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Inbound Logistics Metrics and Performance of Freight Forwarders Association in Kicukiro District, Rwanda

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Abstract

The Rwandan Freight forwarders federation (RWAFFA) was established in 2013 to deal with the fragility that was in the clearing and forwarding industry, which worked without defined and professional procedures that led to poor and inefficient practices within the industry. The objective of this study was to examine inbound logistics metrics on the performance of Freight forwarders federation in Rwanda. A case of RWAFFA in Kicukiro District. This study was guided by three specific objectives which are to evaluate order fulfilment accuracy level of freight forwarders in Rwanda, to determine the status of on time delivered shipments, in case of freight forwarders in Rwanda and to analyse the degree of safety for goods handled by freight forwarders in Rwanda. The research was of great significant to the researcher, MKU and freight forwarding Industry in Rwanda. The descriptive research design with two mixed approach of qualitative and quantitative was used to collect data by use of interview guide and questionnaire. The 160 respondents of the study were selected from the target population of 246 including employees from RWAFFA management team, clearing agents and importers firms operating in Kicukiro District using the Krejcie and Morgan table with a simple random and census method of selecting the sample size. The collected results were analyzed using descriptive statistical analysis with use of percentage, mean and standard deviation and inferential statistics by the use of Pearson correlation (r) and multiple linear logistic regression analysis. Data were also presented in figure, tables and narratives because the qualitative data were analyzed with the use of thematic analysis which require the researcher to present the qualitative results in narrative. In this study, research findings showed that inbound logistic metrics were adopted to reduce the damaged shipment in freight forwarding within Rwandan Freight Forwarders association (RWAFFA). Therefore, The intercept of the regression was 13.803 and statistically significant $p = 0.000$. While the coefficient of order accuracy was 0.100 and $p = 0.003$. On time delivery had an intercept of 0.043 but significant at 0.002 and finally safety of goods had it at 0.065 and also positive. Despite the problem arising within Rwandan freight forwarders association in Kicukiro District such as Inadequate Performance measurement and metrics pertaining to SCM, lack of professionalism, clear regulations and to some extent absence of documented procedures to follow, delays and unreliability, lack of previous empirical research that examined the effects of inbound logistics metrics on performance of freight forwarders. The current success in

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implantation of inbound logistic metrics was contributed to the performance of freight forwarders federations.

Keywords: *Supply Chain Efficiency, Freight Forwarding, Kicukiro District Logistics, Inbound Logistics Metrics, Rwanda Transportation Industry*

1.0 Introduction

The improvement of the quality level of transport services to consumers of transport services is a significant factor in the progressive development of not only the transport sector, but the national economy as a whole. In modern conditions, in most cases, more than one entity is involved in the process of implementing a transport service: this is directly the carrier, the owner of the infrastructure facility, the freight forwarder, a number of other business entities related to the transport industry. (Irina et al, 2023). With the digital transformation of the shipping industry, the business potential of shipping companies is gradually expanding. In recent years, shipping companies have begun operating freight forwarding businesses powered by the advantages of cost and network. As a result, their business expansion and gradually occupying the market share of agency services (Yujing et al, 2022). Being able to better support the business by focusing human resources on core capabilities and supporting business changes. In recent years, tougher competition and tighter margins have pushed organizations of all sizes to consider the strategic implications of divesting more and more business functions. As organizations seek to enhance their competitive positions in an increasingly global marketplace, they are discovering that they can cut costs and maintain quality by relying more on outside service providers for activities viewed as supplementary to their core business (Sinderman, 2015).

1.1 Statement of the problem

Rwanda is a landlocked country with limited water transport services. It has access to the sea through Mombasa and Dar es Salaam ports in respectively Kenya and Tanzania, neighboring countries. The freight forwarding industry is the lifeline of every country in terms of trade, there can be no trade without freight forwarding and customs clearing. (Wilford et al, 2018). One of the primary objectives of The Rwandan Freight forwarding Association, RWAFFA is promotion of ethical, efficient and professional practice between clearing and forwarding agencies and all other professionals within the freight logistics in the regions. One of the primary missions of The RWAFFA being to facilitate the international import -export trade by providing a body of professional freight forwarding agencies within Rwanda, committed to meeting every client's needs. RWAFFA was established in 2013 to deal with the fragility that was in the clearing and forwarding which worked without defined and professional procedures that led to poor and inefficient practices within the industry.

Logistics performance is strongly associated with supply chain reliability and predictable shipment delivery. When RWAFFA was established back in 2013, the freight forwarding Industry was very fragile: It was characterised by lack of professionalism, clear regulations and to some extent absence of documented procedures to follow. Some of the organisations involved back then were simply briefcase businesses. Although since then, RWAFFA encouraged best practices in the industry and promoted capacity building of its members through professional training with elaborated curriculum as well as high standards of integrity and efficiency in their activities at best, there are still challenges and long way to go for members to become world class competitive companies that provide quality services in the

region and beyond. The industry continues to experience delays and unreliability. Despite the sector dependence on indirect maritime routes that lie outside the domestic supply chain control, the quality of service and the cost and speed of clearance processes are examples of areas where world class competitiveness need to be addressed (LPI, 2018).

There is no previous empirical research that examined the effects of inbound logistics metrics on performance of freight forwarders in Rwanda; therefore the researcher finds this study critical. It is in this regard that the researcher seeks to analyse the effects of inbound logistics metrics in the performance of freight forwarders federation of Kicukiro district, Rwanda.

1.2 Purpose of the Study

The Purpose of this study was to Examine Inbound Logistics metrics in the performance of the Freight forwarding industry in Rwanda.

Research objectives

- i. To evaluate order fulfilment accuracy level of freight forwarders in Rwanda
- ii. To determine the status of on time delivered shipments, in case of freight forwarders in Rwanda
- iii. To analyse the degree of safety for goods handled by freight forwarders in Rwanda.

1.3 Conceptual Framework

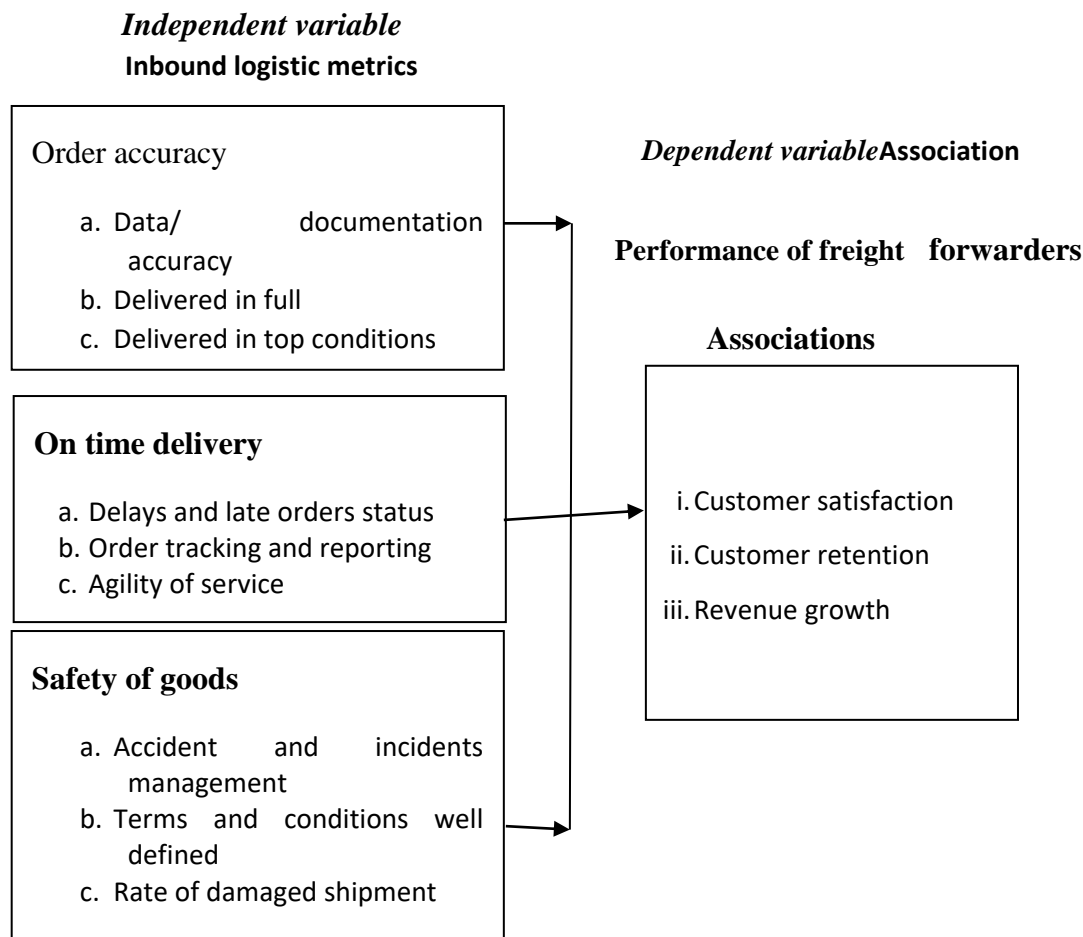


Figure 1: Conceptual Framework

3.0 Research Methodology

In this study, researcher used a descriptive research design with two mixed methods such as quantitative and qualitative approaches. Target population refers to the group of targeted people in which the sample of respondents is drawn to participate in the study (Fleming & Zegwaard, 2018). Target population was 246 employees comprising of 6 staff from RWAFFA Management team, 230 employees from clearing agency firms' members of RWAFFA, and 10 employees from major Importers across Kicukiro district, Rwanda.

The data analysis refers to the process of encoding the data, process them and arrange them in order to give a meaningful interpretation for the research (Fleming & Zegwaard, 2018). Quantitative data were analysed using descriptive statistic and inferential statistical analysis by use of SPSS recent version to generate data with mean and standard deviation to use while taking decision on central tendencies. The Pearson correlation and regression analysis was used to prove the relationship and the effect of inbound logistics efficiency have on freight forwarding industry performance. The inferential statistics involve Pearson correlation (r) and the multiple regression analysis (R) to demonstrate the relationship between the variables of the study.

For the case of Pearson correlation, the r coefficients were determined together with significance level in order to prove the relationship between variables of the study. For the case of regression analysis, the regression model of $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$, where Y represents the dependent variable which is freight forwarders performance, X_1 to X_3 are predictors of the X which is independent variable known as Inbound logistics efficiency, with its predictors which are: on time delivery, order accuracy and safety of goods. The β_0 is constant while the β_1 to β_3 are coefficients of determination on their respective predictors.

4.0 Findings and Discussion

Evaluation of order fulfilment for accuracy level of freight forwarders in Rwanda. The study sought to achieve three objectives namely to evaluate order fulfilment accuracy level of freight forwarders in Rwanda, to determine the status of on time delivered shipments, in case of freight forwarders in Rwanda and to analyse the degree of safety for goods handled by freight forwarders in Rwanda. The study revealed order accuracy, measured by Data / Documentation accuracy, delivered in full and delivered in top conditions as one of parameters of inbound logistic metrics contributed to the performance of freight forwarders association. All these parameters held as important across the institution.

Assessment of the status of time delivered shipments and performance of freight forwarders federation

The second objective of the study is backed by the revelations by the findings that the status of on time delivered shipments in freight forwarders Association in Kicukiro District remained important to avoid issues related to delays and late orders status, increase the order tracking & reporting techniques and allow agility of service. The information collected from the management of RWAFFA also focused costs minimization and increasing delivery in full to bring about customer retentions to reduce challenges affecting performance of RWAFFA, in Kicukiro District, enforcement should be made on time delivery as important parameter of

inbound logistic metrics which leads to customer satisfaction, customers' retention and further leading to revenue growth.

Analysis of the degree of safety for goods handled by freight forwarders in Rwanda

Further safety of goods more specifically the practice of rate of damaged shipments but the safety of goods related accident and incidents management, defining terms and conditions are less advantageous in achieving revenue growth. As indicated for the particular model, the correlation between the on safety of goods and revenue growth is very strong as log-likelihood function value of 1.721 which is not violated.

5.0 Conclusion

From the results of the study, the conclusion is that the inbound logistic metrics were adopted to reduce the damaged shipment in freight forwarding within Rwandan freight forwarders association (RWAFFA) which were very high at 53% and high at 42.20% as indicated in the score assessment. Despite the problem arising within Rwandan freight forwarders association in Kicukiro District such as Inadequate Performance measurement and metrics pertaining to SCM, lack of professionalism, clear regulations and to some extent absence of documented procedures to follow, delays and unreliability, lack of previous empirical research that examined the effects of inbound logistics metrics on performance of freight forwarders. The current success in implantation of inbound logistic metrics was contributed to the performance of freight forwarders federations. The application of inbound logistic metrics remained important such as order accuracy, on time delivery and safety of goods as the current success in implantation within Rwandan freight forwarders association in Kicukiro District.

6.0 Recommendations

From the research conclusion, the following recommendation was provided to the management of RWAFFA in Kicukiro District. These include putting more efforts in applying inbound logistic metrics (order accuracy, on time delivery and safety of goods) more effectively in order to achieve the performance of freight forwarders association. This is the task of management in its assignment as the decision makers to control all resources in the industry. The management of RWAFFA must balance the customers' satisfaction, customers retention and revenue growth with the inbound logistic metrics.

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