

Outbound Logistics And Profitability Among Sugar Manufacturing Firms In Kenya: A Literature Review

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ABSTRACT

The global role of outbound logistics in supply chain processes and supply chain distribution cannot be overemphasized. Reviewed literature has shown that empirical tests have been done in relation to outbound logistics and profitability. However, minimal research work has been done on establishing the link between outbound logistics and profitability, particularly among sugar manufacturing companies in Kenya. The semi-systematic review was utilized using secondary data. The literature reviewed in this study was in regard to sugar manufacturing firms in Kenya, published between 2011 and 2021. The philosophy guiding this study was positivism, which is a deductive approach. The review established a significant positive influence of outbound logistics on the profitability of the firms. Evidence links the profitability of sugar manufacturing companies in Kenya and outbound logistics. It was recommended that the firms enhance their focus on outbound logistics in order for their profitability to continue to improve. Researchers can increase activity on this subject and context.

KEYWORDS: Outbound Logistics, Profitability, Supply Chain Distribution.

ABBREVIATIONS

TMS: Transport Management System, ERP: Enterprise Resource Planning, SAP: Systems Applications and Products, SMEs: Small And Medium-Sized Enterprises.

1.0 INTRODUCTION

Logistics companies the world over have improved their warehousing and distribution services due to growing global competition. A number of organizations have customized the design and operation of their warehousing and distribution service so that they deliver greater benefits. Today, logistics management can be regarded as the governance of supply chain functions involving integration and coordination of activities [1]. Whereas inbound logistics covers the transportation and storage of goods delivered into a warehouse, outbound logistics is the physical distribution. The current paper intends to conduct a literature review on the effect of outbound logistics and profitability among sugar manufacturing firms in Western Kenya. Outbound logistics is basically the transportation, storage and delivery of goods to customers. Many times, it revolves around packaging and distribution of customer orders using specific or intermodal transportation networks.

Outbound logistics transports goods from the business to external associates. It helps businesses achieve high levels of efficiency and reliability within the distribution network of a supply chain and to moderate transportation and storage costs [2]. Outbound logistics essentially functions to support consumers by delivering products. According to Audi and Yonis [3], outbound logistics activities include collecting, storing, and physically distributing products to buyers. Others are order processing, delivery vehicle operation, scheduling, finished goods warehousing, and material handling. It is also argued that solutions that enhance the flow of outbound logistics can aid in the reduction of cost and waste. Additionally, logistics, as a function of the firm, interacts downstream and upstream along the supply chain.

A firm that focuses on cost activities and waste can use outbound logistics to harness value. It is also argued that when logistics companies engage in best strategic practices, operating performance is boosted. This guarantees customer loyalty and increased productivity. D'Avanzo [4] did a survey of senior executives and found that the supply chain critically drives shareholder value and corporate differentiation. Hendricks and Singhal [5] established that hitches associated with

supply chains give rise to financial issues that impact return on assets, return on sales and operating income. Ellinger [6] applied the Delphi Technique to investigate the supply chain management competency and success of the firm. The data was top 25 supply chains according to AMRresearch. Z-score statistic [1] was used to measure the financial success of the firm. Significant higher Z-scores were found to be associated with supply chain management competency recognized by industry experts for industry averages and close competitors.

Kwame *et al.* [7] investigated manufacturing companies in Ghana, seeking outbound logistics management. Convenience and purposive sampling techniques were applied in selecting the sample population. The population comprised departmental staff from production, logistics, procurement, and finance. Results revealed that outbound logistics performance and supply chain operations need evaluation models and thus revealed opportunities for improving the performance of an organization.

Liberatore and Miller [8] conducted a study on outbound logistics management, linking it to profitability. The study delved into the taxonomy and performance metrics of 247 service and manufacturing organizations in the United States. Taxonomy based on the outbound logistics metrics was analyzed by cluster. Cluster analysis was used to group items, objects, or behaviors that are similar. Results revealed associations among and between various groups. The study proposed that a firm cannot stick to one outbound logistics operational approach to yield profitability.

Another study analyzed manufacturers of construction materials in Nigeria. The case study focused on outbound logistics channels [9] using a quantitative research method. A purposive sampling technique was used. With six manufacturers considered. The article concluded that manufacturers should address transportation operations along the delivery nodes to help ensure that the construction material arrives at its final destination at optimal quality, time and cost.

Quinton [10] surveyed the South African Automotive industry, investigating both inbound logistics and outbound logistics and how they influence competitiveness within the industry. The population consisted of firms participating actively in the automotive industry in South Africa, including those that assemble vehicles and component suppliers. The study was a survey, and data was gathered by asking questions to a focused group of people.

Audi and Yonis [3] did a case study at Dagab Inköp and Logistik. Semi-structured interviews with employees were conducted within the corporation. Employees of Snabbgross, a wholesale company within the corporation, were also interviewed. Among those interviewed were transportation engineer, operational purchaser, warehouse manager, and forecast specialist. Deductive, inductive, and abductive research approaches were used. This study distinguished the enablers of lean tools and the impact it has on an organization.

1.1 PROBLEM STATEMENT

For the supply chain process to enable profitability, outbound logistics is considered fundamental in the distribution network. There exist numerous studies and literature in regard to outbound logistics performance and profitability in Kenya, though in other industries. That is, no such evidence exists, particularly in regard to outbound logistics and profitability in relation to sugar manufacturing companies in Kenya, which informs the present literature review.

1.2 RESEARCH OBJECTIVE

To establish the link between outbound logistics and profitability among sugar manufacturing companies in Kenya.

1.3 RESEARCH QUESTION

What is the link between outbound logistics and profitability among sugar manufacturing companies in Kenya?

1.4 THEORETICAL REVIEW

The research philosophy of positivism guided this study. Positive theory sought to provide a framework for explaining the practices which were being observed [11]. That is, positivism applies knowledge based on facts gained through observations and measurements. It relies on the findings of the study being observable and quantifiable. Under this philosophy, the observer is very independent, with no provision of human interest within the study. Positivism relies on observations that can be quantified, leading to statistical analyses. The flow is scientific, focusing on social reality objectively to new knowledge. Additionally, positivism provides for objectivity and independence with no provisions for human intervention. Other studies argue that positivist processes often adopt a deductive approach with no human interest involved but high independence.

1.5 METHODOLOGY

This study utilized a semi-systematic review approach [12]. Semi-systematic review is deliberate for areas that have been intellectualized in a different way and studied by several groups of researchers within varied disciplines and that hamper a full

systematic review procedure. The semi-systematic review was applied to existing works of literature from journals, materials from conferences, books with related study interests and other relevant materials in relation to the study.

To actualize the objective, a systematic literature review on the subject was carried out. The literature review focused on the period between 2011 and 2021 and covered the entire country of Kenya. Further, analysis of the literature reviewed was conducted through the use of content analysis. The narrative technique of analysis was preferred because of the different methodological approaches embraced in the previous studies gathered [12].

2.0 EMPIRICAL LITERATURE REVIEW

There is empirical evidence on the subject of outsourcing outbound logistics, though limited in the context of sugar manufacturing firms in Kenya. For example, Owuor [13] sought to investigate outsourcing logistics and the performance of sugar firms in Western Kenya. The study also delved into challenges faced in outsourcing logistics by these firms. Using a census survey, longitudinal primary and secondary data was obtained. The population consisted of nine sugar millers. Data analysis was conducted using descriptive statistics and time series regression analysis. The response rate was 88.9%. Results showed that sugar millers outsourced maintenance and repairs, cane harvesting, transportation, security, and legal services. The consequence of this was an increase in productivity, timely delivery, and profits. Equally, the lowering of costs and enhancement of customer satisfaction were realized.

Malaba *et al.* [14] investigated the influence of green purchasing and green manufacturing on the performance of procurement in the Sugar Industry in Kenya. It was found that green purchasing and green manufacturing account for 62.7% of procurement performance. They had had R Square value of 0.627. The results revealed that green purchasing, supply knowledge training, professional experience, technical knowledge, innovation, quality and reliability, delivery, customer relations, morale, and productivity all influence procurement performance.

Oteki [15] studied electronic procurement practices and the performance of the supply chain among sugar firms in Kenya. The study focused on the sugar industry. The study sought the influence of electronic tendering practices, electronic order processing, electronic material management, and electronic supplier management practices on supply chain performance among these firms. The results reveal that when e-material management, e-tendering, and e-order processing are enhanced, supply chain performance improves. However, it decreases when there is increased focus on e-supplier management. The study concludes that electronic procurement practices enhance supply chain performance.

Mwangaangi [16] investigated the logistics and performance of manufacturing firms. The investigation focused on logistics performance, logistics management and firm performance. The study examined the influence of transport management, inventory management, order processing, and information flow on the performance of these firms. The investigation also sought to evaluate the moderation of logistics information systems on the link between the management of logistics and the performance of the firms. Results showed that management of inventory was the most significant predictor of firm performance. Other independent variables also individually predicted performance. Moderation of the logistics information system was confirmed. The study concludes that logistics management positively influences the performance of firms in terms of timeliness in delivery, reduction in lead time, demand actualization, reduction in costs, quality of products, enhanced market share, and satisfaction of customers.

Wanyonyi and Otinga [17] investigated the effect of outsourcing in procurement on the performance of purchasing functions in Nzoia Sugar Company Limited, Kenya. Specifically, the study sought to determine the relationship between outsourcing of raw materials and performance of purchasing functions. The investigation established a relationship between the outsourcing of financial services and purchasing functions' performance. Results showed that raw material outsourcing, as well as financial services outsourcing, had a significant positive influence on the performance of purchasing functions. The conclusion was that outsourcing plays a significant positive influence on purchasing performance among sugar firms in Kenya.

The study by Samita *et al.* [18] was concerned with transport management practices and procurement performance at Butali Sugar Company Limited in Kenya. A descriptive research design was employed. The results were that practices of transport management influence procurement performance significantly. The conclusion was that when transport management practice is enhanced, it improves procurement performance. The study recommended enhanced transport management practices among these firms.

Kiongera *et al.* [19] investigated outsourcing of logistics and the performance of the sugar industry in Western Kenya. Specifically, the study investigated quality drive outsourcing strategy and performance. It delved into core business drive and performance and, lastly, competitive drive and performance. A regression model of the nature $P = \alpha + \beta_1 \text{LOS} + e$ was revealed in the link between logistic outsourcing and performance. There exists a positive correlation between logistic outsourcing and performance.

Nzitunga [12] sought to investigate and carry out experimental quantitative research at Namdeb Diamond Corporation in Namibia. A response rate of 95% was received from a population of 105 logistics department employees when a 6-point

Likert scale questionnaire was administered by e-mail. Descriptive statistics and Partial Least Squares regression revealed that logistics outsourcing practices have a positive influence on performance in the Namibian mining sector.

2.1 TABLE OF STUDIES REVIEWED

After a semi-systematic review of the literature, the presentation was carried out as illustrated in Table 1.

Table 1. Tabular representation of literature review.

S No.	Author	Year	Context	Result	Conclusion
1	Wanyonyi and Otinga	[17]	Nzoia Sugar Company Limited, Kenya	The study results showed that the performance of purchasing functions is significantly and positively influenced by financial services and raw material outsourcing.	Significant positive influence
2	Malaba <i>et al.</i>	[14]	Sugar Industry in Kenya	The study findings showed that Green purchasing and Green manufacturing had an <i>R</i> Square value of 0.627, implying that they account for 62.7% of the performance of procurement.	Significant positive influence
3	Mwangaangi	[16]	Manufacturing firms (including sugar firms) in Kenya	There is a conclusion that logistics management can positively influence the performance of firms by way of reduction of costs, timeliness in delivery, reduction in lead time, demand realization, increase in market share, quality of products, and satisfaction in customer service.	Significant positive influence
4	Oteki	[15]	Sugar processing firms in Kenya.	When e-order processing management is enhanced (outbound information flow in logistics management including outsourcing), supply chain performance improves.	Significant positive influence
5	Owuor	[13]	Sugar Millers in Western Kenya	The study revealed that the firms outsourced cane harvesting, security legal services, transportation, maintenance, and repairs. The result of these is increased productivity, customer satisfaction, cost minimization, timely delivery, and improved profits.	Significant positive influence
6	Kiongera <i>et al.</i>	[19]	Sugar manufacturing firms in Western Kenya	A positive correlation between logistic outsourcing and the performance of sugar firms was realized.	Significant positive influence
7	Samita <i>et al.</i>	[18]	Butali Sugar Company	Transport management practices significantly influenced procurement performance.	Significant positive influence

Table 1 above displays information that outbound logistics is positively linked to the performance of the firms.

Macharia *et al.* [20] examined the relationship between logistics outsourcing and the performance of oil and gas project firms in Kenya. All managing directors of the 71 registered oil and gas firms constituted the population. Data collected via questionnaires was analyzed using descriptive statistics, product moment correlation and regression. It was found that a positive correlation coefficient exists between the performance of these firms and transportation outsourcing. A weak positive correlation was found to exist between the performance of these firms and the outsourcing of management of inventory.

Joto and Odock [21] sought to study logistics outsourcing and performance among dairy processing firms in Kenya. It was a census study on a population of 28 dairy processors in Kenya. The study used primary data. Analysis was conducted using descriptive and regression. The findings were that the concept of logistics outsourcing has not been fully adopted. The firms opted to outsource services like warehouse management only during high seasons. The firms were found to outsource logistics operations to reduce costs such as cost of fuel costs, vehicle acquisitions and maintenance, risks, and other costs. Results indicated a high correlation between logistics outsourcing and performance. The conclusion was that outsourcing logistics if fully adopted, enhances performance.

Teece *et al.* [22] studied both Inbound and Outbound logistics. The paper studied factors that influence this relationship, the challenges associated with it and the benefits of managing it. The paper also proposed solutions to the challenges. The research was conducted through a review of the literature on practices in the industry. It proposes a number of tools to measure the impact of the logistics on such relationships. The study describes contemporary practices and technological tools like TMS and ERP like SAP.

Mageto *et al.* [23] investigated the link between outsourcing logistics and the performance of manufacturing SMEs in Nairobi City County. The study used a convergent parallel mixed methods design. Survey data were collected from 163 SMEs. Analysis was conducted using structural equation modeling. Thematic analysis was used to analyze interview data from five manufacturing SMEs. The direct link between logistics outsourcing and the performance of manufacturing SMEs was found not to be statistically significant. However, the study revealed a statistically significant indirect positive effect of logistics outsourcing on the performance of SMEs, with logistics outsourcing performance as a mediator variable.

3.0 RESULTS AND DISCUSSION

The results above compare favorably with results outside Kenya and those outside the Sugar manufacturing sector. For example, the results agree with those of the study by Joto and Odock [21], Macharia *et al.* [20], Nzitunga [12], and Teece *et al.* [22]. On the contrary, the findings of this study are inconsistent with the results of the study by Mageto *et al.* [23], which investigated the link between outsourcing of logistics and the performance of manufacturing SMEs in Nairobi City County but failed to confirm any significant relationship between outsourcing of logistics and performance, instead found the indirect significant link when logistics outsourcing is introduced as a mediator.

4.0 CONCLUSION

From all the studies analyzed in Table 1, the study concludes that there is a link between outbound logistics and the profitability of sugar manufacturing firms in Kenya. The link indicates the positive significant influence of outbound logistics on the profitability of these firms.

5.0 RECOMMENDATION

There is a need for firms to enhance their focus on outbound logistics in order for their profitability to continue to improve. This means timeliness in delivery, reduction in lead time, and demand actualization should be emphasized. Additionally, the firms should lay emphasis on finished goods inventory management and or inventory management outsourcing and outbound transport management and or outsourcing.

AUTHOR CONTRIBUTIONS

EOO and FOA contributed equally to this study.

CONFLICT OF INTEREST

None.

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