

ROLE OF TRANSPORT IN SUPPLY MANAGEMENT A CASE STUDY OF SAFARICOM LIMITED

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ABSTRACT

The overall objective of this study was to study the role of transport in supply chain management at Safaricom limited. The population of the study consisted of all Safaricom employee with the sampling framework comprising of 53 staff of supply chain department. The study was descriptive in nature both primary and secondary data collection method were used. Primary data was collected from a sample of 32 stratified randomly selected employees from Safaricom company limited department of purchasing and supply department. The study major findings were; Majority of 87 % of respondents indicated that cost of transport affected the supply chain to a great extent; they further noted that transport cost deviated significantly from the budget expenditure on transport. Majority of (40 percent) reported that deliveries were delayed by one day, 27 percent indicated that deliveries had a few hours delay while only a small minority of 13 percent of respondents indicated that deliveries delayed always. Respondents confirmed that timeliness of transport affected quality of goods and services to a very great extent (53%). The study majority of respondents reported that transport in the company was somewhat reliable and reliable respectively a strong contradiction was noted where 63 % respondents reported that reliability of transport instruments affected the supply chain very much.

Keywords: *supply chain management, transport, telecommunication, procurement.*

Introduction

A supply chain is the sequence of all activities which involves procurement of primary raw materials, producing and delivering of products to the final customer. The supply chain constitutes a number of elements: transport, distribution, retailers, wholesalers and customers in an integrated form, (Tan *et al.*, 1999). Companies are attempting to link with suppliers and customers only to find that the relationship unravels due to problem of transportation. An effective and efficient purchasing and supply function in organisations depends on management's efforts to eliminate or reduce transport, (Zeng and Rossetti, 2003).

Development and maintenance of physical infrastructure are key to economic growth. Production costs, creation of employment, access to markets, and investment depend on the quality of infrastructure, especially transport. Road transport is the most widely used means of

transportation in Africa. The fragmentary nature of the railway system and the limitations imposed on the scope of inland water transport by geographical factors mean that transport of people and freight by rail and inland waterways has to be supplemented, usually by road transport over long distances (IMF, 2004).

Statement of the Problem

Transport is the life-blood of the twenty-first century economy. Without the movement of goods and people on land, on water and in the air life as we know it would cease to exist. Both the movement of goods and people have shown long-term growth. The efficiency of transport services and the availability of reliable infrastructure and technology, as well as transfer and transit times are crucial elements of a transport chain and can impact on location, partner and investment decisions (Commission Expert Group on Transport and the Environment, 2000).

Safaricom being the leading telecommunication company in Kenya and being the most profitable in East Africa has drawn huge interest among academicians and other firms. The company thus has had to act soberly in all its dealings as the aggressive competitors fight to get a niche of the telecommunication market in Kenya. The Safaricom supply chain is one of the firms with the largest networks currently in Kenya. The telecommunication products and services in which Safaricom deals in require that they be delivered in time to enable customer satisfaction. Safaricom requires timely delivery of scratch cards and also of its technicians whenever there is a problem. However transport industry in Kenya is not a smooth affair due to various reasons which include the poor state and inadequate transportation infrastructure e.g. poor roads and unreliable rail system. This in turn leads to the endemic traffic jams which lead to delays in delivery of goods and services. It is against this background that the study was conceived since only limited studies on this area have been conducted. The study sought to examine the role and effect of transport of supply chain in Safaricom Kenya limited.

Literature Review

Role of Transport in Supply Chain Management

Given this background what does this mean for the management of transport? How should transport be managed within the overall integrated supply chain environment? Transport can be defined as “the physical link connecting the fixed points in a logistics supply chain” (Coyle et al., 2003) and hence is a key integral process in contributing to the overall goal of successful supply chain management; the planning and control of material flow, to delivery of superior value to the end customer (Christopher and Towill, 2000). Stank et al. (2001) confirm that “benefits accruing from world class operations at the points of supply are pointless without the accompaniment of excellent transport planning and execution”. They go on to portray the critical role of transport in the supply chain as a cog in an interlocking set of supply chain gears or wheels. It is vital that all supply chain processes provide excellence in terms of optimised value and therefore it is critical that transport plays its proper role in terms of cost and service provision, rather than being seen as potentially the weakest link. Importantly, however, as we will develop later, as a mobile asset transport has the flexibility to potentially serve more than

one supply chain and therefore Stank et al.'s image of transport an interlocking gear in one value chain can be extended to indicate its potential wider value.

Overview of Transport in Kenya

Kenya has experienced rapid growth in the transport industry since independence. This has proved to be essential not only for the domestic economy but also to serve the landlocked countries in Eastern Africa. However, the transport infrastructure network has deteriorated significantly in the past decade owing in part to the suspension of donor funding to Kenya for this purpose (www.krb.go.ke).

The network has also suffered from a long and cumbersome procurement process for construction, maintenance and rehabilitation of public infrastructure coupled with poor and compromised quality of work as a result of corruption. The quality and efficiency of the transport network have fallen leading to less predictable service delivery. Lengthy delays, breakdown of transport equipment, and closure of sections of the transport networks along the major transport corridors occur on a daily basis.

The responsibility for road infrastructure is dispersed among different government ministries, departments and levels of government, with the Ministry of Roads and Public Works responsible for the classified roads, and the Ministry of Local Government, through various local authorities, responsible for urban and rural roads (Aligula, 2006).

The existing institutional framework has many players who are not linked optimally. Kenya's road network has greatly deteriorated in the last decade. In addition to poor and deteriorating road conditions in the urban centres, there is a lack of other road infrastructure facilities such as footpaths for pedestrians to make walking safer, separate lanes for cyclists or non-motorised transport modes (NMTs), or flyovers and bypasses to ease traffic congestion. Although local authorities are expected to be responsible for the provision and maintenance of urban infrastructure, including roads, nearly all of them have been experiencing critical financial constraints, poor resource management and lack of quality personnel in specialized areas.

The government is aiming to reduce the length of road network classified in bad condition by 23 per cent by 2007. The projected implementation activities include construction and rehabilitation of key road links and networks under the Roads 2000 Programme; rehabilitation of rural roads and reconstruction of 150 km of trunk roads per year, and concessioning of up to 1 200 km of trunk roads by 2007 (Central Bank of Kenya Annual Report 2007).

Transport and Modern Supply Chain Management

It is important to underline at the outset that the optimisation of transport at the expense of other logistics activities is not necessarily the aim. The goal should be to optimise the value of the supply process as a whole, not just transport. Transport should consequently be managed within the context of the supply chain setting and therefore it is important that initially an understanding of the characteristics of modern supply chain management is established.

Transport is often therefore managed as a commodity, where purchasing is focussed on transactional rather than a partnership (contemporary) approach. This can be represented in a simple diagram of an integrated supply chain between a buyer and seller which highlights typical

collaborative links between buying and selling partners, such as the promotion of collaborative planning, forecasting and replenishment (CPFR) in the grocery sector (Ireland and Bruce, 2000) but fails to factor in integrated transport management.

Collaboration in transport management is, therefore, proposed to overcome some of the inherent inefficiencies which are invariably in the transportation process to provide superior, order winning performance.

Costs associated with transportation of Goods and Services

Aggressive competition and expansion of geographical markets have forced manufacturers and producers to focus on integrated production and transport logistics strategies in order to reduce costs, and at the same time, to obtain a higher service standard. The need to control the transport costs has become as important as the need to keep down other production costs. The emergence of reliable and competitive door-to-door multimodal transport services can contribute to, and foster, new trading opportunities as well as increased competitiveness (Bertazzi et al., 1997).

The competitiveness of products is greatly influenced by various factors, which build up the overall transportation cost. The cost associated with the physical transfer of the goods is an essential piece of information in the negotiation of an international trade transaction (Bertazzi et al., 1997). Transit time is also an important element as goods in transit cost money (Tyworth and Zeng, 1998). Uncertainty in cost quantifying (direct as well as indirect) is another issue faced by traders that might disadvantage an exporter (ESCAP, 1997). The above-mentioned considerations indicate that trading opportunities can benefit from better-organised transport services such as integrated multimodal transport.

Cox (2004) notes that activities which incurs too much cost in the process of adding value leads to customer's dissatisfaction and presumably loss of sale (Cox 2004). Freight transport is clearly one such activity and it is argued that a collaborative approach is often capable of providing superior value to more traditional purchasing and supply methods for transport provision.

Transport purchasing is not unique, but it presents special challenges. Transport spans several business functions and can have vast business impact. Transport cost is normally defined as freight charges; however costs arising from carrying inventory in-transit, customer service fulfilment and production planning give transport cost a new dimension. The freight charges themselves could be the least of these cost elements.

Transport purchasing and management does not often fall into any business function. There are many examples where transport purchasing is performed by the dispatchers, the finance department, the inventory manager or the operations foremen. Whyte (1993) emphasises the need for increased professionalism of transport purchasers.

However, despite its apparent importance in terms of both cost and service, Potter (2005) notes that transport is more commonly treated as a discrete process and as “a derived demand, where costs have to be minimised within the constraints imposed upon it by the supply chain”. He quotes, Quinn (2000) who, in his article “Transportation: the forgotten factor”, suggested, “The focus of supply chain management research has neglected transport management”.

Timeliness

Parasuraman et al. (1994) defined service quality as being the outcome measure of effective service delivery, and conceptualised it as occurring when customers receive service that is superior to their expectations. The delivery of high service quality strengthens corporate brands and contributes to consumer satisfaction (Bienstock et al., 1997).

Increased degree of intensity of interaction between people (clients and service providers like employees) and other resources also requires that several aspects of the production and delivery processes are adjusted. Because the employee directly represents the company, he or she must have good interpersonal skills and present a positive image to the customer. In addition, high interaction employees will have to be adaptable, and master the “arts” of listening, comprehending and adequately responding to customers' information and requirements. Thus, proper employee training in these activities is crucial. Whether producing a value package more closely resembling a service or a good, these employees need training to consistently perform within specifications, and to adequately self-inspect their work to understand whether it is acceptable before it is released to the customer, who may or may not be present for the production and delivery processes (Berry, 1980).

Transport is a commodity; there are many providers and the market is competitive. There are differences in service quality but essentially the outcome of the service is easy to define: to move products from origin to destination (Grant, 2007). Conditions such as transit time, on-time delivery, etc. may be added through a service specification. By specifying critical aspects of the service, it can be treated as a commodity. Quotations from different providers can thus be compared on a like-for-like basis, which increases purchasing power.

As the importance of effective management of the supply chain has gained recognition in many firms, and customers have become increasingly demanding of suppliers, delivery performance has become a foundational metric of success. In addition, as the global reach of any supply chain expands, the more complex systems are needed to manage across different cultures, technical standards and regulatory requirements, not to mention greater physical distances. When difficulties with delivery performance are present, problems tend to cascade quickly forward through the supply chain. Management historically has responded with an increase in buffering, including additional inventory or expanded lead times, which increases cost and hurts customer responsiveness.

Sutherland (2003) identifies a range of these inefficiencies which they list under shippers (the buyers of transport) and carriers (the transport providers). For shippers they include high transport costs, poor on time performance, long cycle times, and high inventory costs. For carriers they are empty deadhead miles, unproductive waiting time and lack of critical network mass. Interestingly, many of these inefficiencies are obscured from normal customers of transport who incorrectly believe that by just using the forces of demand and supply and awarding contracts to low cost bidders they are optimising the transport contract (Sutherland 2003).

While delivery performance is generally recognised as important, a review of the literature identified few attempts to empirically assess the extent to which supply chain factors impacted

performance. Brown and Vastag (1993) suggested that the lack of literature was, in part, reflective of the fact that delivery is the culmination of a whole set of upstream operations and managerial decisions. In addition, downstream operations, such as poor transport arrangements can negatively influence delivery performance. Thus, rather than consider delivery performance from the isolated perspective of a single manufacturer, explicit recognition is needed of the upstream and downstream supply chain (Brown and Vastag 1993).

Supply Chain Management

The traditional view of supply chain management is to leverage the supply chain to achieve the lowest initial purchase prices while assuring supply. Typical characteristics include: multiple partners; partner evaluations based on purchase price; cost-based information bases; arms-length negotiations; formal short-term contracts; and centralized purchasing. Operating under these conditions encourages fierce competition among suppliers, often requiring playing one supplier against the others, and uses rewards or punishment based on performance. The fundamental assumption in this environment is that trading partners are interchangeable and that they will take advantage if they become too important (Davis, 1993). In addition, there is a belief that maximum competition, under the discipline of a free market, promotes a healthy and vigorous supply base which is predicated on the “survival of the fittest”.

Under the new paradigm, supply chain management is redefined as a process for designing, developing, optimizing and managing the internal and external components of the supply system, including material supply, transforming materials and distributing finished products or services to customers, that is consistent with overall objectives and strategies. Analytically, a supply chain is simply a network of material processing cells with the following characteristics: supply, transformation and demand (Davis, 1993). The essence of supply chain management is as a strategic weapon to develop a sustainable competitive advantage by reducing investment without sacrificing customer satisfaction. Since each level of the supply chain focuses on a compatible set of objectives, redundant activities and duplicated effort can be reduced. In addition, supply chain partners openly share information that facilitates their ability to jointly meet end-user's needs.

Supply chain management should emphasize leveraging the skills, expertise and capabilities of the firms who comprise this competitive network referred to. Managers have long acknowledged the importance of getting close to their key customers. Now that this logic has extended upstream as well, it is also important to forge close ties to one's key suppliers (Helper, 1991).

A sustainable supply chain strategy extends these linkages upstream and down. Supply chain strategy development should be part of the business unit planning process which includes efforts aimed at developing and maintaining global information systems, addressing strategic aspects of make-or-buy issues, and accessing and managing innovation with the purpose of protecting and enhancing core technologies (Pralhad and Hamel, 1990). Developing a supply chain strategy is predicated on understanding the elements of sourcing strategy, information flows (internal and external), new product co-ordination, concurrent procurement, teaming arrangements, commodity/ component strategies, long-term requirements planning, industry collaboration and

staff development.

Methodology

This research problem can best be studied through the use of a case study. The case study method was given in-depth information on the effect of transport on the supply chain at Safaricom limited. This study constituted the staff of Safaricom Kenya Limited within the head office in Nairobi. The targeted population was purchasing and supply department employees. The sampling frame constituted of 52 employees derived from the P & S department. This was because they play the role of supply chain transport delivery. The stratified random sampling method was conducted to capture the various levels of employees, management, supervisors and support. Both the primary data and the secondary data were collected. Primary data involved first hand information from the representative sample. The primary data was collected by use of both the open and closed ended structured questionnaire. The collected data was summarised based on objectives of the study. It was then be edited, coded and classified. Software used to analyse the data was SPSS. Quantitative and qualitative data analyses were used.

Findings

Respondents selected for the study had some experience on the company operation especially supply chain management. Over fifty percent of the respondents indicated that transport were either outsourced or contracted in particular DHL Company. Majority of eight seven of respondents indicated that cost of transport affected the supply chain to a great extent; they further noted that transport cost deviated significantly from the budget expenditure on transport.

Majority of (forty percent) reported that deliveries were delayed by one day, twenty seven percent indicated that deliveries had a few hours delay while only a small minority of thirteen percent of respondents indicated that deliveries delayed always. In addition, respondents confirmed that timeliness of transport affected quality of goods and services to a very great extent (fifty three percent).

The study majority of twelve respondents reported that transport in the company was somewhat reliable and reliable respectively a strong contradiction was noted where sixty three respondents reported that reliability of transport instruments affected the supply chain very much.

Majority of respondents appreciated the importance of transport in supply chain seventy percent indicated that it is very important. They further strongly agreed that their company had flexible and production processes that can very quickly respond to changing customer demand, strived to achieve short cycle, demand –driven order to delivery process. Strongly agreed that procurement and services need to be revised to lower cost

Conclusion

Interpretation of responses given by respondents in the study leads to conclusion of the following; Importance of transport as an integral component in supply chain can never be under

estimated. Cost of transport affect supply chain on large scale. Transport untimeliness reported through out the study negatively affected delivery of goods and services to a very great extent. Lastly, although the company undertaking the role of transport for the safaricom has a good reputation in the transport industry the operational issues were sighted to be the main issue which largely adversely caused the delayed deliveries, unreliability of instruments of transport too adversely affected the supply chain efficiency and effectiveness within the company's supply chain management.

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