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ROLE OF FREIGHT FORWARDING ON PERFORMANCE OF PORT OPERATIONS IN KENYA: A CASE OF KENYA PORTS AUTHORITY.

Noor Ismail Shale, PhD[1]

Jomo Kenyatta University of Agriculture and Technology

Okwori Adoyi John[2]

Jomo Kenyatta University of Agriculture and Technology

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ABSTRACT

The role of efficient ports in the socio-economic prosperity of national and regional economies cannot be over-stated. However, their ability to effectively deliver on this role is easily undermined by circumstances in the wider socio-economic context, particularly poor hinterland connectivity. In order to enhance international trade connectivity, many advanced and advancing economies continue to invest significant resources in developing efficient ports and hinterland transport networks. The situation is different in many parts of the developing world, particularly Africa where poor economic connectivity and inefficient gateway ports result in prohibitively high transportation costs. The objectives of this study were; to determine the influence of cost on freight forwarding on port operations in Kenya, to examine the influence of lead-time on freight forwarding on port operations in Kenya, to assess the influence of service quality on freight forwarding on port operations in Kenya and to establish the influence of risk assessment on freight forwarding on port operations in Kenya. The study adopted a cross-sectional survey design using both quantitative and qualitative approaches. The target population of this study was 908 staff working on the ports logistics at that Kenya ports authority. From the study findings, it could be concluded that cost had a positive significant influence on performance of Kenya Ports Authority. It was established that order processing rate and high order fulfilment rate would increase the performance of Kenya Ports Authority and therefore, companies would choose clearing and forwarding services that would help them to improve performance. The study established that cost, lead-time, service quality and risk assessment influence positively performance of Kenya Ports Authority. Therefore, the study recommends that it would be appropriate for management to consider cost, lead-time, and service quality and risk assessment as a criteria of outsourcing clearing and forwarding services for improving performance of Kenya Ports Authority.

Keywords: *port operations, transportation, cost, lead-time, service quality and risk assessment.*

Background of the Study

According to (Bailey et al, 2004), one of the most basic requirements of any organization is to be able to transport or move materials, equipment's and spare parts from one point to another. Material handling is of vital importance and is indicated by the range and high cost of the equipment that each organization have. Handling materials, which is a major activity in storehouse and stockyard is a costly operation and therefore the methods and equipment's should be efficient. Poor handling of equipment's leads to shoddy work making an organization not to handle the required load on time, causing delays, congestions and inefficiencies along the supply chains.

According to (KPA Audit report, 2012-2013) indicated that various freight stations had failed to move 6,000 containers that had been cleared, increasing the pile-up at the port yard to 18,000 Twenty Foot Equivalent Unit (Tues.) against its capacity of 14,500. If the container freight stations (CFSs) move the cargo that is ready, operations will return to normal, but the stations said that KPA had failed to put its equipment to optimal use even as some of them hold up to 2,300 Tues., two times their capacity. The delays at the port is costing importers huge storage charges with containers taking up to 14 days to move from the port to CFSs where most of the domestic cargo is cleared. Importers and clearing agents blame the delay on inefficiency in the freight handling, saying they should be allowed to collect part of the cargo cleared from the port.

According to (Gerald, 2010) the Mombasa Port's facilities are overstretched and under intense pressure leading to complaints from the local clearing and forwarding firms and customers, about Container on container clearance. (Kimani, 2010) reported that KPA unveils new plan to cut red tape at Mombasa port where the commissioner general of KRA blamed the delay to a number of signatures required on the documents which he said were too many and were to be reduced plus port handling equipment breakdown. According to (Stock et al, 2009) for an organization to operate efficiently, "its supply chain activities should flow smoothly to create value to the customers hence it should minimize delays by avoiding poor /outdated equipment's" The operational Audit report of 2011/2012 points out that the current regulatory framework governing operations of the CFSs is not sufficient to ensure quality and standards of services. The pressure to move Containers out of the port area quickly has occasionally led KPA to nominate CFSs without due consideration of their container handling capacities.

Most of them are congested not only due to lack of sufficient and reliable equipment but also because their operators do not exhibit proper planning in receiving staking and realizing. According to (Maundu,2012), reported that though the corporation has good equipment that can support its quayside operations, these machinery are largely unproductive, raising questions about the capacity of the staff. Importers and clearing agents blame the delay on inefficiency in the freight handling, saying they should be allowed to collect part of the container cleared from the port's yard. Agents said it took them five days to clear and move containers from the port while it takes more than five days for any CFS to transfer containers in a vessel. According to (Kenya Shippers report 2011/2012), Mombasa Port's facilities are overstretched and under intense pressure to deliver on its mandate as the best leading port in east and central Africa.

Global Perspective on Freight Forwarding

Due to its nature, a freight forwarding company affects the relation between shippers and consignees and takes over some part of the primary parties' role (Stefansson, 2006). Freight forwarding (freight forwarding) providers' roles differ depending on the level of involvement and the number of outsourced logistics services. Freight forwarding providers play vital role in cost reduction, productivity, profits as well as the improvement of the service quality of their customers and thus become important part of supply chain management and successful logistics outsourcing can provide significant benefits, both, to industries and freight forwarding providers (Vishal, Nitin, Satiish, & Nishant, 2013). The objectives and concerns related to freight forwarding outsourcing are cost reduction, reduction of delivery time, concentration on core competencies, increasing flexibility and concerns are loss of control, dependence on service provider and losing direct customer contact (Vishal *et al*., 2013).

It is widely accepted that the outsourcing of logistics services aims at enabling the creation of strategic and operational value and majority of shippers, that is, 64% are increasingly using freight forwarding (Lucie &Hudziak, 2012). These freight forwarding providers can handle more than 5,000 containers per year and account for relatively for 60% to 80% of the taxes collected by Kenya Revenue Authority in Kenya (Mathenge *et al*., 2011). Most of these freight forwarding providers, offer efficient and effective complete logistics solutions including inbound logistics, warehousing and outbound logistics services to their clients. Today there are two major trends on the freight forwarding market; on one hand shippers are increasingly relying on freight forwarding services and on the other hand they are reducing the number of freight forwarding companies they use (Lucie &Hudziak, 2012). Third-party logistics (freight forwarding) providers are able to take over the supply chain functions of businesses and manage them better in many cases than what the companies can do on their own.

Local perspective on Freight Forwarding

In Kenya, some companies perform their logistics services in house while other companies outsource multiple logistics providers for their supply chain management which is not only costly to run but also cumbersome to manage. As a result, there can be conflicting messages among departments and between the appointing company and the freight forwarding provider, which leads to glitches in integration and can result in the company getting less than full value from the freight forwarding (Vishal *et al*., 2013). Further, several organizations seem indifferent on whether to fully outsource their logistics services to multiple logistics firms, or perform some of the logistics functions in-house or outsource all the logistics services to one larger logistics company or 3PL provider (Vishal *et al*., 2013; Ngonela *et al*., 2014). For companies to be able to survive in today's competitive markets, they must focus on their core competencies and adopt outsourcing as a strategic solution to improve quality of service and reduce costs as well as concentrate on core processes.

Kenya Ports Authority

Kenya Ports Authority (KPA), Mombasa is a state corporation with the responsibility to maintain, operate, improve and regulate all scheduled seaports on the Indian Ocean coastline of

Kenya, including principally Kilindini Harbour at Mombasa. The Port of Mombasa is the gateway to East and Central Africa, and is one of the busiest Ports along the East African coastline. The Port provides direct connectivity to over 80 Ports worldwide and is linked to a vast hinterland comprising Uganda, Rwanda, Burundi, Eastern Democratic Republic of Congo, Northern Tanzania, Southern Sudan, Somalia and Ethiopia by road.

Statement of the Problem

Containerized cargo clearance was evident at the port of Mombasa which was indicated by long clearance period or overstay of received containers at the port for more than 10 -12 days. Ugandan traders decided to revive their Uganda National Trade and Facilitation Forum and form a shippers' council to lobby for the reduction of prohibitive transportation costs emanating from the Northern Corridor which came about as a ripple effect of delays in clearing the containers. The World Bank, in its annual business reports 2012, that ranks economies based on the ease of doing business, rated Kenya low at 133 among 183 economies in the world due to congestion of containers at the port waiting clearance. (Jean, 2012*).*

Containerized cargo clearance throughput flowing the supply chain logistical corridors and handled by the ports has increased overtimes, as is evidenced by doubled ship capacity over the past decades from 1st generation containers to 4th generation and massive investment in capacity and facility upgrade by ports. This phenomenon has stretched the hinterland transport infrastructure leading to congested container flow through the corridors and challenges which arise as a result of not planning ahead. The delay in clearing containers at the port was made worse by infrastructural decay and lack of suitable ship and cargo handling equipment, lack of space/berths for the ships to dock waiting loading among others.

The delays on clearing the containers at the port are costing importers huge storage charges with containers taking up to 14 days to move from the port to container freight stations (CFSs) where most of the domestic cargo was cleared. Kenya's landlocked neighbors' had to factor additional costs into their budgets to put up with a heavily congested Mombasa Port that was run by (KPA) and the frequent breakdowns of the simba system run by (KRA) responsible for containers clearance (Wanjohi, 2012*).* The result ofthis being colossal loss of revenue by government through its agencies such as the Kenya Ports Authority, KPA, and the Kenya Customs Service, Other private sector operators in the chain, especially importers, manufacturers, and transporters also incurred heavy losses, due to delays in container clearance which they eventually passed on to consumers.

The containerized cargo clearance has resulted in artificial shortages, causing prices of various products in the market to rise. This untenable and costly situation has disrupted businesses as they had no access to supplies over the last 4 months due to systems failure, infrastructure, space and cumbersome procedures by port operators. In Kenya, several companies have had to shut down factory operations for lack of raw materials .Other private sector operators in the chain, especially importers, manufacturers, and transporters also incur heavy losses, due to delays in container clearance which they eventually passed on to consumers. Hence the study will fill this gap by fining the role of freight forwarding on performance of port operations in Kenya.

LITERATURE REVIEW

Theoretical Framework

The Principal Agency Theory (PAT)

This theory is based on the separation of ownership and control of economic activities between the agent and the principal. Various agent and principal problems may arise including conflicting objectives; differences in risk aversion, outcome uncertainty, and behaviour based on self-interest, and bounded rationality. The contract between the principal and the agent governs the relationship between the two parties, and the aim of the theory is to design a contract that can mitigate potential agency problems (Herbert *et al*., 2007). The "most efficient contract" includes the right mix of behavioral and outcome-based incentives to motivate the agent to act in the interests of the principal (Logan, 2000). Creating contracts with supply chain partners that balance rewards and penalties, misalignment can be mitigated (Narayanan & Raman, 2004; Baiman & Rajan, 2002).

Balancing the need of the shipper and the capability of the freight forwarding provider is a well-known managerial issue that explicitly implies the risk of agency problems (Hertz & Alfredsson, 2003). The PAT suggests an "inter-firm contracting perspective" on $, focusing on the design of an efficient contract between the buyer and seller of freight forwarding services. The idea is to develop the most efficient combination of outcome and behavioral incentives in the contract between the shipper and the $ provider (Herbert *et al*., 2007). The extent to which the $ provider's performance can be measured and controlled has a great effect on whether the provider is paid by actual performance (e.g. number of orders picked, packed, and shipped to the customers) or according to behavioral outcomes (e.g. salaries, hours, and/or miles). Not all aspects can be covered ex ante in the contract. Therefore, the issue of contracting should be a revisiting issue in freight forwarding relationships (Herbert *et al*., 2007). Thus, the food and beverages manufacturing firms can use the PAT theory to mitigate on freight forwarding risks and achieve the optimal value of the outsourced services from the freight forwarding firms. Because theory provides a useful tool to respond to transaction cost dilemmas through contractual and non-contractual remedies in freight forwarding, it is critical for managers to understand and mitigate freight forwarding challenges associated with behaviour uncertainty, relationship management, collaboration and uncertainty in freight forwarding management.

The Transaction Cost Analysis (TCA)

For a business to choose whether to perform a particular activity, transactional cost analysis becomes very important. The theory uses transaction as the unit of analysis and divides transaction costs into production and co-ordination costs. According to the theory, transaction costs arise at contracting (drafting, negotiation and safeguarding) or at implementation (mal-adoption, haggling and establishment, operational and bonding costs). Decision makers must weigh and compare the costs associated with executing a transaction within their firms (in-house) and outsourcing. The foundations of TCA were laid down by Coase (1937) and were further developed by Williamson (1992; 1994). Fundamentally, TCA suggests that transaction costs related to make or buy decision impact the choice between the firm and the market. The transaction costs analysis helps in deciding whether to perform activity in-house or outsource

from third party. According to TCA, there are five determinants of transaction costs, namely transaction frequency, asset specificity, uncertainty, bounded rationality, and opportunistic behavior.

Transaction frequency is how often the parties involved in a contract interact. Asset specificity refers to the idiosyncratic investments in a partnership that cannot be re-deployed such as training and special equipment. Uncertainty may be further divided into environmental uncertainty and behavioral uncertainty. Environmental uncertainty refers to circumstances surrounding an exchange that cannot be specified ex-ante and behavioral uncertainty refers to the difficulty in verifying whether compliance with established agreements has occurred (Yazdanparast, Manuj & Swartz, 2010). Bounded rationality means that decision makers have a constraint on their cognitive capabilities (or have limited information processing ability) and limits on their rationality. Opportunism states that given the opportunity, decision makers may unscrupulously seek to serve their self-interests and it is difficult to know a priori who is trustworthy and who not (Yazdanparast et al., 2010) is. From the viewpoint of resources and time investments in a relationship, the characteristics of a transaction can help us in identifying the mode of governance.

However, development of close and enduring inter-organizational ties such as through information sharing and joint planning has been suggested as a substitute for vertical integration (Palay, 1984; Noordewier *et al*., 1990; Payan, 2007). Development of close relationships is particularly significant consideration in a freight forwarding context because there is growing trend toward outsourcing of freight forwarding services and users of outsourced freight forwarding services want to maintain tight relationships with providers so that they do not lose touch with their end customers. In addition to vertical integration, TCA has been employed to investigate vertical inter-organizational relationships (Heide & John, 1992; Sriram *et al*., 1992) and horizontal inter-organizational relationships (Gates, 1989; Osborn & Baughn, 1990; Parkhe, 1993). This is interesting because freight forwarding service provider may be playing both roles in a relationship.

By reducing the supplier base of transport firms and entering into close and long-term cooperation with a few key operators, a firm may reduce the transaction costs related to collecting information about numerous suppliers, the costs of negotiating and writing a contract, and the enforcement costs after the negotiation of a contract (Payan, 2007; Herbert *et al*., 2007). However, close cooperation also involves the risk of opportunistic behavior. Therefore, it might be necessary to incorporate "safeguards" and "credible commitments" into freight forwarding agreements, such as penalty clauses related to poor delivery performance, joint investments in dedicated warehouses or equipment, joint training programs, and exchange of employees between the firms (Herbert *et al*., 2007). Therefore, this theory was relevant in providing understanding to managers of food and beverages manufacturing companies in Kenya because they can refer to it to make effective outsourcing decisions for freight forwarding providers.

Empirical Review

A study by Yazdanparast *et al*. (2010) on freight forwarding service value through the theoretical lens of service-dominant logic with a focus on the creation of freight forwarding value jointly by the provider and the customer found out that, the process of co-creation of value in a freight

forwarding context has three phases: learning, innovation and execution, and outcomes. These phases and their key elements are integrated into a comprehensive framework of co-creation of freight forwarding service value. A total of 12 propositions were offered to describe the process for achieving competitive advantage through co-creation of freight forwarding service value.

A study by Vishal *et al*. (2013) on third party logistical obstacles in manufacturing industries revealed that, third party freight forwarding provider‘s plays vital role in cost reduction, productivity, profits as well as the improvement of the service quality of their customers and thus become important part of supply chain management. Successful freight forwarding outsourcing can provide significant benefits, both, to industries and third party freight forwarding providers. The outsourcing of freight forwarding activities, manufacturing industries can save on capital investments, and. reduce financial risks. The objectives and concerns related to freight forwarding outsourcing are cost reduction, improvement of delivery time, achieving quality service, risk assessment, concentration on core competencies, increasing flexibility and concerns are loss of control, dependence on service provider, losing direct customer contact. The main challenges for freight forwarding services providers are to maintain relationship with customers at the same time to earn profits under price pressures from customers also delivering the services in different geographical regions. Third party freight forwarding providers have an opportunity of growth in technology, management solutions, IT sectors and the Physical Services such as Freight carriage. As far as Indian manufacturing industries are concerned, there is wide scope for freight forwarding service providers to earn the maximum profit along with satisfying customers need.

A study by Ngonela *et al*. (2014) on the drivers and practices of freight forwarding outsourcing practices among tea processing firms in Bomet County found out that the firms use several freight forwarding outsourcing practices with own or in-house transport being the most common. All the tea processing firms that were surveyed outsourced some of their freight forwarding functions though at varying degrees. Freight forwarding outsourcing among the tea firms was most prevalent in operations such as warehousing, fleet management, fleet operations, transport and distribution. The study concluded that there exists a drive towards the use of freight forwarding outsourcing as a strategy to reduce costs, to pursue core business activities, reduce risks and gain competitive advantage. The survey also established some of the challenges faced by the firms as they moved to outsource their business activities; these included loss of control of the activities, loss of employee loyalty, industrial unrests, switching costs, loss of information to competitors and resistance to change by the stakeholders.

Forrest *et al.* (2008) in their study on the role of a third-party freight forwarding provider revealed that with the increasing focus of business expansion into the global market, companies need to have an extremely lean, efficient supply chain to achieve successful integration into new markets. Third party freight forwarding providers can assist companies to cut operational costs and focus on core competencies. The study further established that there are many advantages for outsourcing freight forwarding services to third parties as the amount of services being offered by freight forwarding providers continues to grow each year. The study also revealed that freight forwarding are becoming involved in the long-term strategic direction of their client companies. The key to successful outsourcing of freight forwarding services lies in finding a freight forwarding provider that has the most strategic fit with the company’s goals.

Nemoto and Tezuka (2002) in their study on advantage of third party freight forwarding in supply chain management revealed that joint usage of SCM and freight forwarding should be promoted because of their positive interactive effects. When firms intend to introduce SCM, it would be beneficial to outsource freight forwarding activities and utilize a freight forwarding provider. However, the study could not fully clarify the relationship between e-freight forwarding usage and the e-manufacturer or e-retailer because of lack of IT integration systems and its implications on SCM and freight forwarding, partly owing to insufficient experiences.

Lucie and Hudziak (2012) in their study on addressing quality problems in freight forwarding processes, it was revealed that as a consequence of technology developments and globalization, shippers are increasingly outsourcing their freight forwarding activities to third party freight forwarding providers whose activities efficiency and effectiveness are responsible for the success of shippers' business. At the same time, shippers decrease the number of freight forwarding they use making the competition tougher for freight forwarding providers. To enable freight forwarding to stay competitive, the study revealed that freight forwarding can improve their customers' satisfaction by studying their operational processes from a Lean perspective. Further, the research showed that Lean is applied in manufacturing and service environments to enable decrease operational costs and increase customer satisfaction.

Research Methodology

This study adopted a descriptive survey design. The target populations of this study was 908 employees working in procurement, freight forwarders, ICT and Customs department at the Kenya Ports Authority. The sample size was 116 employees working in procurement, freight forwarders, and ICT and customs department at the Kenya Ports Authority. The study used primary data. The researcher administered the questionnaire individually to the selected sample. The descriptive statistical tools (SPSS Version 20 and Excel) helped the researcher to describe the data. The Likert scale was used to analyze the mean score and standard deviation. Correlation analysis was employed for analysis.

Research Findings And Discussion

Correlation of Study Variables

From the study findings, it showed that there was a strong positive correlation (0.765) between risk assessment and performance. Concerning lead-time, the study observed that there was a strong positive correlation (0.756) between lead-time and performance of Kenya Ports Authority. Based on service quality, the study revealed that there was a positive relationship between service quality and performance of Kenya Ports Authority. Finally on cost, the study revealed that there was a positive correlation between cost and performance of Kenya Ports Authority. These results concurred with the study of Wilding and Juriado (2004) who observed that logistics outsourcing offers many cost-related advantages such as reduction in asset investment (turning fixed cost into variable), labour and equipment maintenance costs. Third party logistics providers serve multiple customers and are able to utilize capacity better and spread logistics costs, thus achieving economies of scale (Langley, 2015) as shown in Table 4.22.

Correlation of Study variables

Variables		Performance	cost	Lead time	Service quality	Risk assessment
Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	74				
Cost	Pearson Correlation	.600**	1			
	Sig. (2-tailed)	.000				
	N	74	74			
Lead time	Pearson Correlation	.756**	.496**	1		
	Sig. (2-tailed)	.000	.000			
	N	74	74	74		
Service quality	Pearson Correlation	.741**	.282*	.423**	1	
	Sig. (2-tailed)	.000	.015	.000		
	N	74	74	74	74	
Risk assessment	Pearson Correlation	.765**	.475**	.381**	.411**	1
	Sig. (2-tailed)	.000	.000	.001	.000	
	N	74	74	74	74	74

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

*. Correlation is significant at the 0.05 level (2-tailed).

Multiple Regression Analysis

The regression analysis showed a strong relationship, R^2=0.632 which showed that 63.2% of change in performanceof Kenya Ports Authority can be explained by a change of one unit of all the predictor variables jointly. This is shown on Table 4.38.

Model Summary[b] of overall regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.798[a]	.637	.632	.16532

a. Predictors: (Constant), Risk assessment, Lead time, cost, Service quality

a. Dependent Variable: performance

This result indicated that predictor variables such risk assessment, lead-time, cost and service quality affects the performanceof Kenya Ports Authority positively. This result concurred with the study of Vishal *et al*. (2013) that the success of manufacturing organizations majorly relies

on the efficiency and effectiveness of their logistics performance in controlling cost, reducing delivery lead times, sustaining quality and achieving customer satisfaction. Further test on ANOVA showed that the significance of the F-statistic (24.007) is less than 0.05 since p value, p=0.00, as indicated in Table 4.39.

ANOVA[a] of overall regression model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.197	4	5.549	24.007	.000[b]
	Residual	15.949	69	.231		
	Total	38.146	73			

a. Dependent Variable: performance
b. Predictors: (Constant), Risk assessment, Lead time, cost, Service quality

This implied that there was a positive significant relationship between independent variables and performance of Kenya Ports Authority. Thus, risk assessment, cost, service quality and lead-time are important factors when outsourcing logistics activities. These study findings corresponded with the studies of Vishal *et al*. (2013); Ngonela *et al*. (2014) and SoonHu (2010) that in the competitive and dynamic environment, clearing and forwarding companies are looking for ways of enhancing efficiency and productivity, reducing cost, ensuring timely delivery, improving service quality and risk assessment which remains a challenge to clearing and forwarding companies in maintaining their competitive edge. Finally, the estimated multiple regression model to estimate performance was indicated in Table 4.20.

Coefficients[a] of overall regression model

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.141	.056		2.503	.015
	Cost	.275	.080	.387	3.423	.001
	Lead-time	.395	.093	.537	4.235	.000
	Service quality	.550	.104	.665	5.268	.000
	Risk assessment	.360	.090	.441	3.999	.000

a. Dependent Variable: performance

Performance of companies= $0.141 + 0.275X_1 + 0.395X_2 + 0.55X_3 + 0.360X_4$
Where;
0.141=constant
0.275=Cost
0.395=Lead-time
0.55=Service quality
0.36=Risk assessment

The coefficients $\beta_{1=}$ 0.275, β_2= 0.395, β_3=0.55 and β_4=0.36 are significantly different from 0, with p values 0.001, 0.000, 0.000, and 0.000 respectively, and are less than p=0.05 as summarized in Table 4.40.CHAPTER FIVE

Influence of cost on the performance of Kenya Ports Authority

Cost was one of the determinants used to measure the performance of Kenya Ports Authority. The study used transactional cost and logistics providers' cost as indicators. Based on the study, it was found out that transportation and distribution costs, customs clearance, document processing, freight forwarding, tracking and tracing affected performance of Kenya Ports Authority. However, these costs are regarded as transactional costs and they provided a major guide to decision when Kenya Ports Authority outsource clearing and forwarding services. Thus, Kenya Ports Authority outsource logistics activities when transactional costs of producing in-house are higher and that outsourcing of logistics activities from 3PL would increase the company's profitability.

In addition, the study revealed that agency or administrative fees, handling and processing fees affected the performance of Kenya Ports Authority. Therefore, Kenya Ports Authority would outsource clearing and forwarding services whose administrative, handling and processing fees are relatively lower in order for them to break-even and eventually increase profit margins. Finally, it was revealed from study that there was a positive correlation between cost and performance of Kenya Ports Authority. Kenya Ports Authority considered cost as a key factor in decision making when selecting clearing and forwarding services. If Kenya Ports Authority do not select the right 3PL partner, there is a great possibility of cost escalation which adversely affects the overall performance of the company.

Influence of Lead-Time on the Performance of Kenya Ports Authority

Based on the study, lead-time was measured using on-time delivery and delivery reliability indicators. It was established that order processing rate and high order fulfilment rate would increase the performance of Kenya Ports Authority and therefore, companies would choose clearing and forwarding services that would help them to improve performance. Likewise, the study found out that inventory replenishment affected performance of Kenya Ports Authority. Inventory assists companies to prevent stock outs, stabilize prices and increase sales volume. Thus, Kenya Ports Authority would outsource clearing and forwarding services whose inventory replenishment rate is high.

In addition, the study observed that delivery speed, delivery to location and delivery planning affected performance of Kenya Ports Authority. Hence, companies would consider delivery speed, delivery to location and delivery planning as a way of reducing lead-time thereby increasing their performance. Companies would make decisions to outsource clearing and forwarding services whose delivery speed is high and who can deliver to the required destination on time as planned. Also, from the study findings it was observed that there was a strong positive correlation between lead-time and performance of clearing and forwarding companies in Kenya. This was an indication that Kenya Ports Authority considered lead-time when outsourcing logistics activities. Logistics providers whose lead-time is short are given high consideration while those with low performance rate are avoided. Therefore, lead-time reduction can be viewed as a coordination enabler in supply chain in enhancing the overall performance of Kenya Ports Authority.

Influence of service quality on the performance of Kenya Ports Authority

The study used service quality as one of the predictors on the performance of Kenya Ports Authority. The study used reliability and responsiveness as indictors. From the study findingsit was noted that, timeliness, consistency and accuracy of service delivery affected performance of Kenya Ports Authority. Therefore, Kenya Ports Authority outsource clearing and forwarding services who are capable of providing timely and accurate services. Also, the study observed that willingness to help customers, offer prompt services to the customers, flexibility of service delivery affected performance of Kenya Ports Authority. Attention to service quality can differentiate an organization from another and thus gain competitive advantage.

Moreover, the study revealed that there was a positive relationship between quality service and performance of Kenya Ports Authority. Service quality is commonly noted as a critical prerequisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Therefore, Kenya Ports Authority consider quality service in decision making for outsourcing clearing and forwarding services.

Influence of risk assessment on the performance of Kenya Ports Authority

With regard to risk assessment, the study used risk identification and risk measurement as indicators. Based on the results it was found out that, delay in logistics service delivery and logistics service provider capacity affected performance of Kenya Ports Authority. This is because delay of logistics service might cause shortage of essential materials required in production process and therefore Kenya Ports Authority considered risk identification when selecting clearing and forwarding services. Also, Logistics service providers who are capable of meeting supply expectations of the companies are put into consideration. Similarly, logistics provider system was identified as a strategy of mitigating risk. Thus, care should be taken since some strategies may adversely introduce risks in other areas. Moreover, the study showed that loss or damage of assets or goods, interruptions of service levels, loss of income and liability incurred affected performance of Kenya Ports Authority. Therefore, risk may cause loss of or damage to assets, loss of income, interruption of service levels, cost overruns, schedule delays, poor process performance, and liabilities incurred and damage repair costs or injuries.

Finally, the study showed that there was a strong positive correlation between risk assessment and performance Kenya Ports Authority. This was an indication that risk assessment is an important aspect when outsourcing logistics activities. Therefore, Kenya Ports Authority considered risk assessment of clearing and forwarding services before outsourcing logistics activities. Through risk assessment, logistics outsourcing can be seen as a way of reducing a company's risk by sharing it with suppliers or service providers. Investment in logistics equipment and networks always incorporates a great deal of risks and therefore, it is better for a company to outsource than invest.

Conclusions

From the study findings, it could be concluded that cost had a positive significant influence on performance of Kenya Ports Authority. The study showed that transportation and distribution costs, customs clearance, document processing, freight forwarding, tracking and tracing affected performance of Kenya Ports Authority. Thus, these costs are regarded as transactional costs and they provide a major decision when Kenya Ports Authority outsource clearing and forwarding

services. Hence, Kenya Ports Authority outsource logistics activities when transactional costs of producing in-house are higher than outsourcing same service. Further, agency or administrative fees, handling and processing fees affected the performance of Kenya Ports Authority. Therefore, Kenya Ports Authority would outsource clearing and forwarding services whose agency or administrative fees, handling and processing fees are relatively lower in order for them to break-even and increase overall performance of the company.

Equally, from the study it could be concluded that lead-time had a strong positive correlation in the performance of Kenya Ports Authority. It was established that order processing rate, high order fulfilment rate, inventory replenishment, delivery speed, delivery to location and delivery planning would improve the performance of Kenya Ports Authority and therefore, companies would choose clearing and forwarding services that would help them to improve their performance.

On service quality, the study concludes that there was a positive relationship between quality service and performance of Kenya Ports Authority. The study revealed that timeliness, consistency and accuracy of service delivery, willingness to help customers, prompt services to the customers and flexibility of service delivery affected performance of Kenya Ports Authority. Therefore, Kenya Ports Authority outsource clearing and forwarding services who are capable of providing timely and accurate services. Thus, attention to service quality is critical and should be considered by an organization to make it different from other organizations and gain a lasting competitive advantage.

Finally on risk assessment, the study concludes that there was a strong positive correlation between risk assessment and performance of Kenya Ports Authority. This was an indication that risk assessment was an important aspect when selecting clearing and forwarding services. Therefore, Kenya Ports Authority considered risk assessment of clearing and forwarding services before outsourcing logistics activities. Also, the study concluded that delay in logistics service delivery and logistics service provider capacity, logistics provider system, loss or damage of assets, interruptions of service levels, loss of income and liability incurred affected performance of Kenya Ports Authority. Thus, through risk assessment, logistics outsourcing can be seen as a way of reducing a company's risk by sharing it with suppliers or service providers.

Recommendations

The study established that cost, lead-time, service quality and risk assessment influence positively performance of Kenya Ports Authority. Therefore, the study recommends that it would be appropriate for management to consider cost, lead-time, and service quality and risk assessment as a criteria of outsourcing clearing and forwarding services for improving performance of Kenya Ports Authority. Also, the study recommends that companies should only perform in-house logistics activities where the cost is lower than outsourcing from clearing and forwarding services because cost directly affects the overall performance of the company. In addition, the study recommends that Kenya Ports Authority should outsource logistics activities from clearing and forwarding services who assist them to reduce their delivery lead-times such as high order processing rate, high order fulfilment rate and high delivery speed. Further, the study recommends that Kenya Ports Authority should consider outsourcing clearing and

forwarding services who are capable of providing timely and accurate services as this would enable companies to improve service quality. Hence, service quality could make companies differentiate themselves from the others and gain competitive advantage and thus improve their overall performance. Lastly, the study recommends that Kenya Ports Authority should conduct risk assessment when outsourcing clearing and forwarding services. Through risk assessment, Kenya Ports Authority can reduce company's risk by planning, mitigating and sharing with service providers.

Clearing and forwarding companies in Kenya play a vital role towards attainment of Vision 2030 and therefore, study recommends that the policy makers such as the Government of Kenya, Kenya Ports, Kenya Bureau of Standards and Kenya Association of Manufacturers should partner to ensure that policies that regulate manufacturing sector are harmonized. These policies include: importation guidelines, customs tariffs, quality standards, licensing and infrastructure. In overall, these policies affect cost of goods and services, lead-time, service quality and risk of doing business transactions and therefore the study recommends that clearing and forwarding services should be incorporated in policy formulation.

Clearing and forwarding companies in Kenya have been experiencing problems in the performance of their production and operations management and therefore this study recommends that community and other clearing and forwarding companies that they should outsource clearing and forwarding services as a strategy of improving companies' performance. In determining the 3PL provider to select, cost, lead-time, service quality and risk are vital because they contribute to the performance of a company.

Areas for further research

The study was confined to a literature review that only proposes cost, lead-time, service quality, risk assessment and the theories that support these four variables. Thus, empirical work that actually demonstrates the whole of performance of Kenya Ports Authority is beyond the scope of the four variables identified in the study. Therefore, similar study should be conducted using different variables to establish which other variables affects the performance of Kenya Ports Authority. Similarly, the data was collected from a single sector of manufacturing industry in Kenya. There are various sectors of clearing and forwarding companies in Kenya such as building, construction and mining; chemical and allied; energy, electrical and electronics; leather and footwear; metal and allied; motor vehicle and accessories; paper and board; pharmaceutical and medical equipment; plastic and rubber; textiles and apparels; timber, wood and furniture; service and consultancy. Thus, informant representatives of participating Kenya Ports Authority may be biased. This study recommends a similar research to be conducted from multiple informants groups of manufacturing sectors to come up with a variety of outcomes.

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