of available technologies.

Similarly, supplier management is becoming a strategic component for inventory stability. Weak relationships, poor communication, and dependence on a few suppliers increase supply vulnerability and create operational uncertainty. Consequently, hotels need to move toward collaborative models based on trust, information sharing, diversification, and sustainability criteria that minimize risks and ensure consistent supplies.

Finally, it is concluded that sustainability and operational resilience must be explicitly integrated into inventory management strategies. The inclusion of responsible practices, waste control, and preparedness for disruptions contribute to strengthening service continuity and improving institutional reputation. In a context characterized by volatility in the tourism market, sustainable and resilient inventory management is positioned as a central element in ensuring the viability and competitiveness of the sector.

In summary, overcoming the identified barriers requires the hotel and tourism sector to adopt a systemic approach that combines data-driven planning, gradual and strategic digitization, sustained staff training, collaborative management with suppliers, and an explicit commitment to sustainability. Moving in this direction will enable the construction of more efficient and flexible supply chains that are aligned with the demands of contemporary tourism, contributing to improved profitability, service quality, and operational sustainability for organizations.

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