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Assessment of Logistics Management Practices on the Performance of Pharmaceutical Industry: A Case Study of Rwanda Medical Supply Ltd

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Abstract: The general objective of this study was to assess the effect of logistics management practices on performance of pharmaceutical industry in Rwanda. Descriptive research design used to analysis information on a variety of issues, and correlational research design examined the links that exist between variables under study. Data analysis was performed through SPSS version 25. The study presents the model summary for regression analysis. The R value of 0.896 indicates a strong positive correlation between predictor variables and dependent variable, suggesting that all combined management practices are closely related to the performance of Rwanda Medical Supply Ltd. The R-square value of 0.803 implies that approximately 80.3% of variance in pharmaceutical industry performance is explained by the combined effects of the three management practices. Information flow management has a coefficient of 0.424, indicating a strong positive effect on performance of Rwanda Medical Supply Ltd., which is statistically significant (p = 0.000 < 0.005). Warehouse management shows a coefficient of 0.182, also significant (p = 0.016< 0.005), reflecting a positive effect on performance of Rwanda Medical Supply Ltd. Transport management has a coefficient of 0.353, indicating a substantial and significant effect on the performance of Rwanda Medical Supply Ltd. (p = 0.000 < 0.005). All correlations are statistically significant at the 0.05 level. Rwanda Medical Supply Ltd. should implement advanced information management systems, such as integrated supply chain management software, to streamline communication and data exchange between departments and stakeholders.

Keywords: *Logistics Management Practices, Information Flow Management, Warehouse Management, Transport Management and Performance of Pharmaceutical Industry*

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1. Introduction

In Africa, countries like Kenya, South Africa, Nigeria, Egypt, Tanzania, and others with coastlines have strategically established themselves as logistics hubs on the continent. This positioning aims to enhance supply chains and overall business operations. In the case of Rwanda, the significance of logistics management has seen continuous growth, particularly with Fast Moving Consumer Goods (FMCG) companies choosing this approach for delivering their products not only within the country but also beyond its borders. Situated in the hinterland of the East African Community, logistics management plays a crucial role in not just enhancing business operations but also fostering economic growth (Nzohabonimana, 2019).

Inadequate logistics management tie up nearly 70% of a company's current assets, impacting both operational efficiency and overall performance. It also exposes organizations to financial risks, including theft and fraud, production and delivery delays, defective products, and wasteful shortages (Orobia, 2020). Companies face logistical losses such as expirations, pollution, theft, and damage, leading to a lack of competitive advantage,

inefficient storage, material waste, product shortages, customer dissatisfaction, poor product quality, inflexibility, and employee discontent (Ogah, 2022).

Maintaining a continuous supply of healthcare commodities is crucial for the well-being of the entire population. Logistics management aims to achieve the six rights: having the right items, in the right amounts, in the right condition, delivered to the right place at the right time, and for the right price (Bekele & Anbessa, 2021).

Stock-outs of crucial medications, such as emergency obstetric drugs, are a prevalent issue in numerous healthcare centers, particularly in low- and middle-income countries (LMICs), and have been linked to increased maternal mortality and morbidity. Inadequate inventory management is often attributed to this problem. According to a study conducted over an 18-month period, misoprostol tablets were found to have the longest average duration of stock-outs at 32 days (5.9%), followed by magnesium sulfate injection at 31 days (5.7%), and oxytocin injection at 13 days (2.4%). Furthermore, ensuring an adequate supply chain staffing in healthcare facilities is crucial for improving inventory management practices and ensuring the availability of essential medicines (Kabera & Mukanyangezi, 2024).

While numerous studies have examined the effect of logistics management on organizational performance, limited research has specifically addressed the effect of logistics management on the pharmaceutical industry's performance in Rwanda. Furthermore, there is a lack of dedicated studies on Rwanda Medical Supply Ltd. Therefore, this study aims to evaluate how logistics management affects the pharmaceutical industry performance, using Rwanda Medical Supply Ltd as a case study.

The general objective is to assess the effect of logistics management on performance of pharmaceutical industry in Rwanda.

1. To evaluate the effect of information flow management on performance of Rwanda Medical Supply Ltd.
2. To examine the effect of warehouse management on performance of Rwanda Medical Supply Ltd.
3. To analyse the effect of transport management on performance of Rwanda Medical Supply Ltd.

The following null hypotheses guided this study:

1. H_{01}: There is no significant effect of information flow management on performance of Rwanda Medical Supply Ltd.
2. H_{02}: There is no significant effect of warehouse management on performance of Rwanda Medical Supply Ltd.
3. H_{03}: There is no significant effect of transport management on performance of Rwanda Medical Supply Ltd.

2. Literature Review

2.1 Theory of Constraints (ToC)

Dr. Eliyahu M. Goldratt, an Israeli physicist and management expert, developed the Theory of Constraints (TOC), introducing its foundational concepts in his influential business novel, "The Goal," published in 1984. This novel made TOC accessible to a wider audience by presenting its principles in a relatable and engaging narrative. TOC offers a systematic approach to identify and address limitations that hinder an organization from reaching its full potential. The key idea in TOC is to identify the most significant constraint, often referred to as the weakest link, within a system. Efforts are then directed towards alleviating this constraint, ensuring that improvements are targeted where they can have the most substantial impact on overall system performance. TOC focuses on streamlining processes, reducing waste, and increasing throughput, ultimately leading to improved profitability and customer satisfaction (Nishan, 2022).

By applying Theory of Constraints, the study explored how specific inventory management practices impact productivity, particularly within the constraints that may exist in the organization's supply chain or production processes. Moreover, the Theory of Constraints served as a useful framework for systematically analyzing and improving logistics management practices, aligning with the study's objective of assessing the effect of logistics management on performance of Rwanda Medical Supply Ltd.

2.2 Resource-Based View (RBV) Theory

In the 1980s, Professors Jay Barney and Birger Wernerfelt introduced the concept of the Resource-Based View (RBV). This theory was formulated based on Barney's influential 1986 book, "Strategic Factor Markets: Expectations, Luck, and Business Strategy," and Wernerfelt's 1984 study, "A Resource-Based View of the Firm." RBV emerged as an alternative to conventional methods of strategic management, which were criticized for placing excessive emphasis on external market forces. According to Barney and Wernerfelt, a company's internal resources and competencies are pivotal in establishing a long-term competitive edge. RBV's core focus is on how organizations can acquire and sustain a competitive advantage within their industries. It shifts the strategic perspective from a market-centric approach to an internal one, emphasizing that a firm's unique and valuable

resources and capabilities are crucial determinants of long-term success. RBV highlights the importance of strategic decision-makers identifying, developing, and leveraging resources that competitors cannot easily replicate. This theory provides a framework for understanding how firms can build and maintain distinctive capabilities, contributing to superior performance over time. By aligning resources and capabilities with market opportunities, RBV offers insights into crafting effective strategies that maximize the organization's competitive position (Ijeoma *et al.*, 2020).

In the context of the present study examining the impact of logistics management on industry performance. Resource-Based View encouraged the researcher to identify and evaluate specific resources and capabilities associated with effective logistics management practices. These could include advanced information system management, efficient warehouse management, a skilled workforce, or effective transport management of Rwanda Medical Supply Ltd.

2.3 Principal-Agent Theory

The principal-agent theory, introduced by American economists Michael Jensen and William Meckling in 1976, is a theory of organizations that suggests improving public sector performance through incentive-based contracts between different actors. This theory has significantly influenced the theory and practice of public administration and policy since its inception, especially in high-income developed countries during the 1980s and 1990s, leading to substantial public sector reforms. Its impact continues to be felt, shaping the functioning of many public sectors. To minimize the likelihood of conflict in the principal-agent relationship, certain measures and principles can be followed by both parties (Wangrow & Schloemer, 2019).

Principal-Agent Theory was particularly relevant to the present study as it has been widely used in literature to examine the crucial phases of the logistics process. Initially focusing on the buyer (principal) and supplier (agent) relationship, scholars argue that in certain purchase categories, especially those involving professional services, the complex and difficult-to-specify requirements from the buyer can create opportunities for the supplier to either not deliver the service or deliver it in a way that maximizes its profit.

2.4 Inventory Control Theory

The field of inventory control theory has seen development over time with significant contributions from various scholars and practitioners. While there isn't a single founder, notable researchers like Ford W. Harris and R. H. Wilson made substantial contributions in the early 20th century. Harris, in 1915, introduced the Economic Order Quantity (EOQ) model, laying the foundation for contemporary inventory management approaches. Wilson, in 1934, expanded on Harris's work by introducing the concept of reorder points. The primary objective of inventory management theory is to minimize overhead costs while maintaining inventory levels sufficient to meet consumer demand. The theory addresses decisions such as how often and how much to reorder, along with other aspects of inventory management (Işik, 2020).

The study leveraged the framework provided by inventory control theory. It investigated how organizations implement inventory control principles to optimize inventory levels, reduce carrying costs, and ensure a consistent supply of materials. The research explored how accurate demand forecasting and lead time management, integral components of inventory control theory, contribute to meeting customer demand and minimizing stockouts. The study also assessed the relationship between effective logistics management practices and improved customer satisfaction, ultimately enhancing performance of Rwanda Medical Supply Ltd.

2.5. Strategic Choice Theory

Strategic choice theory posits that decisions made by top management significantly influence organizational performance and shape interactions with internal and external entities. The theory emphasizes the importance of key management decisions in enhancing organizational performance levels. It underscores those various environmental factors, such as supply, inventory, and purchase management, impact a manager's decision-making capabilities. According to this theory, decision-making authorities in management must select optimal inventory investments and inventory strategies to notably enhance performance outcomes. In the context of strategic choice theory, management is viewed as downstream decision-makers who influence choices while adapting organizational processes, structures, and systems (Sinaga *et al*., 2019).

To sustain high performance levels, management must make informed decisions to safeguard the organization's culture, resources, and inventory. Achieng, Paul, and Mbura (2018) have also developed a strategic option model illustrating the interconnectedness of an organization's actions, environment, and performance objectives. This model aims to ensure high-performance standards for efficiency improvement, particularly when resources are constrained or limited.

This research aligned with strategic choice theory by highlighting how top management decisions regarding inventory management practices can positively or negatively impact their business's success. It contends that management must make relevant and prudent judgments regarding inventory management to prevent future inventory challenges. Thus, managers should employ inventory management strategies suitable for their industry; failure to do so could jeopardize a

company's profitability, operations, overall performance, and continued existence.

2.6 Empirical review

Mutangili's (2019) study delved into the impact of electronic logistics on the performance of logistics. The research, conducted with a sample of 75 individuals randomly selected from 107 business employees, revealed a positive influence of e-logistics on logistics enterprises' performance. In today's highly competitive environment, companies are actively seeking a share of the global market, aiming to enhance production and sourcing efficiency.

Kabak, Ekici, and Ülengin (2020) outlined three primary reasons for analyzing logistics performance: reducing operating costs, fostering revenue growth, and increasing shareholder value. They highlighted the importance of measuring operational costs to identify opportunities for cost reduction, enhance asset management, and determine when and where operational changes are needed. Logistics management has been shown to be correlated with various factors, including supplier relations, delivery of finished goods, inventory management expenses, customer satisfaction, and overall organizational success. The performance management process, as an integral part of the logistics management system, is intricately linked to ensuring customer satisfaction. Effective logistics operations and capabilities serve as the cornerstone for organizational success.

Luu (2019) conducted an evaluation of the logistics performance of 150 businesses, examining its impact on overall business performance. The study found that enhanced logistics efficiency, effectiveness, and differentiation led to increased inventory availability, timely delivery, on-time and damage-free deliveries, line items, fill rates, and sales. These improvements contributed to higher net margin, asset turnover, and overall firm performance.

In a study by Zaid, Sleimi, and Alaqra (2021), the impact of logistics capabilities on manufacturing business performance was investigated through a survey of 1000 manufacturing companies. The research utilized exploratory and confirmatory factor analyses to estimate logistics capacity. The results identified three critical factors for logistical capabilities: process capability, flexibility capability, and data integration capability.

Ominde and Kiarie (2017) focused on assessing the effects of Warehouse Management Systems (WMS) on the performance of manufacturing firms in Kenya. Using a sample of 455 large-scale manufacturing firms based in Nairobi, the study employed a descriptive survey method. The findings established a significant relationship between the influence of radio frequency identification (RFID), barcode technology, manufacturing resources planning (MRP-II), distribution requirements planning (DRP), and productivity in manufacturing firms in Kenya. The study concluded that WMS provide flexible automated support for processing goods movements and managing stocks, recommending their adoption to streamline operations and maximize performance in manufacturing firms in Kenya.

In Adebayo's study (2021), the impact of transport management practices on firms' performance in Lagos State, Nigeria, was examined. The research focused on ten food and beverages companies listed on the Nigerian Stock Exchange. The findings revealed that transport management practices significantly influenced logistics performance ($R2 = 0.626$, $F = 34.971$, $p = 0.000$). Specifically, factors such as freight expenses, shipment tracking, and vehicle routing and scheduling played a significant role in influencing firms' performance. The study suggested the adoption of dynamic transportation strategies and the implementation of Logistics 4.0 to enhance overall performance.

James (2023) explored the effect of transport management practices on the performance of diamond mining companies in Zimbabwe. The study involved four authorized diamond mining companies, with data collected from 92 respondents in logistics, procurement, and finance departments. Results from regression analysis indicated that vehicle scheduling, route planning, vehicle tracking, and fuel management positively influenced the performance of diamond mining companies. Inefficient transport management practices were associated with high transport costs, increased greenhouse gas emissions, and lower productivity. The study recommended the adoption of contemporary transport technologies and safety measures to improve performance in diamond mining firms.

Consolate and Namusonge's study (2023) focused on the effects of logistics management practices on the performance of logistics firms in Nairobi County, Kenya. The research targeted the top ten logistics services companies in Nairobi County, with a sample size of 88 employees from various departments. The findings indicated that transportation management, warehousing management, order processing, and inventory management practices had a positive and significant effect on the performance of logistics firms in Nairobi County. The study recommended strengthening these practices to enhance overall performance in logistics firms.

3. Methodology

This section discussed the study methodology, outlined the research plan, and described the research methodology.

3.1 Research Design

The researcher conducted both descriptive and correlational studies. Descriptive research design used surveys to collect information on a variety of issues and correlational research design research design examined at the links that exist between variables under the study.

3.2 Study Population and Sampling

For this study, the study population was 303 Rwanda Medical Supply Ltd staffs. Slovin's formula enabled researcher to sample the community with the appropriate degree of precision, while studying the complete population is impossible owing to lack resources and time. Using Slovin's formula, researcher estimated how big a sample they need to get reliable findings.

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

n= Number of samples or sample size
N= Total population
e = Error tolerance

$$n = \frac{303}{1+(303x0.05^2)} = \frac{303}{1+(303x0.0025)} = \frac{303}{1+0.7575} = \frac{303}{1.7575} = 172.4 \cong 172$$

3.3 Data Collection Instruments

The questionnaire helped the researcher as the main means of communication between researcher and respondents. The questionnaire included the series of questions about issues that are expected of the respondent information, where these types of questions were distributed by the researcher among respondents in order to collect the written and quantitative data (information).

Documentation technique the extensive study and review of published documents, reports, magazines, journals and policy reports related to the topic. This is important because it reviews the literature and tries to locate global perspectives in order to make a comparative framework for analysis and evaluation for readers; therefore, the researcher used this documentary technique in order to conduct and get secondary data.

3.4. Data Analysis

The data used the descriptive statistics and regression analysis model to analyze the collected data where the findings were drawn from. The process of data analysis used by the researcher after data collection in order to make deep interpretation and understanding by using statistical analysis method. The frequency, proportion, and percentage values computed for each variable used in the descriptive analysis. To investigate and quantify the statistical link between two variables, a correlation analysis was established. Researcher used correlation analysis to determine the significance and strength of the link between the independent and dependent variables.

The correlation coefficient is a statistical measure of association (r). From minus one to plus one, that's where its numeric value sits. It is a positive indicator of how closely related the two factors are. The strength of a connection may be determined by examining the value of the correlation coefficient (r), which can take on any number from 0 to 1, with 0 indicating no association at all (or that the variables are independent and not related).

The adopted model is presented as follow:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where;
Y= Pharmaceutical industry performance
X_1= Information flow management
X_2= warehouse management
X_3= transport management
α = Constant; y intercept that is, the value of y when x is equal to zero
β = Coefficients of the mode

3.5. Ethical Considerations

The researcher requested the organization management permission in order to allow their members to participate in the interview which required authority letter. Confidentiality and privacy are the key issues to be observed; the researcher observed the respondents' confidentiality during the interviewing process. Researcher allowed the respondents to be free when answering and filling in the questionnaire.

4. Results and Discussion

This section presents the findings of the study based on the data collected from the field. The analysis is centered on the overall objective of the study. This section provides an overview of the response return rate for the questionnaires distributed during the study. Inferential statistics were employed in the study to examine the relationship and effect of independent variables Information flow management, Warehouse management and Transport management on dependent variable (Pharmaceutical industry performance) with a case of Rwanda Medical Supply Ltd using correlation and regression analysis.

Table 1: Response rate of respondents

Questionnaire	Frequency	Percent
Unreturned	5	2.91
Filled	167	97.09
Total	172	100.00

Source: Research Findings, 2024

The rate of the questionnaires distributed indicates that out of a total of 172 questionnaires sent out, 167 were completed and returned, indicating a high response rate of 97.09%. Only 5 questionnaires, representing 2.91%, were unreturned. This strong return rate demonstrates a high level of engagement among respondents and suggests that the majority were willing to participate in the study. Such a favorable response rate enhances the reliability of the findings.

4.1 Correlation Analysis

The researcher aimed to determine the relationships between Information flow management, Warehouse management and Transport management and pharmaceutical industry performance using Pearson correlation analysis.

Table 2: Correlations

		Information flow management	Warehouse management	Transport management	Pharmaceutical industry performance
Information flow management	Pearson Correlation	1	.724**	.667**	.814**
	Sig. (2-tailed)		.000	.000	.000
	N	167	167	167	167
Warehouse management	Pearson Correlation	.724**	1	.874**	.819**
	Sig. (2-tailed)	.000		.000	.000
	N	167	167	167	167
Transport management	Pearson Correlation	.667**	.874**	1	.815**
	Sig. (2-tailed)	.000	.000		.000
	N	167	167	167	167
Pharmaceutical industry performance	Pearson Correlation	.814**	.819**	.815**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	167	167	167	167

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

Source: Research Findings, 2024

Table 2 presents the Pearson correlation analysis results examining the relationships between Information flow management, Warehouse management, Transport management, and performance of Rwanda Medical Supply Ltd.

The first objective is to evaluate the effect of information flow management on the performance of Rwanda Medical Supply Ltd. The analysis reveals a strong positive correlation between information flow management and pharmaceutical industry performance (Pearson correlation = 0.814, $p < 0.05$). Mutangili's (2019) study delved into the impact of electronic logistics on the performance of logistics firms. The research, conducted with a sample of 75 individuals randomly selected from 107 business employees, revealed a positive influence of e-logistics on logistics enterprises' performance. In today's highly competitive environment, companies are actively seeking a share of the global market, aiming to enhance production and sourcing efficiency.

The second objective was to examine the effect of warehouse management on the performance of Rwanda Medical Supply Ltd. The correlation results show a strong relationship between warehouse management and pharmaceutical industry performance (Pearson correlation = 0.819, $p < 0.05$). Luu (2019) conducted an evaluation of the logistics performance of 150 businesses, examining its impact on overall business performance. The study found that enhanced logistics efficiency, effectiveness, and differentiation led to increased inventory availability, timely delivery, on-time and damage-free deliveries, line items, fill rates, and sales. These improvements contributed to higher net margin, asset turnover, and overall firm performance.

The third objective was to analyze the effect of transport management on the performance of Rwanda Medical Supply Ltd. The analysis indicates a significant positive correlation between transport management and pharmaceutical industry performance (Pearson correlation = 0.815, $p < 0.05$). All correlations are

statistically significant at the 0.05 level. Consolate and Namusonge's study (2023) focused on the effects of logistics management practices on the performance of logistics firms in Nairobi County, Kenya. The research targeted the top ten logistics services companies in Nairobi County, with a sample size of 88 employees from various departments. The findings indicated that transportation management, warehousing management, order processing, and inventory management practices had a positive and significant effect on the performance of logistics firms in Nairobi County.

4.2 Regression Analysis

Following an explanation of the relationship, the researcher set out to determine the linear effect of Information flow management, Warehouse management and Transport management on Pharmaceutical industry performance. This was accomplished by multiple regression, employing Information flow management, Warehouse management and Transport management as predictor factors, with Pharmaceutical industry performance as the outcome variable. The regression analysis was computed in model summary, ANOVA, and coefficients. The model summary revealed the overall fit of the regression model, while ANOVA assessed the significance of the predictors collectively, and the coefficients showed how much each predictor factor affected performance of Rwanda Medical Supply Ltd.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.896[a]	.803	.800	.29265

a. Predictors: (Constant), Transport management, Information flow management, Warehouse management

Table 3 presents the model summary for the regression analysis. The R value of 0.896 indicates a strong positive correlation between the predictor variables and the dependent variable, suggesting that all combined management practices are closely related performance of Rwanda Medical Supply Ltd. The R Square value of 0.803 implies that approximately 80.3% of the variance in pharmaceutical industry performance explained by the combined effects of the three management practices. In Adebayo's study (2021) assessed the impact of transport management practices on firms' performance in Lagos State, Nigeria, was examined. The research focused on ten food and beverages companies listed on the Nigerian Stock Exchange. The findings revealed that transport management practices significantly influenced logistics performance. Specifically, factors such as freight expenses, shipment tracking, and vehicle routing and scheduling played a significant role in influencing firms' performance.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.008	3	19.003	220.965	.000[b]
	Residual	13.960	163	.086		
	Total	70.968	166			

a. Dependent Variable: Pharmaceutical industry performance

b. Predictors: (Constant), Transport management, Information flow management, Warehouse management

Source: Research Findings, 2024

Table 4 displays the results of the analysis of variance (ANOVA) test, which evaluates the overall significance of the regression model. The F-statistic of 220.965 is notably high, indicating that the model significantly explains the variance in pharmaceutical industry performance. The corresponding significance value (Sig.) of 0.000 confirms that the predictors collectively have a statistically significant effect on performance, providing strong evidence that these management practices are integral to improving performance within Rwanda Medical Supply Ltd. James (2023) explored the effect of transport management practices on the performance of diamond mining companies in Zimbabwe. The study involved four authorized diamond mining companies, with data collected from 92 respondents in logistics, procurement, and finance departments. Results from regression analysis indicated that vehicle scheduling, route planning, vehicle tracking, and fuel management positively influenced the performance of diamond mining companies.

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.292	.128		2.281	.024
	Information flow management	.424	.049	.438	8.653	.000
	Warehouse management	.182	.075	.190	2.427	.016
	Transport management	.353	.071	.358	4.972	.000

a. Dependent Variable: Pharmaceutical industry performance

Source: Research Findings, 2024

Table 5 presents the coefficients for the predictors in the regression analysis, showing their individual contributions to the model. The unstandardized coefficients indicate the expected change in the pharmaceutical industry performance for a one-unit increase in each predictor, holding other variables constant. The constant term is 0.292 indicating the baseline performance level when all predictors are zero.

Information flow management has a coefficient of 0.424, indicating a strong positive effect on performance of Rwanda Medical Supply Ltd, which is statistically significant ($p < 0.005$). Warehouse management shows a coefficient of 0.182, also significant ($p = 0.016$), reflecting a positive effect on performance of Rwanda Medical Supply Ltd. Transport management has a coefficient of 0.353, indicating a substantial and significant effect on performance of Rwanda Medical Supply Ltd ($p < 0.005$). Kabak, Ekici, and Ülengin (2020) outlined three primary reasons for analyzing logistics performance: reducing operating costs, fostering revenue growth, and increasing shareholder value. They highlighted the importance of measuring operational costs to identify opportunities for cost reduction, enhance asset management, and determine when and where operational changes are needed. Logistics management has been shown to be correlated with various factors, including supplier relations, delivery of finished goods, inventory management expenses, customer satisfaction, and overall organizational success.

4.3 Hypotheses Results

Based on the regression analysis, researcher rejected the null hypothesis that there is no significant effect of information flow management on the performance of Rwanda Medical Supply Ltd. with a significance value (p-value) of 0.000. Since this p-value is well below the conventional alpha level of 0.05, it strongly indicates that information flow management significantly influences the performance of Rwanda Medical Supply Ltd.

The analysis also leads researcher to reject the second null hypothesis, which states that there is no significant effect of warehouse management on the performance of Rwanda Medical Supply Ltd. This significantly low p-value, being less than 0.05, indicates that warehouse management practices play a meaningful role in improving the performance of Rwanda Medical Supply Ltd.

Finally, the result reject the null hypothesis that there is no significant effect of transport management on the performance of Rwanda Medical Supply Ltd. This compelling evidence, with a p-value significantly less than 0.05, indicates that transport management is crucial in enhancing the performance of Rwanda Medical Supply Ltd.

5. Conclusion and Recommendations

5.1 Conclusion

The analysis conclusively shows that information flow management has a significant positive effect on the performance of Rwanda Medical Supply Ltd. Furthermore, the statistically significant p-value of 0.000 reinforces the importance of streamlined communication and information exchange in enhancing operational effectiveness. These findings suggest that prioritizing and optimizing information flow management is critical to improving the overall performance of the organization.

The results indicate that warehouse management significantly impacts the performance of Rwanda Medical Supply Ltd. The p-value of 0.016 further supports the conclusion that effective warehouse management practices, such as accurate inventory control and efficient space utilization, are vital to achieving better performance.

The analysis reveals that transport management has a significant effect on the performance of Rwanda Medical Supply Ltd. The highly significant p-value of 0.000 demonstrate that effective transport strategies are essential in facilitating timely deliveries and overall operational efficiency.

5.2. Recommendations

Here are three practical recommendations for Rwanda Medical Supply Ltd aimed at enhancing its performance through improved logistics management practices:

1. Rwanda Medical Supply Ltd should implement advanced information management systems,

such as integrated supply chain management software, to streamline communication and data exchange between departments and stakeholders.

2. Rwanda Medical Supply Ltd should strengthen automation technologies in warehouse operations, such as barcode scanning, automated inventory tracking, and robotic picking systems.
3. Rwanda Medical Supply Ltd needs to develop a comprehensive transportation management system that includes route optimization, real-time tracking, and fleet management tools.

5.3 Suggestion for Future Research

Future researchers should take a look into: Effect of Risk Management on Supply Chain Performance of Rwanda Medical Supply Ltd, Analyzing the effect of Effective Risk Monitoring on Supply Chain Performance of Rwanda Medical Supply Ltd. And the Role of Risk Control Mechanisms on Supply Chain Performance of Rwanda Medical Supply Ltd.

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