

Enhancing business efficiency through effective inventory management: a systematic literature review

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**Enhancing business efficiency through effective inventory management:
a systematic literature review****Mohamed Ali Farah**

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Keywords: inventory management practices, operational performance, supply chain performance.**Abstract:** Efficient inventory management is crucial for various industries' operational performance and financial success. As market demands evolve and technological advancements progress, the complexity and importance of inventory management have increased, making it essential for maintaining a competitive advantage. This study aims to systematically review existing literature to understand the impact of inventory management practices on operational performance across different industries and contexts. Employing the PRISMA framework for systematic literature review, the Scopus database was the primary source for selecting relevant articles. The initial search yielded 791 results, refined through rigorous inclusion and exclusion criteria, ultimately resulting in the thorough analysis of 12 critical articles. This review's findings highlight that advanced inventory management systems, such as deep reinforcement learning and real-time analytics, significantly enhance operational efficiency. These systems facilitate more effective information sharing and enable tailored inventory strategies, which improve supply chain performance. This improvement is particularly evident in sectors such as healthcare and manufacturing, where precise inventory control is critical. Furthermore, financial metrics like days inventory outstanding correlate positively with firm performance, underscoring the strategic importance of inventory management in achieving financial success. The study highlights the importance of advanced inventory management practices in enhancing operational efficiency and financial performance despite high setup costs, technological complexity, and data quality issues. This study synthesizes research on inventory management practices, offering insights for businesses to enhance operational performance and emphasizes the need for continuous innovation for competitiveness.**1 Introduction**

Historically, both excessive inventory and inadequate management, as well as insufficient inventory and excessive management, have often been linked to inventory management on a global scale. Extreme behaviour in either direction could lead to severe repercussions. As technology has advanced and allowed organizations to make items more quickly, in larger quantities, and with more designs, inventory problems have multiplied. The problem has been made worse by the public's openness to variations and frequency of design modifications [1]. The strategic advantages of production planning, scheduling, and inventory management have been clear since the mid-1980s. Inventory management enhances business operations by maintaining production, ensuring supply flow, and providing a wide range of goods, thus maximizing organizational performance and

productivity [2]. Procurement, utilization, management, and coordination of available supplies are all part of inventory control. Inventory control directs activities to ensure materials are obtained at appropriate times, locations, and quality. Since inventory control is closely related to an organization's production function, its operation will likely impact its profitability directly or indirectly [3].

According to SCM Theory, originally developed by [4], managers should direct supply chain activities holistically to sustain the most efficient flow of goods, services, and information throughout an entire supply chain. SCM Theory postulates that good inventory management will promote better coordination among suppliers, manufacturers, and distributors, thus boosting operational performance. The theory emphasizes that better inventory practices minimize the generation of

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inefficiencies, reduce stockouts, and raise the ultimate level of cost efficiency. This study is based on SCM Theory to discuss ways modern inventory management techniques can optimize supply chain processes using real-time analytics and deep reinforcement learning.

Inventories refer to the assortment of completed products, partially completed products, and basic supplies that a corporation maintains to facilitate manufacturing production processes [5]. Consequently, a corporation that mishandles its inventory is prone to have problems with its profitability [6]. [7] inventory management ensures clients have reliable access to the required items or services. It ensures that the procurement, production, and distribution processes are coordinated to meet the marketing and organizational needs for delivering the product to customers. The main purpose of inventory management is to determine the quantity and whereabouts of objects stored [8]. Inventory management is necessary at several places inside a facility or numerous sites in a supply chain to safeguard the smooth and scheduled production process against unexpected disruptions caused by material shortages [9]. Inventory management encompasses various factors such as lead times for replenishment, handling of returns and defective goods, demand forecasting, carrying costs, asset management, physical space availability, inventory valuation, inventory visibility, forecasting future prices, and quality control an optimal inventory level is possible by effectively managing and considering these parameters. This process is ongoing as the company requirements evolve and adjust to the external environment [10]. Inventory control systems, including manual methods like the Two Bin Method, Red Line Method, and computerized systems, help organizations determine the optimal inventory levels using the economic order quantity and keep track of these levels. To avoid underestimating or overestimating profits, a company must properly manage its inventory and accurately assess its value using the appropriate approach [11]. [12] defines inventory management as a corporation's strategic approach to overseeing its stock investments. Organizations employ inventory management as a strategic approach to arrange, store, and replenish inventory to maintain an adequate supply of goods while reducing costs. This involves monitoring stock levels, estimating future demands, and establishing agreements regarding scheduling timing and methods [13-14]. Effective inventory management can substantially impact a company's revenues by identifying cost-saving opportunities in stock storage and ensuring a seamless production flow [15]. According to [16], there is a direct correlation between a company's profitability and its capacity to manage its inventory efficiently [17]. Poor inventory management practices result in heightened waste production for organizations, elevating the cost of storing items and augmenting the likelihood of their loss or destruction [18]. Therefore, successful performance can be attained if businesses create plans to generate the most revenue at the lowest feasible cost. For example, achieving

optimal inventory management solutions occasionally impacts the organization's structure, affecting profitability and performance [1,19]. It is noteworthy that inventory management and return on assets (ROA) are directly correlated [3]. To achieve notable enhancements in managing financial resources, companies are generally advised to maintain inventory levels within ideal ranges [5]. Supply chain management is one area where inventory management directly affects business performance. A critical task, supply chain management typically encompasses all processes related to moving products and raw materials from the producer to the end user. Inventory management facilitates the efficient flow of supply chain activities in this scenario by guaranteeing appropriate resource and supply selection, clear production scheduling, effective order processing, seamless inventory management through the facilitation of transfer and storage activities, and, lastly, the provision of valuable customer service [20]. Acquiring and maintaining inventory is high for businesses and accounts for many production expenses. Carrying expenses, like storage and insurance, purchasing costs, like shipping and shop location, and stock-out costs, such as redundancy and lost sales, are all included in inventory costs. A business cannot function exceptionally without effective and appropriate control. Any theft, waste, or overuse of materials results in instant financial loss and lowers a company's performance [21]. According to [22], material control entails the methodical supervision and management of materials' acquisition, holding, and application to preserve a uniform flow. Most manufacturing organizations' performance has been impacted by the issues the manufacturing sector has faced recently, particularly regarding inventory management and material control [23]. Overstocking of materials has resulted in their eventual expiration or out-of-dates. Inventory control can be achieved by introducing various measures to address issues such as understocking, lack of stocking, worker theft of materials, and delays in material delivery to the sites, among other issues. This will help the organization avoid losses from refuelling departments [24]. To prevent inventory loss, the business should establish stringent guidelines for procurement officials and store managers to adhere to when acquiring and keeping materials [25]. An organization must have a robust, efficient, and coordinated inventory management system due to the continuously changing and highly competitive business environment, significantly impacting organizational performance. Key considerations in inventory management for every business revolve around the lead time for replenishment and the order amount.

The failure to address these two issues has substantially raised the overall cost of organizational success. Consequently, uncertainty and planning errors are present in production. These factors have led to reduced machinery usage, wasted labor hours, increased production expenses, unsuccessful firms, and minimal investment profits. The firm faces challenges in handling a sizable workforce and

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adjusting to the performance requirements of modern production technology. The literature still lacks a thorough systematic review that summarizes the research on the relationship between inventory management and operational performance, even though the topic has been the subject of many studies. To close this gap, this study will do a thorough literature analysis to investigate how inventory management techniques affect operational performance in various settings and industries. To reach this gap, the following Objectives were identified:

- To systematically review and analyze existing literature on inventory management and its effects on operational performance.
- To assess how inventory management strategies affect key performance characteristics, including cost efficiency, customer service, and productivity.
- To investigate the moderating factors influencing the relationship between inventory management and operational performance, such as organizational size, industry type, and technological advancements.

2 Methodology

This section details how inventory performance publications are obtained. It emphasizes rigorous techniques and article evaluation. The strategy utilizes commonly employed literature review methodologies to discover pertinent publications, such as the Preferred Reporting Items for Systematic Reviews (PRISMA) and Meta-Analyses. The PRISMA framework is essential for conducting systematic reviews as it prioritizes the analysis of randomized trials in review reports. Furthermore, it offers explicit criteria for selecting and excluding studies pertinent to this investigation [26]. The creators of PRISMA have highlighted the value of using PRISMA for systematic reviews that focus predominantly on randomized trials as the primary research source for treatments. However, challenges may arise when evaluating qualitative and mixed-method study designs using the PRISMA framework. PRISMA conducts comprehensive searches across several scientific databases and research sources to identify relevant studies, minimizing the risk of overlooking essential research [27]. The screening strategy employed in PRISMA's selection criteria helps to streamline the workflow by reducing the number of identified research studies [28]. PRISMA, commonly employed in medical research, also applies to operations management because it focuses on systematic reviews.

Furthermore, this method provides clear and detailed criteria for including or excluding certain elements, which are customized to meet the unique goals of the study. In response to the absence of methodological advice in fields other than medicine, researchers have increasingly relied on methodologically focused articles grounded in systematic literature reviews to fill this void. [29] has emphasized that Web of Science (WoS) and Scopus are leading citation databases competing. However, the papers

for this evaluation were gathered only from the extensive Scopus database. This systematic search has preferred Scopus for its extensive coverage of scientific literature from many disciplines. Besides the comprehensive indexing in the Scopus database of all peer-reviewed journals and other scholarly publications, we have chosen it because it holds importance, is multidisciplinary, and covers superior research published in peer-reviewed journals, acknowledged conferences, and books [30]. Then again pointed out that Scopus had a much larger scope of materials and more citations than WOS or any other database [31,32]. Being covered by more articles that are directly related to Inventory Management and Organisational Performance, Scopus is very suitable for our study. While WOS and other databases are helpful, Scopus is more comprehensive, with a broader citation metric that would allow a proper and sound literature review. In addition, [33] have highlighted that Scopus is the most comprehensive collection of abstracts and citations across several disciplines, thereby establishing its importance as a beneficial resource for scholars searching for relevant publications. Scopus has recently emerged as a strong challenger threatening WoS's leading position.

2.1 Search strategy and selection process

We thoroughly investigated phrases related to this review by utilizing Scopus search strings. At first, researchers performed a keyword search with a significant focus on "Inventory Management and Organisational Performance." Previous studies were used to identify synonyms, similar terms, and variations, then included as supplementary study keywords to expand the scope. The enlarged keywords were used in the Scopus advanced search tool, which led to the retrieval of 791 articles from the database. [34] state that a literature review's quality depends on the reviewer's thoroughness. To enhance the quality of the findings, this review strictly includes journal articles only [35]. Moreover, only English-language documents were considered for inclusion to streamline the process and avoid complexities arising from translation requirements. For this study, the publication year was not restricted, although many researchers commonly employ it as an exclusion criterion. The search results reveal that the publications span from 2015 to 2023. Therefore, the publication year was not a factor in excluding articles. The inclusion and exclusion criteria for the selected article are summarized in Table 1.

The authors manually assessed 791 articles by reviewing their titles, abstracts, and full texts. Eighty-nine articles were removed due to duplication, and 287 abstracts were excluded during the screening process. Furthermore, 276 articles were rejected after reviewing the entire text, and an additional 127 articles were deemed ineligible after thoroughly evaluating the full text. As a result, 12 documents were identified as suitable for further analysis.

The study is concerned with advanced technologies and methodologies that affect operational performance related

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to inventory management. In this respect, 12 articles are selected to provide empirical evidence concerning the link between inventory management practices and their performance related to the integration of deep

reinforcement learning, real-time analytics, and AI-based systems, which are increasingly important in addressing contemporary challenges arising in inventory management.

Table 1 Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
Articles indexed in Scopus. Scholarly articles published in journals Articles written in English	Articles not indexed in Scopus. Proceedings from conferences, chapters from books, and books Articles written in languages other than English Study based on conceptual analysis

The materials chosen needed to reflect the state of industries, geographical contexts, and inventory management strategies. The 12 selected articles cover key sectors, including health, manufacturing, and retail. They give a wide view of how inventory practices vary across different settings and their eventual effects on operational performance.

This was further justified based on the review's relevance, quality, and focus. The focused selection allows the study to go more in-depth and rigorously analyze the most relevant research in the field; hence, it offers meaningful insights into the role of advanced inventory management techniques in improving operational performance.

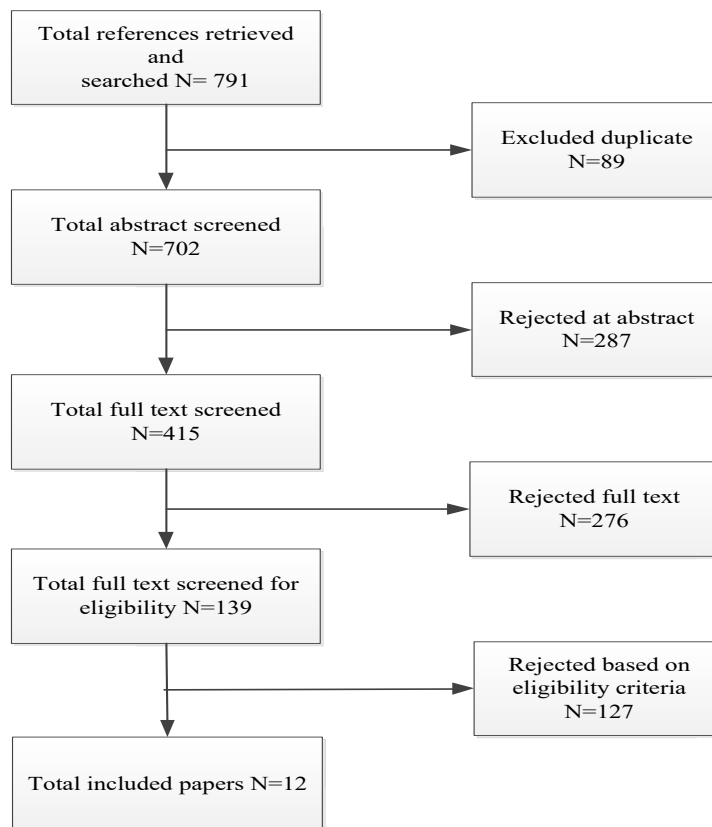


Figure 1 Selection and exclusion process

3 Results and discussion

This part discusses the aim, results, recommendations, and methodologies adopted in prior research on Inventory management and Operational Performance.

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Table 1 Content review of the selected articles

Author	Title	Purpose	Methodology	Results
[36]	This study investigates the impact of information sharing and inventory management strategies on companies' performance in supply chain operations.	The article's primary objective is to examine the impact of information-sharing methods and inventory management on company performance.	Questionnaire	The findings indicate enhanced information-sharing procedures and superior inventory management methods increase company performance. Additionally, improved information-sharing enhances inventory management, leading to more robust firm performance.
[18]	An inventory management and warehouse performance model for the South African retail industry.	This study investigates an approach to establishing a connection between inventory management and warehouse performance in the South African retail industry.	Quantitative survey	Three inventory management strategies, namely inventory investment and ABC analysis, have enhanced inventory performance, benefiting the warehouse's overall performance.
[37]	We are utilizing reward shaping to enhance the efficacy of deep reinforcement learning in the context of perishable inventory management.	This research showcases the utilization of potential-based reward shaping to enhance the learning process of Deep Reinforcement Learning (DRL) for inventory control by incorporating domain knowledge from heuristic inventory regulations.	Secondary data	The results show that good replenishment heuristics can improve the performance of DRL.
[15]	This is an investigation into the relationship between knowledge of inventory management procedures and business performance, with a focus on the mediating role of operational performance.	This study aims to examine the relationship between operational performance (OP), business performance (BP), and knowledge of inventory management procedures (KIMP).	Questionnaire	The results indicate that KIMP directly impacts OP, and a company's OP considerably affects total BP. The KIMP does not significantly impact blood pressure. The study results show a substantial and robust mediating influence of organizational practices between knowledge-intensive manufacturing processes and business performance.
[17]	Inventory Management and Performance of Manufacturing Firms	The study aims to assess the performance of steel manufacturing companies by examining how inventory management and distribution turnover affect their ability to compete and operate profitably.	Survey	The study's conclusion states that IMP significantly influences company performance and enhances the knowledge base for inventory management practitioners in the manufacturing business.
[19]	An evaluation of inventory management practices and their influence on the supply chain performance of antiretroviral medicines at public hospitals in Nyamira County.	Identify the inventory management procedures, assess the supply chain performance, and analyze the difficulties impacting the inventory management of ARV drugs in public hospitals.	Questionnaire	The study found that Indian SMEs use standard inventory management methods like scheduled control and demand forecasting. However, issues were observed in safety stock deployment and order lead time management. More workforce and consistent medicine supply are needed to improve inventory control.
[38]	Days inventory outstanding and firm performance: Empirical investigation from manufacturers	This study examines the correlation between Days Inventory Outstanding (DIO) and the performance of energy companies in Saudi Arabia from 2013 to 2019.	Quantitative Methods	The study suggests that regional energy companies plan to improve their inventory management through various strategies, including effective planning, innovative marketing, enhanced pricing, product mix optimization, and focusing on top-selling products.
[39]	Effect of inventory management practices On the performance of commercial state Corporations in Kenya	The study aimed to investigate how inventory management techniques impact the performance of commercial state businesses in Kenya.	Questionnaires	Inventory systems have a beneficial and substantial impact on the functioning of commercial state enterprises. Many firms now utilize the JIT technique to manage their inventory due to its capacity to reduce waste.
[16]	The study examines the role of inventory management knowledge in the link between inventory management practices and performance in micro retailing firms.	This study experimentally investigates inter-organizational market practices (IMPs) in micro retailing firms and the mediating role of knowledge of IMPs in the connection between IMPs and micro-enterprises performance.	Questionnaires	The study reveals that micro-retailing firms use systematic IMPs somewhat, with supplier assessment being the most commonly used IMP.
[40]	Analysing the correlation between inventory management, cost of capital, and business performance in manufacturing firms in Jordan.	This study investigates how the cost of capital influences the relationship between different inventory types and a business's performance.	Quantitative Methods	The findings suggest that different types of inventory management have a lasting influence on corporate performance. Moreover, the cost of capital impacts the correlation between inventory management and achieving organizational objectives.
[14]	Research was conducted to examine the impact of inventory management on the financial performance of the Polish food industry.	The main goal was to study and evaluate alterations in inventory management techniques in the food industry sectors in Poland between 2005 and 2010.	Econometric Analysis	According to the research results, enhancing inventory management effectiveness, as shown by the duration of inventory cycles, can substantially influence financial performance in the Polish food business. Reducing inventory cycles typically leads to increased profitability.

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[12]	A study was conducted to investigate the relationship between the efficiency of inventory management and a company's overall success.	The relationship between inventory and business performance is a growing area of research that has received considerable attention in the literature on production and operations management.	Quantitative Methods	The findings demonstrate a direct relationship between the effectiveness of inventory management and the company's overall performance. This finding remains robust when other estimation methods are employed and substitute indicators for firm performance metrics and other variables.
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3.1 Years of publication

Notably, the publication timeline depicts a significant rise in articles published annually. In 2023, 134 articles were published, compared to 120 in 2022 and 100 in 2021. This marks a steady increase in publications over the years,

with 91 articles in 2020, 74 in 2019, and the lowest publishing rate observed in 2016, with 57 articles. As the data illustrated in Figure 2 indicates, the trend unmistakably demonstrates a consistent uptick in the number of publications produced each year.

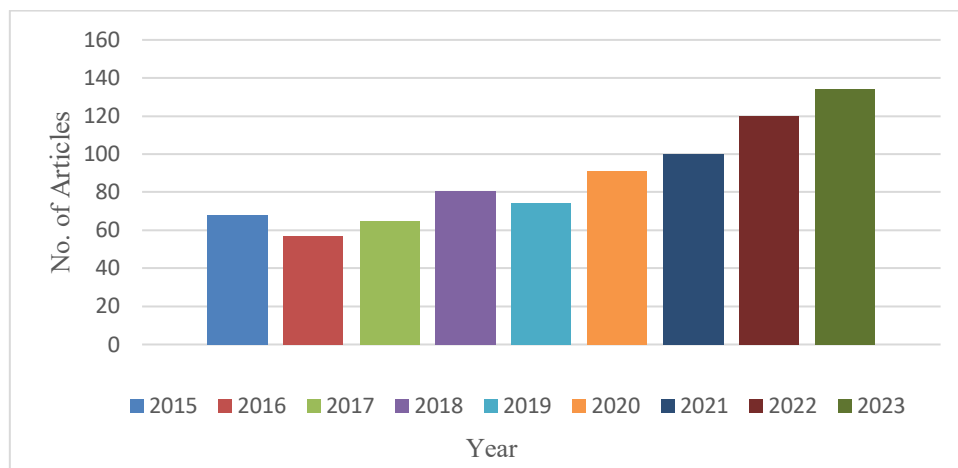


Figure 2 Year of publication

Gebisa's research clarifies how integrated information sharing improves inventory management techniques. Robust information-sharing systems enable businesses to achieve higher performance metrics in their supply chains. This improved information flow results from better decision-making, which is essential in dynamic market situations [36]. The findings suggest that digitization and transparency in inventory processes significantly boost operational efficiency. The research by [37] introduces an innovative perspective by integrating deep reinforcement learning with perishable inventory management. Employing advanced analytics and machine learning optimizes inventory decisions in real-time scenarios, potentially reducing wastage and enhancing responsiveness. This sets a benchmark for future empirical investigations in inventory management systems [15]. Explore the mediational role of knowledge concerning inventory management practices on business performance. A deeper understanding of inventory management influences performance directly and enhances the effects of systematic inventory practices on overall business outcomes. This underscores the importance of training and development in operational strategies for businesses that leverage inventory management as a competitive tool. Studies by [17,19] investigate inventory management within specific contexts—healthcare and manufacturing, respectively. Meticulous inventory management practices

significantly uplift Kenya's supply chain performance of antiretroviral medicines. Sophisticated inventory management techniques correlate positively with the performance of manufacturing firms, stressing the sector-specific benefits of tailored inventory strategies [14,38]. Provide insights into the financial aspects linked with inventory management. Effective inventory management, reflected through metrics like days inventory outstanding, directly correlates with improved firm performance and cost management. These findings connect operational practices with financial outcomes, highlighting inventory management as a strategic financial lever. The work of [12,18] extends the discussion to a global and cross-industry perspective, underscoring the universal relevance of efficient inventory management across different geographical and industrial landscapes. The results of this study align with [36] research, which underscores the positive impact of information-sharing systems on supply chain performance.

The current research, however, extends earlier ones through additional analysis of further benefits from integrating real-time analytics and deep reinforcement learning. These findings therefore suggest that in extant literature on inventory management, there should be increased emphasis on how digital technologies can be employed to achieve operational efficiency. The studies advocate for the strategic importance of inventory

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management practices in enhancing operational efficiency and adapting to global market demands. The literature suggests advanced inventory management systems significantly enhance operational efficiency and financial performance. Technologies such as deep learning and real-time analytics allow firms to accurately predict and respond to supply chain demands, thus minimizing overstocking and understocking issues. Improved information exchange promotes collaboration throughout the supply chain, improving operations coordination and decreasing lead times.

Moreover, having a comprehensive grasp and effective execution of advanced inventory strategies might serve as a crucial edge in the ever-expanding worldwide markets. Although there are advantages, deploying sophisticated inventory management systems is difficult. Smaller organizations may find the initial cost and complexity of establishing such systems too high, preventing them from doing so. Moreover, the dependence on advanced technologies necessitates substantial expertise and ongoing training of staff, which can be a resource-intensive endeavor. Additionally, digital information systems pose a potential danger of data breaches and security vulnerabilities. Moreover, the efficacy of these systems might be constrained by the caliber of the data supplied, rendering them vulnerable to errors if not meticulously handled. This study expands on SCM Theory by emphasizing the need for real-time data and advanced analytics in modern inventory management. While traditional SCM models suggest coordination among supply chain agents is paramount, our findings showed this coordination and fast response capabilities are further augmented by deep reinforcement learning with real-time analytics, particularly under dynamic conditions. Future SCM frameworks should incorporate such advanced technologies for real-time agility in supply chains.

4 Conclusion

The detailed literature analysis emphasizes how vital inventory management is to improving many types of businesses' operational and financial performance. The increasing trend of research articles from 2016 to 2023 demonstrates the progress and increased focus on this issue. Studies indicate that implementing effective inventory management tactics, such as integrating information, utilizing advanced analytics, and employing deep reinforcement learning, significantly improves supply chain efficiency and overall corporate performance. Increased sharing of information improves the decision-making process and promotes operational efficiency. In addition, new technology allows for immediate optimization of inventory decisions, leading to decreased waste and improved responsiveness. Knowledge of inventory management strategies highlights the necessity for ongoing training and development to improve firm performance. Research on specific industries, such as healthcare and manufacturing, has demonstrated that

tailored inventory strategies can significantly enhance supply chain and operational efficiency. Financial evaluations show that days of inventory outstanding improve firm performance and expense management. Inventory management becomes a financial strategy. Modern inventory systems are simple to implement but require continuing training and experience, as well as enormous upfront costs and complexity. Maintaining data accuracy and security is crucial. Modern inventory management solutions give organizations a competitive edge in a global market by ensuring they can meet market needs and enhance efficiency despite challenges.

The findings of this study can be implemented in business by integrating real-time analytics with machine learning approaches in the inventory management system. First, it will be fitting for firms to invest in accessible technologies to monitor data flows on a real-time basis, such as cloud-based inventory systems. These tools could add to predictive insights through which stockouts and overstocking are minimized because demand estimates have been made much more valid. It helps SMEs use scalable software solutions, ensuring that processes and operations are becoming cost-effective and enhancing operational flexibility. Besides, businesses should arrange for staff training to use such an advanced system; employees must be able to read data and make informed, agile decisions. The integration of these practices will improve efficiency and can increase responsiveness in real-time by a firm toward market fluctuations.

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Contributions by the Author

The research was conducted with equal contributions from all authors, ensuring its integrity and academic standing.

Conflict of interest

The authors have disclosed no conflicts of interest, including financial or personal, that could impact the interpretation or publication of their research findings.

References

- [1] MATHIAS, J.M., DATCHE OWUOR, E.: Effects of Inventory Management System on Organizational Performance: Case Study of Grain Bulk Handlers Limited, *International Journal of Sciences: Basic and Applied Research*, Vol. 20, No. 2, pp. 215-232, 2015.
- [2] MOHAMED, M.A., SHEIKH MOHAMUD, A., MOHAMUD, I.H., FARAH, M.A.: Examining the Effect of Workplace Relationships on Job Satisfaction among Faculty Members at Private Universities in Mogadishu, *International Journal of Organizational Leadership*, Vol. 13, pp. 377-393, 2024.

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- [3] RUTAGIRA, Y., AWICHI, R.O.: Statistical Analysis of Inventory Management Systems on Organizational Performance, *East African Journal of Business and Economics*, Vol. 2, No. 1, pp. 20-28, 2020. <https://doi.org/10.37284/eajbe.2.1.163>
- [4] FORRESTER, J.W.: Industrial dynamics: a major breakthrough for decision makers, *Harvard Business Review*, Vol. 36, pp. 37-66, 1958.
- [5] ATNAFU, D., BALDA, A.: The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia, *Cogent Business & Management*, Vol. 5, No. 1, pp. 1-16, 2018. <https://doi.org/10.1080/23311975.2018.1503219>
- [6] MUSAU, E.G., NAMUSONGE, G., MAKOKHA, E.N., NGENO, J.: The Effect of Inventory Management on Organizational Performance Among Textile Manufacturing Firms in Kenya, *International Journal of Academic Research in Business and Social Sciences*, Vol. 7, No. 11, pp. 1032-1046, 2017. <https://doi.org/10.6007/ijarbss/v7-i11/3543>
- [7] JOSEPH, F.L., OMODERO, C.O., OKEZIE, U.C.: Inventory Control Management and Revenue Generating Capabilities of Oil and Gas Drilling Firms in Nigeria, *Annals of Spiru Haret University, Economic Series*, Vol. 19, No. 4, pp. 75-95, 2019. <https://doi.org/10.26458/1947>
- [8] GUPTA, S.: Enhancing Business Operations through Effective Inventory Management, *International Journal for Research Publication and Seminar*, Vol. 1, No. 1, pp. 121-125, 2012.
- [9] MOHAMED, M.A., FARAH, M.A., JAMA, L.A., MOHAMUD, I.H., MOHAMUD, I.H., SIYAD, M.A., MALIN, I.M.: A Decade of Reverse Logistics Research (2013-2023): A Comprehensive Bibliometric Analysis of Trends, Influences, and Global Engagement, *Journal of Logistics, Informatics and Service Science*, Vol. 11, No. 7, pp. 37-53, 2024. <https://doi.org/10.33168/JLISS.2024.0703>
- [10] OBALLAH, D., WAIGANJO, E., WACHIURI, E.W.: Effect of Inventory Management Practices on Organizational Performance in Public Health Institutions in Kenya: A Case Study of Kenyatta National Hospital, *International Journal of Education and Research*, Vol. 3, No. 3, pp. 703-714, 2015.
- [11] AGÜ, A.O., NNATE, E.C.: Effect of Inventory Management on the Organizational Performance of the Selected Manufacturing Firms Obi-Anike, Happiness Ozioma, *Singaporean Journal of Business economics, and management studies*, Vol. 5, No. 4, pp. 56-69, 2016.
- [12] ELSAYED, K.: Exploring the relationship between efficiency of inventory management and firm performance: Empirical research, *International Journal of Services and Operations Management*, Vol. 21, No. 1, pp. 73-86, 2015. <https://doi.org/10.1504/IJSOM.2015.068704>
- [13] OROBIA, L.A., NAKIBUUKA, J., BANANUKA, J., AKISIMIRE, R.: Inventory management, managerial competence and financial performance of small businesses, *Journal of Accounting in Emerging Economies*, Vol. 10, No. 3, pp. 379-398, 2020. <https://doi.org/10.1108/JAEE-07-2019-0147>
- [14] GOALS, Z., BIENIASZ, A.: Empirical analysis of the influence of inventory management on financial performance in the food industry in Poland, *Engineering Economics*, Vol. 27, No. 3, pp. 264-275, 2016. <https://doi.org/10.5755/j01.ee.27.3.5933>
- [15] PANIGRAHI, R.R., MEHER, J.R., SHRIVASTAVA, A.K., PATEL, G., JENA, L.K.: Operational performance entitling the knowledge of inventory management practices on business performance: a mediational study, *Global Knowledge, Memory and Communication*, Vol. 73, No. 6/7, pp. 738-756, 2024. <https://doi.org/10.1108/GKMC-07-2022-0177>
- [16] AHMAD, K., ZABRI, S.M.: The mediating effect of knowledge of inventory management in the relationship between inventory management practices and performance: The case of micro retailing enterprises, *Journal of Business and Retail Management Research*, Vol. 12, No. 2, pp. 83-93, 2018. <https://doi.org/10.24052/jbrmr/v12is02/tmeokoimitr bimpaptcomre>
- [17] SAHOO, A., TANDON, D., JENA, D., MISHRA, P.C., MEHER, J.R., PANIGRAHI, R.R.: Inventory Management and Performance of Manufacturing Firms, *International Journal of Value Chain Management*, Vol. 12, No. 2, pp. 149-170, 2021. <https://doi.org/10.1504/ijvcm.2021.10033598>
- [18] JAMA, M., OKOUMBA, W.V. L., MAFINI, C.: A Model for Inventory Management and Warehouse Performance in The South African Retail Industry, *Logforum*, Vol. 19, No. 4, pp. 555-575, 2023. <https://doi.org/10.17270/J.LOG.2023.920>
- [19] JOHNSON, A., PETER, K., SHITAL, M.: Inventory Management Practices and Supply Chain Performance of Antiretroviral Medicines in Public Hospitals in Nyamira County, Kenya, *Rwanda Journal of Medicine and Health Sciences*, Vol. 4, No. 2, pp. 257-268, 2021. <https://doi.org/10.4314/rjmhs.v4i2.5>
- [20] OUBRAHIM, I., SEFIANI, N., HAPPONEN, A.: Supply Chain Performance Evaluation Models: A Literature Review, *Acta logistica*, Vol. 9, No. 2, pp. 207-222, 2022. <https://doi.org/10.22306/al.v9i2.298>
- [21] LAMZAOUEK, H., DRISSI, H., MIALED, K.: On the relationship between cash flow bullwhip and the company performance: study of the Moroccan detergent products branch, *Acta logistica*, Vol. 10, No. 3, pp. 375-388, 2022. <https://doi.org/10.22306/al.v10i3.403>

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- [22] CHAKRABORTY, K., MONDAL, S., MUKHERJEE, K.: Developing a causal model to evaluate the critical issues in reverse supply chain implementation, *Benchmarking*, Vol. 25, No. 7, pp. 1992-2017, 2018. <https://doi.org/10.1108/BIJ-12-2016-0181>
- [23] KAZEMI, N., MODAK, N.M., GOVINDAN, K.: A review of reverse logistics and closed loop supply chain management studies published in IJPR: a bibliometric and content analysis, *International Journal of Production Research*, Vol. 57, No. 15-16, pp. 4937-4960, 2019. <https://doi.org/10.1080/00207543.2018.1471244>
- [24] PRAJOGO, D., CHOWDHURY, M., YEUNG, A.C.L., CHENG, T.C.E.: The relationship between supplier management and firms operational performance: A multi-dimensional perspective, *International Journal of Production Economics*, Vol. 136, No. 1, pp. 123-130, 2012. <https://doi.org/10.1016/j.ijpe.2011.09.022>
- [25] SHOU, Y., LI, Y., PARK, Y., KANG, M.: Supply chain integration and operational performance: The contingency effects of production systems, *Journal of Purchasing and Supply Management*, Vol. 24, No. 4, pp. 352-360, 2018. <https://doi.org/10.1016/j.pursup.2017.11.004>
- [26] MOHER, D., LIBERATI, A., TETZLAFF, J., ALTMAN, D.G., GROUP, P.: Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement, *PLoS Medicine*, Vol. 6, No. 7, pp. 1-6, 2009.
- [27] ROSA, A.C.M., BRODAY, E.E.: Comparative analysis between the industrial and service sectors: A literature review of the improvements obtained through the application of lean six sigma, *International Journal for Quality Research*, Vol. 12, No. 1, pp. 227-252, 2018. <https://doi.org/10.18421/IJQR12.01-13>
- [28] PAHLEVAN-SHARIF, S., MURA, P., WIJESINGHE, S.N.R.: A systematic review of systematic reviews in tourism, *Journal of Hospitality and Tourism Management*, Vol. 39, pp. 158-165, 2019. <https://doi.org/10.1016/j.jhtm.2019.04.001>
- [29] ZHU, J., LIU, W.: A tale of two databases: The use of Web of Science and Scopus in academic papers, *Scientometrics*, Vol. 123, pp. 321-335, 2020. <https://doi.org/10.1007/s11192-020-03387-8>
- [30] SELIVERSTOVA, Y.: Workforce diversity management: A systematic literature review, *Strategic Management*, Vol. 26, No. 2, pp. 3-11, 2021. <https://doi.org/10.5937/straman2102003s>
- [31] ANKER, M., HADZIBEGOVIC, S., LENA, A., HAVERKAMP, W.: The difference in referencing in Web of Science, Scopus, and Google Scholar, *ESC Heart Fail*, Vol. 6, No. 6, pp. 1291-1312, 2019. <https://doi.org/10.1002/EHF2.12583>
- [32] SALISBURY, L.: Web of Science and Scopus: A Comparative Review of Content and Searching Capabilities, *The Charleston Advisor*, Vol. 2009, pp. 5-18, 2009.
- [33] PATEL, A.K., SINGH, M., SINGH, K., PATEL, A.K., VARMA, A.K., KURI, R.: Visualizing Publication Trends in Webology Journal: A Bibliometric Review based on the Scopus Database (2006-2020), *Library Philosophy and Practice (e-journal)*, Vol. 2021, pp. 1-22, 2021.
- [34] KRAUS, S., BREIER, M., DASÍ-RODRÍGUEZ, S.: The art of crafting a systematic literature review in entrepreneurship research, *International Entrepreneurship and Management Journal*, Vol. 16, No. 3, pp. 1023-1042, 2020. <https://doi.org/10.1007/s11365-020-00635-4>
- [35] JAMA, L.A., MOHAMUD, I.H.: The Impact of Procurement Practices on Organizational Performance: A Literature Review, *Journal of Logistics, Informatics and Service Science*, Vol. 11, No. 1, pp. 119-135, 2024. <https://doi.org/10.33168/JLISS.2024.0108>
- [36] GEBISA, D.A.: The Impact of Information Sharing and Inventory Management Practices on Firms' Performance in Supply Chain Practices, *Gadjah Mada International Journal of Business*, Vol. 25, No. 2, pp. 199-225, 2023.
- [37] DE MOOR, B.J., GIJSBRECHTS, J., BOUTE, R.N.: Reward shaping to improve the performance of deep reinforcement learning in perishable inventory management, *European Journal of Operational Research*, Vol. 301, No. 2, pp. 535-545, 2022. <https://doi.org/10.1016/j.ejor.2021.10.045>
- [38] ALJAAIDI, K., BAGAIS, O.A.: Days inventory outstanding and firm performance: empirical investigation from manufacturers, *Accounting*, Vol. 6, No. 6, pp. 1111-1116, 2020. <https://doi.org/10.5267/j.ac.2020.7.007>
- [39] MULANDI, C.M., ISMAIL, N.: Effect of Inventory Management Practices on Performance of Commercial State Corporations in Kenya, *International Academic Journal of Procurement and Supply Chain Management*, Vol. 3, No. 1, pp. 180-197, 2019.
- [40] ALRJIOUB, A.M.S., AHMAD, M.K.: Inventory management, cost of capital and firm performance: evidence from manufacturing firms in Jordan, *Investment Management and Financial Innovations*, Vol. 14, No. 3, pp. 4-14, 2017. [http://dx.doi.org/10.21511/imfi.14\(3\).2017.01](http://dx.doi.org/10.21511/imfi.14(3).2017.01)

Review process

Single-blind peer review process.