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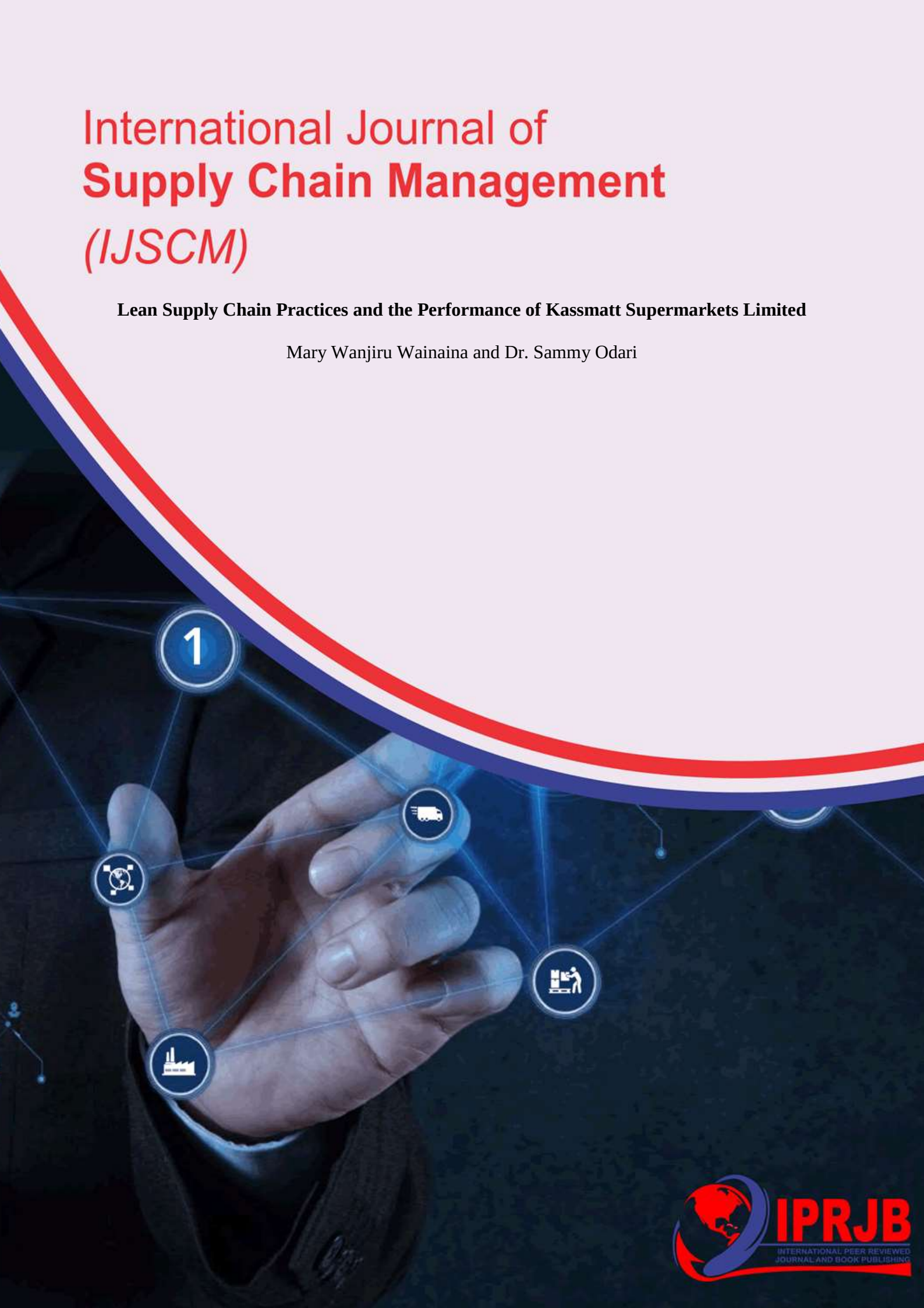

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Lean Supply Chain Practices and the Performance of Kassmatt Supermarkets Limited

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Abstract

Purpose: The purpose of this study was to assess the influence of lean supply chain practices on the performance of Kassmatt Supermarket Limited.

Methodology: A descriptive research design was used for the investigation. The study targeted 180 employees from Kassmatt supermarket limited. The sample size of the study was 124 respondents. The researcher utilized self-administered questionnaires to collect primary data with the aid of the drop and pick method. The pilot study utilized 10 percent of the actual sample size, which was equal to 12 participants. The data obtained from the questionnaires was analyzed using the statistical package for social sciences (SPSS) version 28. The study employed percentages, frequencies, means and standard deviations to analyze descriptive research. Inferential analysis was also done. Tables were used to present findings. Finally, multiple regression model was fitted into the study.

Results: The findings revealed a positive significant relationship between lean supply chain practices in the elements of demand management, process standardization, lean customer practice, lean transport [predictor variables] and performance of Kassmatt Supermarkets Ltd. The study concluded that Kassmatt had implemented the aforementioned lean supply chain practices with the aim of improving its firm performance.

Unique Contribution to Theory, Practice and Policy: The study enhances our understanding of lean supply chain methods and company performance. The study validated and extended supply chain management and performance theories by evaluating lean approaches in retail. The study's finding of additional variables that may affect lean practices and performance led to new suggestions. The study informed managers and practitioners about lean supply chain benefits. The study helped Kassmatt Supermarkets Limited and other merchants improve their supply chain management and operations. Supply chain management innovation and development may help organizations stay competitive in the rapidly changing business environment, according to the paper. The study informed policymakers and regulators on how lean supply chain methods may affect retail sector efficiency. Lean methods improve consumer satisfaction, waste reduction, and efficiency, which can inform retail supply chain excellence policies. The research also stressed the need of regulations encouraging industry-wide cooperation and knowledge sharing, which can increase innovation and efficiency.

Keywords: *Lean Supply Chain Practices, Demand Management, Process Standardization, Lean Customer Practice, Lean Transport.*

INTRODUCTION

A lean supply chain is a network of leading companies in an industry that work together to reduce costs and waste by smoothly and economically extracting what is needed to meet each customer's demand (Burgess et al., 2006). Lean supply chains decrease operating costs at every stage. Lean demands value-plus supply chains to operate efficiently and competitively while using the fewest resources possible. Inventory, warehouses, equipment, technology, vehicles, machinery, staff, and working capital are the most important aspects of a supply chain. Equipment matters too. Lean supply chains also minimize operational inventories, storage space, shipments, and consignments to reduce inventory movement costs.

LSCs are meant to create long-term, stable supplier contracts at the lowest possible cost, but once the order is made, there is no way to change quantities, delivery locations, or demand dates. Dües, Tan, and Lim (2013) argue that secondary suppliers are too expensive for lean design. These factors will lower the supply and value chain's operational costs, making it very cost-effective, but they will also limit its ability to respond to market dynamics, supply side volatility, and other firms' resources. LSCM reinvents supplier networks. Lean thinking requires supplier co-creation. These linkages link collaboration and competitive advantage (Li, Ragu-Nathan, Ragu-Nathan & Rao, 2005). "Collaborative efforts" can relate to many types of partnership promises and system alignments. LSCM requires strategic and synergistic supplier relationships.

Lean concepts require collaborative, competitive supplier relationships (Li, Ragu-Nathan, Ragu-Nathan & Rao, 2005). "Cooperation" can refer to many forms of collaborative partnership agreements and integrated systems. Strategic supplier partnerships are essential to lean supply chain management. LSCM analyzes supply chain linkages differently (Li, Ragu-Nathan, Ragu-Nathan & Rao, 2006). Lean manufacturing promotes supplier relationships that balance cooperation and rivalry. "Lean supply" specifies a supply chain designed for lean production.

Wong, Wong, and Ali (2009) define supply chain management as "a set of synchronized activities and decisions that are used to efficiently ease the integration of suppliers, producers, warehouses and storage facilities, haulers, consumers, and retailers in order to achieve performance targets." Wong, Wong, and Ali (2009) "A collection of synchronized operations and decisions that are utilized to enable the integration of suppliers, producers, Lean supply chain management (LSCM) promotes supply chain waste reduction. Waste removal from supply chains optimizes performance for manufacturers (Christopher, 2016). However, employee motivation, a modest working atmosphere, management involvement, and the implementation of cutting-edge SCM methods like agility and 6-sigma contribute to the company's success. Negrão, Godinho and Marodin (2017), define lean practices as systematic and continuing attempts to reduce the time between a client making an order and receiving their goods. Minimizing waste and prioritizing quality does this.

A company uses "lean supply chain management techniques" to increase its supply chain efficiency. Babalola, Ibem and Ezema (2019), describes these practices as a multi-dimensional framework that includes downstream and upstream value chain components. Companies' shift adaptation techniques revolve around lean management. These have been defined as a methodical strategy for increasing customer value by identifying and reducing time, effort, and

materials wasted as a result of continuous improvement, attending to goods when customers request them, and striving for excellence (Tortorella, Giglio, Fettermmann & Tlapa, 2018).

Lean is helping more manufacturers, retailers, and wholesalers gain a competitive edge and survive. According to Kumar and Modgil (2023), lean supply chain management success factors include demand management (supplying goods and services as quickly as customers order them), lowering waste and cost, standardizing processes (to enable constant flow), standardizing manufacturing, undergoing a cultural shift, and working across multiple enterprises. Lean, according to Manzouri et al. (2013), is a systematic approach to identifying and decreasing waste (nonvalue-added operations) through continuous improvement and following the consumer to find competence. Lean means using scarce resources more efficiently to increase customer value.

Lean is not limited to industry, according to Nimeh, Abdallah and Sweis (2018). Researchers, especially in big industry, are interested in lean philosophy. Agus and Hajinoor (2012) examined Malaysia's manufacturing industry's lean manufacturing and SCM gains in product quality and firm performance. Product quality, lean manufacturing, and corporate performance were all positively correlated. Wanjiku (2013) wrote on "lean supply chain management in manufacturing enterprises in Kenya," a broad topic that didn't specify a Kenyan manufacturing firm.

Many researchers, such as (Farah, 2015; Wachuma & Shalle, 2016; Mohamed & Mwanyota, 2018; Keinan & Karugu, 2018), conducted research in Kenya that found a connection between lean management techniques and performance. Considering Kassmat Supermarket Limited's steady implementation of lean supply chain practices, it's critical to assess the influence of these practices on Kenyan SMEs' performance. Therefore, the objective of this study was to assess the influence of lean supply chain practices on the performance of Kassmatt Supermarket Limited.

LITERATURE REVIEW

Theoretical Review

Systems Theory

As said by Ackoff (1981), a system is a collection of more than two pieces that are interrelated and that function as a whole through the influence of at least one component on another. Laszlo and Krippner (1998) refined Ackoff's system definition into a group of interconnected organizational modules that conserves some identifiable set of relations. The totality of the modules plus their relations also conserved some identifiable set of relations to other entities or systems. Ackoff's original definition of a system was "a group of interconnected organizational modules that conserves some identifiable set of relations." According to these definitions, a system is fundamentally a whole that can be detached, but in terms of its functionality, it represents an indivisible unity that is constantly developing new characteristics. The idea suggests that a company is a structure that may be partitioned into different groups, with each group being responsible for a certain set of responsibilities within the overall system. Each group is allocated responsibilities that must be completed within a predetermined length of time. A corporation expects that by dividing itself into functional groups, it will be able to assign particular jobs and activities linked to those occupations to each group, which will ultimately result in massive amounts of output. As per systems theory, all of a process's functions are interconnected with each other in order to achieve a shared goal. Even

just the simplest operations conducted out by a specific group have an impact on the overall system's outcomes. The theory proposes that all components of a system should work together to produce an enabling process that ultimately leads to the achievement of predetermined production targets by an organization.

Systems theory encompasses not just the act of designing something but also the process of creating connections between things and analyzing how those connections help accomplish a goal (Laszlo, 1995). The elements that make up this theory's system are participants in the organizational supply chain. These components work together to fulfill the overall supply chain objective by establishing interconnected operational designs, informational links, and active and diagnostic approaches (Bertalanffy, 1968). The operational performance of a lean supply chain, as shown by Flynn (2011), is linked to the full intervention characteristic of system theory. This is so that, in either a collaborative or individual capacity, everyone and each chain participant contributes to the design, institutionalization, integration and operationalization as well as implementation of lean tools and processes. A flawless scientific way to continuous development and, as a result, performance is provided by the fact that each of these interconnected jobs has the effect of placing a limitation on the entire system. If the system theory is used successfully in conjunction with other approaches to continuous improvement, the end result will be increased profits, rapid improvement, increased capacity and decreased lead times. Eventually, inventory levels will decrease, which will result in fewer items that are in the "work in process" inventory category (Vore, 2002). Because lean is widely recognized as a specific component of systems thinking, the system theory is significant in this investigation due to the nature of the findings. Methods and practices that adhere to the lean philosophy play a significant role in systems engineering. According to Holden and O'Toole (2004), systems engineering is a strategy and process that helps with the realization and implementation of effective systems. Systems engineering is an interdisciplinary field of study.

Theory of Constraints

This theory of constraints (TOC) was created by Goldratt in 1984 and is a management theory. According to the theory, each system does have at least one constraint that must be addressed. As such, TOC is an approach to improving the efficiency of systems and enterprises, whether they operate in the manufacturing or service industries, by concentrating on the link or links in the chain that are the least strong. As a novel model for management, it uses the old adage that the strength of a chain is proportional to the strength of its weakest link. This indicates that structures, organizations, and other such things are vulnerable since the weakest person or component can always cause them to fail or be damaged, or at the very least have a negative impact on the result. The core concept of the theory of constrained optimization is that any system, such as firms that strive to generate a profit, should have at least one restriction that prevents the system from acquiring more of everything it strives for and, as a consequence, defines the system's performance (output) (Noreen et al., 1995). A limitation is anything in an organization that impedes advancement or higher throughput, such as swings in demand, and an example of this would be the capacity of the business's computer system. As a consequence of the company's inability to work around this limitation, the company experiences a significant drop in productivity, which in turn has an effect on the company's overall performance. The similar concept of TOC may be utilized to supply networks, where a faulty supply chain linkage can obstruct overall effectiveness, efficacy, as well as performance. This is really a possible

TOC adaptation. And on contrary, a lean supply chain might be able to help unclog restrictions and increase performance by reducing prices, eliminating waste, and increasing efficiency.

It is essential for a business to be able to accurately predict future demand since doing so allows for more effective management of supply and a reduction in the amount of stock that must be kept on hand for distribution and delivery. On the other side, fluctuations in demand have the potential to be a barrier for small and medium-sized businesses. A decrease in demand will result in the storage of inventory, which will result in increased expenses, the possibility of the inventory becoming obsolete, and degradation; an increase in demand will result in customer complaints because the items provided are insufficient; however, an increase in demand will result in customer complaints because the items provided are insufficient. The accurate and timely evaluation of demand signals is required in order to identify constraints in small and medium businesses. According to Simsit et al (2014)'s argument, the theory might be applied to the manufacturing industry by utilizing optimized production technology (OPT) to identify bottlenecks in operations. Inventory control strategies such as material Resource Planning (MRP) and just-in-time delivery (JIT) can make use of it (JIT). Toc is a successful ideology that delivers favorable results such as higher profit, lower inventory levels, and fewer operating costs, all of which contribute to improvements in organizational performance. Toc is an acronym for "total quality control." As can be seen, the primary emphasis placed by TOC is on the concept of ongoing growth achieved through the successful negotiation of constraints.

Social Exchange Theory

People determine the overall value of a connection by deducting the costs associated with maintaining that connection from the benefits it provides, as suggested by the social exchange perspective. There is a link in an organizational structure that provides a connection between the organization and its customers; the fate of the business is determined by the strength of this connection on both sides of the equation (Cropanzano & Mitchell, 2005). According to the social exchange theory, the primary determinant in determining the success of interpersonal interactions is the level of joy experienced by both individuals involved. According to SET, customers make reasonable decisions about whether or not to take part in a social exchange based on their views of the benefits and drawbacks of the transaction (Harrigan, 2017). In the context of a relationship that is ongoing between the two parties, the transaction may involve social or economic benefits and expenses, or it may involve a combination of economic and social rewards and expenses (Harrigan, 2017).

The social exchange hypothesis has been used widely to describe the interaction that occurs between different business connections. According to the premise, customers are more likely to show loyalty to a brand when they experience positive emotions, behaviors, and thoughts. In addition, a high degree of enjoyment and commitment to the company can be achieved through the successful fulfillment of essential individual criteria. The concept asserts that every human connection is the result of an internal calculation of costs and benefits, as well as an examination and evaluation of available options. Even though there are many different points of view on social commerce, most academics believe that social exchange is comprised of a series of contacts that define duties. It is usual practice to see these interactions as being dependant on one another and as being contingent on the actions of another person. Customer practices are social transactions in which customers prioritize access to the right affiliation, social standing, and knowledge of the customer brand over economic outcomes and resources. Customers place a higher value on these aspects than they do on the customer brand itself

(Hollebeek, 2011). As a consequence of this, engaging in social interaction implies the assumption of ambiguous duties, in which the motivation for one party to perform a service for another is the expectation of receiving some form of compensation in the foreseeable future (Hollebeek, 2011). A buyer should make his agency desirable when engaging in a transaction by focusing on social norms such as trust and commitment in addition to economic exchanges. This will help the buyer establish a positive relationship with the seller (Raman, 2011). In a relationship based on mutual commitment and sacrifice, the chances of this connection being maintained are significantly increased. A steady, continuous, and robust trading link provides consistent supplies. The major objective is to achieve the status of preferred client rather than merely being a regular customer or even an exit buyer. This will result in preferential treatment and guaranteed supply, both of which identify and eliminate supply chain risks (Navarro, 2021).

In addition, the Social Exchange Theory is based on a number of presumptions concerning the character of interpersonal relationships. The Social Exchange Theory posits that the links that exist between the various parties involved in a transaction are mutually beneficial and interdependent (West & Turner, 2007). To the benefit of all parties concerned, "in a fully interdependent system, all sub-criteria of the system are mutually connected, either directly or indirectly," according to the above statement. As a direct consequence of this, in specific settings, humans are attuned to one another and mutually dependent on one another (Yang, Chiu, Tzeng, & Yeh, 2008). Lean supply chain management can benefit from the application of the social exchange theory as a tool for evaluating the commitment of both customers and organizations (Nammir, 2012). It is very helpful when choosing different techniques from different suppliers and making decisions about how to interact with customers. A company that values keeping its customers should prioritize listening to those customers, providing them with an outlet through which they can communicate their thoughts, involving them in the decision-making process, taking into consideration both their compliments and their criticisms, and finding a solution to any issues that may arise. Because of this, the organizational performance of the small and medium businesses will increase, along with their capacity for continuous development, the creation of value, and the reduction of waste.

Agency Theory

According to the proponents of the agency theory, an agency connection is seen to have been established when two parties interact and collaborate in an association, with one party making choices and delegating tasks to the other party. It conceives of an agent relationship as a partnership in which one person is responsible for carrying out the decisions and responsibilities of the other. While both parties are motivated by their own self-interest, there is often a significant information gap between the principal and the agent (Handley & Gray, 2013). The concept of agency seeks to explain how work can be efficiently split between two autonomous persons in situations where there is opportunity for specialization (Fama & Jensen, 1983). The primary objective here is to have an understanding of how the parties might structure a contract so that risks are distributed among them. A buyer of transportation services and a provider of transportation services have a relationship that is analogous to that of an agency (Logan, 2000). There has been a significant rise in both the frequency and the volume of enterprises turning to third-party logistics providers (Citrin, 2015). The provision of logistics services is intangible, and they cannot be stored as inventory, so there is a great probability that

issues will arise. In certain circumstances, the problems may result in a rise in expenses or in the termination of the outsourcing relationship.

There are a number of uncertainties that come with running a transportation operation, which contributes to the knowledge gap that exists between the buyer and the supplier of transportation services. The viability of the contracts will be directly proportional to the protocols that have been established within the partnership to address these dangers. The pricing structure of the transportation operation is a common mechanism that is used in the interaction between the transportation buyer and the transportation supplier. According to Logan (2000), transportation was previously performed on the basis of outcomes, and a set fee was assessed for each delivery. She does, however, raise the possibility that a transportation contract may be behavior-based if a provider was rewarded for a unit price based on the drove length, cubic loaded, time spent driving, loading, and unloading, and other factors. The demand for information and willingness to take risks is said to vary across different price systems, in accordance with agency theory. The agency theory shows a lot of potential in the analysis of buyer-supplier connections, which is important because organizational performance is impacted by these linkages.

Literature Review of Study Variables

Demand Management

Demand management matches internal and external customer needs with supply chain capabilities to enhance customer satisfaction. It comprises assessing demand, synchronizing supply and demand, increasing flexibility, standardizing demand, and managing inventories (Lysons & Farrington, 2006). Demand management involves planning, communication, appraisal, fulfillment, and job priority. Demand forecasting is only part of demand planning. Demand planning affects every aspect of supply chain management and company finances. Globalization of businesses has hampered demand planning and management. Markets are becoming uncertain, fragmented, and dynamic. Due to these adjustments, supply chain managers must now dynamically manage the supply chain and identify the best requests. Due to shorter product life cycles and intolerant markets, the cost of satisfying the wrong demand has grown for many commodities. Especially in the electronics business. Demand planning must go beyond statistical forecasting to work. It must include expert judgment from several sources and supply chain partner inputs (Kilger & Wagner 2014).

Process Standardization

Standardizing production processes in manufacturing facilities aims to eliminate idle machinery, excess hours of work, materials, or component utilization, and unused or underutilized equipment (Jasti & Kurra, 2017). Standardization helps with specifications, dependability, cost reduction, accurate quotation comparison, dependence on specialist suppliers, mistake, conflict, and material handling expenses. Standardization manages material costs. Sharing subcomponents across product lines can standardize production and assembly procedures, saving money. Standardization includes quality assurance, quality control, and process diversity reduction. Standardizing, simplifying, and rationalizing the huge range of materials, parts, components, and consumables helps save inventory (Garcia-Buendia, Moyano-Fuentes, Maqueira & Avella, 2022). This is in addition to decreased stock holding costs, the release of money kept in inventory, easier order configuration and specification, a shorter inventory range, and a smaller supplier base (Cheung, Chiang, Sambamurthy & Setia,

2018). Variety reduction reduces stock holding costs. Quality management is vital for competitiveness and progress. It includes quality management, process control, six sigma, and zero product defects. These tips can improve operational, product, and service quality by minimizing options bad product quality, customer complaints, customer loss, and bad performance will cause many flaws (Kumar, Kumar, Singh & Theraja, 2015).

Lean Customer Practices

Lean optimization reduces consumer-unvalued tasks. Improved company procedures result in faster customer response times, complaint resolution, and customer happiness. Lean, developed by Toyota, optimizes operational processes rationally (Negrão, Godinho & Marodin, 2017). An organization needs a dependable and effective strategy to execute lean. Businesses use lean to improve internal operations, focusing on procedures and customer value. Every firm that falls short of customer expectations will receive complaints. Lean supply chains perceive customers as vital stakeholders; thus, the organization must listen to and consider their opinions when making decisions (Marodin, Tortorella, Frank & Godinho, 2017). Lean customer processes ensure high-quality, cost-effective product delivery. Customers complain about late deliveries. Lean customer practices emphasize customer communication (Peralta et al., 2020). They may now voice their ideas and receive feedback on their purchases. Customers' participation across the supply chain increases productivity, efficiency, and the company's fundamental efficiency and productivity (Dora et al., 2013). Consumer's design, manufacture, and assemble products and services, which lowers prices (Yamamoto, Milstead & LIoyd, 2019). Customer feedback enhances product development, reducing last-minute alterations, cycle delays, and inventory obsolescence. This helps companies better meet market demands. Customers' participation helps firms learn their habits, needs, and preferences. This improves quality, fits consumer needs, and reduces waste.

Lean Transport

Lean transport includes optimal mode selection, order pooling, cross docking, equipment size, and inbound transit. Lean transportation identifies and eliminates tasks that don't add value to the customer's experience to improve an organization's logistics operations (Villarreal, Garza-Reyes, Kumar & Lim, 2017). Lean transportation requires waste elimination. Mapping the value chain identifies and removes waste. Placement decisions, designed to improve supply chain operations, cause most transportation inefficiency. Waste can also include excess output, waiting, wasted transportation, flawed operations, unnecessary movement, and flaws. Lean transportation involves moving, consolidating, and choosing the most efficient means of transportation. In light of global economic integration, companies need a reliable transportation system to keep production supplies flowing and deliver to consumers on time and within budget (Villarreal, Garza-Reyes & Kumar, 2016). This will ensure clients receive their items safely and reduce the chance of damage or loss (Pinho & Lobo, 2019). Pooling is the process of combining multiple client orders into one for picking and loading based on location, size, priority, or any other criterion. This helps small and medium-sized businesses (SMEs) avoid damage to their goods while in transit. Consolidating orders across enterprises optimizes logistics services. Multiple manufacturers producing related goods for the same distribution network consolidate orders and delivery.

Performance

Performance measurement involves assessing activity, which leads to performance, to determine if things are going well and, if not, what's wrong. Performance appraisal identifies issues (Akinboade, 2014). SME results include profitability, return on assets (including return on capital), sales volume, and customer experience (Jie & Gengatharen, 2019). Lean supply chain aims to cut costs while satisfying customers. Excellent LSCM produces a primary source of sustained competitive edge for the company so it may separate itself from competitors in the eyes of customers by continuing to operate at lower costs and higher revenues (Garcia-Buendia, Moyano-Fuentes & Maqueira-Marín, 2021). Continued expense reduction and revenue growth can achieve this. The supply chain relies on accurate demand and sales forecasting. Forecasting drives the supply chain by determining how much will be produced, transported, sold, and profited (Ali, Younus, Khan & Pervez, 2020). This improves the company's performance by making it easier to estimate stock levels, schedule production, and fulfill client demands on time and in the proper spot. Lean supply chain practices remove wasteful processes and may increase revenue and profitability (Nupus & Ichwanudin, 2020). Waste reduction cuts costs, boosts revenue, and boosts profits. However, lean supply chain strategies allow supply chains to quickly and successfully meet client expectations, improving firm performance. This boosts revenue (Vlachos, 2015). This study investigated the relationship between lean supply chain practices and the performance of Kassmatt Supermarket Limited, namely demand management, process standardization, lean customer practice, and lean transport. This is illustrated in the figure below;

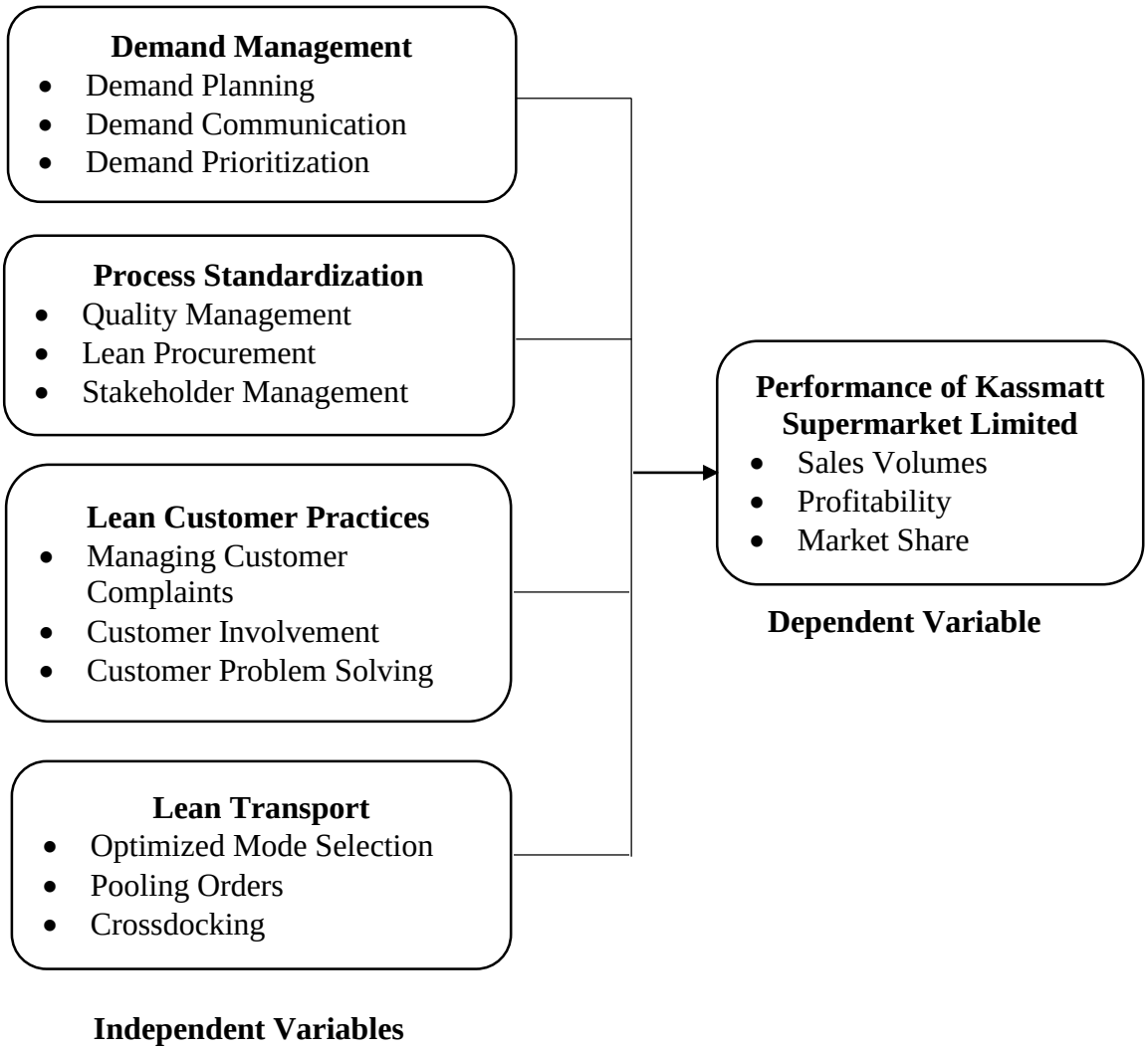

Figure 1: Conceptual Framework

Ugochukwu (2012), recognized the perspective of lean as a conversion process in the supply chain. He noted that there is a solid link between lean and organizational performance aspects. The focus was on a wide field rather than on a particular context or concept focus, giving a presentation gap on generalization as different industrial sectors exhibit different process designs and culture. Hovind (2012), argued that due to lack of collaboration and coordination among the chain players, inventory wastes, excessive transportation and waiting was evident. To deal with waste, the paper advocated for the adoption of lean principles.

Kimani (2013) revealed that the cement industry had lean manufacturing techniques and structures in place. The company utilized a good number of feasible lean tools and techniques except VSM and JIT: techniques that count for 60% of the lean performance philosophy. The study did not link the associated benefits to organizational performance. The current study will among other techniques sought to establish if VSM and JIT techniques have been incorporated under strategic review being 3-year down from Rono's study (2013). Mwilu (2013) said that a number of lean SCM best practices have been embraced and implemented, albeit to a limited degree. Only logistics, lean suppliers, and information technology were shown to have strong

statistically significant correlations with performance out of the seven factors studied. Despite the fact that the study focused on SCM, the idea of lean was not discussed. The research was also based on research institutes, which are in every way separate from the cement producing business.

According to the study by Kimechwa, Njeru and Makau (2015), a link between bank performance and lean practice was established. However, the researcher recommended scientific implementation of the practices. All the four practices perceived by the researcher to be lean techniques are not, but supportive drivers towards realization of lean. Studies by Musyoka (2015) and Weru (2015) reached the same conclusion that manufacturing firms in Kenya and Nairobi respectively realize organizational performance from lean practices. However, the level of performance yield to intensity of lean implementation differed a bit with that of Weru having a high aggregate due to awareness and competition pressure exerted on firms within Nairobi compared to the rest of Kenya. Looking at Mwilu (2013) in comparison to these two studies, the results differed to a great extent. This means that though their studies are based on the manufacturing industry holistically, individual industrial sectors contain different technique requirements that equally require different implementation mechanisms. So, their findings cannot generalize to the cement industry.

Couple of dozen studies (Behrouzi, Wong & Behrouzi, 2011; Arif-Uz-Zaman & Nazmul Ahsan, 2014; Afonso & do Rosário Cabrita, 2015; Thanki & Thakkar, 2018; Garcia-Buendia, Kristensen, Moyano-Fuentes & Maqueira-Marín, 2022) have created lean supply chain performance evaluation systems, process improvement techniques, specified measurements, or standardized supply chain practices, despite the rising body of knowledge on company performance. Furthermore, the researchers concluded that existing literature on the application of lean supply chain methods in small and medium-sized businesses has had minimal impact (Susilawati, Tan, Bell & Sarwar, 2013). Notwithstanding the extensive scholarly research on lean supply chain management strategies and business performance, many research in this field have concentrated on manufacturing enterprises, leaving a knowledge gap. As a result, the goal of this research is to see how Kassmatt Supermarket's lean supply chain management strategies dealt with the issues.

The study provided a clear understanding of the concept of "lean supply chain practices" and demonstrated its conceptualization within the specific context of the research. The presence of a clear and precise definition reduced the level of ambiguity in understanding the practices under examination. Furthermore, a precise definition was provided for the term "supply chain performance." The examination of agile supply chain practices involved the consideration of distinct performance dimensions, namely Sales Volumes, Profitability, and Market Share. The accurate evaluation of the impact of lean practices may prove challenging in the absence of a well-defined conceptualization of supply chain performance. Furthermore, the research has offered a justification for the choice of Kassmatt Supermarkets Limited as the focal point of the study. The supermarket industry exhibited characteristics that were representative of other retail chains with a focus on supply chain management, which potentially exerted an influence on the outcomes. Enhancing the study's applicability and generalizability can be achieved by comprehending the industry-specific contextual factors.

This study presents a detailed description of the research design utilized to examine the correlation between lean supply chain practices and organizational performance. The selection of the research design, specifically the descriptive research design, was congruent with the

research objectives and upheld the integrity of the findings. The study elucidated the methodologies employed for data collection pertaining to both lean supply chain practices and performance. The data obtained via survey methodologies. The researchers took steps to address the reliability and validity of the measures employed in order to enhance the strength and credibility of the results. The research presented details regarding the sample size and demographic attributes of those who participated or organizations that were encompassed within the study. This improvement contributed to the study's external validity.

METHODOLOGY

The study was conducted using a descriptive research design. 180 employees of Kassmatt Supermarket Limited were the subject of the study. 124 participants made up the study's sample size. The drop and pick method were used by the researcher to obtain primary data using self-administered questionnaires. 12 participants, or 10% of the total sample size, were used in the pilot study. The statistical software for social sciences (SPSS) version 28 was used to analyze the questionnaire data. To assess descriptive research, the study used percentages, frequencies, means, and standard deviations. A deductive analysis was also carried out. The results were presented in tables. Finally, the study was fitted with a multiple regression model.

RESULTS AND DISCUSSIONS

Descriptive Findings of Demand Management

The mean of 3.5000 and average standard deviation of 0.26417 in Table 1 showed that most respondents agreed that our organization routinely communicates demand information with suppliers. Our organization has appropriate technology for demand information exchange, according to a mean score of 4.3333 and a standard deviation of 0.11070. The majority of respondents also disagreed that our organization has a centralized demand planning information exchange mechanism. The mean score was 2.1667 and the standard deviation was 0.34997 in this investigation. A mean score of 3.8333 and a standard deviation of 0.28616 showed that demand forecasting has decreased business risks for our corporation. Most respondents strongly agreed that demand forecasting had helped our organization make capital investments, as shown by a mean score of 4.2500 and a standard deviation of 0.09481.

Demand forecasting did not help our organization make expansion decisions (mean of 2.0000 and standard deviation of 0.91713). The majority of respondents believed that our organization fulfilled orders accurately (mean 4.0833 and standard deviation.19285). A mean of 2.1967 and an average standard deviation of 0.40233 showed that most respondents disagreed that our firm improved inventory planning and ordering. Finally, a mean of 2.3833 and a standard deviation of 0.90171 showed that our organization has not controlled cash flow opportunities through inventory planning and management. A majority of respondents agreed with demand management statements using a five-point scale Likert mean larger than ($x = 3.4$). The study found that demand management improves Kassmatt Supermarkets' performance. Shajema (2018) found that demand management strategies increased sales and company performance.

Table 1: Descriptive Findings of Demand Management

Statements	Mean	Std. Deviation
Our firm frequently shares demand information with suppliers.	3.5000	.26417
Our firm has appropriate technology that helps in demand information sharing	4.3333	.11070
Our firm has a centralized information sharing system for demand planning.	2.1667	.34997
Our firm has reduced risks involved in business activities through demand forecasting.	3.8333	.28616
Demand forecasting has provided our firm with insight into capital investments.	4.2500	.09481
Demand forecasting has provided our firm with insight into potential expansion decisions.	2.0000	.91713
Our firm achieved accurate order fulfilment.	4.0833	.19285
Our firm improved inventory planning and ordering.	2.1967	.40233
Our firm has managed cash flow opportunities through planning and control of inventory.	2.3833	.90171

Descriptive Findings of Process Standardization

Table 2 showed that a mean of 3.6433 and an average standard deviation of 0.26140 showed that most respondents felt that quality management increased our firm's brand worth. Quality management reduced human errors in our organization, according to a mean score of 3.6617 and a standard deviation of 0.21901. The results also show that most respondents disagreed with the claim that staff productivity increased at our firm. The mean score was 2.5700 and the standard deviation was 0.92852 in this investigation. A mean score of 2.1697 and a standard deviation of 0.64308 showed that most respondents disagreed that our firm cut time and waste in procurement and workflows. Our firm cut expenses and improved product and service quality, as shown by a mean score of 3.5200 and a standard deviation of 0.83302. Our supplier performance and responsiveness improved (mean of 3.7520 and standard deviation of 0.92852). The majority of respondents disagreed that our firm has enhanced stakeholder support (mean 2.3333 and standard deviation 0.94720). A mean of 3.7616 and an average standard deviation of 0.07216 indicate that most respondents believed that our organization has improved corporate governance. Finally, a mean of 2.0336 and a standard deviation of 0.94720 showed that our firm has not renewed its social license to operate. A majority of respondents agreed with process standardization assertions using a five-point scale Likert mean larger than ($x = 3.4$). The study found that process consistency helps Kassmatt Supermarkets function better. These findings support Prajogo, Huo, and Han (2012), who found that standardizing supply chain operations improves organizational performance.

Table 1: Descriptive Findings of Process Standardization

Statements	Mean	Std. Deviation
Our firm enhanced its brand value through management of quality.	3.6433	.26140
Our firm reduced human errors through quality management.	3.6617	.21901
Our firm witnessed an increase in the productivity of employees.	2.5700	.92852
Our firm reduced time and eliminating waste in the procurement process and workflows.	2.1697	.64308
Our firm reduced costs while improving the quality of products and services.	3.5200	.83302
Our firm witnessed improved performance and responsiveness of the suppliers.	3.7520	.92852
Our firm has attained increased stakeholder support.	2.3333	.94720
Our firm has improved corporate governance.	3.7616	.07216
Our firm has reaffirmed its contract with society, thus renewing its social license to operate.	2.0336	.94720

Descriptive Findings of Lean Customer Practices

The mean of 3.5833 and average standard deviation of 0.12012 in Table 3 showed that most respondents agreed that our organization has improved its brand image. The majority of respondents (mean score 3.5000, standard deviation 0.04569) felt that our organization can easily identify customer service improvement areas. Most respondents also agreed that our organization has boosted customer retention. The mean score was 3.4167 and the standard deviation was 0.95824 in this investigation. With a mean score of 2.3333 and a standard deviation of 0.18401, most respondents disagreed that our firm has increased sales funnel velocity. Our company has enhanced customer experience, as shown by a mean score of 3.7500 and a standard deviation of 0.92852. Our firm has fresh client referrals (mean 3.8363 and standard deviation 0.28616). The majority of respondents disagreed that our organization delivers valuable customer feedback and insight (mean 2.0833 and standard deviation 0.12012). Finally, with a mean of 3.7164 and an average standard deviation of 0.32640, most respondents felt that our organization has improved customer service. A majority of respondents agreed with several lean customer practice items using a five-point scale Likert mean larger than (x = 3.4). The study found that Kassmatt Supermarkets performs better with lean customer procedures. Chanegrih and Creusier (2016) found that customer participation in service delivery improved organizational performance, including personnel responsibilities and operational efficiency.

Table 32: Descriptive Findings of Lean Customer Practices

Statements	Mean	Std. Deviation
Our firm has improved its brand image.	3.5833	.12012
Our firm can easily determine the areas of improvement in serving customers.	3.5000	.04569
Our firm has increased customer retention.	3.4167	.95824
Our firm has enhanced sales funnel velocity.	2.3333	.18401
Our firm has improved customer experience.	3.7500	.92852
Our firm has new customer referrals.	3.8363	.28616
Our firm provides valuable customer feedback and insight.	2.0833	.12012
Our firm has enhanced its customer support.	3.7164	.32640

Descriptive Findings for Lean Transport

Table 4 showed that a mean of 3.8333 and an average standard deviation of 0.41794 showed that most respondents agreed that our organization uses trustworthy transit for client deliveries. With a mean score of 3.5833 and a standard deviation of 0.92185, most respondents agreed that our company delivers customers cheaply. The majority of respondents also agreed that our clients have lowered shipping costs by grouping orders. The mean score in this study was 3.8033 and the standard deviation was 0.20112. With a mean score of 2.5000 and a standard deviation of 0.96189, most respondents disputed that our organization has optimized supply chain efficiencies by assuring clients can retrieve their orders quickly and safely. Our organization has optimized packaging materials, as shown by a mean score of 3.9167 and a standard deviation of 0.12012. Our firm also optimized material product management (mean 3.5002 and standard deviation 0.36803). Most respondents felt that our organization has minimized inventory costs (mean of 3.6917 and standard deviation of 0.19258). A majority of respondents agreed with lean transport statements using a five-point scale Likert mean greater than (x = 3.4). The study found that lean transport helps Kassmatt Supermarkets. Lean transportation improves an organization's logistics performance and efficiency by identifying and removing tasks that don't offer value to the customer's experience, according to Villarreal (2017).

Table 4: Descriptive Findings for Lean Transport

Statements	Mean	Std. Deviation
Our firm utilizes reliable mode of transport forcustomer deliveries.	3.8333	.41794
Our firm uses an affordable mode of transport forcustomer deliveries.	3.5833	.92185
Our customers have reduced shipping costs throughpooling of orders.	3.8033	.20112
Our firm has optimized supply chain efficienciesby ensuring customers can retrieve their orders quickly and safely.	2.5000	.96189
Our firm has optimized the use of packagingmaterials.	3.9167	.12012
Our firm has streamlined material producthandling.	3.5002	.36803
Our firm has minimized the cost of holding inventory.	3.6917	.19258

Descriptive Findings on Performance

The mean of 2.4167 and average standard deviation of 0.92851 in Table 5 showed that most respondents disagreed with the claim that our firm's sales volumes have increased by at least 60% in the last two years. Our company's product line has expanded during the past two years, according to a mean score of 3.5000 and a standard deviation of 0.45690. Our company's profit margins have continuously improved over the previous two years, but most respondents disagreed. The mean score was 2.1679 and the standard deviation was 0.76274 in this investigation. With a mean score of 3.8330 and a standard deviation of 0.42033, most respondents agreed that our company has expanded into new markets in the last two years. With a mean score of 3.6671 and a standard deviation of 0.72106, most respondents believed that customer complaints have reduced by at least 60% in the last two years. In the last two years, the number of consumers referred to our firm's branches has constantly climbed by at least 40% (mean of 3.7166 and standard deviation of 0.90171). Most respondents felt that consumer satisfaction had grown in the past two years (mean of 3.6617 and standard deviation of 0.70216). A majority of respondents agreed with several Kassmatt Supermarkets performance claims using a five-point scale Likert mean greater than (x = 3.4). The study found that sales volumes, profitability, and market share positively impact Kassmatt Supermarkets.

Larasati & Purwanto (2022) found that enterprises with larger profit margins are more competitive than those with lower margins. Gichuru, Iravo, and Arani (2015) say a company's growth depends on market share and customer retention.

Table 5: 3Descriptive Findings on Performance

Statements	Mean	Std. Deviation
Our firm's sales volumes have increased by at least60% in the last two years.	2.4167	.92851
Throughout the last two years, our company's product line has expanded.	3.5000	.45690
Profit margins at our company have gradually increased over the steadily for the past two years.	2.1679	.76274
In the last two years, our company has expanded into new markets.	3.8330	.42033
In the last two years, the amount of consumer complaints has dropped by at least 60%.	3.6671	.72106
In the last two years, the number of customers referred to our firm's branches has steadily increased by at least 40%.	3.7166	.90171
In the last two years, the level of consumer satisfaction has increased.	3.6617	.70216

Overall Correlation Analysis

Lean supply chain techniques and performance were correlated using the Pearson product-moment correlation coefficient. Performance correlated well with lean supply chain management features. Demand management, process standardization, lean customer practices, and lean transport had positive correlations of 0.171, 0.719, 0.870, and 0.861, respectively. Consequently, Kazmi and Ahmed (2022) found that demand management improved business performance. Schmiedel, Recker, and von Brocke (2020) found that process standardization improved firm performance. Lean customer practices also positively correlated with firm success, according to Daud and Zailani (2011). Finally, Dulebenets (2019) found that lean transport improved company performance.

Table 6: Overall Correlation Analysis Findings

		Performance	Demand Management	Process Standardization	Lean Customer Practice	Lean Transport
Performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	108				
Demand Management	Pearson Correlation	.171	1			
	Sig. (2-tailed)	.008				
	N	108	108			
Process Standardization	Pearson Correlation	.719**	.454**	1		
	Sig. (2-tailed)	.000	.000			
	N	108	108	108		
Lean Customer Practice	Pearson Correlation	.870**	.431**	.486**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	108	108	108	108	
Lean Transport	Pearson Correlation	.861**	.142	.450**	.472**	1
	Sig. (2-tailed)	.000	.004	.000	.000	
	N	108	108	108	108	108

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

Regression Analysis

The findings revealed that lean supply chain practices and performance had a positive relationship (R = 0.913, R^2 = 0.833). Therefore, lean supply chain practices explain 83.3% variation in performance of Kassmatt Supermarkets Ltd as shown by an R^2 of 0.833.

Table 7: Overall Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.913[a]	.833	.827	.34638	.833	128.457	4	103	.000

a. Predictors: (Constant), Demand Management, Process Standardization, Lean Customer Practice, Lean Transport

Analysis of Variance

The findings in Table 8 showed that the regression model used in this study has a high degree of goodness of fit as indicated by an F ratio of 128.457 with a P value of 0.000 in model 1.

Table 8: Overall ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.647	4	15.412	128.457	.000[b]
	Residual	12.358	103	.120		
	Total	**74.005**	**107**			

a. Dependent Variable: Performance
b. Predictors: (Constant), Demand Management, Process Standardization, Lean Customer Practice, Lean Transport

The findings in Table 9 depicted the significance of test findings for lean supply chain practices in the elements of demand management, process standardization, lean customer practices and lean transport. The results reveal a positive relationship between lean supply chain practices and performance. The aforementioned relationship was also statistically significant as validated by respective p values of less than 0.05. This implies that lean supply chain practices have a significant influence on performance of Kassmatt Supermarket Limited.

Performance = 0.462 + 0.281Demand Management + 0.312Process Standardization + 0.688Lean Customer Practices + 0.068Lean Transport

Table 9: Overall Test Significance Findings

		Coefficients[a] Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.462	.176		2.632	.010
	Demand Management	.281	.063	.294	4.456	.000
	Process Standardization	.312	.106	.246	2.940	.004
	Lean Customer Practice	.688	.099	.738	6.931	.000
	Lean Transport	.068	.104	.075	5.657	.013

a. Dependent Variable: Performance

$Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$

$Y = 0.462 + 0.281X_1 + 0.312X_2 + 0.688X_3 + 0.068\ X_4 + \varepsilon$

Where;

Y= Performance

0.462 = Constant

0.281 = Demand Management

0.312 = Process Standardization

0.688 = Lean Customer Practices

0.068 = Lean Transport

As can be seen in Table 9, the co-efficients $\beta1 = 0.281$, $\beta2 = 0.312$, $\beta3 = 0.688$ and $\beta4 = 0.068$ are all significantly and statistically different from 0 having p values of 0.000, 0.004, 0.000, and 0.013 respectively. Additionally, these coefficients have p values that are less than $p = 0.05$.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study examined lean supply chain practices' impact on Kassmatt Supermarkets Ltd.'s performance. The study found that demand management improved Kassmatt Supermarkets ltd performance. The study found a weak positive link between demand management and performance, which could be due to bad forecasting, not noticing prediction errors, or poor demand management abilities. Process standardization affected Kassmatt Supermarkets Ltd. performance, according to the study. The correlation coefficient showed a significant, positive influence. Process standardization helped Kassmatt Supermarkets Ltd. function better. The research also found that quality management, lean procurement, and stakeholder management are essential parts of process standardization as a lean supply chain strategy and affect Kassmatt Supermarkets Ltd.'s success.

Lean customer procedures improved Kassmatt Supermarkets Ltd.'s performance; the study found. The study found that lean customer procedures affected firm performance. The study also found that Kassmatt Supermarkets ltd routinely monitored the lean supply chain practice of lean customer, notably customer complaints, involvement, and problem solving. According to the report, Kassmatt Supermarkets Ltd. applied lean customer practices for performance. The study concluded that lean transport improved Kassmatt Supermarkets ltd. performance. Lean transport was strongly correlated with company performance, hence the study found that it affected performance. The investigators also found that Kassmatt Supermarkets ltd had adopted lean supply chain methods, including lean transport. The study concluded that Kassmatt Supermarkets ltd used lean transport to increase performance. Thus, optimal mode selection, pooling orders, and crossdocking are essential components of lean transport as a lean supply chain management strategy that affect Kassmatt Supermarkets Ltd.'s performance.

Recommendations

LSC practices boost performance, as shown above. The report suggests these approaches for other retail chains and SMEs, notably supermarkets. The study found that small and medium businesses should use lean supply chain practices like demand management, process

standardization, lean customer practices, and lean transportation to improve performance. Demand management, process standardization, lean customer practices, and lean transportation can improve supply chain processes. Since demand management had a weak positive relationship, the study suggests more attention. The study suggests using both qualitative and quantitative forecasting methods to improve demand management and performance.

The report also recommends systematic lean supply chain implementation by supermarket management. A report recommendation. The hierarchical order of lean supply chain techniques may depend on the levels and how much each strategy affects corporate performance. This would allow supermarkets to focus on lean supply chain approaches that improve performance the most and prioritize their resources. Based on the study's R2 findings, lean transport, customer, process standardization, and demand management methods should be implemented. The study's techniques inspired these suggestions. The paper recommends that Kenyan supermarkets use the conceptual framework and topology for lean supply chain management developed during the research. They could also modify the framework to create a new topology and conceptual framework for lean supply chain management that fits the company's organizational structure. This theoretical paradigm could help small and medium-sized enterprises outperform their competition and prosper in a rapidly changing business climate.

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