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LOGISTICAL INNOVATION ON SERVICE DELIVERY IN 3PL COMPANIES IN KENYA: A CASE STUDY OF SPEDAG INTERFREIGHT LIMITED

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ABSTRACT

Logistics activities have been widely studied and measurement scales have been developed to link logistics with competitive advantage. However, in developing countries, more specifically in Kenya, limited research had been conducted on logistical innovation and service delivery, despite the country experiencing a significant increase in its global Logistics Performance Index (LPI). The study sought to establish the influence of logistical innovation on service delivery in 3PL companies in Kenya. Specifically, the study sought to investigate the effect of Omni-Channels and Green Logistics on service delivery of 3PL firms in Kenya. Regarding this, the study adopted a cross-sectional survey design as it was concerned with analyzing the characteristics of third party logistical entities with regards to logistical innovation. The population of interest for this study was the employees of Spedag Inter-freight limited. The study used stratified random sampling to select a sample size of 51 respondents. Both primary and secondary data was used in the study. Primary data was collected using questionnaires and interviews covering on the influence of logistical innovation on service delivery while secondary data consisted of publications and literature related to logistics and logistics management. Descriptive statistics was used aided by Statistical Packages for Social Sciences Version 24 to compute percentages of respondents' answers. The study found out that Omni-Channels and Green Logistics positively influenced service delivery in 3PL companies in Kenya. In this regard, the study concluded that Green Logistics had the greatest influence on service delivery, followed by Omni-Channels. The study therefore made recommendations that: the 3PL firms in Kenya to fully adopt use of the Omni-channel. This would not only create a seamless customer experience but also adequately improve on the integration of the firm's supply chain operations. Further, all 3PL companies in Kenya to fully measure and control the ecological impact of their logistical activities. This would be important to the company because today's consumers are looking for a 'green' products delivered in a 'green' way. Therefore, minimizing ecological effects is not only going to improve the organization's service delivery but also enhance the 'green' reputation of the organization.

Key Words: *Omni-Channel and Green Logistics*

INTRODUCTION

Unquestionably, innovation plays a critical role in the achievements of various organizations. However, innovation is still a gap in many logistics research (Francisco, & Swanson, 2018). In logistics management literature, innovation is described a services related to logistics that are perceived to be new and helpful to a specific group (Francisco & Swanson, 2018). In contrast, Wagner and Busse (2008) define innovation as 'a subjective novelty which is the result of a conscious management process and which aims at economic exploitation'. Definition provided by both Wagner and Busse and Flint et al are similar on one point. In the logistics context, innovation does not need to be new to the world or new to the market. As long as it is new to a specific client, it can be regarded as innovation. However, in the definition of Wagner and Busse point out that innovation at logistics firms arises from cognizant management processes.

Plenty of companies are looking to expand into East Africa and planning to consider Kenya as their Entry Point. Apparently Kenya is one of the most preferred countries in Africa to do business and is gradually establishing its trustworthy and profitable image on world map (World Bank, 2004). Kenya has comparatively a more conducive business climate than other nations in Africa and has all the needed attributes to experience social and economic transformation. It has highly flexible investment laws and labor regulations that draw the attention of foreign investors. Logistics in Kenya is very much about one type of operation that is operators struggling against various procedural and physical impediments to move goods along the corridor and eventually not too far off (Njoroge, 2016). Having well developed transport system in the country increases logistics efficiency hence enabling logistics bring its advantages into full play.

Despite the country having a conducive environment to improve and increase on its logistical performance, Kenya's logistics performance had deteriorated in recent years. From an overall global ranking of 76th in 2007, it was then 122ndout of 155 countries on the Logistics Performance Index (World Bank, 2013). Although international shipments, infrastructure and logistics competence had improved marginally since 2007, customs, track & trace and timeliness had all declined significantly over the period (World Bank, 2012). While the time to import goods, as well as the number of documents necessary, were comparable to the average in sub-Saharan Africa, the cost to import was significantly higher. Low logistics efficiency was a key concern and business risk for companies importing to or exporting from Kenya as well as the logistics service providers involved (Kenya Shipping Council, 2013).

Statement of the Problem

Logistics is a key enabling sector of the economy. Not only does it contribute to the GDP of a country, but it also substantially impacts on the quality of the manufacturing and service sector. It is estimated that logistics accounts for 10% to 15% of the final cost of a finished product, thereby determining the competitiveness of a country vis-à-vis other world regions (Alliance for Logistic through Collaboration in Europe, 2015). Technological advancement is greatly influencing the manner in which the logistical function is been undertaken. Third party logistical companies must strive to embrace logistical innovation so as to compete in a very aggressive sector.

Logistical activities have been widely studied and measurement scales have been developed to link logistics with competitive advantage and superior firm performance Ribeiro, Kobayashi, Beuthe, Muromachi and Zhou, (2007). The studies found

that logistics activities affect performance with regards to revenue enhancement as well as cost reduction. The use of logistics as a means to create differentiation was also investigated (Waters et al., 2007). This researcher found that logistical function makes a major contribution to corporate strategy and performance and sometimes provides competitive advantage.

Numerous studies have been undertaken in Kenya and other countries relating to logistics, logistical practices and organizational performance in relation to manufacturing entities and also procurement entities. However, in developing countries, more specifically in Kenya limited research has been conducted on logistical innovation and service delivery, despite the country experiencing a significant increase in its global Logistics performance index (LPI) and logistics competence. According to The World Bank (2017) the logistics competence of Kenya has steadily increased from 2.28% in 2010 to 3.24% in 2016.

Therefore, this study aimed to examine the influence of logistical innovation on service delivery in third party logistical companies.

Objectives of the Study

The general objective of this study was to establish the effect of logistics innovation and service delivery practices in 3pl companies in Kenya. Specifically, the study intended to:

- Investigate the influence of Omni-channel on service delivery in 3pl companies in Kenya
- Establish the influence of green logistics on service delivery in 3pl companies in Kenya

LITERATURE REVIEW

Theoretical Review:

Resource-Based View

The resource-based view (RBV) is built upon the theory that a firm's success is largely determined by the resources it owns and controls (Acedo, Barrosa & Galan, 2006). Resources are typically defined as either assets or capabilities. Assets, which may be tangible or intangible, are owned and controlled by the firm. Capabilities are capacity for a team of resources to perform some task or activity. According to Wong and Karia, (2010) an organization must secure an efficient flow of the right type of resources from its environment in order to survive and improve its operational performance.

This theory rests on two key points. First, firm's success is largely driven from resources it possesses and second, that the resources must be rare, valuable, difficult to imitate and non-substitutable by other rare resources to create a competitive advantage (Wong & Karia, 2010). The core premises of the RBV is that resources and capabilities can vary significantly across firms, and that these differences can be stable (Patil, Avittathur, & Shah, 2010). If resources and capabilities of a firm are mixed and deployed in a proper way they can create competitive advantage for the firm (Salim, 2016).

This Theory advices companies to identify the resource gaps and then identifying the resource base (Newbert, 2007). Taking an example of companies that outsource, the reason they outsource is because they lack the valuable rare, inimitable and organized resources and capabilities and hence seek for an external provider to overcome the weakness. A company clearly capable of knowing its capabilities and its weaknesses is the

greatest achievement to its growth (Salim, 2016). This is so because it will start focusing on how to overcome its weaknesses by being more innovative to get the most efficient and effective solution (Nordigarden1, et al., 2015).

Firms develop dynamic capabilities to adapt to changing environments, they develop firm-specific resources and then renew them to respond to shifts in the business environment. According to RBV hiring competitive employees is a strategic decision, which can be used to fill gaps in the firm's resources i.e. capabilities (Seddon, 2014). What makes competitive employees a resource that is rare, valuable, difficult to imitate and non-substitutable is that many firms do not have adequate professionals hence not being fully effective and efficient to providing quality outcome.

According to Ganorakis and Love, (2010), logistics flexibility and efficiency was considered to be a source of competitive advantage. Ownership of specific assets enabled a company to develop a competitive advantage. They also found out that a company's competitive advantage was derived from the company's ability to assemble and exploit an appropriate combination of resources (Ganotakis & Love 2010). In their study, Wong and Karia, (2010), confirmed that, RBV focused on the idea of achieving superior performance and competitive advantage.

RBV had recently been employed in logistics management studies to examine the logistics resources and capabilities on logistics performance (Lai, et al., 2008; Yang, et al., 2009). In this regard, Omni-channels and Green Logistics are the vital resources that most 3PL companies in Kenya seek to acquire. This would not only improve the organizational efficiency and effectiveness but also boost service delivery what would greatly enhance its competitive advantage.

Agency Theory

Agency theory relates to business relationships that consist of a "principal" and an "agent" (Mitnick 2006). An agency relationship arises whenever one or more individuals, called principals, hire one or more other individuals, called agents, to perform some service and then delegate decision-making authority to the agents

Agency Theory explains how to best organize relationships in which one party determines the work while another party does the work. In this relationship, the principal hires an agent to do the work, or to perform a task the principal is unable or unwilling to do (Kudla, & Klaas-Wissing, 2012). Taking an example of Cadbury Kenya who outsource the logistical services from Agility is the agent while Cadbury Kenya ltd is the principal.

Agency theory becomes ineffective when the principal and agent have different goals for example agents are likely to pursue self-interested objectives that deviate and even conflict with the goals of the principal yet, agents are supposed to act in the sole interest of their principals (Siller-Pagaza, Otalora, & Cobas-Flores, 2006). The mechanism for controlling the relationship is the contract between the principal and the agent and, depending on the situation, the contract will be behavior-based or outcome-based (Plambeck, & Gibson, 2010).

The main purpose of the Agency Theory was to separate the main business activity from the sub activities that arise in the day to day operations of a company, for example transportation (Renneboog, Simons, & Wright, 2007). Existence of 3pl companies is to be agents i.e. their sole purpose is to bridge the gap between the clients that is customers and the suppliers/manufacturers. If there was no gap in terms of transportation between supplier and customer then there would be no need for 3pl as they are responsible of

making sure the products get to the desired location at the right time, place and in the right conditions in the eco-friendliest method (Chang, 2017).

Conceptual Framework

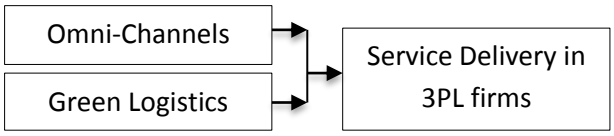

Figure 1: Conceptual Framework

Omni Channels

Businesses are digitally connecting to their customer than ever and this has brought a sense of empowerment to the customers. Omni channel is an integrated model in which all the channels used are aligned offering a similar role to customers and providing a consistent way in the daily operations of the business (Carroll & Guzman, 2015).

Logistics and supply chain capabilities are the backbone of all Omni channels strategies that run across the organization levels (Wyman, 2015). Omni-Channel Logistics unites a complete shipping, logistics and distribution solution and innovative business software including enterprise resource planning, supply chain management, warehouse management systems and transport management systems in its delivery.

On an Omni-channel logistics approach, neither the customer nor the logistic provider distinguishes between channels anymore (Brynjolfsson, 2013; Bell, 2014; Verhoef et al., 2015). There is only one common logistical interface to the customer and distance orders. The shift from multi channels to Omni channels has been justified by the benefits, which has led to increased customer loyalty and profits. Shen et al (2018), states that omni channel, came up due to modern customer demands for a personalized experience and a speedy delivery of service. It makes it possible for customers to buy across all the integrated channels leading to a consistent buying experience. Taufique et al. (2017) identified the two major reasons why shoppers avoid outdoor shopping which include, it is time consuming and the inconvenience of the shopping experience, but can be overcome using Omni channels approach.

Omni channel logistics is completely changing how clients interact with logistics providers. In the current multi-channel environment, customers expect a flawless approach through all shipping channels and through all forms of interaction including on computers, with mobile devices, or at brick-and-mortar locations. 3PLs are expected to offer a consistent, positive experience, where all channels have complete and accurate information. (Blom, Lange, & Hess, 2017).) Omni channels provide a reliable means of meeting customers' expectations while cutting on operations cost.

Green Logistics

Over the last decade, logistic companies have experienced a significant pressure from governments and customers to adopt green processes (Perotti et al., 2010). Demand for advanced logistics services grows as third-party logistics providers are being requested to provide more environmentally sustainable services. On one hand, it provides logistics companies various opportunities, but on the other hand, challenges them and forces to translate green efforts into practice (Evangelista, 2014). Thus, the concept of sustainability, sustainable development and green logistics has become increasingly influential and widely used by third party logistics providers nowadays (Fahimnia, Bell, Hensher, & Sarkis, 2015).

The path to a greener supply chain is often paved with forward looking ideas focused on

environmentally friendly manufacturing, transportation, and distribution processes. A properly executed green supply chain by the 3PL yield both a monetary and public image which are the two biggest benefits a company can achieve, which in turn influences customers' decision on selection of particular logistics service provider (Wolf and Seuring 2010).

RESEARCH METHODOLOGY

The study adopted a cross-sectional survey design using both quantitative and qualitative approaches. The population was employees of Spedag Interfreight Limited. In this case, the study targeted the employees of Spedag Inter-freight. The organization had a total of 300 employees. However, the research only targeted: Import, Export, Declaration and the IT departments; resulting to a total of 51 employees. The study targeted the four departments since these are more experienced and well versed with the logistical activities in regards to service delivery and the impact innovation has had in 3PL.

The researcher further adopted a multiple regression model where service delivery in 3pl companies was regressed against independent variables (Omni- channel and Green logistics). The regression equation was expressed as:

$$\mathbf{Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \varepsilon}$$

Where:
Y = 3PL service delivery
β_0 = Constant (coefficient of intercept)
X_1 = Omni-channel
X_2 = Green Logistics
$\beta_1 \ldots \beta_2$ = Regression coefficient of independent variables
ε = Error term

RESULTS AND FINDINGS

The study sought to establish the influence of logistics innovation on service delivery in 3PL companies in Kenya. Descriptive and inferential statistics revealed that both variables under investigation (Omni-Channels and Green Logistics) influenced service delivery in 3PL companies in From both the descriptive and inferential findings in the study: Green Logistics had the most significant and greatest influence on service delivery in 3PL companies in Kenya followed by Omni-channel.

Omni-channels

According to Carroll & Guzman (2015), Omni channel is an integrated model in which all the channels used are aligned offering a similar role to customers and providing a consistent way in the daily operations of the business. From the descriptive statistics in the study, on average majority of the respondents agreed to the effect of Omni-channels on service delivery in 3PL companies in Kenya with a mean of 4.21 and a standard deviation of 0.20. This was evidence that individuals working in the 3PL companies feels that Omni-channels do influence service delivery in 3PL companies in Kenya.

Inferential statistics on the same revealed that β stood at 0.621 and t was 3.411. This was an implication that there existed a statistically significant high positive correlation between Omni-channels and service delivery in 3PL companies in Kenya. The interview analysis results revealed that enhanced the speed through which the products reached their final consumers and how fast complaints reached the company.

These study findings were in line with an argument made by Wyman (2015) that Omni-Channel Logistics unites a complete shipping, logistics and distribution solution and innovative business software including enterprise resource

planning, supply chain management, warehouse management systems and transport management systems in its delivery.

Green Logistics

According to Fahimnia *et al*. (2015), the concept of sustainability, sustainable development and green logistics has become increasingly influential and widely used by third party logistics providers nowadays. According to Pieters *et al.* (2012), logistics service providers today are taking a variety of approaches to reach environmental sustainability including training the truck drivers to enhance their awareness and monitoring driving speed, using more alternative modes of transportation and biofuels, reducing energy consumption in warehouses, improving loading capacity and avoiding empty hauls. From the descriptive findings in the study, the respondents agreed to the effect of Green Logistics on service delivery in 3PL companies in Kenya with a mean of 4.24 and a standard deviation of 0.22. This was an implication that the employees working in 3PL companies believed that Green Logistics had an effect on service delivery of 3PL organizations in Kenya.

Inferential statistics on the same revealed that β coefficient stood at 0.659 and t at 4.286. It is an implication that there exists a statistically significant high positive correlation between Green Logistics and service delivery in 3PL companies in Kenya. From the interview analysis results, green logistics has majorly improved the image of the company what has an impact on gross profit. These findings concur to findings made by Pieters *et al.* (2012) who established that adoption of green logistics by the 3PL companies has streamlined the supply chain activities. Further, Wolf and Seuring (2010) argued that a properly executed green supply chain by the 3PL yield both a monetary and public image which are the two biggest benefits a company can achieve, which in turn influences customers' decision on selection of particular logistics service provider.

CONCLUSION

The study made a conclusion that, Omni-channels and Green Logistics had a statistically significant positive influence on service delivery in 3PL firms in Kenya. Regarding this, supply of quality products, decrease on customer complaints, customers compliment to the firm and growth in value added productivity were factors of Omni-channels that significantly influenced service delivery in 3PL companies in Kenya. On the other hand, green transportation, green warehousing, implementation of green management systems as well as reverse logistics were the major attributes of green logistics that resulted to its positive influence on service delivery in 3PL companies in Kenya.

RECOMMENDATIONS

- 3PL firms in Kenya to fully adopt use of the Omni-channels. This would not only create a seamless customer experience but also adequately improve on the integration of the firm's supply chain operations.
- All 3PL companies in Kenya to fully measure and control the ecological impact of their logistical activities. This is important to the company because today's consumers are looking for a 'green' products delivered in a 'green' way. Therefore, minimizing ecological effects is not only going to improve the organization's service delivery but also enhance the 'green' reputation of the organization.

AREAS FOR FURTHER RESEARCH

Variables investigated in this study were only able to explain 67 percent of variances of service delivery in 3PL firms in Kenya. In this regard, a similar study on effect of logistical innovations on service delivery should be undertaken and to involve a bigger sample population derived from

across the industry. This would be important in investigating the other factors influencing the remaining 33 percent of service delivery in 3PL firms in Kenya. Further, a longitudinal study should be undertaken to justify and put more weight on the findings made in this study.

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