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Effect of Inventory Management Practices on Organizational Performance. A Case of Dubai Port World Rwanda (2021–2024)

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Abstract: *The general objective of this research was to assess the effect of inventory management practices on organizational performance. This study had the following specific objectives: to assess the effect of ABC analysis on performance of Dubai Port World Rwanda, to examine the effect of batch tracking on performance of Dubai Port World Rwanda and to analyze the effect of inventory regular audit on performance of Dubai Port World Rwanda. R Square value of .635 demonstrates that approximately 63.5% of the variation in organizational performance is explained by the inventory management practices (ABC analysis, batch tracking, and inventory regular audit). Specifically, a unit increase in ABC analysis results in a 0.443 increase in organizational performance (B = 0.443, t = 5.315, p = 0.000), confirming its significance. Also, a unit increase in batch tracking leads to a 0.245 increase in organizational performance (B = 0.245, t = 3.330, p = 0.001). Moreover, a unit increase in inventory regular audit leads to a 0.144 increase in organizational performance (B = 0.144, t = 2.183, p = 0.030). All predictors have a p-value below 0.05, confirming their statistical significance. The study recommended that Dubai Port World Rwanda enhance its inventory management through automated ABC analysis, batch tracking systems, and regular audits to improve operational efficiency and accountability. It also suggested investing in staff training and real-time tracking systems.*

Keywords: *Inventory Management Practices, Organizational Performance, ABC Analysis, Batch Tracking, Inventory Regular Audit*

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1. Introduction

In Rwanda, inventory management is crucial for ensuring the availability of life-saving drugs, particularly emergency obstetric medications in public hospitals. Poor inventory practices often lead to stock-outs, contributing to high maternal mortality and morbidity. A study in ten district hospitals in Rwanda's Southern Province highlighted the importance of up-to-date logistics management tools. Hospitals with current tools were significantly more likely to maintain stock levels of essential drugs. Effective use of bin cards and electronic software (e-LMIS) reduced stock-out rates and optimized stock usage. For example, the Min–Max inventory control model significantly improved stock availability and usability. The study concluded that proper pharmaceutical management practices, supported by adequate supply chain staffing, are essential for maintaining drug availability and improving maternal health outcomes in Rwanda (Kabera & Mukanyangezi, 2024).

According to Dukuly (2023), effective inventory management helps organizations meet consumer needs, cut costs, and streamline supply chains in Rwanda. Poor inventory management can cause stock-outs, excess inventory, and excessive holding costs, hurting efficiency and profitability. Africa Global Logistics (AGL) stresses order picking, inventory tracking, and material handling for organizational performance. AGL has improved operating efficiency by using real-time tracking and automated systems. These approaches improve material flow, customer satisfaction, and cost control. Logistics companies need regular evaluations and process improvements to be competitive and perform well.

Despite advancements in technology and cost reduction efforts, logistics firms in Rwanda face significant performance challenges due to mismanagement and high logistics costs. Inadequate infrastructure and poorly designed inventories contribute to logistical bottlenecks like congestion and delays in commodities pickup. Inadequately trained workers put additional pressure on already-stretched operations, lowering output per worker. Logistics expenses due to supply shortages and supply chain inefficiencies raise service and goods prices, reducing competitiveness. Lack of cold chain infrastructure causes significant post-harvest losses in horticulture. Optimal stock management and storage procedures are made more difficult by Rwanda's landlocked location, which increases the costs of trade logistics. Rwanda's logistics sector may increase operational efficiency, cost, and competitiveness with effective inventory management (Gakwaya & Irechukwu, 2022).

For instance, Gorilla Logistics Limited a market leader, handled 987 air freight, 549 ocean freight, 68 road freight, and 174 rail freights in 2020, while serving 49 clients and partners. Despite integrating real-time tracking technology and reducing shipping costs from RWF 12 to RWF 8 per kilogram, issues like congestion, delays in goods collection, inadequate infrastructure, poor warehouse layout, and a lack of skilled personnel persist. These factors, compounded by ineffective inventory control and space utilization, threaten the operational efficiency and productivity of Rwanda's logistics sector (Dukuly, 2023).

Research indicates that 40% of horticulture products are lost or wasted post-harvest due to inadequate cold chain infrastructure and management. The Horticulture Exporters Association of Rwanda highlights key issues such as high costs, technology limitations, and suboptimal geographic locations of cold storage facilities (Rukundo & Irechukwu, 2024). Many firms in Rwanda, including logistics companies, grapple with supply shortages and inefficiencies within their supply chains. This issue not only increases the costs associated with stock handling but also inflates the prices of services and goods by an average of 20%. The landlocked nature of Rwanda exacerbates these challenges, leading to higher trade logistics costs and hindering effective stock management and storage practices (Kwikiriza & Mbonimana, 2021).

Reviewed studies gave different perceptions on effect of inventory management practices on organizational performance in other sectors but left out Dubai Port World Rwanda. This research project bridged a knowledge gap by studying how inventory management practices affect organizational performance of Dubai Port World Rwanda.

The general objective of this research was to assess the effect of inventory management practices on organizational performance.

This study had the following specific objectives:

1. To assess the effect of ABC analysis on performance of Dubai Port World Rwanda.
2. To examine the effect of batch tracking on performance of Dubai Port World Rwanda.
3. To analyze the effect of inventory regular audit on performance of Dubai Port World Rwanda.

The following hypotheses guided this study:
H_{o1}: There is no significant effect of ABC analysis on performance of Dubai Port World Rwanda.
H_{o2}: There is no significant effect of batch tracking on performance of Dubai Port World Rwanda.
H_{o3}: There is no significant effect of inventory regular audit on performance of Dubai Port World Rwanda.

2. Literature Review

2.1 The Theory of Inventory Control

Several scholars have worked to establish inventory control theory, which offers a framework for managing an organization's assets in a way that maximizes output while minimizing expenses. Companies of all sizes utilize specialized mathematical calculations and procedures for inventory management. To optimize storage costs and handle thousands of product units, large corporations often use complex theories and calculations. Contrarily, these ideas may be used by small enterprises to address their customer service and cost-cutting demands (Rubel, 2021).

Keeping costs down and earnings up while satisfying customers is the holy grail of inventory management. Having too much inventory may cause storage fees to skyrocket, add stress to your budget, and raise the likelihood of damage or spoiling. Inadequate stock levels, on the other hand, may cause delays in operations, which in turn can lead to subpar customer service, which in turn can cause discontent and even the company's demise. Finding a happy medium between the two extremes is essential for effective inventory

management. The inverse relationship between large inventory levels and bad financial performance is shown by the fact that companies with high inventory ratios often underperform financially. Over time, companies that have somewhat lower-than-average inventory tend to do better (Louraoui, 2020).

According to Befekadu *et al.* (2020), Companies may improve their operational and financial performance by cutting down on inventory. In order to attain ideal inventory levels and overall corporate performance, it is crucial to implement effective management techniques, make accurate forecasts, and simplify procedures, according to inventory control theory. The objective is to maximize operational efficiency and profit by reducing inventory-related expenses while maintaining an adequate supply to satisfy customer needs.

Inventory control theory helped examine how Dubai Port World Rwanda manages its assets to balance minimizing costs and maximizing customer satisfaction. This study used this theory to analyze the impact of inventory management practices on the organization's operational efficiency and profitability, providing insights into achieving optimal inventory levels.

2.2 Diffusion of Innovations Theory

Developed by Everett M. Rogers in 1962, the Diffusion of Innovations Theory aims to explain how, why, and at what rate new ideas and technologies spread through social systems. This theory is crucial for understanding the adoption process of innovations, including technological advancements in inventory management systems. It highlights the factors influencing adoption and classifies individuals into different categories based on their readiness to embrace new ideas (Demir & Paksoy, 2023).

The theory sheds light on the adoption and integration of innovations into organizational processes, offering significant insights into topics like sophisticated tracking technologies and computerized inventory management systems. It classifies users according to their adoption rate, which includes innovators, early adopters, late majority, laggards, and early majority. Different groups' adoption behaviours are influenced by their unique qualities. As an example, pioneers tend to be more daring and quicker to embrace new technology, while the late majority is more measured and wait for ideas to gain traction before committing. Organizations may get insight into the introduction and successful adoption of new inventory management methods and technology by using the Diffusion of Innovations Theory. Businesses may better meet the demands of various types of innovators by analysing the perceived advantages, usability, and compatibility of these innovations with current systems. This method may improve the overall effectiveness of inventory management procedures and make transfers easier (Balkhi *et al.*, 2022).

This theory utilized to analyse how Dubai Port World Rwanda can effectively introduce and integrate new inventory management technologies into its supply chain. By examining the adoption process and the influence of various adopter categories, this theory provided insights into overcoming resistance and ensuring successful implementation, thus enhancing overall efficiency and responsiveness in the supply chain.

2.3 Transactions Theory

The Transactions Theory was originally proposed by Williamson (1985). The theory aims to enhance vertical integration and trust in firms. The theory holds that during implementation of operations, there are various costs which are incurred. These costs if not well managed may lead to losses being obtained rather than the expected profits. Operational efficiency will only be obtained when cost is reduced mainly through assets specificity and minimization of uncertainty. The theory's importance is that it shows the benefit that may be accrued from incorporating logistics and transportation strategies in organizations. Hence transport and logistics will improve the operational performance of firms by not only increasing the efficiency but also minimizing the costs in operations (Gonçalves *et al.*, 2020).

Transaction Theory was relevant to inventory management and company performance as it emphasizes the importance of minimizing transaction costs associated with the management of inventory. By analyzing the various transactions involved in inventory processes such as storing and distributing goods- Dubai Port World Rwanda can streamline operations, reduce waste, and enhance efficiency.

2.4 Empirical Review

Achevi *et al.* (2021) investigated the effect of inventory control techniques employed on procurement performance experienced at Vihiga County Referral Hospital in Kenya. The study highlighted Economic Order Quantities, Just in Time and ABC analysis as essential inventory control techniques. The study adopted cross-sectional design, out of which 83 employees were targeted using stratified random sampling. Primary data collection was conducted through questionnaires, and the pilot test was conducted in order to ensure reliability and validity. Descriptive and inferential statistics were used in data analysis with SPSS version 22. Results from multiple linear regression illustrate that Just-in-Time showed the largest predictability regression power, followed by Economic Order Quantity and ABC analysis. The study concluded that these techniques obviously influence procurement performance. Just in Time strategy was recommended to minimize procurement cost by storing only the items necessary for production, Economic order quantity model to calculate the units that are suitable to be in the

stock based on the number of units sold and the time used in transactions and ABC analysis to forecast demand of products and managing stocks to improve procurement performance.

Nyang'au and Muturi (2021) analysed how inventory management practices influence organizational performance in large retail stores in Kisii Town, Kenya. The study used stratified random sampling to select 810 retail stores and was the adopted study design to obtain data. Among key findings: 97 percent agreed stock-taking reduced fraud, theft and loss and 94 percent claimed it allowed physical stock to record comparison. Cost reduction improved by 39% with forecasting tools and 77% using social media surveys to increase customer satisfaction. Certificate holders reported that 56% had utilised automation to enable timely delivery, while also integrating 49% real-time supplier connections. Recommendations for using advanced forecasting tools to optimise inventory levels to prevent stock outs; the use of automation to the control of merchandise loss; and conveyor technology to prevent fatigue errors in the pick-pack process were all made. The goal of these measures is to improve retail performance by efficient inventory management.

Kassahun (2021) assessed how inventory maintenance practices influence service delivery in Ethiopia. Primary data was collected from 140 respondents through a census method using a structured questionnaire. Descriptive and Inferential statistics were utilized using a statistical package for the social science (SPSS) 2020, for analysis. It was also found out that service delivery effectiveness is not significantly affected by education level. A statistically significant positive relationship was indicated with service delivery by inventory management practices, transport distribution, distribution management, warehouse practices in the medical equipment supply chain, and employees' years of experience. There was also a statistically significant effect on the procurement of medical equipment. Improved management systems; involved qualified personnel in the procurement process; reviewed public procurement policy to minimise bureaucratic procedures; made certain adequate budgets are allocated that will prevent stockouts; and strengthen collaboration between NGOs, PFSA and suppliers to effectively address health commodity stockouts. The key terms were inventory management and service delivery.

Feizi et al (2022) studied the effects of batching admissions by emergency department (ED) physicians on both physician productivity and patient wait time for inpatient beds. The study, using data from a large hospital, found that as a physician's shift progressed, so did the likelihood of batching. The patients who were batched experienced a 4.7% longer delay compared to those of the experimental group in receiving an inpatient bed. We showed that this delay was the consequence of an increase in the coefficient variation in inpatient bed-requests related to batching, using a mediation analysis. Batching, however, increased patients seen per shift by 10.0% and physician throughput time by 2.6 minutes. The results imply a tradeoff between productivity and timeliness of service in healthcare operations, showing that while batching can increase physician productivity it may also increase delays in downstream processes. Emergency Department is synonymous with Boarding, Productivity, Queueing, and Batching.

Wang *et al.* (2022) in his study to establish the consequences of regular inventory audits on operational performance of logistics firms based in United States. An explorative quantitative research method was used and data was gathered through structured questionnaires from logistics managers. From the results it was found that when inventory is audited frequently, there are better chances of achieving accuracy in inventory, less incidence of stock out and better order fulfillment. Checklists should preferably be conducted on a normal or relatively frequent basis in order to assess the organizational performance in managing inventory. According to the authors, there is a need for the logistics firms to develop sound inventory audit programs through which they can conduct a routine check on their inventory with a view of enhancing them.

Nkosi and Ogujiuba (2021) sought to investigate if there is correlation between inventory audits and performance of SMEs in South Africa. The present study uses both qualitative interviews with the SMEs owners and quantitative surveys with over 300 SMEs. Audited SMEs with audit frequency below 7 months recorded lower inventory holding cost and higher stock turnover compared with the SMEs without audit. As a feature of management, regular inventory audits are very useful to the overall improvement of the financial performance of SMEs in South Africa. Auditing should therefore be embraced by SMEs as a key Best Practice Strategy for enhancing efficiency in inventory management and organization.

Kamau and Ngugi (2021) assessed the impacts of inventory management audit on performance hospitality firms in Kenya. An exploratory quantitative research approach was employed and structured questionnaires were administered on 100 organisations in the hospitality industry. The studied results pointed out that the participating organizations who engaged in frequent inventory audits had comparatively low occurrences of stock loss and higher customer satisfaction scores. It was found that in Kenya specifically in hospitality sector, stock checks greatly affect the results and customer satisfaction. According to the study, hospitality organizations were advised to adopt overall audit strategies to improve internal controls and services regarding inventories.

3. Methodology

The research design, the study population, the sample selection methods, the data collection tools, the data

collection and analysis procedures and the ethical considerations are all covered in the introductory section.

3.1 Study Design

This study used descriptive and correlational research design based on quantitative and qualitative as well as primary and secondary data designs. Descriptive because it aims to describe the quality of inventory management and organizational performance using descriptive statistics, via rating of respondents' perspectives. The link between efficient inventory management and organizational performance is the focus of this correlational study.

3.2 Study Population and Sample size

Target population was 397 populations who have direct works related to inventory management of Dubai Port World Rwanda.

Sampling design in research refers to the systematic plan and strategy used to select a subset of individuals or elements from a larger population for the purpose of conducting a study (Mweshi & Sakyi, 2020).
The sample size was determined by the help of Slovin' formula.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size which are 379, and e is the marginal of error (5%).

$n = \frac{379}{1+379(0.05)^2} = \frac{379}{1+0.9475} = \frac{379}{1.9475} = 194$

Researchers for this study used cluster sampling. To do this, the researcher categorizes the population according to each department. A simple random sample approach was used to choose respondents from the clusters for the research.

3.3 Data Collection Methods and Instruments

Both primary and secondary data were used in this study, and different instruments were used for each kind of data collection: Data that are gathered by the researcher themselves, such as via surveys, interviews, or field observations, are known as primary data. The primary sources of information for this research were the employees of Dubai Port World Rwanda. This is yet another kind of information source that must be considered while checking archive documents. Reference materials such as library textbooks, scholarly publications, movies, newspapers, online journals, and the internet were invaluable in gathering necessary background knowledge.

3.4 Data analysis

Analyzing data by dissecting it and looking for patterns or trends. To find descriptive statistics, the researcher used SPSS version 25 to calculate percentages, means, correlations, and frequency distributions.

Bivariate correlation analysis, which examines the connection between a single dependent variable and one independent variable, were used to verify our hypothesis. Whether you want to find out whether there's a correlation between two sets of numbers, say X and Y, this is one of the simplest ways to do statistical analysis. Multiple regression model evaluated to all indicators as stated in the conceptual framework.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$:

Where: Y= Organizational Performance,
βo= Constant.
X_1= ABC Analysis
X_2= Batch Tracking
X_3= Inventory regular audit

3.5 Ethical Considerations

To ensure the study is conducted in an ethically acceptable manner, the rights to autonomy, anonymity, confidentiality, and informed consent were respected. Participants were asked for their consent to administer the surveys before they begin. The researcher protected all of personal information.

4. Results and Discussion

This chapter presents the data collected, analyzes the findings, and interprets the results in line with the objectives of the study.

4.1 Respondent Rate

Examining the response rate is necessary to determine participation levels in the study. A high response rate strengthens the reliability of the findings, while a low response rate may affect the generalizability of results. This section provides an overview of the number of respondents who participated in the study and those who did not, ensuring an adequate representation of the target population.

Table 1: Respondent Rate

Response	Frequencies	Percent
Responded	173	89.18
Not Responded	21	10.82
Total	194	100.0

Source: Field data, 2025

Table 1 presents the response rate in the study. The majority group presents 89.18% of respondents, indicating a high level of engagement in providing relevant data. Followed by 10.82%, showing a minimal non-response rate, which does not significantly affect data completeness. A high response rate ensures adequate data representation, supporting accurate evaluation of inventory management practices at Dubai Port World Rwanda.

4.1 Correlation analysis

This section presents the correlation matrix, demonstrating the relationship between ABC analysis, batch tracking, inventory regular audit, and organizational performance.

Table 2: Correlation matrix

		ABC Analysis	Batch Tracking	Inventory regular audit	Organizational Performance
ABC Analysis	Pearson Correlation	1	.782**	.749**	.770**
	Sig. (2-tailed)		.000	.000	.000
	N	173	173	173	173
Batch Tracking	Pearson Correlation	.782**	1	.667**	.713**
	Sig. (2-tailed)	.000		.000	.000
	N	173	173	173	173
Inventory regular audit	Pearson Correlation	.749**	.667**	1	.666**
	Sig. (2-tailed)	.000	.000		.000
	N	173	173	173	173
Organizational Performance	Pearson Correlation	.770**	.713**	.666**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	173	173	173	173

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field data, 2025

Table 2 presents the correlation matrix, assessing the relationships between ABC analysis, batch tracking, inventory regular audit, and organizational performance at Dubai Port World Rwanda.
The correlation matrix highlights a strong positive correlation between ABC analysis and organizational performance (r = 0.770), indicating a significant effect. The findings align with Achevi et al. (2021), who emphasized ABC analysis as an essential inventory control technique influencing procurement performance. Dubai Port World Rwanda's strong correlation confirms its effectiveness in stock management. Both studies highlight their role in forecasting demand, optimizing inventory, and improving efficiency.

Also, batch tracking exhibits a strong positive correlation with organizational performance (r = 0.713), confirming its significant effect. The findings align with Nyang'au and Muturi (2021), who highlighted automation and real-time supplier connections in inventory management. Dubai Port World Rwanda's strong correlation supports batch tracking's impact on operational efficiency. Both studies confirm batch tracking improves accuracy, reduces errors, and enhances timely order fulfillment.

Moreover, the inventory regular audit shows a moderate positive correlation with organizational performance (r = 0.666), signifying a significant effect. The findings align with Nkosi and Ogujiuba (2021), who demonstrated a positive correlation between inventory audits and financial performance. Dubai Port World Rwanda's moderate correlation supports regular audits' role in reducing inventory holding costs. Both studies confirm audits enhance stock accuracy, minimize discrepancies, and improve financial performance.

4.2 Regression analysis

This section presents the regression analysis to determine the extent to which inventory management practices affect the performance of Dubai Port World Rwanda.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.797[a]	.635	.629	.30712	2.032

a. Predictors: (Constant), Inventory regular audit, Batch Tracking, ABC Analysis

b. Dependent Variable: Organizational Performance

Source: Field data, 2025

Table 3 shows that the R Square value of .635 demonstrates that approximately 63.5% of the variation in organizational performance is explained by the inventory management practices (ABC analysis, batch tracking, and inventory regular audit). The Durbin-Watson statistics of 2.032 ensures that autocorrelation among the residuals is not significant, supporting the validity of the regression model.

The findings align with Deus (2023), who emphasized inventory management as essential for optimizing stock levels and operational efficiency. The R Square value at Dubai Port World Rwanda confirms that ABC analysis, batch tracking, and inventory audits significantly influence performance. Both studies affirm that effective inventory management minimizes costs, enhances stock availability, and improves organizational outcomes.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.743	3	9.248	98.040	.000[b]
	Residual	15.941	169	.094		
	Total	43.684	172			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Inventory regular audit, Batch Tracking, ABC Analysis

Source: Field data, 2025

Table 4 highlights that the F-value of 98.040, associated with a p-value of .000, indicates that the combined effects of ABC analysis, batch tracking, and inventory regular audit significantly affect organizational performance.

The findings align with Adeola *et al.* (2020), who emphasized that inventory management enhances efficiency and reduces costs. The significant F-value at Dubai Port World Rwanda confirms that ABC analysis, batch tracking, and inventory audits collectively impact organizational performance. Both studies highlight that effective inventory strategies optimize resource utilization and sustain competitive advantage.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.600	.188		3.197	.002		
	ABC Analysis	.443	.083	.455	5.315	.000	.295	3.393
	Batch Tracking	.245	.073	.253	3.330	.001	.373	2.680
	Inventory regular audit	.144	.066	.156	2.183	.030	.422	2.371

a. Dependent Variable: Organizational Performance
Source: Field data, 2025

$Y = 0.600 + 0.443X1 + 0.245X2 + 0.144X3$

Where:

Y = Organizational Performance
X1 = ABC Analysis
X2 = Batch Tracking
X3 = Inventory Regular Audit

Table 5 highlights that the constant value of 0.600 implies that when all inventory management practices remain at zero, organizational performance retains a baseline level of 0.600, and its significance ($p = 0.002$) is below 0.05. Specifically, a unit increase in ABC analysis results in a 0.443 increase in organizational performance ($B=0.443$, $t = 5.315$, $p = 0.000$), confirming

its significance. The findings align with Abebaw *et al.* (2022), who emphasized that periodic inventory audits enhance efficiency. At Dubai Port World Rwanda, the unstandardized coefficient of ABC analysis shows a positive impact on organizational performance. Both studies confirm that systematic stock categorization improves inventory control, ensuring effective resource utilization.

Also, a unit increase in batch tracking leads to a 0.245 increase in organizational performance (B = 0.245, t = 3.330, p = 0.001). The findings align with Kassahun (2021), who emphasized that effective distribution management improves service delivery. At Dubai Port World Rwanda, the unstandardized coefficient of batch tracking demonstrates a positive effect on organizational performance. Both studies confirm that structured tracking mechanisms enhance inventory visibility, minimizing operational inefficiencies.

Moreover, a unit increase in inventory regular audit leads to a 0.144 increase in organizational performance (B=0.144, t = 2.183, p = 0.030). All predictors have a p-value below 0.05, confirming their statistical significance. The findings align with Abebaw et al. (2022), who emphasized that inventory checks improve manufacturing performance. At Dubai Port World Rwanda, the unstandardized coefficient of inventory regular audits reveals a positive relationship with organizational performance. Both studies confirm that consistent inventory reviews improve financial control and operational sustainability.

Finally, collinearity statistics indicate that the model does not suffer from multicollinearity issues, as evidenced by Tolerance values of 0.295, 0.373, and 0.422, all above the threshold of 0.1, and Variance Inflation Factor (VIF) values of 3.393, 2.680, and 2.371, all below the critical value of 10.

Table 5 presents the decision on hypotheses based on the significance level. The findings indicate that ABC analysis, batch tracking, and inventory regular audit significantly affect the performance of Dubai Port World Rwanda, as all p-values are below 0.05. Consequently, the null hypotheses (Ho1, Ho2, and Ho3) are rejected, confirming that each inventory management practice has a significant effect on organizational performance.

5. Conclusion and Recommendations

5.1 Conclusion

The primary focus of this study was to investigate the effect of inventory management practices on the performance of Dubai Port World Rwanda, specifically examining the impact of ABC analysis, batch tracking, and inventory regular audits. The findings indicated that these inventory management practices significantly influence organizational performance, as confirmed by hypothesis testing where all null hypotheses were rejected. Overall, the study confirms that ABC analysis, batch tracking, and inventory regular audits are essential in optimizing inventory control and enhancing organizational performance. The rejection of all null hypotheses reinforces the significance of these inventory management practices in improving efficiency and profitability at Dubai Port World Rwanda.

5.2 Recommendations

It is recommended that:

1. Dubai Port World Rwanda is recommended to enhance its ABC analysis by integrating automated inventory categorization systems to improve accuracy and efficiency.
2. The Warehouse Department could implement advanced batch tracking software to improve traceability and ensure compliance with industry regulations.
3. The Finance Department is recommended to allocate sufficient resources to ensure frequent and thorough inventory audits, reducing discrepancies and enhancing financial accountability.

5.3 Area for Further Research

Future researchers could examine the effect of inventory optimization strategies on performance of Dubai Port World Rwanda. Effect of supplier relationship management on performance of Dubai Port World Rwanda. Effect of demand forecasting accuracy on performance of Dubai Port World Rwanda.

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