JOURNAL OF INTERDISCIPLINARY PERSPECTIVES

ISSN Print: 2984-8288, ISSN Online: 2984-8385
Vol. 3 No. 1, pp. 67-75, January 2025

Assessing the Extent and Effectiveness of Inventory Management Practices of Auto Supply Businesses: A Workbook for Success

Angelo H. Barcelona*, Alyce C. Gungon, Jessa Grace C. Laylo, Jeffrey M. Panganiban, Mujahid S. Sultan Amanollah, Mark Paul O. Altarejos
Tayabas Western Academy, Candelaria, Quezon, Philippines

*Corresponding Author Email: angelobarcelona6@gmail.com

Date received: September 7, 2024
Date revised: November 26, 2024
Date accepted: December 12, 2024

Originality: 94%
Grammarly Score: 99%
Similarity: 6%

Recommended citation:
Barcelona, A., Gungon, A., Laylo, J.G., Panganiban, J., Sultan Amanollah, M., Altarejos, M.P. (2024). Assessing the extent and effectiveness of inventory management practices of auto supply businesses: A workbook for success. *Journal of Interdisciplinary Perspectives*, 3(1), 67-75. https://doi.org/10.69569/jip.2024.0483

Abstract. Inventory management is critical to running any business, especially in auto supply businesses, where maintaining an optimal stock level directly impacts profitability and customer satisfaction. Inventory management involves tracking, ordering, storing, and selling a company's stock. In the context of auto supply businesses, effective inventory management ensures that essential parts and products are available when needed while avoiding the high costs associated with excess inventory or stockouts. This study aimed to analyze the inventory management practices of auto supply businesses in Candelaria, Quezon, surveying nine (9) business owners/managers. While the sample size might seem small, it represents a significant portion of the local industry and provides valuable information for the research study. The study identified barriers such as "compliance-related expenses" like obtaining permits, licenses, and certifications from the local government units and "inventory fluctuations," which hindered effective inventory management. Moreover, the recommendation to adopt a "just-in-time" (JIT) inventory system is insightful, for it can help reduce costs by minimizing the amount of inventory held at any given time, lowering storage costs, and reducing the risk of overstocking. This approach ensures that businesses only order inventory as needed, improving cash flow and preventing excess inventory from becoming obsolete or taking up valuable space.

Keywords: Cost barriers; Ordering decisions; Minimizing inventory levels; Eliminating costs.

1.0 Introduction

The auto supply industry is experiencing a growing emphasis on specialization, with shops specifically catering to particular car brands and supplies. Traditionally, inventory management practices, such as spreadsheets, are labor-intensive, error-prone, and inefficient. These methods often lead to data inaccuracy, oversight, and internal shrinkage, significantly impacting business operations (Madamidola et al., 2024). In response to these trends, some auto supply businesses are adapting their inventory management practices to better align with their specialization needs. By adopting new inventory management techniques, these businesses can gain greater control over stock levels and streamline their ordering processes, ultimately enhancing efficiency and operational effectiveness.

Understanding the significance of physical location in inventory management is crucial for auto supply businesses. Smith and Johnson (2018) emphasized that the location of retail establishments greatly influences

inventory turnover rates, demand forecasting accuracy, and transportation costs. Urban locations often have higher demand but may face challenges related to space constraints and traffic congestion (Rahman et al., 2021). Conversely, rural areas might offer lower operating costs but could struggle with lower customer traffic (Li & Liu, 2012). On the other hand, the longevity of an auto supply business can significantly impact its inventory management practices. Jeong et al. (2019) noted that established businesses often have refined inventory control systems, benefiting from historical sales data for more accurate demand forecasting. Conversely, newer businesses may face challenges such as inventory overstocking or stockouts due to limited historical data (Garcia & Nguyen, 2019).

Inventory management is the art and science of maintaining stock levels of a given group of items, incurring the least cost, and being consistent with other relevant targets and objectives set by management (Prempeh, 2015). It is an important part of making all the decisions in handling the inventory in an organization, such as activities to be carried out, policies of inventory management, and procedures in handling the inventory to ensure enough quantity of each item is always kept in the warehouse. (Chan et al., 2017). Effective inventory management practices (EIMP) are essential in the operation of any business. However, implementing such practices faces challenges, notably cost barriers, attitudes, and knowledge of owners/managers (Atnafu et al.; Ahmad & Zabri, 2018). Overcoming these hurdles is vital for sustaining growth and competitiveness in the market. Furthermore, the effectiveness of inventory management practices may directly impact customer satisfaction through ordering decisions, minimizing inventory levels, and eliminating costs (Ahmad et al., 2020; Andersson et al., 2015; Smith & Jones, 2018). While optimizing inventory ordering decisions and minimizing levels are essential for operational efficiency (Orobia et al., 2020), eliminating costs must be balanced to avoid stockouts and maintain customer service levels (Simchi-Levi et al., 2015).

Despite the prevailing trend, some auto supply businesses in smaller towns, like Candelaria and Quezon, rely on traditional inventory management methods. While these methods may still be functional, they may not be as effective in today's highly competitive market. Inefficient and ineffective inventory management can result in unnecessary costs, excessive inventory levels, and stock shortages, which can hurt auto supply businesses' profitability and day-to-day operations (Coyle et al., 2003). In today's highly competitive market, traditional inventory management methods have increasingly been deemed ineffective for addressing the dynamic demands of modern supply chains. Traditional inventory systems—largely based on manual tracking, static reorder levels, and batch processing—fail to meet contemporary businesses' demands for flexibility, responsiveness, and precision (Christopher, 2016). These methods were initially designed in a more stable, predictable market environment, with longer lead times and lower demand variability.

However, in today's fast-paced, globalized market, supply chains are becoming more complex, and customer expectations are more variable. As a result, organizations face issues such as stockouts, overstocking, and high holding costs, all of which contribute to inefficiencies and hinder overall operational performance. The core problem with traditional methods in today's market is that they rely on outdated assumptions and manual processes that cannot effectively adapt to rapidly changing conditions. This lack of flexibility in inventory control can lead to increased costs, such as unnecessary inventory carrying costs or lost sales due to stockouts (Slack et al., 2019). Additionally, traditional approaches fail to capitalize on data analytics and real-time decision-making, which is crucial for optimizing inventory levels and improving service levels in competitive markets. Therefore, to address this gap, the study addresses these challenges by proposing a systematic evaluation and refinement of current inventory management practices within the auto-supply industry. By assessing the extent of existing practices and their effectiveness, the researchers hope to provide a workbook that introduces a framework for assessing inventory effectiveness and offers practical guidelines for adapting to modern inventory demands. In particular, the workbook helps bridge the gap between theory and practice, ensuring businesses can adapt their inventory strategies to remain competitive.

Lastly, the assessment of the effectiveness of current inventory practices connects directly to the development of the workbook, as it provides the necessary insights into areas of improvement, allowing the tool to guide companies through optimizing their inventory strategies. By evaluating current practices, researchers can help businesses identify critical inefficiencies and adopt more responsive, data-driven solutions that align with the needs of the modern market through the workbook.

2.0 Methodology

2.1 Research Design

This study employed a descriptive-correlational research design to investigate the extent to which inventory management practices influence or affect their effectiveness in the auto supply industry.

2.2 Research Locale

The study was carried out in the Municipality of Candelaria, Quezon. The municipality is considered a first-class locale in Quezon Province. It is situated in the Calabarzon region on the island of Luzon and is a vital part of the province. It is home to various stores of auto supply-related businesses, with around the majority of its 25 barangays. However, the researchers have limited the study to selected municipal auto supply businesses whose operation solely provided auto-supply products/services.

2.3 Research Participants

The study's respondents comprised nine (9) auto supply businesses operating in the Municipality of Candelaria, Quezon business environment. Specifically, respondents are residing in the barangays of Malabanban Norte, Poblacion, Mangilag Norte, Malabanban Sur, and Mangilag Sur. They were selected using a random sampling method.

2.4 Research Instrument

The researcher-created instrument in this study was specifically designed to evaluate inventory management techniques and their efficacy in auto supply organizations. The design procedure included picking questions from credible sources focused on key variables indicated in the research framework, ensuring relevance and validity. The instrument is divided into three sections: the demographic profile, the extent of inventory management practices, and the effectiveness of inventory management practices. A pilot test was conducted to ensure the instrument's reliability. The validator performed the reliability analysis manually, allowing for a thorough inspection of each item to verify its accuracy and consistency with the study objectives. This hands-on approach enabled complete oversight, ensuring that survey questions were appropriate and reliable for the study's objectives.

The questionnaire includes several items for each indicator to assess inventory management techniques comprehensively. The "Extent of Inventory Management Practices" section has five indicators that examine cost barriers, owner/manager attitudes, and knowledge. Similarly, the "Effectiveness of Inventory Management Practices" section assesses ordering decisions, inventory level minimization, and cost management, each of which has five components. The questionnaire is presented clearly and concisely with English and Filipino translations to accommodate respondents' language preferences. The questionnaire respected participants' choice to participate voluntarily and ensured privacy and confidentiality of responses. This planned framework ensures that the survey items are closely related to the study objectives, resulting in a reputable inventory management assessment in auto supply businesses.

2.5 Data Gathering Procedure and Analysis

The essential data for this research study were gathered by following proper procedures and protocols. The researchers began the data-gathering process by sending letters to the Head Office of the Municipality of Candelaria, requesting permission to conduct the study. These letters included a formal request to obtain lists and details of the auto supply businesses in Candelaria, Quezon. Additionally, the researchers sought permits to conduct surveys of the respondents, specifying the dates for data collection. The survey questionnaires used to gather data were carefully designed, incorporating relevant questions that included the concept of the extent and effectiveness of inventory management practices. The target population for this study was the owners/managers of selected auto supply businesses in the Municipality of Candelaria. Before distributing the questionnaires, the researchers sought informed consent from each respondent. They explained the nature of the study and gave respondents the freedom to choose whether to participate or decline. Respondents were fully informed about the study, and ample time was given for them to complete the survey questionnaires. The research team also encouraged respondents to ask questions and seek clarification. The researchers collected data by administering the survey questionnaires to the selected respondents, ensuring adherence to ethical practices and respecting individual choices.

The data gathered were subjected to statistical treatment for analysis and interpretation. For the demographic profile of the respondents, weighted mean, percentage, and standard deviation were used. For the extent and effectiveness of inventory management, the researchers used linear regression analysis to determine the significant relationship between the extent and effectiveness of inventory management practices in auto supply businesses.

2.6 Ethical Considerations

The researchers prioritized participant welfare, ensuring their identities remained anonymous and their personal information was secured. They interpreted and presented the study findings appropriately to ensure accuracy. This study was conducted for their benefit, to uphold ethical standards, maintain research integrity, and prevent misconduct.

3.0 Results and Discussion

3.1 Profile of the Respondents

Table 1 shows the Summary of Demographic Profile of the Respondents.

Table 1. Summary table of the demographic profile of the respondents

Profile	Characteristics	Frequency	Percentage (%)
Physical Location	Malabanban Norte	3	33.3
	Poblacion	2	22.2
	Malabanban Sur	1	11.1
	Mangilag Norte	2	22.2
	Mangilag Sur	1	11.1
	Total	9	100.0
Years in Operation	Less than 1 year	0	0.0
	1 – 5 years	4	44.0
	6 – 10 years	2	22.0
	11 – 15 years	1	11.0
	16 – 20 years	0	0.0
	More than 20 years	2	22.0
	Total	9	**100.0**

The study revealed that most auto supply businesses are located near Barangay Malabanban Norte, a highly urbanized area in the municipality (33.3%). Most auto supply businesses in this area greatly influence inventory turnover rates, demand forecasting accuracy, transportation costs, and higher demand (Smith & Johnson, 2018). In terms of years in operation, most auto supply businesses are operated within 1-5 years (44%), suggesting a mix of established and newer ventures. Those operating at 6 to 10 years cover 22%. Meanwhile, only 11% of those operating within 11 to 15 years, reflecting a stable middle ground regarding operational longevity. However, a significant portion of 22% of the business population has been operational for over 20 years, indicating long-standing establishments within the industry. This suggests that the older the auto supply businesses are, adapting to current practices is needed to remain competitive in the evolving market (Garcia & Nguyen, 2019)

3.2 Extent of Inventory Management Practices

Cost Barriers

Compliance-related expenses and managing cost fluctuations got the highest mean of 3.33 and were described as "Great Extent." The lowest indicator was training employees on inventory management systems, with a mean of 2.78, which was described as "Great Extent" with an overall mean of 3.07 and described as "Great Extent." The findings revealed that auto supply businesses were at "Great Extent" in addressing cost barriers. Notably, they perceived managing compliance-related expenses and cost fluctuations as crucial factors imposing a substantial financial burden on the entity's operation. Conversely, "training for employees on inventory management systems", gained the lowest mean, though it still reflected many practices. It indicates that less financial burdens are covered by providing necessary skills training to equip employees with proper knowledge of inventory management systems.

Table 2. Summary table of the extent of inventory management practices in terms of cost barriers

Items	WM	SD	Interpretation
Financial constraints	3.00	1.00	Great Extent
Managing cost fluctuations	3.33	0.71	Great Extent
Budget limitations	2.89	0.60	Great Extent
Compliance-related expenses	3.33	0.71	Great Extent
Training employees on inventory management systems	2.78	0.97	Great Extent
Overall Mean	**3.07**	**0.50**	**Great Extent**

Owner/Manager's Attitude

Enthusiasm and commitment toward effective inventory control had the highest mean of 3.44 and were described as "Great Extent." Meanwhile, proactive anticipation of potential issues and opportunities in inventory management had the lowest mean of 3.22. It was described as "Great Extent" with an overall mean of 3.33 and described as "Great Extent". The study indicates that auto supply businesses value attitude to a "Great Extent." Specifically, they value "enthusiasm and commitment in providing effective inventory management control." On the other hand, they are less focused on being "proactive in anticipating future potential issues as well as dealing with possible opportunity."

Table 3. Summary table of the extent of inventory management practices in terms of owner/manager's attitude

Items	WM	SD	Interpretation
Supporting and promoting inventory management practices	3.33	1.00	Great Extent
Enthusiasm and commitment toward effective inventory control	3.44	0.53	Great Extent
Seeking ways to optimize inventory	3.33	0.71	Great Extent
Prioritizing inventory accuracy and continuous improvement	3.33	0.50	Great Extent
Proactive anticipation of potential issues and opportunities in inventory management	3.22	0.83	Great Extent
Overall Mean	**3.33**	**0.48**	**Great Extent**

Owner/Manager's Knowledge

Table 4 shows that adequate understanding of the product/service had the highest mean, 3.33, and was described as a "Great Extent." Conversely, familiarity with inventory control methods gains the lowest mean with 2.56, and is described as "Great Extent" with an overall mean of 2.91 and "Great Extent." The study revealed that auto supply businesses know about a "Great Extent." The result of the study indicates that the respondents prioritized having an "adequate understanding of the product/services or its features" to effectively address customer's inquiries about their product/service offerings. On the other hand, they are less knowledgeable about gaining "familiarity with inventory control methods," which might reflect the current industry's incompetency in providing effective inventory management systems due to unfamiliarity with inventory methods.

Table 4. Summary table of the extent of inventory management practices in terms of owner/manager's knowledge

Items	WM	SD	Interpretation
Good understanding of inventory management principles and techniques	3.11	0.93	Great Extent
Familiarity with inventory control methods	2.56	0.88	Great Extent
Adequate understanding of the product/service	3.33	1.12	Great Extent
Effective analysis of inventory data	2.89	0.78	Great Extent
The proactive approach of continuously monitoring trends	2.67	0.87	Great Extent
Overall Mean	**2.91**	**0.76**	**Great Extent**

3.3 Effectiveness of Inventory Management Practices

Ordering Decisions

Table 5 shows that Timely ordering decisions had the highest mean of 3.67 and were described as "Highly Effective." On the other hand, the lowest indicators considered demand forecasts and historical sales data. They minimized stockouts to prevent stockout situations, with a mean of 3.33 and described as "Effective" with an overall mean of 3.49 and described as "Effective." The results revealed that the respondents were "Effective" regarding management ordering decision-making. They perceived that "timely ordering decisions" are crucial to managing inventory turnover and reducing associated costs efficiently. In contrast, "considering demand forecast and minimizing stockouts to prevent overstock situations," though still significant in decision-making, has gained fewer highlights when considering management's ordering decisions.

Table 5. Summary table of the effectiveness of inventory management practices in terms of ordering decisions

Items	WM	SD	Interpretation
Timely ordering decisions	3.67	0.50	Highly Effective
Considering demand forecasts and historical sales data	3.33	0.50	Effective
Minimizing stockouts and preventing overstock situations	3.33	1.00	Effective
Monitoring inventory turnover and adjusting ordering frequency	3.56	0.53	Highly Effective
The Proactive approach of continuously monitoring trends	3.56	0.53	Highly Effective
Overall Mean	**3.49**	**0.38**	**Effective**

Minimizing Inventory Levels

Actively monitoring inventory turnover and prioritizing minimization stockouts while avoiding overstock situations both got the highest mean of 3.56 and were described as "Highly Effective." The lowest indicator was optimizing inventory management for high-value items, with a mean of 3.22, and described as "Effective" with an overall mean of 3.42 and described as "Effective". In the area of minimizing inventory levels, the study revealed that the respondents were "Effective" in conducting measures to minimize inventory levels. Specifically, the study indicates that auto supply businesses are "Highly Effective" in "monitoring inventory turnover and in minimizing stockouts for them to prevent overstock situations" which might have a substantial impact on their profitability. However, they are less focused on "optimizing inventory management in the area of valuing high-value items". This may reflect that they are more often into prioritizing high volume of low-value or slow-moving items.

Table 6. Summary table of the effectiveness of inventory management practices in terms of minimizing inventory levels

Items	WM	SD	Interpretation
Actively monitoring inventory turnover	3.56	0.53	Highly Effective
Using just-in-time (JIT) inventory management	3.33	0.87	Effective
Actively seeking ways to reduce lead times from suppliers	3.44	0.53	Effective
Prioritizing minimization stock outs while avoiding overstock situations	3.56	0.53	Highly Effective
Optimizing inventory management for high-value items	3.22	0.67	Effective
Overall Mean	**3.42**	**0.46**	**Effective**

Eliminating Costs

Table 7 shows that "negotiating with suppliers" had the highest mean of 3.56 and was described as "Highly Effective". Conversely, the lowest indicator was "identifying and eliminating obsolete inventory," with a mean of 3.11, and described as "Effective," with an overall mean of 3.33 and described as "Effective." The study highlights that the respondents were "Effective" in providing necessary actions to eliminate unnecessary costs associated with their day-to-day operations. Notably, respondents prioritized good "negotiation with suppliers" beforehand to easily eliminate costs even before an item arrived at their stores. By negotiating properly with suppliers, they can request favorable pricing terms, volume discounts, and even payment terms to reduce procurement costs. In contrast, the respondents are not too focused on "identifying possible obsolete inventory," which might be caused by their efficient procedures for eliminating necessary costs even before an inventory arrives at their stores.

Table 7. Summary table of the effectiveness of inventory management practices in terms of eliminating costs

Items	WM	SD	Interpretation
Identifying and eliminating obsolete inventory	3.11	0.60	Effective
Optimizing inventory processes to minimize waste	3.44	0.53	Effective
Actively tracking and managing carrying costs	3.22	0.44	Effective
Seeking ways to streamline processes and reduce non-value-added Negotiating	3.33	0.50	Effective
with suppliers	3.56	0.53	Highly Effective
Overall Mean	**3.33**	**0.33**	**Effective**

3.4 Relationship of Extent of Inventory Management

The study examined the predictive power of the extent of inventory management practices to its effectiveness. The researchers used linear regression to find an insignificant relationship between the variables used to assess the extent and effectiveness of inventory management practices under study (refer to Table 8). For the dependent variable of ordering decisions, the intercept (β = 1.455, SE = 1.562, p = .404) indicates a non-significant base level of effectiveness. Cost barriers (β = .255, SE = .253, p = .371) and owner's/manager's attitude (β= .510, SE = .319, p = .185) similarly did not show a statistically significant impact on effectiveness. The owner's/manager's knowledge (β = -.170, SE = .601, p = .791) was also non-significant, suggesting these factors alone do not substantially predict effectiveness in ordering decisions. The relatively lower p-value (0.185) suggests that the

owner/manager's attitude towards inventory management might influence the effectiveness of ordering decisions. An engaged and proactive manager likely ensures timely orders, considers demand forecasts, and evaluates suppliers effectively. This can minimize stockouts and prevent overstock situations.

Table 8. Linear regression for the relationship between variables to assess the extent and effectiveness of inventory management practices

Dependent Variables	Parameter	β	Std. Error	Sig.	Partial Eta Squared	Interpretation
Ordering Decisions	Intercept	1.445	1.562	0.404	0.178	Insignificant
	Cost Barriers	0.255	0.253	0.371	0.202	
	Owner/Manager's Attitude	0.510	0.319	0.185	0.390	
	Owner/Manager's Knowledge	-0.170	0.601	0.791	0.020	
Minimizing Inventory Levels	Intercept	-0.097	1.954	0.963	0.001	Insignificant
	Cost Barriers	0.302	0.317	0.395	0.185	
	Owner/Manager's Attitude	0.450	0.399	0.322	0.241	
	Owner/Manager's Knowledge	0.318	0.752	0.694	0.043	
Eliminating Costs	Intercept	0.920	0.861	0.345	0.222	Insignificant
	Cost Barriers	0.002	0.140	0.988	0.000	
	Owner/Manager's Attitude	-0.004	0.176	0.983	0.000	
	Owner/Manager's Knowledge	0.742	0.331	0.089	0.556	

When considering the dependent variable of minimizing inventory levels, the intercept was non-significant (β = -.097, SE = 1.954, p = .963). Cost barriers (β = .302, SE = .317, p = .395) and owner's/manager's attitude (β = .450, SE = .399, p = .322) also showed no significant effect. Owner's/manager's knowledge (β = .318, SE = .752, p = .694) did not significantly predict the effectiveness of minimizing inventory levels, indicating these variables were insufficient predictors within this context. This trend indicates that a positive attitude towards inventory management could potentially contribute to minimizing inventory levels. Managers who prioritize inventory accuracy, seek to optimize processes, and minimize waste might better manage inventory turnover, reduce lead times, and avoid excess stock, ultimately leading to more efficient inventory management.

The intercept (β = .920, SE = .861, p = .345) was insignificant regarding eliminating costs. Cost barriers (B = .002, SE = .140, p = .988) and owner's/manager's attitude (β = -.004, SE = .176, p = .983) also failed to show significant predictive power. Interestingly, the owner's/manager's knowledge approached significance (β = .742, SE = .331, p = .089) with a relatively high partial eta squared (.556), suggesting a potentially meaningful impact that warrants further exploration. The owner/manager's knowledge is significant in eliminating costs. It demonstrates a relatively high partial eta squared (.556), suggesting a meaningful impact on the effectiveness of inventory management practices in eliminating costs. This suggests that managers with a strong understanding of inventory management principles and techniques can identify and eliminate obsolete inventory, optimize processes to reduce waste and manage to carry costs effectively. They will likely streamline operations and negotiate better terms with suppliers, reducing procurement costs.

In summary, the findings suggest that while certain variables, such as the owner's/manager's knowledge in eliminating costs, show potential relevance, overall, the inventory management practices studied did not significantly predict effectiveness in achieving customer satisfaction within the sample. This may imply a need for more comprehensive models incorporating additional variables or broader strategic frameworks to understand better and enhance inventory management practices in the auto supply business sector. Catering to a larger population is also recommended.

3.5 Validation of Workbook Guide

This workbook guide has undergone content and research validation based on the results of the study. It aimed to provide various strategies essential to improve the current inventory management practices of the auto supply industry. Inventory management is crucial for any merchandising and service entity where accurate stock levels and timely procurement are significant to attain operational efficiency. Through a combination of industry data and other studies, it provides practical recommendations for an effective inventory management process. By following the guidelines outlined in this workbook, auto supply businesses can streamline their inventory processes, reduce wastage, and enhance their competitive advantage in the market. The goal is to enable these

businesses to achieve greater efficiency, profitability, and customer satisfaction through effective inventory management.

4.0 Conclusion

The study focuses on managing inventory in the auto supply industry, emphasizing methods to increase productivity and cut expenses. Even if many companies are implementing advanced inventory systems, certain areas still need to be improved to increase productivity and performance and improve customer satisfaction and inventory turnover. The study's primary output, a workbook, acts as a manual for efficient inventory procedures to meet these goals. This workbook provides auto supply companies with recommendations such as Just-In-Time (JIT) inventory, which helps keep stock levels low, cut storage costs, and respond quickly to demand changes. It also suggests adopting relevant inventory management technologies and negotiating better terms with suppliers. The workbook also suggests the ABC analysis for optimal cost control, which prioritizes high-demand items and encourages investment in staff training that guarantees accurate product understanding for customers. Future research could expand upon these findings by examining a larger sample of companies across diverse markets to identify additional factors contributing to successful inventory management.

5.0 Contributions of Authors

The research team leader, Angelo H. Barcelona, played a significant role in the overall structure and design of the research study and the paper on international publication. He worked on proofreading and provided necessary changes to the manuscript. He is responsible for communicating with the statistician, validators, and grammarians. He also assigned tasks to the research members and made sure everyone functioned. Alyce C. Gungon is one of the primary authors of the original draft of the paper, including the problem statement, literature reviews, and data gathering. She contributed to formulating the research instrument, data gathering and interpretations, and designing the research output. Mujahid S. Sultan Amanollah helped form the research topic and concept. He designed the conceptual framework, provided supporting theoretical frameworks and models, and made the problem statement of the research. He also contributed to the formation of the research instrument and provided key citations and revisions. Jessa Grace C. Laylo contributed parts to the review of related literature and parts of the methodology, provided Filipino translation of the survey questions, and assisted in the data gathering. Jeffrey M. Panganiban engaged by providing technical support and writing the manuscript's revisions.

6.0 Funding

This research was conducted independently and received no specific grant or funding from any agency.

7.0 Conflict of Interests

The authors declare that there are no conflicts of interest regarding the publication of this paper.

8.0 Acknowledgment

We are deeply thankful to Lord God Almighty for the strength and wisdom He has given the authors to undertake this research paper, and with His grace, we have accomplished it. Special thanks go to our thesis adviser, Mr. Mark Paul O. Altarejos, whose unwavering support and guidance were instrumental in shaping this study. We acknowledge the cooperation of the auto supply business owners/managers, whose participation as respondents was vital for collecting the data necessary to complete this study. We also want to express our deepest gratitude to Dr. Joseph Alfred M. Reyroso, whose guidance and mentorship have been invaluable throughout this journey. Their expertise, patience, and encouragement have significantly shaped the direction and quality of our paper. We want to express our sincere appreciation and gratitude to the panel of examiners, Dr. Joseph Alfred M. Reyroso, Mr. Raul R. Agaran, Dr. Marlon V. Bunyi, and Mr. Jay Pee De Villa, for their expertise, time, and commitment in evaluating and examining this research work. Their insightful feedback, rigorous examination, and constructive criticism have greatly contributed to the refinement and enhancement of this research study. We are truly honored and grateful for the opportunity to have our work evaluated by such distinguished professionals. Lastly, we thank our friends, classmates, and relatives, especially our respective families, for their constant concern, encouragement, and love. The moral, emotional, and possibly financial support from these individuals will be acknowledged with gratitude, as without them, the researchers would not have the courage and determination to complete this study.

9.0 References

Ahmad, K., & Zabri, S. M. (2018). 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, 12(2), 83-93. https://doi.org/10.24052/JBRMR/V12IS02/TMEOIMITRBIMPAPTCOMRE

Ahmad, S., Miskon, S., Alabdan, R., & Tlili, I. (2020). Towards sustainable textile and apparel industry: Exploring the role of business intelligence systems in the era of industry 4.0. Sustainability, 12(7), 2632. https://doi.org/10.3390/su12072632

Andersson, R., Manfredsson, P., & Lantz, B. (2015). Total productive maintenance in support processes: An enabler for operation excellence. Total Quality Management & Business Excellence, 26(9–10), 1042–1055. https://doi.org/10.1080/14783363.2015.1068598

Atnafu, D., Balda, A., & Liu, S. (2018). The impact of inventory management practice on firms' competitiveness and organizational performance: Empirical evidence from micro and small enterprises in Ethiopia. Cogent Business & Management, 5(1). https://doi.org/10.1080/23311975.2018.1503219

Chan, S. W., Tasmin, R., Aziati, A. H. N., Rasi, R. Z., Ismail, F. B., & Yaw, L. P. (2017). Factors influencing the effectiveness of inventory management in manufacturing SMEs. IOP Conference Series. Materials Science and Engineering, 226, 012024. https://doi.org/10.1088/1757-899x/226/1/012024

Christopher, M. (2016). Logistics & supply chain management (5th ed.). Pearson Education https://tinyurl.com/yujduac5

Coyle, J. J., Bardi, E. J., & Langley, C. J. (2003). The management of business logistics: A supply chain perspective (7th ed.). South-Western/Thomson Learning. https://tinyurl.com/544w3j8w

Garcia, R., & Nguyen, T. (2019). Strategic adaptation and innovation in auto supply businesses. Journal of Business Strategy, 40(3), 45-55. https://doi.org/10.1108/JBS-10-2018-0140

Jeong, I., Lee, J. H., & Kim, E. (2019). Determinants of brand localization in international markets. Service Business, 13(1), 75–100. https://doi.org/10.1007/s11628-018-0366-9

Li, Y., & Liu, L. (2012). Assessing the impact of retail location on store performance: A comparison of Wal-Mart and Kmart stores in Cincinnati. Applied Geography, 32(2), 591-600. https://doi.org/10.1016/j.apgeog.2011.07.006

Madamidola, O., Daramola, O., Akintola, K., & Adeboje, O. (2024). A review of existing inventory management systems. International Journal of Research in Engineering and Science, 12, 40-50. https://tinyurl.com/5dk857z9

Orobia, L., Nakibuuka, J., Bananuka, J., & Akisimire, R. (2020). Inventory management, managerial competence and financial performance of small businesses. Journal of Accounting in Emerging Economies, 10(3), 379-398. https://doi.org/10.1108/JAEE-07-2019-0147

Prempeh, K. (2015). The impact of efficient inventory management on profitability: Evidence from selected manufacturing firms in Ghana. https://doi.org/10.13140/RG.2.1.1500.6168

Rahman, M. M., Najaf, P., Fields, M. G., & Thill, J.-C. (2021). Traffic congestion and its urban scale factors: Empirical evidence from American urban areas. International Journal of Sustainable Transportation, 15, 406-421. https://doi.org/10.1080/15568318.2021.1885085

Siemsen, E., & Aloysius, J. (2020). Supply chain analytics and the evolving work of supply chain managers. Association for Supply Chain Management. https://tinyurl.com/mr2tp5uz

Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2015). Designing and managing the supply chain: Concepts, strategies, and case studies. McGraw-Hill Education. https://tinyurl.com/267jfyru

Slack, N., & Brandon-Jones, A. (2019). Operations management (9th ed.). Pearson Education. https://tinyurl.com/42kwt6ax
Smith, D., & Johnson, L. (2018). Location strategy and retail performance: A review and meta-analysis. Journal of Retailing and Consumer Services, 40, 123-135. https://doi.org/10.1016/j.jretconser.2017.09.002
Smith, T., & Jones, R. (2018). Impact of inventory holding costs on financial performance in the auto supply industry. International Journal of Production Economics, 200, 75-89. https://doi.org/10.1016/j.ijpe.2018.03.002