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Program Unit

The Effect of Floriculture Global Supply Chain Cost Reduction
Strategies on Organizational Performance
The Case of Margin par Ethiopia P.L.C.

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ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

**The Effect of Floriculture Global Supply Chain Cost Reduction Strategies on
Organizational Performance**

The Case of Margin par Ethiopia P.L.C.

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Declaration

I, Hiwot Getachew declare that this thesis is a result of my independent research work on the topic entitled “The Effect of Floriculture Global Supply Chain Cost Reduction Strategies on Organizational Performance: The Case of Margin par Ethiopia P.L.C.” in partial fulfillment of the requirements for the Degree of Master of Art in Logistics and Supply Chain Management at Addis Ababa University School of commerce. This work is original innature and has not been presented for a degree in any other University. All the references are also duly acknowledged.

Hiwot Getachew

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Date _____

Certification

This is to certify that Hiwot Getachew has carried out this thesis proposal on the topic entitled “The Effect of Floriculture Global supply chain cost Reduction Strategies on Organizational Performance: The Case of Margin par Ethiopia P.L.C.” under my supervision. Accordingly, I here assure that his work is appropriate and standard enough to be submitted for the partial fulfillment of the requirements for the award of the degree of Master of Art in Logistics and Supply Chain Management.

Dr. Tariku Jebena (PhD)

Signate_____

Date _____

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List of Acronyms and Abbreviations

ANOVA = Analysis of variance

BA = bachelor's degree of arts

BSC = bachelor's degree of sciences

CM = carriers and Modes

CoQ = Cost of quality

DF = demand forecasting

EDI = Electronic data interchange

EHPEA = Ethiopian Horticultural Producers and Exporters Association

EU = European Union

FTL = Full truckload

GSC = Global Supply Chain

JIT = Just-in-time

KPIs = key performance indicators

LQC = Lot quantity cost

LTL = Less than truckload

MA = master's degree of arts

MNOs = Mobile network Operators

MSC = master's degree of sciences

PLC = private limited company

PM =Packaging materials

ROI = return on investment

SC = Supply Chain

SC = supply chain cost

SCCR = supply chain Cost reduction

SCM = Supply Chain Management

SCP = supply chain performance

SCPR = Supply chain professionals

SSC = Supply Chain Cost

TS = Transport services

UK =United Kingdom

Abstract

The thesis examines the effect of floriculture global supply chain cost reduction strategies in Margin par Ethiopia P.L.C. Effective supply chain management has become a potentially valuable way of securing competitive advantage through enhancing supply chain cost and improving organizational performances since competition is no longer between organizations, but among supply chains. This research conceptualizes and develops on five building blocks of supply chain cost reduction strategy (Diversifying carriers and modes, Transport services, demand forecasting, packaging materials, and supply chain professionals) and evaluates the practices of supply chain cost reduction strategy on supply chain performance. The data for the study was collected from 131 employees of Margin par P.L.C Ethiopia. The score mean of supply chain cost reduction strategy strategies was computed and the result of the findings indicated that the practices of supply chain strategies such as carriers and modes and packaging materials has moderated practices while, transport services, demand forecasting and supply professionals has a limited practices in Margin par Ethiopia P.L.C which in turn affects the supply chain performance of the firm. The relationships proposed in the framework were tested using Pearson correlation, and the causal relations were analyzed using regression analysis. From the result of the analysis, it is concluded that there is strong relationship between supply chain cost reduction strategy, and supply chain performance. Besides, supply chain cost reduction strategy has an influence on supply chain performance. Therefore, to achieve advancement in market share and profitability in the long run through enhancing supply chain performance, it is better for the organization to give due emphasis to the constructs of supply chain cost reduction strategy and the measures of supply chain performance.

Keyword: *Floriculture, Supply Chain, Supply chain management, Supply chain cost, Supply chain cost reduction Strategy, Supply Chain performance*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The 21st century has seen much vulnerability which has affected businesses worldwide. This is, due to the increasing globalization, companies need to become more and more competitive to sustain in the market. The only way to stay competitive and to keep customers is to provide a reasonable price of the product. Supply chain costs compose around 55 percent of the total product cost. Since the supply chain has a big influence on the cost of the final product, it is necessary to continually improve the processes within the supply chain and thereby reduce the overall cost. The need to keep the price competitive on the market empowers the company to be flexible and adaptable, offering different prices to different customers (Liu, Zhang 2006).

According to Halldorsson et al. (2008), the primary impediment to supply chain cost efficiency in a corporation is human behavior. To improve efficiency and effectiveness, the supply chain cost requires active management (Canever et al., 2008; Walters, 2008). Hayashi et al. (2009) discovered that the sales and manufacturing functions do not always collaborate for profit maximization. In most circumstances, the sales department oversees increasing sales while, the production function oversees reducing manufacturing costs. Likewise, Back and Borsodi (1992) confirm that some of the key to major cost reduction lies not so much in the internal activities of the firm but in the wider supply chain.

It might be challenging to assess changes in a supply chain cost. In order to achieve the desired lower costs and improved customer service, the supply chain must be adjusted. Additionally, in order to address the change in a supply chain cost, a mechanism for evaluating the results in terms of cost and customer service must first be developed. According to New (1996), estimating the predicted economic benefits of improved SCM is challenging. This study will concentrate on supply chain cost (SCC) and how this metric, along with its reduction techniques, may be utilized to assess supply chain (SC) improvements.

To this end, cost reduction strategies in supply chain management focus on finding the most efficient and affordable ways to procure and store products, transport them from place to place, and ensure customer satisfaction. However, reducing supply chain management costs involves more than just selecting the cheapest materials and carriers. Every aspect of the order fulfillment process costs money and could benefit from cost reduction strategies. Thus, companies should employ different strategies such as outsourcing, automation to reduce supply chain costs and improving performance, since automation reduces errors and increases efficiency. Automated solutions can cover all warehouse processes, from receiving, put away, transfer, picking, packing, and shipping.

Thus, the study examines Margin par Ethiopia PLC as a case firm, finding and assessing their supply chain cost (SCC) reduction strategies with essential theoretical output and proposed procedures that may be adopted throughout the whole supply chain (SC) process to improve corporate performance.

1.2. Background of the company

The Margin par Group is a Dutch-owned vertically integrated flower producer with operations in Ethiopia and Kenya. The three divisions of the corporation in Ethiopia are Margin par, Larca, and Simba, and they all sell and distribute cut flowers all over the world. Margin-par is a floral value chain management company that oversees the entire floral value chain, from breeding to distribution. Growers of cut flowers are based in Addis Ababa, with farms in the Walmera district near Holeta. Many farm locations export a variety of summer flowers to foreign markets. Crocosmia, Eryngium, and Astrantia are all grown and shipped to Europe and Asia.

The operations of the company encompass more than 60 hectares of agricultural land west of Addis Ababa. Because Ethiopia is entirely within tropical latitudes, the company can export 4-5 times per week. Margin par Group has 1157 permanent employees, 572 of whom work for Margin par Ethiopia PLC, 388 for Larca Investment PLC, and 197 for Simba Horticulture PLC. The company also imports various farm inputs (fertilizers, chemicals, packaging materials, irrigation materials, etc.).

The case company's diverse set of global supply chain operations demonstrates that the research topic is applicable to it. And, because no studies on the topic have been conducted

on the company, and based on a brief review of the literature, it appears that little attention has been paid to Global supply chain cost reduction strategies. It is self-evident that determinants become barriers if firms do not fully exploit or optimize them, particularly among cut flower exporting firms operating in an emerging economy like Ethiopia.

1.3. An overview of floriculture industry in Ethiopia

Ethiopia is now Africa's second largest exporter of flowers. The business in Ethiopia began in the late 1970s, when the government founded the Horticulture Development Corporation with the primary goal of producing foreign financial revenues. It bears massive, budded roses with long stems and vibrant hues. There are various varieties available, and the prime growing season lasts from October to May. Flowers are produced in sophisticated farms in Addis Ababa and the Rift Valley before being exported through Bole International Airport. Temperatures are ideal for floriculture, and there is enough of sunshine, often more than eleven hours every day.

Ethiopia's vast geographical area, pleasant temperature, and plentiful water and land resources all combine to make it a great investment location. Ethiopia, located in the Horn of Africa, serves as a link between Africa, the Middle East, and Europe. Because of its proximity to the Horn's major ports, Ethiopia is close to its traditional export markets of the Middle East and Europe. Because of this proximity, the world's leading exporters have unrivaled access to the Ethiopian floricultural market. Ethiopia is now producing roses, gypsophila, hypericum, Limonium, carnations, and chrysanthemums, among other flowers. Roses thrive in the near-ideal growing conditions of the Ethiopian Highlands. Ethiopia's rose industry developed from 40 to 250 productive hectares between 2004 and 2006, and it is prepared to expand much further. (www.ehda.gov.et). According to Kampala (2015), the Ethiopian flower industry began in the late 1990s, and despite its late arrival, Ethiopia has become Africa's second largest flower exporter (after Kenya). Future growth is likely to be even bigger.

Exports are expected to exceed \$550 million by the end of 2016. Ethiopia's flower industry exemplifies quick and efficient diversification into a non-traditional export area. Because of its position in the tropics and wide range of elevations, Ethiopia is an excellent growing environment for such crops. Furthermore, the Federal Government, the Ethiopian Horticulture Producers and Exporters Association (EHPEA), and international investment all played critical roles in the development of Ethiopia's floriculture industry.

The EHPEA, which included entrepreneurs from the private sector, was instrumental in gaining government support for the industry. The group's goal was to promote the industry. Following recent ethnic unrest and a drop in labor force participation in Kenya, Africa's leading global flower exporter, investors and manufacturers sought to diversify and invest in other countries.

Ethiopia was an excellent choice for rose cultivation due to its beautiful environment and low transportation costs. Flower farms were provided with low-cost state-owned land, particularly near the airport. This decrease in transportation costs accelerated market expansion. The government also provided appealing incentives to investors. For example, a five-year company tax exemption for inputs was implemented, import tariffs were repealed, and investors were given access to bank capital.

Ethiopia clearly had a competitive advantage in rose production, especially given the large amount of labor available. As the industry expanded, the unit cost of production decreased. The timeline of business introduction into the Ethiopian flower market shows that local entrepreneurs were influential in the early stages. Apart from Golden Rose and Ethio Dream, the first movers and early imitators were all privately held companies. Foreign corporations began to participate in the form of joint ventures or full ownership primarily after 2003. Kenya (for example, Linsen, Abyssinia, Maranque, Karuturi, and Sher-Ethiopia), Uganda, and Zimbabwe supplied a significant number of the foreign enterprises. Ethiopia may have benefited from a more favorable investment climate than these countries due to the increasing transfer of foreign investment to Ethiopia.

Through overseas investment, knowledge transfers and technical improvements, such as improved farming practices, can be introduced into the domestic market. International investment benefits the receiving country by stimulating economic activity and thus increasing job opportunities.

In the case of Ethiopia, investment has come from a wide range of geographical and industrial backgrounds, ranging from the Netherlands, the United Kingdom, and India to more regional markets like Nigeria, Sudan, and Oman, thereby promoting South-South integration. Nonetheless, the Netherlands continues to be the largest market for Ethiopian roses, accounting for approximately 90% of rose exports. Ethiopia has clearly emerged as a formidable global cut flower industry competitor.

The floriculture industry has had a huge impact on Ethiopia's economy and society, most notably on job creation, with over 100,000 new jobs created in the previous five years. Locals are being taught business and management skills, and the majority of contributors give back to society in some way. Because women make up more than 75 percent of the workforce, the sector has had a significant impact on gender perceptions. By diversifying its production, Ethiopia can rely less on charity and more on trade. Although floriculture is a relatively new industry in Ethiopia, sales records of flower exports show how successful trade diversification can be. [Http//www.ehda.com](http://www.ehda.com) is the source.

1.4. Statement of the problem

Companies are under intense pressure to increase profits while customers demand lower prices; as a result, companies must cut costs in all areas. According to Tummala et al. (2006), changing the supply chain lowers costs and allows a company to compete more easily on price. According to Kumar and Chang (2007), cutting costs in a company increases net income. According to Lahti et al. (2009), the success of a company is determined by the performance of its supply chain. In his study, Shahabuddin (2011) discovered that companies that implemented supply chain processes were more profitable than those that did not.

Cost cutting is the process of reducing a company's expenses in order to increase profits. It entails identifying and eliminating expenses that do not add value to customers, as well as improving procedures to improve efficiency. The emphasis of cost reduction is frequently on short-term reductions. Because of increased competition, many businesses have broadened the scope of their cost-cutting initiatives beyond organizational boundaries. Supply chain cost reductions represent a new source of competitive advantage. Despite growing interest in lowering supply chain costs, little research has been conducted on the systematic development of supply chain cost reduction strategies.

Revenue increases as supply chain costs are reduced. By cutting costs and increasing the company's net profit and profit margin. Lowering business costs can be an important factor in increasing a company's margin. Utilizing cost-cutting solutions has numerous advantages for the business. A more cost-effective supply chain will improve overall supply chain performance, reduce lead times, and expedite product delivery to critical locations. It improves customer satisfaction by improving order fulfillment processes.

There are numerous factors that contribute to the success of a global supply chain and picking one as the most important is impossible. Cash flow is unquestionably critical, as is prudent financial management. Overhead expenses should be examined to reduce costs and maximize profit. These costs include marketing, advertising, communication, supplies, insurance, and freight. If a company lacks operational capital and is unable to support its own infrastructure, it will fail quickly. It is critical that the supply chain be properly managed so that the organization does not lose money. The supply chain of a company may account for up to 85 percent of its revenue. As a result, doing it correctly is critical.

Floriculture sector inputs (Pesticides, Fertilizers, Packaging Materials, and so on) are expensive and difficult to obtain in the domestic market, so businesses must import inputs from a variety of foreign countries. To thrive in this competitive market, businesses must improve their total supply chain efficiency and implement the best SC cost-cutting strategies. Floriculture supply chain cost reduction is the most expensive and risky business; therefore, firms must focus on cost control to remain competitive.

Organizations must conduct research and select the most efficient global supply chain cost reduction strategy in order to increase profits while reducing unnecessary expenditures. So far, research on global supply chain cost reduction has primarily focused on external issues (uncontrollable and related to suppliers), but at the firm level, information on how to make companies in the floriculture industry is lacking. As a result, the researcher's primary goal is to evaluate global supply chain cost reduction strategies at the firm level, such as firm characteristics on Supply chain cost reduction strategy, those strategies that influence the overall company supply chain route, and firm performance.

Despite the fact that Ethiopia is Africa's second largest exporter of cut flowers after Kenya, the supply chain requires significant development in order to generate consistent foreign currency to compensate for the country's shortcomings. As a result, assessing changes in a supply chain can be difficult. Have the changes in the supply chain resulted in lower costs and better customer service as intended? To be able to answer this question, you must first develop a method for evaluating the outcome in terms of cost and customer service. According to New (1996), it is difficult to quantify the expected economic consequences of improved Supply Chain Management (SCM).

As a result, this research is concerned with Supply Chain Cost Reduction (SCCR) and how this measure, along with its components, can be used to identify and evaluate supply chain improvements. The study also looks at supply chain cost strategies, supply chain cost components, and how those costs arise and are impacted. The final study report proposes a theoretical model that provides the framework as well as approaches for supply chain cost reduction based on the analysis and integration of prior research findings. Thus, in accordance with the above statement of the problem, the study intended to answer/address the following research questions.

1. How are the global supply chain cost reduction strategies are practiced in Margin par Ethiopia P.L.C.?
2. How does the supply chain cost reduction strategies impacts on the supply chain performance of Margin par P.L.C.?
3. How are the global supply chain cost reduction strategies are currently managed in Margin par Ethiopia P.L.C.?
4. What the main challenges that affects the practices of the global chain reduction strategies in Margin par Ethiopia P.L.C.?

1.5. Objectives of the Study

1.5.1. General Objectives

The general objective of the study is to examine the effect of floriculture Global Supply Chain cost reduction strategies on organizational performance of Margin par Ethiopia PLC.

1.5.2. Specific Objectives

The specific objectives of the study are:

- To examine the practice of the global supply chain cost reduction strategies in Margin par Ethiopia P.L.C.?
- To evaluate the extent to which the global supply chain cost reduction strategies affects the overall firm supply chain performance?
- To assess how the global chain cost reduction strategies are currently managed by the Margin par Ethiopia P.L.C.?
- To investigate the main challenges that affects the practices of the global chain reduction strategies in Margin par Ethiopia P.L.C
- To suggest recommendations based on research findings

1.6. Significant of the Study

Because the researcher attempted to provide detailed information about global supply chain cost reduction strategies, this study was beneficial to top management, all owners, workers, a new researcher who will conduct typical research on this specific topic, Flower Company, and a new entry flower P.L.C.

The research improves industry understanding while also identifying opportunities for future research. It assists certain significant executive bodies (top managers, owners) in taking the subject matter seriously and taking remedial action on existing difficulties by providing formative techniques/mechanism for the entire flower business to keep up with the current market condition. Performance metrics are used because this investigation indicates the issue area of logistics.

Furthermore, this study makes advice on how to evaluate the implementation of global supply chain cost reduction strategies and supply chain performance of certain logistical operations in relation to logistics management performance. Based on recommendations, it is beneficial to provide training for all employees to assist them expand their skills and knowledge, use new and advanced technologies, and make additional improvements to the performance evaluation method.

It also acts as a guideline for new investors. This work attempts to bridge the gap between theory and reality in cost reduction, logistics management and performance measurement. This study was also essential for examining the nature of the competitive business environment with logistic performance measuring system.

It can also be used as a springboard for future study. On the other hand, it is believed that, aside from its relevance for academic purposes, it adds its own contribution to the body of knowledge that this study will stimulate future scholars and researchers to further research of logistics research in connection with supply chain cost reduction of the flower industry. This signifies that this work will be used as a future reference for new logistics researchers.

1.7. Scope of the Study

The study concentrates on selected global supply chain strategies that are related to the company's operation or floriculture industry supply chain. Furthermore, while Ethiopia has a

thriving cut flower export market, the study will only look at the Margin par Ethiopia plc Group, which is made up of three cut flower exporting companies. As a target respondent, the study used the perceptions of management level and affiliated bodies of enterprises that can contribute to the study.

1.8. Delimitation of the study

Margin par P.L.C functioning in the Holeta cluster is the focus of the study. Due to budgetary and time restrictions, the study was confined to supply chain cost reduction strategies in the Margin par P.L.C. Furthermore, throughout the course of conducting this study, the following problems arose, each of which has the potential to have a negative impact on the study's outcomes: Lack of sufficient resources to complete the study, insufficient data in the office due to poor recordkeeping, and difficulty seeing the supervisors. Because they were in meetings or training much of the time and giving questionnaires to employees at their job was also the most challenging labor, the researcher remained patient for the study's success.

1.9. Limitation of the study

Even though the corporation operates in other countries in Europe and Africa, such as Kenya, the research focused solely on the Ethiopian margin. As a result, the study's principal drawback may have remained the lack of availability and accessibility to existing meager literatures on supply chain cost reduction method in particular and in an ideal supply chain of other settings in general, to the best of the researcher's knowledge. Nonetheless, a concerted and methodical effort has been made to compile the literature on logistics performance that is now available. Assessing supply cost reduction in terms of its four dimensions, as it can be applied to post-harvest supply chain cost reduction, logistics and supply chain, and the production of horticultural or agricultural supply chains in general, necessitates a more detailed and in-depth investigation in different supply chain tires. The current study, on the other hand, is limited on comprehensively measuring the worldwide supply chain cost reduction of flower plc's logistical efforts in the Holeta cluster. Only a few worldwide supply chain cost-cutting techniques relating to a company's operation, or the floriculture sector were studied.

1.10. Operational Definition of key Concepts and Terms

Floriculture: - Floriculture, also known as flower farming, is a type of horticulture that focuses on growing flowering and visually appealing plants for use in gardens and floristry.

Global Supply Chain Management: - Global supply-chain management refers to the distribution of goods and services across a multinational corporation's global network to maximize profit and minimize waste.

Supply Chain Management: - The management of the flow of goods and services between enterprises and locations. It includes the movement and storage of raw materials, work-in-process inventory, and finished items, as well as end-to-end order fulfillment from point of origin to point of consumption.

Supply Chain Cost: is defined as all relevant costs in the supply chain of a company or organization. Also, it is defined as costs that constitute a considerable percentage of the total sales price of a product or service. Manufacturers usually define supply chain costs using the total cost of ownership.

Supply Chain Cost Reduction Strategy: is a road map that helps businesses get their products to customers in the most efficient and cost-effective ways possible. It helps companies procure and store products, transport them from point A to point B, and ensure customer satisfaction. This roadmap ensures that every phase of the supply chain, including material sourcing, manufacturing, delivery, and logistics, is optimized.

Supply chain performance refers to the activities of the extended supply chain in meeting end-customer requirements, such as product availability, on-time delivery, and all the inventory and capacity required in the supply chain to deliver that performance in a responsive manner. The process of quantifying the efficiency and effectiveness of action is commonly referred to as performance measurement. The performance of the supply chain is measured from five perspectives: reliability, responsiveness, flexibility, cost, and asset management (Neely et al., 1995).

1.11. Organization of Study

The study is divided into five sections. The first chapter begins with an introductory section that discusses the study background, problem statement, research questions, purpose of the study, significance of the study, scope of the investigation, study restrictions, word definitions, and study organization. The second chapter investigates previous research-related material. The third chapter is about research methods. This chapter discusses the research type and design, study subjects/participants, data sources, data collection tools/instruments used, data collection techniques, and data analysis methods. The fourth chapter summarizes and analyzes/discusses the study's results/findings. The fifth chapter concludes the paper by summarizing the key findings, offering conclusions and recommendations, and recommending additional research. Supporting documents and any relevant appendices are also included in the list of references using APA.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

There are two sections in this chapter: theoretical review and conceptual framework. It incorporates concepts and theories about supply chain cost-cutting strategies developed by the researcher after reviewing prior studies and literature about the study. This section expands on internal, or firm-level characteristics related to supply chain cost-cutting strategies. The empirical literature review section discusses various studies on firm level supply chain cost reduction strategies in various industries. Finally, the conceptual framework of the study is examined considering previous research and relevant literature.

2.2. Theoretical Review

The theoretical review is reviews three interconnected components: cost drivers, cost-cutting strategies and different models to cost reduction, and cost-cutting implementation in the Margin par Ethiopia P.L.C. These elements are critical to the success of the Floriculture supply chain cost reduction in Margin par Ethiopia P.L.C. Therefore, the following sub section of the study emphasis the critical elements in detail.

2.2.1. Supply Chain

A supply chain is viewed as process of (decision making and execution) processes and (material, information and money) flows that aim to meet final customer requirements and take place within and between different supply chain stages. The supply chain not only includes the manufacturer and its suppliers, but also (depending on the logistics flows) transporters, warehouses, retailers, and consumers themselves. It includes, but is not limited to, new product development, marketing, operations, distribution, finance, and customer service (Chopra and Meindl, 2001).

2.2.2. Supply Chain management

There are several definitions of supply chain management. Handfield, Nichols (1999), defines the supply chain management as the process that encompasses all processes associated with

the movement and transformation of commodities from raw material extraction to the final user, as well as the information flows that travel up and down the stairway. Supply chain management (SCM) is the act of bringing all these aspects together to create a sustainable future through enhanced supply chain relationships. According to Huan et al. (2004), the SCM concept emerged shortly before the 1960s. The study of SCM increased in the 1980s and increased dramatically in the 1990s (Huan et al., 2004). To be successful in business, more and more companies are focusing on their supply chain.

According to Higginson and Alam (1997) and Cooper et al. (1997), top managers recognized the importance of effective supply chains in creating competitive advantage in 1997. According to Cambra and Polo (2008) Supply chain management is one of the key activities that contribute to a company's success. According to Spens and Wisner (2009), SCM is still highly valued.

In the literature, there are numerous definitions of SCM. The definitions differ in their emphasis. Cost focus, customer service and inventory cost focus, and flow focus are all options. According to Shapiro (2001), the traditional goal of SCM is to minimize total Supply Chain Cost in order to meet a fixed and given demand. This total cost may include acquisition costs for raw materials and other items, transportation costs, facility investment costs, direct and indirect manufacturing costs, direct and indirect distribution costs, inventory costs, interfacility transportation costs, and outbound transportation costs.

SCM is defined by Christopher (1998) as the management of upstream and downstream relationships with suppliers and customers to provide superior customer value at a lower cost to the supply chain as a whole. According to Johnston (1995), SCM is the process of strategically managing the movement and storage of materials, parts, and finished inventory from suppliers to customers via the firm. SCM is defined by Kranz (1996) as the effort involved in producing and delivering a final product from a supplier's supplier to a customer's customer.

SCM is defined by Carter et al. (1995) as a coordinated approach for managing the flow of goods from suppliers to final customers, with the goal of meeting customer service objectives while minimizing inventory and related costs. According to Simchi Levy (2000), "Supply Chain Management is a set of approaches used to efficiently integrate suppliers,

manufacturers, warehouses, and stores, so that merchandise is produced and distributed in the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while meeting service level requirements."

Ellram (1990) defines supply chain management as the integration of material and product flow control and planning from supplier to customer. The goal of Supply Chain Management (SCM) is to improve supply chain operations management across functional boundaries. As a result, the primary goal of SCM is to reduce total supply chain costs while improving quality and service to end customers (Berry and Naim, 1996).

2.2.3. Global Supply Chain Strategy and Organizational performance

2.2.3.1. Global Supply Chain Strategy

Supply chain strategies are key to a company's success because it defines a company's relationship with its suppliers, distributors, and vendors. An effective and well-defined strategy will allow a business to ensure a smooth movement of products throughout the supply chain. In turn, operations will function efficiently, costs will be minimized, and profitability will be boosted model and unique customer demands. A Global supply chain strategy is a component of a larger business strategy that is based on competition (innovation, low cost, service, and quality) (Hugo, et.al. 2011). It is linked to the marketing strategy, the needs of the customers, the product strategy, and the power position (Hugo, et al., 2011). Most modern businesses rely on supply chain strategies to be successful (Hines, 2006). To be effective, a company's supply chain strategy must be aligned with its competitive strategy (Chopra & Meindl, 2010).

Pandey & Garg, (2009) argue that in SCM, there are two generic strategies such as lean and agile strategies. Helo, (2004) identified efficiency and flexibility as components of productivity, but if markets do not appreciate high variety and low lot sizes, product mix flexibility is worthless.

Similarly, Fisher (1997) points out two types of supply chain strategies: efficient supply (i.e., lean supply) and responsive supply (i.e., agile supply). There is an essential difference between lean supply chains that focus primarily on efficiency (i.e., costs and productivity) and agile supply chains that focus primarily on effectiveness (i.e., responsiveness).

Researchers have in recent years suggested that the two approaches may be integrated in a variety of ways to create so-called “leagile” approaches. Thus, the following sections discuss the three supply chain strategies in more detail.

1. Lean supply chain

Lean supply chain is concerned with lowering costs by running basic processes with as little waste as possible (Qi et al., 2009). Leanness entails creating a value stream in order to eliminate all waste, including time, and to enable a consistent schedule. The primary goal of a lean supply chain can be realized by employing the most fundamental forms of data communication on inventories, capacities, delivery plans, and fluctuations within the framework of just-in-time (JIT) principles (El-Tawy & Galleary, 2011). A lean supply chain strategy's key characteristics are predictable market demand, a lowest-price criterion, forecasted product supply, a long product life cycle, and a long order lead time (Gattorna, 2006). Many businesses have successfully implemented and benefit from lean strategies (Duarte & Machado, 2011).

2. Agility supply chain strategy

Agility supply chain strategy is a comprehensive business response to the challenges of profiting from rapidly changing, constantly fragmenting global markets for high-quality, high-performance, customer-configured goods and services (Iskanian, 2006). Agility is defined as the use of market knowledge and a virtual corporation to capitalize on profitable opportunities in a volatile marketplace (Manson-Jones et al., 2000). The primary goals of agility are based on competition, business practice, corporate structures, strategic response, adaptability, defending against competitors, a paradigm shift, a step toward innovation, and the promise of a business world based on cooperation (El-Tawy & Galleary, 2011).

As a result, when dealing with turbulence and reconfiguring operations to accommodate individual customer specifications in high-volume manufacturing, agility is an appropriate strategy. Agility responds not only to changing market conditions, but also to changing opportunities (Baker, 2008). Agility in a supply chain refers to the ability of the supply chain and its members to quickly align the network and its operations to the customers' dynamic and turbulent requirements (Duarte & Machado, 2011).

The emphasis is on operating businesses in network structures with sufficient agility to respond to changes while also anticipating changes and seeking new emerging opportunities (Ismail & Sharifi, 2006). Agility assesses how well the relationships involved in the processes can be improved and widely accepted as a winning growth strategy (Ismail & Sharifi, 2006). An agile supply chain is defined by the following characteristics: being information-driven; being market-sensitive or demand-driven; having integrated processes; and being network-based (Amir, 2011). (c) A lean and agile supply chain is a hybrid of the two.

It is a system that combines the advantages of leanness and agility' (Krishnamurthy & Yauch, 2007). Agile supply chains seek to instill competitiveness in an organization while remaining cost-effective (Amir, 2011). The combination of lean and agile paradigms within a total supply chain strategy allows the decoupling point to be positioned so that it can best respond to volatile demand downstream while still providing a level schedule upstream from the decoupling point. (Rahimnia & Moghadasian, 2010).

In this hybrid strategy, lean focuses on waste elimination to achieve low-cost delivery of a standardized and stable product, whereas agility responds to complexity caused by constant and unexpected changes (Duarte & Machado, 2011). A company can select a supply chain strategy based on the nature of its products and by matching the strategy to the distinct characteristics of various products or markets (Sebastiao & Golicic, 2008). The nature of the products (standard or special); the nature of the demand (stable or volatile); and replenishment lead times (short or long) are all important factors in determining a supply chain strategy (Christopher, Peck & Towill, 2006). To determine a supply chain strategy, a trade-off between efficiency and responsiveness is required (Chopra and Meindl, 2010).

As a result, there are several factors to consider when deciding on an appropriate supply chain strategy (Ambe & Badenhorst, 2011). Product characteristics are more important among the determining factors (El-Tawy & Galleary, 2011). In addition to product characteristics, factors such as organizational core competencies, supply chain member capabilities, and decision drivers are important in determining an optimal supply chain strategy (Chopra & Meindl, 2010). As a result, implementing an appropriate supply chain strategy allows for improved supply chain performance in terms of responsiveness and efficiency over competitors in each industry. Mismatched strategies and supply chain strategies based on a one-size-fits-all approach frequently fail

3. Leagile Supply

Naylor et al. (1999) created the term “leagile” to refer to hybrids of the lean and agile approaches. Based on this merged strategy Christopher & Towill (2001) visualized three distinct lean-agile hybrids. The first lean-agile hybrid is founded on the Pareto Rule, recognizing that 80% of a firm’s revenue is generated from 20% of products. It is suggested that the dominant 20% of the product assortment can be managed in a lean make-to-stock manner given that demand is relatively stable for these items and that efficient replenishment is the appropriate objective while the remaining 80% can be managed in an agile manner. The second lean-agile hybrid is founded on the principle of base and surge demand, recognizing that most companies experience a base level of demand over the course of the year. It is suggested that the base demand can be managed in a lean manner while demand peaks over the course of peak seasons or heavy promotion periods can be managed in an agile manner. The third lean-agile hybrid is founded on the principle of form postponement. Form postponement refers to delaying the final form of a product until an order is received from customers dictating the quantity and qualities of the products demanded. It was suggested that the production of generic, semi-finished product can be managed in a lean manner, while the customization process requires agile principles.

2.2.3.2. Supply chain performance

Supply chain performance can be measured in terms of both customer satisfaction and costs incurred (Estampea, et al., 2013). Customer satisfaction is an indicator of a company's required standard service level, which is closely related to the overall performance of its supply chain (Chan, 2003). Evaluating supply chain performance is a complicated process because it involves several actors collaborating and interacting with one another in order to achieve a set of strategic supply chain objectives (Estampea, et al., 2013).

Companies share supply chain information among partners to reduce the lack of demand visibility as it moves from downstream end customer to upstream partners in the chain, work closely with customers and suppliers to improve information and product flows, and reduce surprises from demand fluctuations, enhance internal process integration, and work with suppliers to restructure the supply chain. (Krajewski and colleagues, 2010) Several factors influence supply chain performance, including sourcing strategy, distribution strategy, and inventory management strategy, as well as collaboration with partners and information technology.

Strategic sourcing and the development of supplier relationships, according to Jonsson (2008), are important for the company's and supply chain performance. The choice of sourcing strategy and collaboration strategy with suppliers can have an impact on the efficiency and competitiveness of the company's supply chain. Suppliers are just as important as customers in terms of a company's performance and competitiveness.

Customer focus, continuous improvement, and total supplier involvement, according to (Lo et al., 2007), would improve supply chain performance. Supply Chain Management is a critical strategic factor in improving organizational effectiveness and efficiency (Gunasegaram, et al., 2001). Organizations achieve their objectives by providing better service to their customers than their competitors (Neely, et al., 1995). The extent to which customer requirements are met is referred to as effectiveness, whereas efficiency is a measure of how economically the firm's resources are utilized when providing a given level of customer satisfaction. Improving supply chain performance is a critical issue for companies seeking to gain a competitive advantage (Cai, et al., 2009).

The process of quantifying the efficiency and effectiveness of upstream and downstream supply chain processes is known as supply chain performance measurement. A set of metrics used to quantify the supply chain's efficiency and/or effectiveness is known as a performance measure. The primary challenge is to determine the key performance indicators for value-added supply chain processes, as well as the factors that will influence the core business processes that generate wealth for customers (Gunasekaran & Kobu, 2007). Many companies are attempting to capitalize on the advantages of shorter lead times, production flexibility, faster product development, and win-win strategies (Gopal & Thakkar, 2012).

The task of designing and implementing a supply chain performance measurement system is difficult, and companies may face the following issues (Gopal & Thakkar, 2012): a lack of connection with strategy, a focus on cost while overlooking non-cost indicators, a lack of a balanced approach, insufficient focus on customers and competitors, and a lack of a clear distinction between metrics at the strategic, tactical, and operational levels. According to studies, supply chain performance systems are not in sync with the organization's strategy, and there is a disproportionate emphasis on financial metrics (Holmberg, 2000).

In order to measure maximum effectiveness and lowest operating costs, a set of supply chain performance metrics must be established (Gunasekaran & Kobu, 2007). Managers should

identify the KPIs that need to be improved and figure out the relationships between the various key performance indicators and the supply chain operations priorities when developing Supply Chain performance measures (Cai, et al., 2009). Companies use a variety of performance indicators to evaluate the supply chain's performance. According to Rejewski and Ritzman (2002), the following parameters can be used to evaluate the performance of the supply chain cost.

- Lead time: the time interval between placing purchase order and delivery of the product to the customer.
- Cost of order processing, shipping, and delivery.
- Capacity including warehousing, transportation, and shipping capacity.
- Quality of suppliers - the ability to meet quality standards set by manufactures.
- Delivery has three dimensions including delivery speed, production lead time & delivery reliability (Coyle et al. 2003).
- Adaptability (ability to adapt to their changing environment). According to Chopra and Meindl (2004), there are four dimensions to flexibility. Customer service flexibility refers to the ability to accommodate unusual customer requests or inquiries. Order flexibility refers to the ability to change order size, volume, or composition during the logistics process. Location flexibility refers to the ability to service customers from alternative wholesaler or supermarket locations, while delivery time flexibility refers to the ability to provide customers with delivery times.

Non-monetary supply chain the following are examples of performance indicators: (a) Customer service level - In manufacturing, there are four types of customer service levels: order fill rate, stock out rate, back-order level, and delivery probability. (b) Cycle time or lead time is the end-to-end delay in every business process. (C) Inventory Levels (d) Use of SC Resources.

The customer-focused supply chain performance indicators are categorized into three categories known as, Efficiency, Responsiveness and Flexibility. According to Gunasekaran & Kobu, (2007), Efficiency measures operations cost, inventory cost, waste cost, transportation cost, labour costs and profit. Similarly, responsiveness measures customer responses time, lead time, order fill rate, back orders, customers return, and time delivery, whereas flexibility measures volume flexibility, flexibility in operations, delivery flexibility and handle the late orders.

2.2.4. Supply Chain Cost and Supply Chain Cost Reduction

Supply Chain Cost is defined as all relevant costs in the company's or organization's supply chain. SCC analysis can be done in a variety of ways. Supply chain costs are expenses that account for a significant portion of a product's or service's total sales price. Bowersox and Closs (1996), defines Supply Chain Cost as all essential costs in the supply chain of a firm or organization that can be seen from the perspective of the supply chain. Supply chain cost (SCC) analysis may be performed in several methods. Different scholars such as Chen (1997), and Byrne and Heavey (1998) proposed similar definitions. For example, in Chen's (1997), production cost as manufacturing cost like Bowersox and Closs' (1996) definition. According to Chen (1997), supply chain cost is divided into five areas, production cost, transportation cost, warehouse cost, inventory carrying cost, and internal material handling cost.

Supply chain expenses are frequently defined by manufacturers as the total cost of ownership. The total cost of ownership is the cost of all goods or services purchased or obtained. All direct, indirect, and related costs must be identified when conducting a total cost of ownership study on a supply chain. Saputra, Dicky (2021). Supply Chain Cost is defined as all relevant costs in the supply chain of a company or organization. SCC analysis can be performed in a number of ways. The literature contains numerous cost groupings. Bowersox and Closs (1996), Byrne and Heavey (2006), Daniel. S (2018), and Dicky Saputra (2018) all developed similar definitions (2021). According to (Chen, 1997), supply chain costs are defined as costs that account for a significant portion of a product's or service's total sales price.

The literature contains various types of cost groupings. Similar definitions have been developed by Bowersox and Closs (1996), Chen (1997), Sachan et al. (2005), and Byrne and Heavey (2006). These definitions, for example, use different terms for the same thing, such as Production cost in Chen's (1997) definition and Manufacturing cost in Bowersox and Closs' (1996) definition. According to Chen (1997), SCC is classified into five categories: production cost, transportation cost, warehousing cost, inventory carrying cost, and internal material handling cost.

Using SCC to evaluate cost savings and improvements in a supply chain can assist businesses in learning from previous supply chain changes and avoiding the same mistakes in future

change projects. According to Halldorsson et al., the main impediment to supply chain excellence in a company is human behavior (2008). To maximize efficiency and effectiveness, the supply chain requires active management (Canever et al., 2008; Walters, 2008). Hayashi et al. (2009) discovered that the sales and production functions do not always collaborate for profit optimization. In most cases, the sales function is in charge of increasing sales.

The production function, on the other hand, is in charge of lowering production costs. Costs must be viewed from the perspective of the supply chain. Many costs for many businesses exist outside of their own legal boundaries. Previously in-house production and distribution activities are now frequently outsourced to specialized service providers.

Total SCC includes both internal company costs and external company costs for services purchased. Measuring the total SCC provides information that allows the company to determine whether its supply chain design is competitive or if it should be redesigned. Accurate SCC provides a foundation for a company to learn about various supply scenarios. Accurate SCC measurements assist supply chain managers in making sound decisions. Finding all cost parts within SCC can be difficult for some businesses, and some businesses use indirect cost allocations. According to Hatzis et al. (2011), the most significant problems that the companies indicated regarding the costing procedure were the incorrect allocation of indirect costs to the provided services and the incorrect allocation of direct costs to the provided services.

Supply chain, on the other hand Cost reduction is the process of lowering a company's expenses in order to increase profits. It entails identifying and eliminating expenditures that do not add value to customers, as well as optimizing processes to increase efficiency. Short-term savings are typically the focus of cost reduction. In supply chain management, cost-cutting strategies focus on finding the most efficient and cost-effective ways to procure and store products, transport them from point A to point B, and ensure customer satisfaction.

However, there is no universally accepted definition of supply chain cost. There have been numerous attempts to define logistic costs and SCC (Pettersson and Segerstedt, 2013). Pettersson and Segerstedt's suggestions and definitions are used in this study (2012, 2013). SCC is divided into six major categories in this definition: manufacturing cost, administration cost, warehouse cost, distribution cost, capital cost, and installation cost. Each category is further subdivided into various cost elements.

2.2.5. Supply Chain Cost Drivers

Costs associated with logistical activities are also known as supply chain cost drivers. In order to monitor supply chain cost effectively, it is important to understand what drives cost in organizations. According to Capusneanu, (2010), a cost driver is “the factor which generates [the] occurrence of the consumption of resource (capacity) expenses”. Miller (1992) argues that identifying and implementing appropriate cost drivers is critical in understanding the nature and the factors that explain the relationships between cost drivers and the total indirect costs of an operation. Similarly, Mowen, Hansen and Heitger (2009) pointed out that a cost driver as a causal factor that measures the output of the activity that causes cost changes to occur. Likewise, Fawcett et al. (2007) asserts that ‘cost drivers vary over time and among different products and services. According to Mowen et al. (2009), companies that identify and manage cost drivers are believed to be well positioned to ensure better cost forecasting and cost control. Also, Douglas M. Lambert et al. (1998) and Daniel Stanton (2018), there are six decision areas that drive most costs in any supply chain. These factors, when combined, will allow you to identify genuine savings opportunities. To this end, to achieve their objectives, businesses such as Margin par Ethiopia P.L.C must engage in a series of activities and/or processes that incur costs. Failure to gain an understanding of these costs may result in high input costs. As a result, Margin par Ethiopia P.L.C must first develop a cost-control mechanism that can identify and manage their cost drivers, as high operating costs have become the norm for the floriculture Agroindustry globally. Therefore, the following sub section presents the cost drivers to monitor supply chain cost effectively in details.

1. Manufacturing cost

Material costs, test costs, direct and indirect labor costs, machine costs, and building costs are all part of the manufacturing cost. The cost of lost sales is the primary cost trade-off associated with varying levels of manufacturing cost. Costs associated with order fulfillment, parts, and service support are examples of money spent to support manufacturing services. The cost of lost sales includes not only the lost contribution from the current sale, but also potential future sales from the customer and other customers as a result of negative word-of-mouth publicity from previous customers.

2. Transportation Costs

Transportation expenses are a subset of travel expenses that refer to the cost of business transportation by car, plane, train, and so on. Employees can claim transportation expenses such as fuel, parking fees, lodging, meals, and phone charges. The activity of transporting goods drives transportation costs, and customers, product lines, and product lines can be classified. Costs, channel type (inbound versus outbound), and so on. Moving a product from one location to another cost's money, and the costs of different modes of transportation differ. These modes of transportation have varying speeds, which may be as important as transit costs. A faster and more expensive mode of transportation, for example, may save firms money by reducing the amount of inventory in transit.

It is also common to use multiple modes of transportation to transport a single product through a supply chain. Using multi-modal transportation to get from one mode to another can help you save money on transportation. Another common way to reduce transportation costs is to pack more products into each load, thereby increasing capacity utilization. S. Daniel (2018). According to Dicky. S (2021), suggested firms should focus on increasing utilization of existing capacity by modifying load size or, if necessary, enlisting the services of a third-party logistics company (3PL), planning various modes of transportation while keeping existing capabilities and limits in mind, and selecting the most suitable supplier, distributor, co-manufacturer, and transportation partner.

According to Pettersson and Segerstedt (2013), transportation costs include the cost of shipping incoming materials, the cost of shipping the material to the customer, the cost of insurance and inspection of goods, if applicable, the cost of a letter of credit, and the cost of customs clearance.

3. Warehousing Costs

Warehouse costs include the cost of inspecting incoming goods, the cost of employees working in the warehouse, and the cost of the warehouse building, according to Pettersson and Segerstedt (2013). Warehousing costs are incurred as a result of warehousing and storage activities, as well as the process of selecting a plant and warehouse location. It refers to any costs associated with moving goods into or out of the warehouse. The majority of the cost is borne by human labor, which includes receiving, storing, and loading goods for delivery, among other things. The cost of equipment, depreciation, and energy/fuel are secondary to labor.

4. Installation and Information Systems Costs

Pettersson and Segerstedt (2013) define installation and information system as the cost of people working on the installation and information system as well as the cost of tools. Order processing costs include order transmittal, order entry, order processing, and related internal and external costs like notifying carriers and customers of shipping information and product availability. Shippers and carriers have made significant investments in improving their information systems, including electronic data interchange (EDI), satellite data transmission, bar coding, and scanning shipments and sales.

5. Inventory Carrying Costs /Capital costs

The total of all expenses related to storing unsold goods is known as inventory carrying cost. The total capital cost, according to Pettersson and Segerstedt (2013), includes the cost of tied-up capital in the warehouse, the cost of tied-up capital during transportation, and the cost of tied-up capital until the customer has paid the invoice. Costs such as intangible depreciation, lost opportunity cost, and warehousing costs Inventory carrying costs for a business are typically between 20% and 30% of total inventory costs (Daniel. S.,2018). Other costs include the purchase of a building to keep the merchandise safe, as well as loading and unloading within the building. The company also faces the risk of items being misplaced, damaged, or stolen. This problem, known as shrinkage, costs the company money. Finally, a product that has been sitting in a warehouse for an extended period may expire or become obsolete. Dicky. S (2021) suggests a firm to work with to manage the above costs. Maintaining precise inventory levels may assist in saving money on warehousing and transportation. It results in efficient capital management, which fuels the company's growth. Also, cutting inventory costs does not imply eliminating it. The goal is to keep just enough of the right product on hand while getting rid of excess inventory. In general, we can conclude from the preceding points that firms must exercise caution when forecasting demand. Inventory control, packaging, salvage, and scrap disposal are examples of logistics activities that contribute to inventory carrying costs. The 4 major categories of inventory cost are:

- Capital cost/ Opportunity cost - which is the return that the company could make on the money that has tied up in inventory.
- Inventory service cost – which include insurance and taxes on inventory
- Storage space cost – This includes those warehousing space related costs which change with the level of inventory.

- Inventory risk cost including obsolescence, pilferage, relocation within the inventory system and damage.

6. Administrative cost and Procurement Cost

Administrative costs, according to Pettersson and Segerstedt (2013), include costs for order handling, costs for people handling, costs for people handling claims, and costs for people handling supply chain support such as secretaries, managers, and others. Procurement costs are the costs that an organization incurs in order to provide the goods or services that customers expect. One of the most visible costs in any supply chain is the amount you pay for the items you buy. Negotiating better pricing from your suppliers, agreeing to purchase larger quantities over a longer period of time, or switching to a supplier willing to accept lower prices are all popular ways to reduce procurement costs. As a result, the cost of procurement includes your procurement staff's salary and overhead, as well as the information systems they use. Reduce the number of vendors you use and optimize your procurement processes to save money on procurement. S. Daniel (2018). As a result, businesses must focus on utilizing their existing trusted supplier network and selecting from well-known partners who are already familiar with the supply chain's features. There are additional costs known as lot quantity costs and quality costs.

1. Lot Quantity Costs

LQC are purchasing or production costs that vary with order size or frequency, and they include Setup costs include the time required to set up a line or find a supplier. Scrap as a result of establishing the production line Inefficiency in operation as the line begins to run or a new supplier is brought on board Lot Capacity lost also includes costs incurred as a result of downtime during a line changeover or a switch to a new supplier. Handling materials, scheduling, and rushing Price differences resulting from purchasing in different quantities, Order costs associated with order placement and handling.

2. Quality Cost

The cost of quality (CoQ) is a method for calculating the costs that businesses incur to ensure that their products meet quality standards, as well as the costs of producing goods that do not meet quality standards. The goal of calculating the cost of quality is to gain insight into how quality affects the bottom line (Daniel.S.,2018). There are four types of costs associated with quality. Prevention, appraisal, internal failure, and external failure are among them. When a company buys a product, it expects it to be of a certain quality. Formal inspection and quality

assurance systems may be required in some cases to ensure that the products acquired from suppliers and provided to customers meet these requirements. Any product that does not meet these standards costs money, and the more thoroughly a company must inspect for quality issues, the more money it will spend. Using approaches such as Lean and Six Sigma to reduce variation in production and distribution processes can reduce supply chain quality expenses. Daniel. S (2018).

To summarize the discussion of the various types of costs, most supply chain managers devote a significant amount of time to finding ways to reduce expenses. However, one of the major issues with supply chains is that activities are frequently interconnected, so changing one area to lower prices can cause a change elsewhere to raise the cost. Stanton, Daniel (2018). That's not to say you shouldn't look for ways to save money, but you should understand how the system works to avoid creating new issues in the process. Manufacturers must understand the interdependence of the various processes in their supply chain, as well as the impact of cost-cutting in one area on the rest of the value chain (Dicky Saputra, 2021).

2.2.6. Global Supply chain Cost reduction Strategies

Supply chain costs are defined as costs that account for a significant portion of a product's or service's total sales price. The total cost of ownership is commonly used by manufacturers to define supply chain costs. It is the process of reducing excess costs associated with a company's supply chain and their direct impact on the company's bottom line. This includes company's procurement, storage, packing, and delivery. Companies can implement various cost-cutting strategies in Supply Chain Management, and the strategies they use are heavily influenced by their business. The specific supply chain management cost-cutting strategies that will work best for the companies may differ, and they may change from year to year. However, these methods have been shown to assist the companies in developing a cost-effective supply chain that you can build on and develop over time to scale with your business.

Because cost reduction is related to the issue of cost drivers for each activity carried out by Margin par Ethiopia P.L.C, identifying cost drivers should assist Margin par Ethiopia P.L.C in identifying possibilities and opportunities for cost elimination or reduction. The cost structure of Margin par Ethiopia P.L.C, particularly the operating costs, could aid in identifying cost-cutting opportunities and possibilities. The identification of cost-cutting

opportunities and possibilities through cost-driver analysis should result in the elimination or reduction of nonvalue-adding activities, the enhancement of value-adding activities and efficient processes, and the strengthening of relationships among SC partners in the floriculture Agro-industry. Because all high-cost processes identified through cost-driver analysis are either eliminated or reduced, the journey of any re-engineering process should lead to the implementation of cost-cutting efforts. As a cyclical process with ongoing improvement requirements, cost reduction is a means to an end. Implementing a cost-cutting mechanism could allow Margin par Ethiopia P.L.C to improve operational efficiency and provide lower-cost services to end-users. As a result, the section that follows goes into greater detail about some of the supply cost-cutting strategies.

1. Diversifying Carriers and Modes

Any business must carefully select carriers to transport their orders from A to B. The carrier selection process revolves around gathering product and customer information while keeping the budget in mind in order to provide customers with an enjoyable shopping experience. Putting all of your eggs in one basket, on the other hand, rarely ends well. The same is true for businesses that rely solely on the same 2-3 carriers to ship their numerous packages (Streebin, J., 2022). If the company maintains a consistent relationship with carriers and obtains quotes for various services, it will be able to find the best quality product at a reasonable price.

2. Manage Shipping and Transportation Costs

One of the necessary logistics in ineffective Supply Chain Management is transportation. The effectiveness of any Supply Chain is built around delivering goods to customers on time and precisely when they need them. It also assists in meeting the client's needs as they arise. One of a thousand objectives in supply chain design is to be effective in timely delivery of goods and services to meet the customer exactly when they need it. Notably, no manager can achieve such effectiveness unless inefficient transportation is first addressed. Eliot Messaiah K. Afli and Jin Mei (2017). If the company uses multiple modes of transportation, it helps by lowering costs in monitoring goods and increasing security in tax collection, lowering customs costs and increasing smuggling control, lowering the prices of imported goods, allowing scheduling of activities, and controlling compensation goods.

Inventory loss is a major contributor to high supply chain management costs. Every item that the company misplaces or loses due to spoilage or damage is an item that cannot be used to fulfill orders or meet demand. The company will significantly reduce its costs by monitoring its inventory and keeping track of each item it stores. Even better, the company will be able to identify trends that are contributing to inventory loss or waste, allowing it to make the necessary changes and begin reducing costs.

The company must always be cautious that they are paying for the correct transport service and why they have chosen this transport service. In addition to paying for the appropriate shipping speed, the company must ensure that they understand the distinction between FTL (full truckload) and LTL (less than truckload) (less than truckload). The best one to choose, according to Logistics Plus, depends on what you're shipping and how quickly you expect it to be delivered. FTL shipping is recommended for large, heavy deliveries or those that must arrive quickly. Small deliveries that can withstand a few pits stops (because other companies' deliveries will be combined with yours) can be shipped LTL at a lower cost than FTL. Cathy.H., (2022).

3. Improve how to Forecast Customer Demand

This is one area where bringing automation into your supply chain operations will potentially positively impact your business. Automating your forecasting processes can make you better placed to meet customer demand, but it'll also help you manage inventory levels, plan your warehousing better, and manage your cash flow more effectively. Don't buy and ship anything you can't sell. Cathy.H. (2022). When a company forecasts its demand, it ensures that there will be no product shortages and helps to avoid overproduction when demand is low.

Sales forecasting allows companies to plan of time to avoid product shortages. Customers who do not want to wait for an out-of-stock product will switch to a competitor. Forecasting, on the other hand, prevents a company from wasting money by producing or purchasing an insufficient quantity of a product. However, if you're not using the best forecasting model for your business and customer profile, automation could make the problem worse! Review your supply chain forecasting methods to ensure your model fits your business and your customers' needs. As an added benefit, improving your customer demand forecasting will

also build added resilience into your supply chain, as you'll have a more accurate idea of how much excess inventory you need to keep on hand at a given time.

According to Avetta's 2021 marketing report, inventory loss is a major contributor to high supply chain management costs. Every item you misplace or lose due to spoilage or damage is one you can't use to fill orders or meet demand. Monitoring your inventory and keeping track of each item you store can help you significantly reduce those costs. Even better, you'll be able to identify patterns that contribute to inventory loss or waste, allowing you to make the necessary changes and begin saving money. Automation has a questionable reputation. Many employees see it as a way to replace them, but when implemented appropriately, it can help you create a more cost-efficient supply chain. Think about the time your employees spend taking care of tasks that a computer could manage. Things like inventory monitoring, order prep, and data interpretation take time. That's time that your employees can spend in other parts of your business. By automating certain processes, you'll free employees up to focus on their core duties.

4. Packaging Materials

Product packaging serves an important function: it protects the product during transit and provides an eye-catching surface for listing features and specifications, which helps sell the product. Packaging, on the other hand, influences how many products can fit inside a box. A freight container can only hold so many boxes, especially if FTL transport is chosen. Reduced product packaging saves money on packaging materials as well as printing costs. It's a win-win situation and one of the most effective cost-cutting strategies in supply chain management. Find the best way to ship your products without damaging them, because you will lose money for each product that does not arrive at its destination in good condition. Cathy.H. (2022). As if there were such a thing as protective and high-quality product packaging, the company must work on it.

5. Human Resources in Supply Chain

The human resources in supply chain are directly related to supply chain professionals. Companies planning cost-cutting initiatives must obtain the positive emotional commitment of their employees to support decisions. Employees at the company can either accelerate or stymie your supply chain management efforts. When employees are efficient and process orders on time, the company's supply chain becomes more cost-effective. The key is to select

personnel who communicate and stay informed of any changes or issues that arise. When company employees communicate, the company will find it easier to implement and develop new cost-cutting strategies in the supply chain.

Firms must have a well-designed supply chain department and supply chain professionals, especially in the floriculture industry, which requires careful attention and well-equipped staff. The supply chain staff must make strategic decisions regarding supply chain activities. Your employees can either accelerate or stifle your supply chain management efforts. If they are efficient and process orders on time, the company will have a more cost-effective supply chain. The key is to hire people who communicate well and keep you up to date on any changes or issues that arise. It is easier to implement and develop new cost-cutting strategies in the supply chain when employees communicate.

2.3. Supply Chain Cost Reduction models

Several companies have implemented various supply chain cost reduction models in some key functions in an effort to reduce costs and focus on core business. Thus, the following sub section of this chapter presents some of models in details. On the basis of their research on supply chain cost reduction based on process and time analysis, Su, T.Y., and Lei, X.H. (2008) proposed a four-phased theoretical supply chain cost-reduction model, which includes: supply chain costing, improving processes, compressing supply chain time, and smoothing interfaces. Sachan, A., Sahay, B.S., and Sharma, D. (2005) also conducted research on developing a supply chain cost model in the Indian agricultural sector and proposed using the system dynamics-grain SC model to reduce SC costs. According to Wisner et al. (2009), companies can reduce supply chain costs by reducing waste, purchasing and product distribution costs, as well as excess inventories and non-value-added activities among supply chain participants.

Similarly, Anklesaria (2008) suggests two approaches to reducing supply chain costs, namely cost negotiation and breakthrough ideas. Cost negotiation is a multi-fold process. It begins with the creating of robust sourcing teams responsible for trading volume for price. This is followed by price monitoring that balances a buying firm's benefits against an industry pricing trend. To outdo the market trend and to sustain the price monitoring effort, graphs and maps relating to industry price trends are used against current prices charged for a range of specific products and services.

Quinn, et al. (2000) proposed shared services model as the practice that promotes the sharing of a set of services by business functions, firms, and organisations to avoid duplication of a series of staff functions. Arguably, Janssen and Zuurmond (2009) point out that the adoption of shared service arrangements is a strategic business approach that requires the collaboration of employees in the integration of systems, processes, and their subsequent transformation.

Marshall, Mc Ivor & Lamming (2007) point out Outsourcing has driven many companies globally to become more efficient and cost reduction inclined or oriented. Barkers et al. (2010), pointed out outsourcing model as supply chain cost reduction model, and argued that outsourcing partners could consolidate their production processes to pave the way for better and lower-cost services to customers in countries that encourage outsourcing.

2.4. Empirical Review of Studies

According to Shah et al. (2002), much current theoretical/ empirical research in SCCR strategies focuses solely on the upstream or downstream side of the supply chain, or on specific aspects/perspectives of supply chain cost reduction (SCCR) strategies. However, previous researchers have paid close attention to the relationship between supply chain management practices and certain aspects of overall organizational performance from various perspectives/dimensions of the overall supply chain cost reduction strategies. The following sub section presents some of selected research findings in details.

Pettersson and segerstedt, (2013), conducted research on evaluating cost savings in a supply chain in the telecom industry, and affirm that supply chain cost can be used as a tool to identify cost savings and evaluate if a change project will, or has, resulted in the cost savings the project aims for. Rough standard costs measures should be avoided instead actual costs should be used as much as possible.

Mpwanya and Heerden, (2015), conducted study on a supply chain cost reduction framework for south African mobile phone industry, and affirm that consolidation of strategic relationships through collaboration and strategic alliances between MNOs and other supply chain players is one of the ways to drive costs down across the supply chain. Outsourcing of some of the support activities and retailers' direct purchasing transactions from device manufacturers were also found to be other avenues for reducing supply chain costs in the industry

AQUA Management Consulting group (2008) Conducted research on cost reduction strategies on mobile phone industry and confirm that cost reduction should be a continuous improvement commitment for companies seeking to meet their customer's demand for a better quality of products or services at a lower price.

Similarly, AQUA Management Consulting Group (2008) conducted study in the Indian automotive industry. This study suggests that supply chain cost reduction can be achieved by maintaining balanced inventory levels, increased inventory returns and better resource utilization. However, little is known on supply chain cost reduction in the South African mobile phone industry or in the rest of the world.

Fawcett, Ellram and Ogden, (2007), conducted research on the implementation of cost reduction strategy and affirm that implementing cost reduction as an isolated improvement program would be ineffective, because cost reduction affects other functions, like the supply chain, and the firm's value proposition to its customers.

Wagner, Erhan and Gross-Ruyken (2009) conducted a study on top supply chain challenges that motivate action in the United States and Europe. They identified cost reduction as one of the major supply chain challenges faced by manufacturing companies and one of the most powerful ways to increase profitability. The study also highlights a range of value-adding and improvement mechanisms that could be used to reduce supply chain costs. These mechanisms include process efficiencies, shorter cycle times and increased supply chain visibility, lean techniques, resource utilization, and the elimination of unnecessary resources and lower inventory levels

Wisner, Tan, and Leong (2009) agree with the above authors and state that cost reduction remains one of the top supply chain priorities. At its maturity stage, supply chains tend to focus on performance improvement in terms of identified cost reduction activities, using continuous improvement efforts, better supply chain communication and inventory visibility, and a further integration of business processes pertaining to waste, purchasing, distribution, inventory and non-value-adding activities among supply chain partners.

In a study by Sachan, Sahay, and Sharma (2005), on developing a supply chain cost model in the Indian agricultural sector, the use of the system-dynamics grain supply chain model was suggested to reduce costs supply chain-wide. Research by Wu (2005) in the United States

automatic test equipment industry found that architectural costs are hierarchically organized and interrelated.

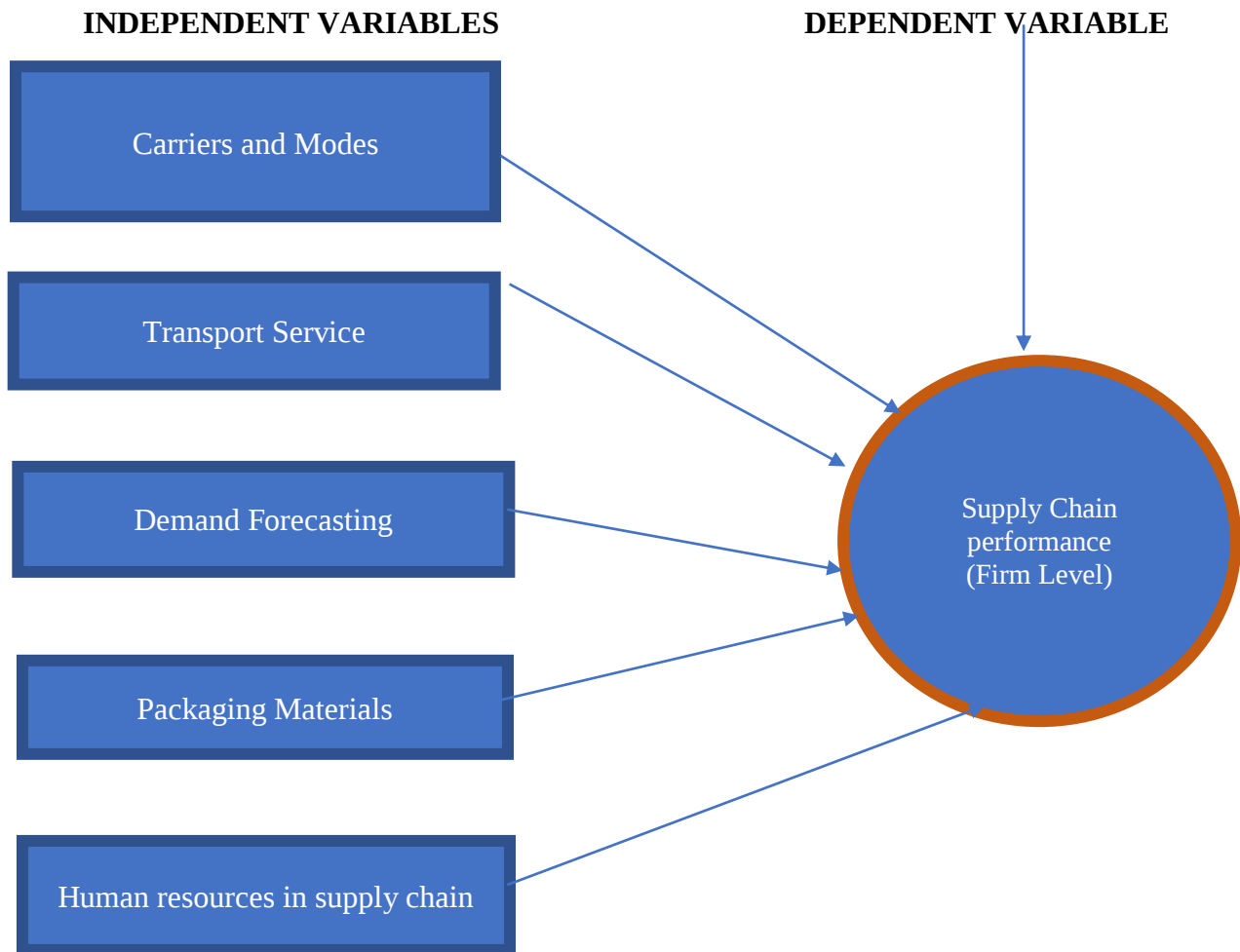
Similarly, Liao and Lin (2011) conducted a study on the effectiveness of supply chain cost reduction strategies and point out that productivity and efficiency play a crucial role in competitive markets, companies need to know themselves in terms of their strengths and weaknesses, to alter their managerial efforts in cost reduction strategically, and to increase their efficiency and profitability. This could help them build and secure the competitive edge.

Gachora, Kibet, and Musiega, (2014) conducted study on supply chain cost reduction impact on performance of small-scale enterprise, in kenya and pointed out that a mutual benefit derived from trust in the relationship between the buyers and the suppliers to balance the supply costs.

2.5. Conceptual Framework

The study's goal was to examine the Effect of Floriculture Global Supply Chain Cost reduction strategies on organizational Performance in the Margin par Ethiopia P.L.C. The conceptual framework is based on an overall review of related literature, specifically on the work of (Sillanpaa, 2010), (Klemenic, 2006), (Salazar, 2012), and (Mohammed, 2014) to create the basis for data collection and data analysis. Therefore, the study defines dimensions of supply chain performance (dependent variable) with carrier and modes, transportation service, demand forecasting with sales planning, packaging materials, and supply chain professional as independent variables. As a result, the following conceptual framework governing this specific study was developed and is presented as follows.

Figure 2.1. Conceptual Framework



CHAPTER THREE

RESEARCH METHDOLOGY

3.1. Research Approach

The study was carried out in a deductive manner using a mixed research approach. The research used a deductive reasoning paradigm because deductive reasoning seeks to examine existing theory. (2019, Raimo Streefkerk) The researcher looks into what others have done, reads existing theories, and then puts theories to the test. The mixed research approach employs both quantitative and qualitative methods, which are viewed as two distinct opposing approaches. The mixed research approach falls somewhere in the middle of this spectrum (Creswell, 2014; Johnson & Onwuegbuzie, 2004). The central premise of the mixed research approach is that combining quantitative and qualitative methods yields a more comprehensive understanding of the research problem than using only one type of method (Creswell, 2014; Molina-Azorin, 2016). As a result, the researcher used a pragmatic approach in this study, which leads to the truth of all beliefs, knowledge, and scientific concepts being provisional and defined by their pragmatic use in ongoing experience, rather than by correspondence with antecedent Truth or Reality.

3.2. Research Design

Depending on the nature of the problem, the issue that must be addressed, and the research questions, the research design could be quantitative, qualitative, or both (Creswell, 2009). The quantitative approach entails the collection of quantitative data that can be subjected to rigorous quantitative analysis using statistical tools. Creswell (2003) defines quantitative research as a strategy for investigating the relationship between variables in order to test objective theories. It includes studies that draw their conclusions from statistical analysis and theories.

In contrast, the qualitative approach is concerned with the subjective assessment of participants' personal views, attitudes, experiences, perceptions, opinions, and behavior in examining the global supply chain cost reduction strategy in Margin par P.L.C. Ethiopia (Harley, et.al.,2017). It also sought answers to research questions, which necessitated an in-depth description of the phenomenon in its natural setting." Bogdan and Biklen (1997)

A mixed research design is a method of investigation that involves collecting both quantitative and qualitative data, integrating the two types of data, and employing distinct designs that may include philosophical assumptions and theoretical frameworks. The central premise of this type of investigation is that combining qualitative and quantitative approaches yields a more complete understanding of a research problem than either approach alone.

Thus, the mixed research design is the best fit for this study because it incorporates multiple methods to answer research questions about Margin par Ethiopia PLC's global chain cost-cutting strategies (Creswell, 2015). To evaluate the global chain cost reduction strategy practices in the Margin par P.L.C., the researcher collected quantitative data using self-administered questionnaires with a five-point Likert scale distributed personally to the subjects by the researcher. The researcher also created and used semi-structured interview questions to collect qualitative data from the company's top managers and supervisors. Furthermore, it used empirical investigation with an explanatory study approach to achieve the study's goal because the main focus of the research is to evaluate Margin par Ethiopia plc's cost-cutting strategies, as well as the link between the independent and dependent variables because Explanatory research looks at the causes and effects of a variety of variables (Uma and Roger, 2016).

3.3. Population and Sampling Design of the Study

3.3.1. Target Population

It is reasonable to expect that once all of the items have been covered, there will be no doubt and greater accuracy will be obtained (Kothari, 2004). Ethiopian margin P.L.C. encompasses Margin par Ethiopia, Simba, and Larca firms, so the study's target populations were the permanent employees of Margin par Ethiopia plc, with the total target population for the study being defined as the employees of Margin par Ethiopia plc, which are more than 1157 employees collectively, and an adequate sampling size was derived based on the population size.

3.3.2. Sampling Size

Due to the limited population size, the researcher selected a sample of respondents from the entire population who were involved in the supply chain cost reduction or research scope.

The confidence interval method was used to determine the sample size for this study. The total population of the study is 1157 people. The researcher chose 208 as a target population to select appropriate key informants from the total population. The researcher chose 137 respondents from the target population using Tamaro Yamane's sample size determination formula method (Yamane, 1967) to establish the sample size, (n), given the population size (N), and a margin of error (e) which is computed as

$$(n = N / (1+N (e) ^2)).$$

With the confidence level of 95 percent, $e = \pm 5\%$

Where n = the sample size

N = the population size

1 = defines the probability of the event occurring

e = the level of precision (Sampling error).

So, N population size = (137)

$e = 5\% (0.05)$

$$208 / (1 + 208 * (0.05) ^2) = 137$$

So, by applying the sample determination formula, the sample size of the study becomes 137.

3.3.3. Sampling Technique

Two types of sampling techniques were used in this study. As the case companies for this study, participants were chosen using a simple random sampling technique from Margin par P.L.C. Ethiopia, which is located in Walmera woreda in Holeta. Employees from various departments of Margin par Ethiopia, which is located at Walmera woreda in Holeta, were included using a simple random sampling technique. The rationale for using simple random sampling was to ensure that the sample results approximated what would have been obtained if the entire population had been measured. The simple random sample gives each unit in the population an equal chance of being chosen. (Shadish et al., 2002).

Purposive sampling was also used in this study to include top level managers and directors who are responsible for and directly related to supply chain management practices from departments such as logistics and supply chain, post harvesting team, production team, Inventory Management, finance and administration department, and human resource department. Purposive sampling is used to ensure the reliability of the findings. Additional respondents are purposefully selected by the researcher from respective departments.

Purposive sampling is based on the researcher's judgment, identifying people who are in the best position to provide relevant information." Researchers frequently believe that by exercising sound judgment, they will be able to obtain a representative sample while saving time and money" (Saunders et al., 2012).

3.4. Data Source and Data Collection instrument

The data used in this study were primary data collected directly from respondents by the researcher for the purpose of addressing the research problem. The data for this study were collected from respondents using five-point Likert scale questionnaires and semi-structured interview questions designed by the researcher for self-administration.

The questionnaires were created based on the conceptual framework and research questions in order to investigate and analyze the performance of supply chain cost-cutting strategies and practices in the case study companies. For quantitative data, respondents were asked to indicate their level of agreement and disagreement with global supply chain cost reduction and supply chain performance of supply chain management practices using a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree). An extensive literature review, including the SCOR model version 11, yielded a set of questions on each aspect of supply chain cost reduction attributes and best practices.

The questionnaire is divided into three sections. The first section includes demographic profile questions such as the number of employees and the respondent's position in their organization. The second section discusses supply chain cost reduction, and the third section discusses company supply chain performance in each dimension of supply chain management, as detailed in the conceptual framework in Chapter 2 of this study. The semi-structured interview guide questions were also developed to assess top managers' views, attitudes, perceptions, and feelings about supply chain cost reduction strategies in their company.

A preliminary study (pilot study) was conducted by distributing questionnaires and attempting to distinguish ambiguous questions to respondents. Concerned bodies prepared and administered questioners to the study area. Whether the researcher is conducting research for commercial, public, or educational purposes, data collection enables the researcher to gain first-hand knowledge and unique insights into the issue statement (Pritha Bhandari, 2020).

3.5. Data Analysis Method

The quantitative data analysis in this study was done using descriptive statistics to gather precise data from which to draw broad conclusions. To analyze and present the quantitative data, a statistical tool known as SPSS version 26 was used. Two types of statistics were used to analyze the quantitative data: descriptive statistics and inferential statistics. Descriptive statistics were used to present, interpret, and discuss various aspects of the evaluation system across multiple dimensions. In addition, inferential statistics were used to investigate the relationship between the independent and dependent variables.

Tables were used to present the results of each variable. The qualitative data collected from top managers was used to further explain and gain in-depth insight into the quantitative data findings. Furthermore, the qualitative data findings have been thematically summarized using Microsoft excel.

3.6. Validity and Reliability

The terms' reliability and validity refer to the quality of the measures used in a research study. As a result, the following section of the study delves into the issue of validity and reliability.

3.6.1. Validity

Validity According to Kothari (2004), sources of error in research can include respondents, situations, the interviewer, and the data collection instrument. Errors may occur as a result of a faulty measuring instrument (E.g., questionnaire in this study). The use of complex words that are beyond the comprehension of the respondents, ambiguous meanings, poor printing, insufficient space for responses, response choice omissions, and other factors can render the measuring instrument defective and lead to research measurement errors. Validity is concerned with two main issues: whether the measurement instruments are accurate and whether they are measuring what they are supposed to measure. Internal and external validity are the two distinct dimensions of the concept of validity (Winter, 2000).

Internal validity ensures that the researcher is conducting the research that he or she claims to be conducting. Internal validity refers to the extent to which the questionnaire's measurement provides the data required to meet the study's purpose, whereas validity refers to the extent to

which the questionnaire measures what the researcher intends to measure to ensure internal validity.

External validity is concerned with how far the research findings can be generalized to a larger population. The questionnaire in this study is based on an extensive review of related literature as well as a well-documented and regularly reviewed supply chain operation reference model. As a result, the researcher believes that the data collection tool will perform as intended. This means that internal validity has been achieved. Because this is a multiple case study, the findings cannot be extrapolated to the entire population. As a result, the common gap in case studies is external validity.

3.6.2. Reliability

Another important test of measurement tools in research is the reliability test. It refers to internal consistency, whereas validity refers to the measure's accuracy. A measuring instrument (questionnaire) is reliable if its results are consistent. A reliable data collection questionnaire yields consistent results when repeated measurements of the same study subject and instrument are taken. By comparing the results of repeated measurements, this reliability can be tested. The degree of consistency with which an instrument measures the constructs it is designed to measure is referred to as its reliability. The extent to which the research findings can be replicated if another study is conducted using the same research methods is known as reliability (Ritchie and Lewis, 2003).

This means that the measure (data collection tools) should provide the same answer on subsequent occasions, or a similar result should be obtained by another researcher using the same measuring instrument (Saunders et. al., 2007).

There are four treatments for reliability: participant error, participant bias (people may not tell the truth for fear of upsetting top management), interviewer error (when different people conduct the interview), and researcher bias during interpretation (Robson, 2002). During data collection for this study, the researcher officially requested data collection from the aforementioned case companies with support letters from the Addis Ababa University School of Commerce for the respondents to have a convenient condition and 20 minutes to respond to the questionnaires. As a result, the researcher believed that the respondents' error and bias would have little effect on the reliability of the findings. The researcher's error and bias will

not affect the study's reliability because the data collection instrument is well-structured and well-designed, and the data will be analysed objectively using statistical tools (SPSS).

Furthermore, the researcher carried out a pilot test by collecting data from a sample of four respondents from the case brewery companies, and a reliability test was carried out using SPSS. Cronbach's alpha is an indicator of internal consistency. It is a scale reliability metric. Cronbach's alpha is not a statistical test; rather, it is a coefficient of reliability (or consistency). Cronbach's alpha reliability coefficient is normally between 0 and 1, according to George and Mallery (2003). The greater the internal consistency of the scale items, the closer Cronbach's alpha coefficient is to 1.0. Cronbach's alpha coefficients greater than 0.70 are considered acceptable by George and Mallery (2003).

Table 3.1: Cronbach's Alpha Reliability Coefficient Result

S/N	Supply chain cost reduction variables	Cronbach's alpha result
1	Diversifying carriers and modes	0.819
2	Transport services	0.893
3	Demand forecasting	0.86
4	Packaging materials	0.83
5	Human resources Supply chain	0.86

3.7. Ethical Considerations

Ethics is becoming a more pressing concern for all researchers. Researchers are encouraged to apply their knowledge of research ethics in their daily work. Ethical concerns were raised throughout the research process, including during data collection, analysis, and report writing. The researcher explained to the respondents the study's objectives and that the information would only be used for research and academic purposes.

During data collection, both honesty and respect for respondents' rights were observed. Similarly, the researcher respected the respondents' rights to anonymity and confidentiality, and their responses were carefully considered and kept confidential. The respondents' informed consent, as well as their willingness and consent, were also sought. The researcher also requested the respondents' permission to conduct the research study via official letter, and permission was eventually granted.

3.8. Triangulation for Reliability

Noble and Heale (2019) define research triangulation as the process of increasing the credibility and validity of research. It is a strategy that can be used to boost the credibility of the research findings. Triangulation is the process of attempting to get a true 'fix' on a situation by combining different approaches to the findings. There are several triangulation techniques that can be used in the same study, including: Methodological triangulation refers to the use of multiple data collection methods; data triangulation refers to the use of a variety of data sources in a study; and respondents triangulation refers to the use of a diverse range of informants. Data triangulation, for example, requires the use of multiple data sources. As data is collected from various angles and methods, it can reduce or eliminate personal and methodological biases and increase the likelihood of generalizing study findings (Decrop, 2004).

Thus, data triangulation was used in this study, which simply involves considering a wide range of responses from key informants from different units of supply chain management processes and scholars' perspectives from literature review and document analysis (Denzin, 1970). Thus, triangulation allows for more credible interpretations by combining various data sources such as key informant perspectives and document analysis (Decrop, 2004).

CHAPTER FOUR

RESULT AND DISCUSSION

4.1. Introduction

As described in the preceding chapter, the purpose of this study was to examine the effect of global Supply Chain Cost Reduction Strategies on organizational performance in Margin par Ethiopia P.L.C. As a result, the findings of the study are presented and analyzed in this chapter. The questionnaire was designed on a five-point scale, with one representing strong disagreement, two representing disagreement, three representing neutrality, four representing agreements, and five representing strong agreement. The scale typed questionnaire was subjected to correlation and regression analysis to determine the link between global supply chain cost reduction plan and supply chain and firm performance. A total of 137 questionnaires were distributed to the firm's employees and top-level executives, with 131 (95.6 percent) proving to be valid and being used for analysis. SPSS (version) was used to present and evaluate the collected data. The researchers used correlation analysis, specifically Pearson correlation, to determine the degree of link between the variables under consideration. Regression analysis was also used to test the influence of the independent variable on the dependent variable.

4.2. Response Rate

A total of 137 questionnaires were distributed to employees and 131 (95.6%) questionnaires were obtained. The remaining 6 questionnaires were not collected due to unwillingness to provide information and some respondents were in absence of leave. Based on these, the response rate is 97.8%.

Table 4.1. Response Rate

No.	Name of the Departments	No. of questionnaires distributed	No. of questionnaires Collected	No. of questionnaires Uncollected
1	Logistic & supply chain	2	2	-
2	Post harvesting team	25	23	2
3	Production team	100	96	4

4	Inventory department	3	3	-
5	Finance & Administration department	5	5	-
6	Human resource department	2	2	-
	Total	137	131	6

Source: (Survey Data, 2022)

Department/Work Units: 2(1.5% respondents are from logistics department, 23(17.6%) respondents are from post harvesting team, 96(73.3%) of respondents are from production team, 3(2.3%) of the respondents are from inventory department, 5(3.8%) of the respondents are from finance and administration department and the rest 2(1.5%) respondents are from human resource department. Among the total key informants 6 (six) of them are Company directors and managers. This implies the fact that all the respondents are directly and indirectly involved in the operations of supply chain management of their firm and hence, their information can be considered as reliable and relevant for the study.

4.3. Respondent profile

Table.4.2. Profile of the respondents

Sex	Frequency	Percent
Male	54	41.2
Female	77	58.8
Total	131	100
Age group		
Less than 25 years	69	52.7
26-35 years	40	30.5
36- 45 years	21	16
Above 45 years	1	.8
Total	131	100
Educational Qualification		
Below grade 12	28	21.4

Certificate	9	6.9
Diploma	63	48.1
First degree	26	19.8
MA/MSc	5	3.8
PhD	-	-
Total	131	100
Work experience within the firm		
Less than 5	88	67.2
5-10 years	37	28.2
11-15 years	6	4.6
Above 15 years	-	-
Total	131	100
Total Work experience		
Less than 5	69	52.7
5-10 years	53	40.5
11-15 years	4	3.1
Above 15 years	5	3.8
Total	131	131

Source: (SPSS Output, 2022)

The analysis of the key informant's profile in terms of their sex, age group, educational qualification, workexperience within the firm and total work experience in line with Table 4.3 is presented as follows.

Sex of the Respondents: The table shows that 54 respondents (41.2%) of the total respondents are male while 77(58.8%) of the respondents are females.

Age of the respondent: In line with the respondents age group 69 respondents (52.7%) have age less than 25 years, 40 (30.5%) respondents are 26-35 years old, 21(16%) respondents are 36-45 years old, and 1(.8%) respondent have an age of above 45. Thus, from the above presentation we can conclude that the work forces in the firm are in appropriate work age group.

Educational Level: 28 respondents (21.4%) have below grade 12 educational background, 9(6.9%) are certificate holders, 63(48.1%) of the respondents are diploma graduates 26(19.8%) have 1st degrees (BA/BSc Degree), and 5(3.8%) of the respondents have 2nd Degree (MSc/MA Degree) According to the response, the respondents can provide relevant and reliable information needed for the study and they are fit in line with the response of the questionnaire.

Work Experience within the firm: From the total respondents, 88 respondents (67.2%) have a work experience of less than 5 years, 37 (28.2%) respondents have a work experience level of 5-10 years of work experience in Margin par P.L.C while the rest 6(4.6%) of the respondents have 11-15 years' work in the firm. From this the researcher can conclude that the most of respondents have a better work experience, and this implies the fact that most of the respondents have sufficient knowledge and experience about their firm and the subject matter of the study.

Total Work Experience of the key informants: From the total respondents, 69 respondents (52.7%) have a work experience of less than 5 years, 53 (40.5%) respondents have a work experience level of 5-10 years of work experience in Margin par P.L.C, 4(3.1%) respondents have been total work experience of 11-15 years, while the rest 5(3.8%) of the respondents have above 15 years work experience in relevant work areas. From this the researcher can be concluded that the majority of respondents have a better work experience within the relevant work area, and this implies the fact that most of the respondents have sufficient knowledge and experience about their firm and the subject matter of the study.

4.4.Descriptive examination of the global Supply Chain Cost Reduction Strategies

This section of the study focuses on the descriptive examination of independent variables that influence organizational performance (carriers and modes, transportation services, demand forecasting, packaging materials, and supply chain professionals), as well as the dependent variable, supply chain performance. The research questionnaire was designed with a 5-point Likert scale to collect appropriate responses; respondents indicated their level of agreement with the statements by selecting: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree. According to Akmaliah (2009), a score means of 0-1.5 indicates that respondents strongly disagreed, 1.51 to 2.50 indicates that respondents disagreed, 2.51 to 3.50 indicates that respondents were neutral, 3.51-4.50 indicates that respondents agreed, and a

mean above 4.51 indicates that respondents strongly agreed. Also, the section depicts the Mean and Standard deviation for the global supply chain cost reduction strategies.

4.4.1. Descriptive examination of diversifying carriers and modes

Table 4.3. Mean and St. Deviation of Responses on diversifying carriers and modes

Global supply chain cost reduction strategies		Strongly Disagree	Disagree	neutral	agree	Strongly agree	Mean	St. Deviation	N
Carriers and Modes (CM)									
CM1	The firm work on diversifying carriers and modes.		15(11.5 %)	116(88.5 %)			2.8855	.31964	131
CM2	The firm build constant relationship with carries and getting quotes for different services.		44(33.6 %)	88(64.9 %)	2(1.5 %)		2.6794	.50026	131
CM3	The overall firm characteristics towards carriers and modes has an impact on the company's supply chain cost.	1(0.8 %)	47(35.9 %)	81(61.8 %)	2(1.5 %)		2.6412	.52724	131

Source: (SPSS Output, 2022)

The first question regarding carriers' modes was the firm work on diversifying carriers and modes. As a result, 15(11.5%) key informants responded disagree, while 116(88.5%) have responded neutral/moderate with a mean of 2.8855 and a standard deviation of .31964 on the issue under study.

In regard to the firm build constant relationship with carries and getting quotes for different services 44(33.6%) respondents reveals disagreed, 88(64.9%) of them moderate while and 2(1.5%) pointing agree with a mean and standard deviation of 2.6794 and .50026 respectively.

The final question that was asked to the respondent is the overall firm characteristics towards carriers and modes has an impact on the company's supply chain cost. As a result, 1(0.8%) key informants responded strongly disagree, 47(35.9%) respondents responded disagree, 81(61.8%) key informants also said moderate while 2(1.5%) have responded agree with a mean of 2.6412 and a standard deviation of .52724 on the issue under study.

Based on the response of the key informants' Mean computed on the above table 4.4.1 a mean score of 0-1.5 means that the respondents strongly disagreed between 1.51 to 2.50 means they disagreed, 2.51 to 3.50 means the respondents were neutral, 3.51-4.50 means they agreed and a mean above 4.51 means the respondents strongly agree. Thus, the majority of respondents indicated that the overall firm characteristics towards carriers and modes (CM) with score mean of 2.6412 implying that carriers and modes practices in Margin par Ethiopia P.L.C is moderate,

4.4.2. Descriptive examination of transport services

Table 4.4. Mean and St. Deviation of Responses on transport services

Global supply chain cost reduction strategies		Strongly Disagree	Disagree	neutral	agree	Strongly agree	Mean	St. Deviation	N
Transport services (TS)									
TS4	The firm pay for the right transport service.	1(0.8%)	78(59.5%)	50(38.2%)	2(1.5%)		2.4046	.53750	131
TS5	The firm use multiple modes of transportation (i.e., Multi-modal transportation) for	1(0.8%)	61(46.6%)	66(50.4)	3(2.3%)		2.5420	.55829	131

	a single product to reduce cost.								
TS6	The firm pack more products in to each load, hence increasing capacity utilization.	3(2.3%)	65(49.6%)	60(45.8%)	3(2.3%)		2.4809	.58640	131
TS7	The firm enlist the service of third-party logistics company (3PL).	3(2.3%)	64(48.9%)	58(44.3%)	7(5.3%)		2.5344	.62386	131
TS8	Firm plan various modes of transport while keeping selecting the most suitable supplier.	7(5.3%)	62(47.3%)	60(45.8%)	2(1.5%)		2.4351	.62140	131

Source: (SPSS Output, 2022)

The first question that was risen Regarding the transport services of the Margin par P.L.C. was that “the firm pay for the right transport service”. As a result, 1(0.8%) respondent revealed strongly disagree where 78(59.5%) respondents disagree, and 50(38.2%) respondents reply neutral while 2(1.5%) responded agree with a mean of 2.4046 and standard deviation of .53750.

Similarly, the issue of the utilization of multiple modes of transportation (i.e., Multi-modal transportation) for a single product to reduce cost was asked and 1(0.8%) respondent revealed strongly disagree where 61(46.6%) respondents disagree, and 66(50.4%) respondents reply moderate while 3(2.3%) responded agree with a mean of 2.5420 and standard deviation of .55829.

Also, the firm pack more products in to each load, hence increasing capacity utilization was risen as an issue and 3(2.3%) respondents revealed strongly disagree where 65(49.6%) respondents disagree, and 60(45.8%) respondents reply moderate while 3(2.3%) responded agree with a mean of 2.4809 and standard deviation of .58640.

The firm enlist the service of third-party logistics company (3PL) was asked as a strategic issue and 3(2.3%) respondents revealed strongly disagree where 64(48.9%) respondents disagree, and 58(44.3%) respondents reply moderate while 2(1.5%) responded agree with a mean and standard deviation of 2.5344 and .62386 respectively.

The final question that was asked to the respondents in relation to transport services as supply chain cost reduction strategy was “the Firm plan various modes of transport while keeping selecting the most suitable supplier”. To this end, 7(5.3%) respondents revealed strongly disagree where 62(47.3%) respondents disagree, and 60(45.8%) respondents reply moderate while 2(1.5%) responded agree with a mean and standard deviation of 2.4351 and .62140 respectively. Thus, the majority of respondents indicated that the overall firm characteristics towards transport service as a cost reduction strategy (TS) with score mean of 2.4 indicating that the respondents disagreed with Margin par Ethiopia P.L.C.'s SCCR policies which implies that the company has a limited practice of transport services.

4.4.3. Descriptive analysis of Demand forecasting

Table .4.5. Mean and St. Deviation of Reponses on demand forecasting

Global supply chain cost reduction strategies		Strongly Disagree	Disagree	neutral	agree	Strongly agree	Mean	St. Deviation	N
Demand forecasting (DF)									
DF 9	The firm plan ahead to ensure to don't experience a product shortage.	6(4.6%)	49(37.4%)	75(57.3%)	1(0.8%)		2.5420	.59820	131
DF 10	There is a chance of having an over production while market demand is low.	2(1.5%)	79(60.3%)	49(37.4%)	1(0.8%)		2.5115	1.79043	131
DF 11	Firm don't procure and ship what they can't sell.	1(0.8%)	68(51.9%)	59(45%)	3(2.3%)		2.4885	.55976	131
DF 12	Firm Forecast demand with sales planning.	3(2.3%)	65(49.6%)	56(42.7%)	7(5.3%)		2.5115	.63690	131

Source: (SPSS Output, 2022)

The first question that was asked the respondents with regard to demand forecasting is “The firm plan ahead to ensure to don't experience a product shortage”. As a result, 6(4.6%) respondents revealed strongly disagree where 49(37.4%) respondents disagree, and 75(57.3%) respondents reply moderate while 1(0.8%) responded agree with a mean and standard deviation of 2.5420 and .59820 respectively.

Regarding a chance of having an over production while market demand is low is the second question that was risen for the key informants. To that end, 2(1.5%) respondents revealed strongly disagree where 79(60.3%) respondents disagree, and 49(37.4%) respondents reply moderate while 1(0.8%) responded agree with a mean of 2.5115 and standard deviation of 1.79043.

Also, the key respondents were asked the issue of “Firm don’t procure and ship what they can’t sell. As a result, 1(0.8%) respondent revealed strongly disagree, 68(51.9%) respondents said disagree, and 59(45%) respondents reply moderate while 3(2.3%) responded agree with a mean of 2.4885 and standard deviation of .55976.

The final question that was asked about demand forecasting as a cost reduction strategy was “Firm Forecast demand with sales planning”. To that end, 3(2.3%) respondents revealed strongly disagree, 65(49.6%) respondents said disagree, and 56(42.7%) respondents reply moderate while 7(5.3%) responded agree with a mean of 2.5115 and standard deviation of .63690. Thus, the majority of respondents indicated that the cost reduction strategy towards demand forecasting (DF) with score mean of 2.5 implies that the company has a limited practice of demand forecasting.

4.4.4. Descriptive analysis of Packaging materials

Table .4.6. Mean and St. Deviation of Reponses on packaging materials

Supply chain cost reduction strategies		Strongly Disagree	Disagree	neutral	agree	Strongly agree	Mean	St. Deviation	N
Packaging materials									
PM 13	Protective product packaging is applicable in the firm.	2(1.5%)	22(16.8%)	58(44.3%)	48(36.6%)	1(0.8%)	3.4733	3.56118	131
PM 14	Quality packaging material procure in the firm.	1(0.8%)	35(26.7%)	64(48.9%)	31(23.7%)		2.9542	.732236	131

Source: (SPSS Output, 2022)

The first issue under packaging materials as a cost reduction strategy was whether the firm has Protective product packaging is applicable in the firm. In this regard, 2(1.5%)

respondents revealed strongly disagree, 22(16.8%) respondents disagree, and 58(44.3%) respondents reply moderate, 48(36.6%) key informants agree, while 1(0.8%) responded agree with a mean and standard deviation of 3.4753 and 3.56118 respectively.

Regarding Quality packaging material procure in the firm was asked as the second question, and 1(0.8%) respondent revealed strongly disagree where 35(26.7%) respondents disagree, and 64(48.8%) respondents reply moderate while 31(23.7%) responded agree with a mean of 2.9542 and standard deviation of. 732236.

Thus, the majority of respondents indicated that the firm procure quality packaging materials with aggregated score mean 3.2 which implies that supply chain cost reduction strategy towards the quality of packaging materials was practiced moderately in Margin par Ethiopia P.L.C.

4.4.5. Descriptive analysis of Human resources in supply chain

Table .4.7. Mean and St. Deviation of Reponses on Human resources in supply chain

Global supply chain cost reduction strategies		Strongly Disagree	Disagree	neutral	agree	Strongly agree	Mean	St. Deviation	N
Human resources in supply chain									
SCP 15	Firm hire supply chain professional for their supply chain activities.		80(61.1%)	50(38.2%)	1(0.8%)		2.3969	.50656	131
SCP 16	Firm has a well-designed supply chain department.	2(1.5%)	75(57.3%)	51(38.9%)	3(2.3%)		2.4198	.56778	131
SCP 17	Different Supply chain decisions are made by the supply chain department.	5(3.8%)	61(46.6%)	61(46.6%)	4(3.1%)		2.4885	.62470	131
SCP 18	Supply chain staffs impact the firms supply chain cost.	1(0.8%)	62(47.3%)	57(43.5%)	10(7.6%)	1(0.8%)	2.6031	.67573	131

Source: (SPSS Output, 2022)

The first question that was asked to the respondents about supply chain professionals is whether the firm hire supply chain professional for their supply chain activities. As a result, 80(61.1%) respondents revealed disagree where 50(38.2%) respondents moderate, while 1(0.8%) responded agree with a mean and standard deviation of 2.3969 and .50656 respectively.

The second question that was asked to the respondents in line with supply chain professionals is whether the Firm has a well-designed supply chain department. To that end, 2(1.5%) respondents revealed strongly disagree, 75(57.3%) respondents disagree, while 51(38.9%) respondents reply moderate with a mean of 2.4198 and standard deviation of .56778.

Also, the key respondents were asked whether different Supply chain decisions are made by the supply chain department. As a result, 5(3.8%) respondents revealed strongly disagree, 61(46.6%) respondents said disagree, and 61(46.6%) respondents reply moderate while 4(3.1%) responded agree with a mean of 2.4885 and standard deviation of .62470.

The final question that was asked about supply chain professionals as a cost reduction strategy was whether the Supply chain staffs impact the firms supply chain cost. To that end, 1(0.8%) respondent revealed strongly disagree, 62(47.3%) respondents said disagree, and 57(43.5%) respondents reply moderate, 10(7.6%) revealed agree while 1(0.8%) responded strongly agree with a mean of 2.6031 and standard deviation of .67573.

Based on the findings result, the majority of respondents indicated that the cost reduction strategy towards supply chain professionals (SCP) with the aggregated score mean of 2.4, which implies that the company has a limited practice of supply chain professionals. The aggregate mean of the cost-cutting strategy towards supply chain professionals indicates that the respondents disagreed with Margin par P.L.C. Ethiopia.

4.5. Response on the influence of the SCCR strategies on the organization Performance

Table 4.8 Mean and St. Deviation of Responses on the influences of SCCR Strategies of the firm

supply chain cost reduction strategies		Mean	St. Deviation	N
SCCR19	The company's cost is significantly influenced by carriers and modes.	3.9237	.57671	131
SCCR20	The company's supply chain cost is significantly influenced by Transport Service.	4.3053	.73268	131
SCCR 21	The company's supply chain is significantly influenced by demand forecasting with sales planning.	4.1298	.71680	131
SCCR22	The company's supply chain is significantly influenced by packaging materials.	4.3359	.71909	131
SCCR 23	The company's supply chain is significantly influenced by use of supply chain professionals.	4.1985	.62536	131
SCCR 24	Overall, you are satisfied with the firm's Supply chain cost reduction strategies.	3.6336	.118456	131

Source: (SPSS Output, 2022)

To evaluate the direct influence of the supply chain cost reduction strategy the researcher developed research questionnaire using 5-point Likert scale to collect appropriate responses from the key informants. To that end, the respondents indicated the extent to which they agree with the statements by choosing: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree. Based on the response from the key informants' Mean computed on the above table 4.5. A mean (M) score of 0-1.5 means that the respondents strongly disagreed between 1.51 to 2.50 means they disagreed, 2.51 to 3.50 means the respondents were neutral, 3.51-4.50 means they agreed and a mean above 4.51 means the respondents strongly agreed. According to Table 4.5, the majority of key informants agreed that the five building blocks of Supply chain cost reduction Strategies such as carriers and modes, Transport service, demand forecasting, packaging materials, and Human resource in supply chain have a significant impact on the margin par company's cost and supply chain, with mean scores of 4.09, implying that the respondents agree on the significant influences of SCCR practices in Margin par P.L.C. According to Table 4.5, the mean score was larger than 4.09, suggesting that most respondents believe the practice of global supply chain cost reduction plan has had a significant influence on the company.

4.6. Responses on Dimensions of Supply chain performance

Table 4.9. Mean and St. Deviation of Responses on dimensions SC performance of the firm

Supply Chain Performance	Mean	Std. Deviation	N
<i>Reliability</i>			
We are dependable and consistent in our response to customer complaints.	4.0628	.97476	131
We provide products that are extremely dependable.	4.3064	.83481	131
We provide long-lasting products.	4.0301	1.03123	131
Our customers receive high quality products from us	4.5135	.62548	131
<i>Openness</i>			
We provide the products that are required.	4.4720	.63455	131
We complete the customer's order on time.	4.1230	.82340	131
We provide consistent delivery.	4.1670	.84974	131
The available to resolve customer complaint is limited	4.2740	.82954	131
<i>Adaptability</i>			
We have a quick time to market.	4.2490	.68433	131
We have a faster time to market than the industry average.	3.4794	.89325	131
We are the first to introduce new products to the market.	3.4021	.88209	131
We have a quick product development cycle	3.8776	1.03673	131
<i>Cost</i>			

We can offer prices that are comparable to or lower than those of our competitors.	3.3595	1.183426	131
Our capacity utilization is excellent.	4.1400	.64764	131
Our inventory turnover rate is very high.	4.1023	.67910	131
We operate with power production costs	3.9343	.87344	131
<i>Asset management</i>			
It is critical that our top management is fully located at our corporate headquarters.	3.8423	.82031	131
Our business units' knowledge sharing is inadequate.	2.7843	1.04376	131
Our company is run from a central location.	3.7825	1.05558	131
We have a centralized profit allocation system employ	3.4905	1.07650	131
Duties are clearly defined at our plants	4.2150	.76253	131

Source: (SPSS Output, 2022)

According to the respondents' responses, the 5-point Likert scale indicates how much they agree with the following statements: 1-Disagree, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree. A mean (M) score of 0-1.5 indicates that respondents strongly disagreed, 1.50 to 2.50 indicates that they disagreed, and 2.50 to 3.50 indicates that respondents were neutral. 3.50-4.50 means they agreed, and anything above 4.50 means they strongly agreed. According to the findings in Table 4.6, the mean score was higher than 3.9, indicating that the majority of respondents agreed that the company's supply chain performance is moderately good.

4.7. Inferential Statistics for SCCR Strategy and Firm Performance

4.7.1. Correlation Analysis

Correlations quantify the linear relationship between two variables. A correlation coefficient has a value between -1 and 1. Values closer to the absolute value of one indicate a strong relationship between the variables being correlated, whereas values closer to zero indicate little or no linear relationship. The correlation, as described by Pallant (2005), is a commonly used measure of the size of an effect: values of 0.1 represent a small effect, 0.3 a medium effect, and 0.5 a large effect.

Correlation analysis is carried out in this section in light of each research objective and question developed. Correlation analysis was used to investigate the relationship between supply chain cost reduction strategy and firm performance. This provided a link. Relationship strength and direction were indicated by coefficients. The p-value also indicated the likelihood that this relationship was significant.

4.7.1.1. Correlation Analysis between five building blocks of SCCR Strategy and Supply Chain Performance (SCP)

Table 4.10. Correlation matrix between constructs of SCCR strategy and SCP

		Carriers & Modes (CM)	Transport services (TS)	Demand forecasting (DF)	Packaging materials (PM)	Supply chain profes (SCPR)	Supply chain performance (SCP)
Carriers & Modes (CM)	Pearson Correlation Sig-(2-tailed) N	1 131	-.240** .006 131	-.350** .000 131	-.541** .000 131	-.285** .001 131	.274** .002 131
Transport services (TS)	Pearson Correlation Sig-(2-tailed) N	-.240** .006 131	1 131	-.009 .921 131	-.114 .194 131	.152 .083 131	.249** .004 131
Demand forecasting (DF)	Pearson Correlation Sig-(2-tailed) N	-.350** .000 131	-.009 .921 131	1 131	-.111 .208 131	.256** .003 131	-.191* .029 131
Packaging materials (PM)	Pearson Correlation Sig-(2-tailed) N	-.514** .000 131	-.114 .194 131	-.111 .208 131	1 131	-.056 .526 131	-.255** .003 131
Supply chain professionals (SCPR)	Pearson Correlation Sig-(2-tailed) N	-.285** .001 131	.152 .083 131	.256** .003 131	-.056 .526 131	1 131	-.243 .002 131
Human resources supply chain	Pearson Correlation Sig-(2-tailed) N	.049 .580 131	-.037 .671 131	-.064 .469 131	.105 .233 131	-.109 .214 131	1 131

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

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

Source: (SPSS Output, 2022)

The five building blocks of SCCR strategy ((carriers and modes (CM), Transport service (TS), demand forecasting (DF), packaging materials (PM), and Supply chain professionals (SCP)) their relationship with supply chain performance was computed in the above table. The result of correlation matrix between each building blocks of supply chain cost reduction (SCCR) and supply chain performance (SCP) are analyzed as follow:

As it is indicated in the table, there is significant positive correlation between carriers and modes and supply chain performance with a correlation coefficient of 0.274 ($r=0.274$) and significance is 0.002. Therefore, carriers and modes and supply chain performance are genuinely correlated significantly. Table 4.10 also depict that as there is moderate and positive relationship between transport services and supply chain performance with a Pearson

correlation coefficient of 0.249 ($r=0.249$) and significance value is 0.04. This illustrates that there is genuine relationship between the two. Similarly, Pearson correlation test indicated in the table 4.10 also described the correlation between demand forecasting and SCP. Based on the table above, demand forecasting and supply chain performance with a Pearson correlation coefficient of 0.191 ($r=0.191$) and significance value is 0.29. This illustrates that there is genuine relationship between the two. In addition, the correlation test conducted on packaging materials and supply chain performance with a Pearson correlation coefficient of 0.255 ($r=0.255$) and significance value is 0.03. This illustrates that there is genuine, strong and positive relation between packaging materials strategy.

Also, the table 4.10. illustrates that supply chain professionals and supply chain performance showing correlation coefficient of 0.243 ($r=0.243$) and significance value 0.03. This reveals that there is significance relationship between supply chain professionals and supply chain performance. The finding is consistent with the work of (Klemencic, 2006): also showed that the five building blocks of SCCR Strategies (carriers and modes, transport services, demand forecasting, packaging materials strategy, and supply chain professionals) has strong relation with the better supply chain performance of Margin par P.L.C.

4.8. Regression Analysis

Regression analysis is an analysis that assesses whether one or more predictor variables explain the dependent (criterion) variable. It is a powerful statistical method that allows you to examine the relationship between two or more variables of interest (Hoyes, 2022). A regression analysis is done for one of two purposes: In order to predict the value of the dependent variable for individuals for whom some information concerning the explanatory variables is available, or in order to estimate the effect of some explanatory variable on the dependent variable.

4.8.1. Assumption Testing for Regression analysis

The purpose of regression analysis is to determine how much the independent variable explains the dependent variable. According to, Hair et al. (1998), if the assumptions of regression analysis are met, then the errors associated with one variable are not correlated with the errors of any other variables. There are five key assumptions of regression namely Normality, Linear relationship, and no or little Multicollinearity, no auto-correlation and Homoscedasticity which have been conducted and tested before regression analysis was initiated. For this study, the researcher tested the first three key assumptions. Therefore, the

three key assumptions of regression between supply chain cost reduction strategy (SCCR) (independent variable) and supply chain performance (SCP) were performed (dependent variable) are presented below.

4.8.1.1. Normal Distribution

Normality implies the property of the shape of a metric variable's data distribution and its connection to the normal distribution. The core element of the assumption of Normality asserts that the distribution of sample means (across independent samples) is normal. In technical terms, the assumption of Normality claims that the sampling distribution of the mean is normal or that the distribution of means across samples is normal. It can be checked with a goodness of fit test. When the data is not normally distributed a non-linear transformation (e.g., log-transformation) might fix this issue. According to, Anderson et.al; (1998) the values of skewness and kurtosis statistics have been used to measure normality, as well as probability plots. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution, or data set, is symmetric if it looks the same to the left and right of the center point. Kurtosis is a measure of whether the data are heavy-tailed or light-tailed relative to a normal distribution. According to, Brown, (2006) the acceptable values of skewness fall between -3 and $+3$, and kurtosis is appropriate from a range of -10 to $+10$. For the converted and standardized data, all metrics of skewness and kurtosis value were found to be in the permissible range, as shown in figure 2.

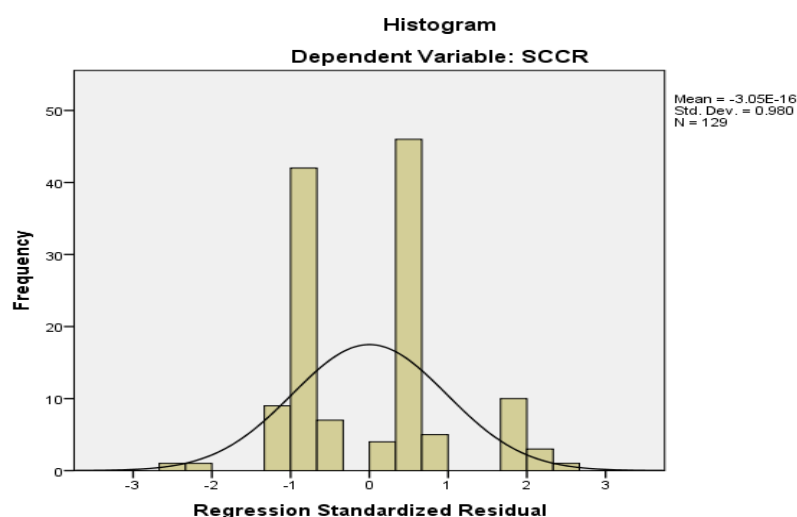


Figure 4.1. Regression Standardized Residual

Source: Survey Data (June 2022), SPSS v. 20

As can be seen from the above displayed figures (Figure 2) the test for normality of the residual was performed with histogram and the result tests showed that the residual is close to normally distribution. The results of the examinations confirmed that the residuals are distributed normally.

4.8.1.2. Linearity

Linearity implies that the mean values of the outcome variable (dependent variable) for each increment of the predictors (independent variables) lie along a straight line (so we are modeling a straight relationship). linear regression needs the relationship between the independent and dependent variables to be linear. It is also important to check for outliers since linear regression is sensitive to outlier effects. The linearity assumption can best be tested with scatter plots. The analysis of the linear regression requires all variables to be multivariate normal. This assumption can best be checked with a histogram or a Q-Q-Plot. Hair, et al., (1998) affirms that the degree to which the change in the dependent variable is related to the change in the independent variable is measured by the linearity of the relationship between the dependent which is supply chain performance and independent variables that are carriers and modes, transport services, demand for forecasting, packaging materials, and human resource in supply chain.

Therefore, all the relationships between dependent variable (supply chain performance) and independent variables that are (carriers and modes, transport services, demand for forecasting, packaging materials, and human resource in supply chain) fit reasonably with linear pattern and it embraces that linearity assumption. Thus, on the figure below (**Figure 3**), a scatter plot of standardized residuals vs the fitted values for regression models is depicted:

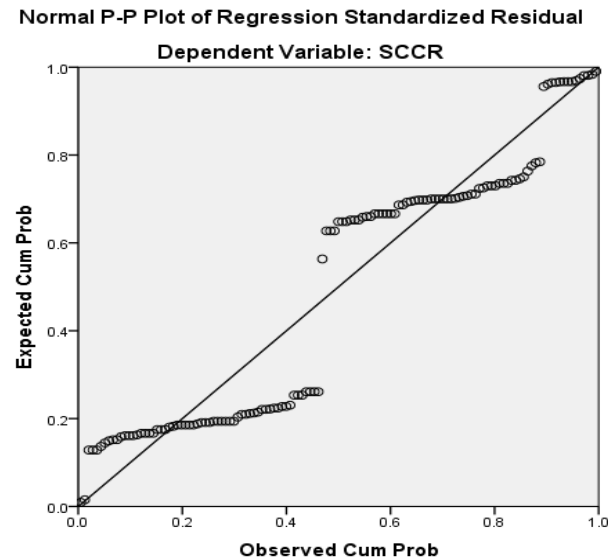


Figure 4.2. Linearity Scatter plot for regression standardized residual

Source: Survey Data (June 2022), SPSS v. 20

4.8.1.3. Multicollinearity Test

Multicollinearity is the occurrence of high intercorrelations among two or more independent variables in a multiple regression model. Multicollinearity can lead to skewed or misleading results when a researcher or analyst attempts to determine how well each independent variable can be used most effectively to predict or understand the dependent variable in a statistical model. Hair et al., (2010) presents that multicollinearity develops when a lone independent variable is highly connected with a group of other independent variables. If the correlation coefficient of independent variables, a high collinearity and if the correlation coefficient is 0, there is a lack of multicollinearity.

One of criteria to check multi-collinearity is to use the Variance Inflation Factor (VIF) for each independent variable. The presence of multi-collinearity can be assessed by using Tolerance and variance Inflation Factor values for each predictor. The tolerance value is the proportion of variance in one predictor that cannot be explained by the other predictors. Tolerance should be larger than 0.10, and any result less than that indicates the occurrence of multi-collinearity. VIF, on the other hand, is calculated as "1/tolerance," and a VIF number larger than 10 implies multi-collinearity (Saunders et al. 2009). The higher the value of VIF the higher correlation between this variable and the rest. According to, Ho, (2006), the appropriateness of the sample size and the absence of correlation among the independent

variables are the two critical requirements to meet prior to conducting regression analysis. The predicative power of multiple regression significance testing is directly proportional to the sample size. Likewise, Ho (2006) proposed that the sample size of the study should be at least twenty times greater than the quantity of independent variables, for the researcher to get the anticipated level of statistical impact, meaning that the figure of respondents utilized for the study is over the prerequisite standards. The acceptable value of multicollinearity VIF values should be less than 5 to guarantee collinearity. However, some researchers recommend it to be < 3.3 . According to Lee and Hong (2016), the tolerance ideally should be less than 1 and the VIF less than 3

Table 4.11. shows that for this study, both the tolerance and VIF derived for each independent variable for both regression analyses meet the conditions discussed above, indicating that multi-collinearity does not exist.

Table 4.11. Multicollinearity test of independent variable s

Model	Collinearity statistics	
	Tolerance	VIF
Carriers and Modes	.396	2.526
Transport services	.403	2.481
Demand forecasting	.965	1.036
Packaging Materials	.969	1.032
Human resources in Supply chain	.950	1.053

a. Dependent variables: supply chain performance

Source: (SPSS Output, 2022)

The result in table 4.8.1. show that the collinearity between independent variables has no series problem Since the value of tolerance for all independent variable is greater than 0.1 and all VIF is less than ten ($VIF < 10$) (Pallant 2005). From the above table hence, we can conclude that thereis no collinearity within the data of the study.

4.8.2. Regression Analysis between SCM Strategy building blocks and Supply chain Performance

Table 4.12. Regression Model between SCM Strategy building blocks and Supply chain Performance

Model	R	R. Square	Adjusted error	St. Error of the estimate
1	.480 ^a	.230	.200	.44800

a. Predictors: (Constant), Carriers and Modes, transport services, demand forecasting, packaging materials, supply chain professionals

Source: (SPSS Output, 2022)

As shown in the table 4.12. there is causal relationship between supply chain cost reduction Strategy (SCCR) and Supply chain Performance. The adjusted R Square is .200, which implies that SCCR Strategy can account for 20% of the variation in Supply chain Performance. Although there might be many factors that can explain the variable on supply chain performance, nearly 20% of it is explained by SCCR strategy. This means that the remaining 80% of the variation in Supply chain Performance cannot be explained by those dimensions of SCCR Strategy. The R^2 value of .230(23%) implies relatively low contribution of SCCR Strategy in interpreting the Supply chain Performance of the firm, the remaining 77% of the changes in the change can be attributed to other factors.

Table 4.13. ANOVA Result between SCCR Strategy and Supply chain Performance
ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1. Regression	7.508	5	1.502	7.481	000 ^b
Residual	25.088	125	.201		
Total	32.595	130			

a. Predictors:(Constant), Carriers & Modes, transport services, demand forecasting, packaging materials, supply chain professionals

b. Dependent Variable: Supply Chain Performance

Source: (SPSS Output, 2022) firm

Table 4.13. shows the ANOVA results of the multiple regression analysis. The significance value of 0.000 indicates that the regression relationship is significant in predicting the effects of the five-supply chain cost reduction of the independent variables (carriers and modes, transport services, demand forecasting, packaging materials and supply chain professionals) on Supply chain performance of the firm. The F-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. The F value shows 7.481 which is greater than the F critical it shows the model is significant.

Table 4.14 Regression Coefficients between SCCR Strategy and Supply chain Performance

Model	Unstandardized coefficients		Standardized coefficient	t	sig	95.0% confidence interval for B	
	B	St. Error	Beta			Lower bound	Upper bound
1 (Constant)	1.135	.567		2.002	.047	.013	2.257
Carriers & modes	.156	.080	.228	1.937	.049	-.003	.315
Transport services	.230	.083	.241	2.785	.006	.067	.394
Demand forecasting	-.113	.066	-.159	-1.711	.090	-.243	.018
Packaging materials	-.113	.057	-.210	-1.977	.048	-.226	.000
Human resources in Supply chain	.027	.071	.032	.382	.703	-.114	.169

a. Dependent Variable: Supply Chain Performance

Source: (SPSS Output, 2022)

Table 4.13 describes the independent variables such as carriers and modes with significance value .049, transport services with significance value of 0.006, and packaging materials with significance value of .048 which is less than 0.05 which has a positive effect on the dependent variable Supply chain performance of the organization. The B-value for carriers and modes is

.156 at tolerance level 1.937 above tolerance level of 0.1, for transport service strategy the B-value 0.230 at tolerance level 2.785 above tolerance level of 0.1, and the B-value of supply chain professionals is 0.027 at tolerance level .382 which is above tolerance level of 0.1. The rest two supply chain cost reduction strategies such as demand forecasting and packaging materials which are independent variables are insignificant to predict dependent variable Supply chain performance. On the study conducted by (Gunjan Soni and Rambabu Kodali, 2011) it was also found that choice of SCCR Strategy affects business and supply chain performance.

The quantitative findings presented above were also confirmed by interview data from top management and supervisors from various departments. According to the information provided by the interviewees, the modern supply chain must evolve to meet new demands and supply chain cost reduction challenges, and supply chain managers must plan ahead of time to keep everything running smoothly. Consumer expectations, more routes to market, international complexities, and other factors all contribute to significant challenges across the supply chain network.

Furthermore, the interviewee stated that profit margins are being squeezed as costs rise throughout the supply chain network. These costs come from a variety of sources, and a lack of visibility and accountability for reducing them can lead to increased operational costs. According to the interviewee, the major contributors to rising costs are rising fuel prices for transporting goods by road, sea, or air, rising commodity prices, which raise the cost of raw materials, higher labour costs from suppliers and manufacturers, complex international logistics, which leads to higher storage charges, material scarcity, and rising freight prices. Demand forecasting challenges, port congestion, shifting consumer attitudes, and digital transformation.

All interviewed top managers and supervisors also indicated the main challenge that affect the supply cost reduction. Some of the challenges are stated below.

- There is a problem on planning and most of the time the firm face product/input shortage, Stock will runout and the company invest another money to compensate that shortage by purchasing expensive, may be under quality products and purchasing unnecessary materials. Thus, we can conclude that there is a big problem on planning when to buy, from where to buy and how to buy.

- It's observed that different supply chain decisions are made by the management team which is not by Logistics & supply chain experts. The decision-making process was not participatory approach.
- The company doesn't work by allying/ associating its sells planning with demand forecasting, so they face an over production while demand is low.
- Also, there is a problem of demand forecasting. Most of the time production will be made without forecasting, and lack of coherence between selling and production. Similarly, sometimes, flowers produced that are not important in the current market demand system and dump into the garbage.

The interviewee also mentioned mechanisms for lowering supply chain costs. According to the interviewee, the best ways to cut costs are to manage shipping and transportation costs, monitor company inventory and keep track of each item in the company's storage, and hire the right employees. Hiring the right employee is one of the cost-cutting mechanisms because the employee can either accelerate or stymie the company's supply chain management efforts.

CHAPTER FIVE

SUMMARY OF MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

5.1. Summary of Major Findings

According to the data analysis in the previous section, summary of the findings presented as follows.

- The majority of respondents indicated that the overall firm characteristics towards carriers and modes (CM) with score mean of 2.6412 implying that carriers and modes practices in Margin par Ethiopia P.L.C is moderate.
- Most of respondents indicated that the overall firm characteristics towards transport service as a cost reduction strategy (TS) with score mean of 2.4 indicating that the respondents disagreed with Margin par Ethiopia P.L.C.'s SCCR policies which implies that the company has a limited practice of transport services.
- Similarly, most of respondents indicated that the cost reduction strategy towards demand forecasting (DF) with score mean of 2.5 implies that the company has a limited practice of demand forecasting.
- The majority of respondents indicated that the firm procure quality packaging materials with aggregated score mean 3.2 which implies that supply chain cost reduction strategy towards the quality of packaging materials was practiced moderately in Margin par Ethiopia P.L.C.
- Based on the findings result, the majority of respondents indicated that the cost reduction strategy towards supply chain professionals (SCP) with the aggregated score mean of 2.4, which implies that the company has a limited practice of supply chain professionals. The aggregate mean of the cost-cutting strategy towards supply chain professionals indicates that the respondents disagreed with Margin par P.L.C. Ethiopia.
- The majority of key informants agreed that the five building blocks of Supply chain cost reduction Strategies such as carriers and modes, Transport service, demand forecasting, packaging materials, and Supply chain professionals have a significant impact on the margin par company's cost and supply chain, with mean scores of 4.09, implying that the respondents agree on the significant influences of SCCR practices in Margin par P.L.C.

- Based on the findings of the study the mean score supply chain performance was greater than 3.9 implying that majority of respondents agreed to the fact that the company supply chain performance is moderately good.
- The study findings reveals that there is significance relationship between supply chain cost reduction and supply chain performance. The finding is consistent with the work of (Klemencic, 2006), that designates the five building blocks of supply chain cost reduction Strategies (carriers and modes, transport services, demand forecasting, packaging materials strategy, and supply chain professionals) has strong relation with the better supply chain performance of Margin par P.L.C.
- Based on the advice of Pallant 2005) many of the respondents indicated the value of tolerance for all independent variable is greater than 0.1 and all VIF is less than ten ($VIF < 10$), hence there is no collinearity within the data of the study.
- The study's findings indicated a causal relationship between supply chain cost reduction Strategy (SCCR) and Supply chain Performance (SCP), with a correlation coefficient of 0.230 ($r=0.230$) and a significance value less than 0.005. In addition, SCCR strategy has a low contribution of SCCR Strategy in interpreting the firm's Supply chain Performance, with the remaining 77 percent of the change attributed to other factors.
- The study findings designates that the F-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. The F value shows 7.481 which is greater than the F critical it shows the model is significant.
- The study findings show that independent variables such as carriers and modes, transportation services, and packaging materials have a positive effect on the dependent variable Supply chain performance of the organization with significance values less than 0.05. The other two supply chain cost-cutting strategies, on the other hand, have no effect on the dependent variable Supply chain performance.
- According to the findings of the correlation test between supply chain cost reduction and organizational performance from the study, supply chain performance has a moderate and positive relationship based on Pearson correlation coefficient of 0.49 ($r=0.49$) significance value is less than 0.001. This significance indicates that there is a genuine link between supply chain performance and organizational performance. Furthermore, the SC performance and organizational performance regression result shows that SC performance can explain approximately 21.4 percent of organizational performance.

- Based on the advice of George and Mallery, (2003) to check reliability Cronbach alpha coefficient was computed and the findings of the study indicated that Cronbach alpha result of all SCCR strategy is greater than .7 which is acceptable.

5.2 Conclusion

This section provides a summary of the research and analysis discussed herein and how this can be used to benefit supply chain managers. Although this analysis was conducted based on margin par P.L.C. which is operating in Holeta area, the general framework and evaluation of supply chain cost reduction strategy can be tailored to fit other part types and industries as well. Cost-reduction alternatives should be a part of, not an addition to, the supply chain strategy. Thus, based on the results of the study and the summary of findings the following conclusions are given.

Based on the findings of the study the majority of respondents agreed to the fact that the company's carriers and modes and packaging materials strategy implementation is moderately good and there is a good supply chain cost reduction practice however, the majority of the respondents also confirmed that the company has a little practice of transport services, demand forecasting and supply chain professionals.

Furthermore, the findings indicate that global supply chain cost reduction strategies have a significant and positive impact on the company's cost and supply chain management. Similarly, the findings indicate that there is a strong and positive relationship between the five components of supply chain cost reduction strategy (SCCR) and supply chain performance. Furthermore, the SCCR Strategy has a moderate impact on supply chain performance (SCP). In terms of their causal relationship, supply chain performance has an impact on organizational performance.

Furthermore, the study results indicate that multiple alternatives can and should be used concurrently to reduce costs. Managers must be careful not to apply a single cost-cutting solution to all problems. Potential cost-cutting options should be assessed in terms of cost-cutting potential, investment required, simplicity, risk level, ease of implementation, and timeline. The ability to measure these factors varies depending on the alternatives and the factors under consideration.

Furthermore, the findings show that global supply chain cost reduction strategies have a significant and positive impact on the cost and supply chain management of the company. Similarly, the results show a strong and positive relationship between the five components of supply chain cost reduction strategy (SCCR) and supply chain performance. Furthermore, the SCCR Strategy has a minor influence on supply chain performance (SCP). In terms of causality, supply chain performance has an effect on organizational performance.

The key takeaway is that businesses must carefully develop a supply chain strategy before structuring their organization and cost-cutting options to be consistent with this strategy. Value stream management, a total landed cost model, aligning employee incentives with company goals, and the frameworks and models developed in this thesis are all tools that can help businesses achieve this goal.

5.3. Recommendation

Based on the study results and conclusions drawn above, the following recommendations are proposed as a means of alleviating the problems found in supply chain cost reduction.

- The study's research showed that all building blocks of supply chain cost reduction techniques have modest and limited practice in margin par P.L.C. However, in today's complicated market, organizations must integrate SCCR strategically since it is a question of survival in today's more competitive industry, and a clear SCCR Strategy enables the firm to foresee the future and exceed from its existing performance.
- According to the company's supply chain cost reduction evaluation, the company's supply chain performance is relatively good, and there is a significant relationship between supply chain cost reduction and supply chain performance. However, business requirements have shifted in recent years, as competitors have become more aggressive, and customers' desires have become more diverse. As a result, the company needed to evaluate the critical cost-cutting actions and procedures needed to meet the objectives, and the organization needed to adapt to new alternatives. Margin par P.L.C. must manage shipping and transportation costs as well as strengthen the supply chain management department by recruiting the right people in order to meet the company's expense requirements. This would allow for synchronized activity management as well as.

- As the study clearly shows the impact of SCCR Strategy and Supply chain performance on organizational performance, companies should pay special attention to effectively adopting SCCR Strategy practices for efficient delivery service, effective production control, and improved inventory management.
- To remain competitive and accomplish advancement in marketing and financial performance in the long term by improving organizational performance, it is preferable for the company to focus on SCCR practices for further development of their operational performance.
- To assist with low-cost sourcing decisions, the supply chain operations reference model and the low-cost sourcing assessment framework can be used as tools. These tools are designed to supplement and support the company's supply chain decisions. Companies should constantly strive to improve their low-cost decision-making process by tracking past decisions and changing future decisions accordingly.
- As many studies have shown, the concept of SCCR is novel for the Margin par company as well as other Ethiopian businesses. Firms face numerous challenges when it comes to importing inputs, manufacturing them, and delivering the product to the final market. As a result, all parties, private and public, should commit to creating proper infrastructure that improves the country's poor supply chain cost reduction strategies.

5.4. Suggestion for Further Study

The present study used only Margin par P.L.C offices Addis Ababa area future studies should consider expanding their scope to include the whole company in Ethiopia. Furthermore, the evaluation of implementation of SCCR is limited to internal processes and downstream supply chain distribution network therefore further studies should be conducted on external factors.

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Appendix: One
Addis Ababa University School of Commerce
Department of Logistics and Supply Chain Management
Program Unit
Survey Questionnaire to be filled by Supply chain staffs

Dear respondent,

I am a post graduate student of Logistics and Supply Chain Management at Addis Ababa University School of commerce. The purpose of this questionnaire is to evaluate Supply chain cost reduction strategies of Margin par Ethiopian plc. Results of this study can be important to develop supply chain cost reduction strategies of the company and sector wise. I would be grateful if you could spare a few minutes of your time to participate in this research study by completing the attached questionnaire. I want to assure you that any information you provide will be treated with the utmost confidentiality. I would like to assure you that the information you are about to provide will be used solely for academic purposes and will be kept strictly confidential. Your contribution to this study is greatly appreciated. Since you have been chosen to answer the checklist, you are kindly asked to respond to all questions, depending on the specific topic. This checklist's overarching goal is to collect firsthand information on the aforementioned issue. I'd like to express my gratitude in advance for your willingness to contribute to the success of this important research study. If you have any questions about this survey, please contact me at the address listed below.

(Please Thick or point on the check boxes and specify on the space provided)

Researcher Address: - E-mail hiwi.marginpar@gmail.com and Cell phone number- +251973217712 or +251934167570

GENERAL INSTRUCTIONS

- ❖ It is not necessary to write your name.
- ❖ In all cases where answer options are available, please tick (✓) in the appropriate box.
- ❖ The survey questionnaire has Three sections. Section one deals on respondents general information, Section two focuses on supply chain cost strategies and section three response on the criteria.

Section I: - Respondents Background

Please indicate your answer by putting “X” or “√” marks to the option under the described column.

1. Gender: Male ☐ Female ☐
2. Age group: Less than 25 ☐ 26-35 ☐ 36-45 ☐ Above 46 ☐
3. Level of education: ☐College Diploma ☐Degree ☐MA/MSc ☐PhD
- Work Experience within the firm?** Less than 5 ☐ 5-10 ☐ 11-15 ☐ Above 15 ☐
4. **Total Work Experience within the firm**
 Less than 5 ☐ 5-10 ☐ 11-15 ☐ Above 15 ☐

Section II: - Supply chain cost reduction strategies of Margin par Ethiopian plc

Name	Statements	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5
Carriers and Modes (CM)						
CM 1	The firm work on diversifying carriers and modes.					
CM 2	The firm build constant relationship with carries and getting quotes for different services.					
CM 3	The overall firm characteristics towards carriers and modes has an impact on the company's supply chain cost.					
Transport Service (TS)						
TS 4	The firm pay for the right transport service.					
TS 5	The firm use multiple modes of transportation (i.e., Multi-modal transportation) for a single product to reduce cost.					
TS 6	The firm pack more products in to each load,					

	hence increasing capacity utilization.					
TS 7	The firm enlist the service of third-party logistics company (3PL).					
TS 8	Firm plan various modes of transport while keeping selecting the most suitable supplier.					
Demand Forecasting						
DF 9	The firm plan ahead to ensure to don't experience a product shortage.					
DF 10	There is a chance of having an over production while market demand is low.					
DF 11	Firm don't procure and ship what they can't sell.					
DF 12	Firm Forecast demand with sales planning.					
Packaging Materials						
PM 13	Protective product packaging is applicable in the firm.					
PM15	Quality packaging material procure in the firm.					
Human resources in supply chain						
SCP 16	Firm hire supply chain professional for their supply chain activities.					
SCP 17	Firm has a well-designed supply chain department.					
SCP 18	Different Supply chain decisions are made by the supply chain department.					
SCP 19	Supply chain staffs impact the firms supply chain cost.					
Supply Chain Cost Reduction (SCCR)						
SCCR 20	The company's cost is significantly influenced by carriers and modes.					
SCCR 21	The company's supply chain cost is significantly influenced by Transport Service.					

SCCR 22	The company's supply chain is significantly influenced by demand forecasting with sales planning.					
SCCR 23	The company's supply chain is significantly influenced by packaging materials.					
SCCR 24	The company's supply chain is significantly influenced by use of supply chain professionals.					
SCCR 25	Overall, you are satisfied with the firm's Supply chain cost reduction strategies.					
Section Three						
Reliability						
R1	We are dependable and consistent in our response to customer complaints.					
R2	We provide products that are extremely dependable.					
R3	We provide long-lasting products.					
R4	Our customers receive high quality products from us					
Openness						
O1	We provide the products that are required.					
O2	We complete the customer's order on time.					
O3	We provide consistent delivery.					
O4	The available to resolve customer complaint is limited					
Adaptability						
A1	We have a quick time to market.					
A2	We have a faster time to market than the industry average.					
A3	We are the first to introduce new products to the market.					

A4	We have a quick product development cycle					
Cost						
C1	We can offer prices that are comparable to or lower than those of our competitors.					
C2	Our capacity utilization is excellent.					
C3	Our inventory turnover rate is very high.					
C4	We operate with power production costs					
Asset management						
As1	It is critical that our top management is fully located at our corporate headquarters.					
As2	Our business units' knowledge sharing is inadequate.					
As3	Our company is run from a central location.					
As4	We have a centralized profit allocation system employ					
As5	Duties are clearly defined at our plants					

Appendix: Two
Interview guide for top level managers and supervisors

Addis Ababa University School of Commerce
Department of Logistics and Supply Chain Management
Program Unit
Survey Questionnaire to be filled by Supply chain staffs
Interview guide Questionnaire

Dear respondent,

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1. What is your position at your company? -----
2. For how many years did you serve at that position? -----
3. How do you perceive the supply chain cost reduction strategies in your company? ---
4. What strategy do you employ to reduce cost in your company? -----
5. How do you practice the global supply chain cost reduction strategies in your company?
6. What are the main challenges that affect the implementation of supply chain cost reduction strategies? -----

Thank you very Much