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Investigating the Influence of supply chain management practices on the sustainability of plastic industries: A Case Study of ENPLAST P.L.C.

BY

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Influence of supply chain management practices on organization performance in the case of ENPLAST P.L.C.

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DECLARATION

I, Abera Aragie , hereby declare that the thesis work entitled **"Influence of supply chain management practice Sustainability of Plastic Industries through Recycling In the Case of ENPLAST P.L.C." a**nd submitted in partial fulfillments of the requirements for the degree of Master of Science (Mechanical and Industrial Engineering) complies with the regulations of the University and meets the accepted standards with respect to originality and quality

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ABSTRACT

This study seeks to investigate the Influence of supply chain management practice sustainability of Plastic Industries through Recycling In the case of ENPLAST P.L.C. This research studied SCM in the area of supply chain integration, information sharing, customer relationship management, and internal lean practices. Explanatory survey design was used while a questionnaire was used to gather primary data. The study covered census of 66 employees of ENPLAST P.L.C. The study used questionnaire as primary data collection tool. The data collected was analyzed with the aid of descriptive statistical techniques such as frequencies, percentages and mean score. More so, correlation and multiple linear regressions were used to establish the relationship between study variables using Statistical Package of Social Sciences Version 22. The findings of the study revealed that the combined effect of various SCM practices influenced organizational performance positively. The correlation result shows that there is positive and significant relationship between all SCM practices (supply chain integration, information sharing, customer relationship management, and internal lean practices) and organizational performance. The result of regression also revealed that all predictor variables (supply chain integration, information sharing, customer relationship management, and internal lean practices) have statistically significant contribution on organizational performance. The adjusted R^2 of 0.502 indicates 67.2% of the variance in organizational performance can be predicted by SCM practices of the company. Thus, it can be concluded that improved SCM practices are significantly influencing organizational performance. Therefore, the management of ENPLAST P.L.C. Share Company should influence its supply chain integration, information sharing, customer relationship management, and internal lean practices as a way of improving the company performance.

Key Words: Supply Chain Management, Information Sharing, Customer Relationship Management, Organizational Performance

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LISTS OF ACRONYMS

FDRE	Federal Democratic Republic of Ethiopia
CRM	Customer Response Management
ICT	Information Communication Technology
IT	Information Technology
JIT	Just In Time
LS	Logistic Services
OL	Outbound Logistic
OP	Organizational Performance
SC	Share Company
SCM	Supply Chain Management
SSCM	Strategic Supply Chain Management
SPSS	Statistical Package for the Social Sciences
US	United States
VFI	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

For the performance improvement as well as to stay competitive in the market, the most important and valuable way is to have efficient supply chain management. Supply chain has become one of the top priorities on the strategic agenda of industrial and service businesses. Getting the right product, in the right number, in the right quality, to the right place, at the right time, is the primary goal of every supply chain management system (Anderson, 2008). Organizations came to realize that it is not enough to enhance efficiencies within a business but their complete supply chain has to be made competitive. Understanding and putting into practice supply chain management practices is now necessary to maintain competitiveness in the global market and to increase profitability (Storey, 2015).

supply chain management practices are a collection of actions made by an organization to support efficient supply chain management (Li Suhong, 2006). He suggested that SCM practices be thought of as a multi-faceted design that incorporates both the upstream and downstream ends of the supply chain. In order to improve the long-term performance of the individual organizations and the supply chain as a whole, the Council of Logistics Management (CLM) defines SCM as the systemic, strategic coordination of the traditional business functions and tactics across these business functions within a specific organization and across businesses within the supply chain. SCM has been defined to explicitly recognize the strategic nature of coordination between trading partners and to explain the dual purpose of SCM: to improve the performance of an individual organization, and to improve the performance of the whole supply chain. SCM's objective is to seamlessly integrate information and material flows throughout the supply chain as a powerful tool for competitive advantage (Suhong, et al, 2004).

Alvarado and Kotzab (2011) focused on inter-organizational system use, core competencies, and elimination of excess inventory through postponement, as SCM practices. Using factor analysis, Tan (2008), identified: supply chain integration, information sharing, customer service management, geographic proximity, and JIT capability, as the key aspects of SCM practice. Li Suhong (2006). in his case study-based research identified five practices at the supply chain level

that are a key to creating supply chain responsiveness. They include outsourcing, strategic supplier partnerships, customer relationships, information sharing, and product modularity.

Performance in organizations takes many forms depending on whom and what the measurement is meant for. For different stakeholders to be able to make informed decisions, they need diverse performance indicators (Manyuru, 2015). Organizational performance, according to Stuart (2007), includes three distinct areas of business outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.). On the other hand, Frohlich (2011) hypothesized that businesses with deeper supply chain connections with suppliers and customers exhibited the greatest performance increase in terms of commercial success. They are expected to improve an organization's competitive advantage through price/cost, quality, delivery dependability, time to market, and product innovation.

A vast variety of previous studies have been applied extensively in the supply chain area to examine how supply chain, as a firm resource, can affect organizational performance. Most of these studies focused on capabilities that are well-recognized supply chain imperatives (Lynch, et al, 2000; Koh, 2007 and Lia, 2005). However, there is a little attention to directly explore the effect of supply chain on the firm performance. Particularly, supply chain has positive influence on the organizational performance for retail firms (Hadi and Setiawan, 2013 and Mensah, 2014). In addition, evidence on the important role of supply chain has also been found in some developing countries, such as Nigeria, India, Malaysia, and Vietnam (Koh, 2007; Hoang and Nguyen, 2019; Abdul, et al, 2019). In Ethiopian context, this result is supported by finding of Dawit (2020), mentioning that there is a positive relationship between the supply chain and organizational performance by using Breweries firms' samples in Ethiopia.

Having the above facts in mind which showed the necessity of integration of the supply chain to exist in the competitive marketing environment, it is inevitable to measure the supply chain in terms of its activities parallel with its impact on overall organizational performance to give organized insight to logistics services for a better decision making. This in turn allows seeing where the company is in terms of its supply chain, i.e., strategic supplier partnership, information sharing, customer service management, geographic proximity, and JIT capability and further

effects on overall organizational performance. Thus, analysis devoted to the major effects of the supply chain on the on organizational performance seems to be of great relevance.

Supply chain management has emerged as a common practice across industries and the plastic industry is one of the sectors that have growing interest in supply chain management practices (Okoth 2011). The plastic recycling industry is rapidly growing, with significant potential for innovation and growth. Sustainable supply chain management in the plastic recycling industry is highly relevant and important for the business world, providing an opportunity to develop skills and knowledge in a rapidly growing and interdisciplinary field. Supply chain management (SCM) practices in the plastic industry are crucial for ensuring efficient operations, timely delivery, and cost-effectiveness.

The plastic industry encompasses various sectors, including raw material suppliers, manufacturers, distributors, and retailers (Wuletaw, et al, 2018). Plastic recycling is a complex process that involves the collection, sorting, processing, and distribution of plastic waste. The effective management of the supply chain is essential for plastic recycling companies to operate efficiently and sustainably. One of the ways to improve the efficiency of plastic processing firms was to improve supply chain performance. That is why if plastic recycling and processing firms in Ethiopia needed to become efficient flexible and integrated in their processing methods; they needed different strategies to manage the flow of goods from the point of production to the end user (Belay 2011). Backward and forward integration is very important for the manufacturing sector to be competitive in the market.

More so, the researcher hardly finds enough literature on the current supply chain practice in the Ethiopian plastic industry. For this reason, it is of particular interest to study the current state of supply chain activities, which are determined as the main factors of supply chain services affecting the firm performance in the flour processing industry. Therefore, this study would examine the effect of SCM at organizational performance by taking ENPLAST P.L.C. as a case.

1.2 Statement of the Problem

As the global plastic waste crisis intensifies, the need for a thorough examination of supply chain management (SCM) practices in plastic recycling companies becomes increasingly evident. Despite the growing importance of plastic recycling in waste management and environmental

sustainability, several challenges hinder the effectiveness of plastic recycling supply chains. Akça (2022) highlighted the inefficiency of waste collection systems, leading to a significant portion of plastic waste not reaching recycling facilities. Garcia-Alvarado et al. (2017) emphasized the impact of inaccurate sorting, leading to contamination and reducing the quality of recycled materials. Senthil and Murugananthan (2017) pointed out the cost and environmental implications of unoptimized transportation routes and logistics procedures. Tsinopoulos and Mena (2015) addressed the challenges posed by fluctuations in market demand and the lack of consistent demand for recycled plastics. Tukker (2004) emphasized the need for standardized recycling practices and clear regulations to ensure consistency in the quality and processing of recycled materials.

To address these challenges and enhance the effectiveness of plastic recycling supply chains, a comprehensive study is essential to identify and analyze specific SCM practices that contribute to inefficiencies and limitations in plastic recycling operations. Furthermore, it is crucial to evaluate the impact of various SCM related practices on organizational performance of plastic processing firms and develop recommendations and strategies for optimizing SCM practices in plastic recycling companies.

Regarding the literature gaps identified, the researcher was able to realize that even if some attention has been given in exploring the extent of the relationship between Influence of supply chain management practice sustainability of Plastic Industries through Recycling, there has been little evidence to prove the impact of Influence of supply chain management practice sustainability of Plastic Industries through Recyclingon organization performance (Abdul, et al., 2019). Whereas majority of the studies (Liu and Luo, 2008; Musau, et al., 2017 and) demonstrate a positive impact of Influence of supply chain management practice sustainability of Plastic Industries through Recyclingon performance, other scholars (Lenny et al., 2007; Ristovska, et al., 2017 and Dawit, 2020) indicated a weak association between Influence of supply chain management practice sustainability of Plastic Industries through Recyclingand performance. Therefore, the empirical evidence adduced in literature linking Influence of supply chain management practice sustainability of Plastic Industries through Recyclingwith performance does not unequivocally rule out context-dependence results. With the hanging clouds of inconsistencies, it is difficult, without multiple evidence across different contexts and over time to conclusively affirm the nature and

strength of the influence Influence of supply chain management practices on organization performance had on performance (Abdul, et al., 2019).

Furthermore, it was evidenced from the reviewed relevant literature that there were relatively few studies that empirically examined the effects of Influence of supply chain management practices on organization performance on business performance in Ethiopia, notably in the domain of the plastic industry. According to a literature review, there is not enough study on supply chain management strategies in Ethiopia's major plastic business and most of the existing studies on logistic and supply chain management strategies in Ethiopia focus on either the manufacturing (Gudeta, 2021 and Kumsa, 2018) or service sectors, such as banking (Abel, 2017); Telecom (Tsegaye 2018); humanitarian (Messay, 2018); brewing (Fikrte, 2019) and construction (Dawit, 2020). However, the plastic industry is critical to the country's economy, and the issue of supply chain management methods is significant for plastic recycling enterprises. The study therefore aims to fill this gap of literature by studying the impact of logistics services on the firm performance with the case of ENPLAST P.L.C..

When we came to the practical problems, Ethiopia's supply chain system of manufacturing sector in general, and the plastic recycling industry, in particular, are plagued by inefficient supply chain and logistics methods (Fekadu, 2013). The Ethiopian manufacturing sector continues to have little to no backward integration to primary production and intermediate input producers. Ensuring consistent quality throughout the supply chain can be challenging due to variations in raw material quality, manufacturing processes, and environmental factors. The plastic industry faces increasing scrutiny over its environmental impact, particularly concerning plastic waste and pollution (Annually performance report of industry minister, 2021). This reality, as well as the potential challenges for the industry unless it is strategically handled, particularly in terms of supply chain management. So, all these challenges highly impact on the manufacturer’s performance.

ENPLAST P.L.C. is not an exception for all the facts. Currently, there has been a great challenge on the part of managers in ENPLAST P.L.C. on determining how exactly they can attain maximum benefits from its supply chain and logistic services. According to company annual reports, the company has faced with challenges of underutilized processing capacity; higher production cost; status of country mingled with high trade and logistic cost, which further escalate

the production and distribution cost. Moreover, there is no earlier study related to the supply chain management practices and its effect on organizational performance of ENPLAST P.L.C. in general. Therefore, this study bridged the gap by examining the effect of supply chain management on organization performance in case study on ENPLAST P.L.C.

1.3. Research Question

Based on the problem, the study was framed to answer the following research questions:

1) What is the relationship between supply chain integration practices and organizational performance at ENPLAST P.L.C.?
2) How does information sharing among supply chain partners influence the sustainability plastic industries, specifically at ENPLAST P.L.C.?
3) In What way do customer relationship management practices affect the overall performance and sustainability of ENPLAST P.L.C.?
4) What impact do internal lean practices have on the efficiency and sustainability of supply chain management at ENPLAST P.L.C.?

1.4 Objectives of Study

The objective of the study details into general objective and specific objective.

1.4.1 General objective

The general objective was to investigate the Influence of supply chain management practice on the sustainability of plastic industries,focusing on organizational performance at ENPLAST P.L.C..

1.3.2 Specific Objectives

The specific objectives of this study were: -

1) To analize the effect of supply chain integration on the organizational performance ENPLAST P.L.C..
2) to evaluate the role of information sharing in enhancing sustainability practices with in the supply chain of ENPLAST P.L.C..
3) To assess how customer relationship management practice contributes to the overall performance and sustainability of ENPLAST P.L.C.
4) To examine the impact of internal lean practices on the efficiency of supply chain management and sustainability at ENPLAST P.L.C.

5) To develop an important model for enhancing supply chain management practices that support sustainability and organizational performance at ENPLAST P.L.C

1.5 Significance of Study

This study examines the Influence of supply chain management practice sustainability in case of ENPLAST P.L.C., assess and explore its shortcomings and solutions to mitigate the problems. In doing so, in addition to fulfilling the researcher's academic requirement, the study's results will have several benefits. Primarily, the research helps the management in case company in general and the Logistic and Supply Chain Department Head in particular, to take corrective measures to improve and revise its supply chain practices. The study also add knowledge on the literature of the Ethiopian plastic recycling industry on how to Influence of supply chain management practice and sustainability. More so, the study also helps as a secondary source for further study in the area.

1.6 Scope of the Study

The scope of this study is delimited in terms of subject (concept) and area (geography). Supply Chain Management encompasses a vast area of managerial practice; however, it is difficult and unmanageable to conduct the study in all areas that summarizes supply chain management in terms of time, finance, and research manageability. Thus, the conceptual scope of this study will focus on some selected supply chain management practices. In view of that, the study comprises four major supply chain practices: supply chain integration, information sharing, customer relationship management, and internal lean practices. Regarding the geographical area coverage, the study was limited to ENPLAST P.L.C. in Addis Ababa.

1.8. Limitation of Study

Even though the study was designed to enable the researcher to collect accurate and reliable data that can be used to make some inferences, it is however not free from limitations. First, the study was only focus on one company, ENPLAST P.L.C. in Addis Ababa. Thus, the finding of the study may not be inferred to the whole plastic recycling industry in the country. More so, the study was also conducted based on cross-sectional approach and thus, data was collected at single time rather than frequent observation over the same sample. Accordingly, the method cannot examine changes over time which needs more strong empirical investigation. More so, since the research was focused on the selected framework of supply chain activities it is difficult to generalize the finding

of the study to all other supply chain activities that are described by different researchers and authors. So, to improve generalizability the study can be replicated for other supply activities.

1.9. Definition of Terms

The following definitions are provided to ensure uniformity and understanding of these items throughout the study.

1) **Organizational performance or firm performance** is a subset of organizational effectiveness that covers both operational and financial outcomes (Selvam et al., 2016)
2) **Supply chain** is a network of partners who collectively convert a basic commodity (upstream) into a finished product (downstream) that is valued by end-customers, and who manage returns at each stage (Harisson, 2008).
3) **Supply chain management** - Planning and controlling all of the business processes from end-customer to raw material suppliers that link together partners in a supply chain in order to serve the needs of the end-customer (Harisson, 2008).
4) **Customer relationship**: - It refers to the entire array of practices that are employed to manage customer complaints, building long-term relationships with customers, and improving customer satisfaction (Kalkidan E., 2019).
5) **Level of information sharing**: - The extent to which critical and proprietary information is communicated to one's supply chain partner (Kalkidan E., 2019).
6) **Quality of information sharing**: - The extent to which to the accuracy, timeliness, adequacy, and credibility of information exchanged (Kalkidan E., 2019).

1.10. Organization of the Study

The study is organized into five chapters. Chapter one discusses the introduction part. It contains the background to the research study, presents the statement of problem, and research objectives. Also, the chapter has the significance, scope, and limitations of the study. Chapter two contains theoretical review, empirical review of previous studies and conceptual framework of study. Chapter three outlines the research methodology adopted in this study. Chapter four discusses about the data analysis and interpretation of the outputs. Chapter five outlines the summary of the finding, conclusions, recommendations and further research suggestions.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

Introduction

This chapter includes related literature reviews which are found to be essential to the research inquiry. Thus, the first section discusses the conceptual and theoretical literatures related to the study variables which are considered in order to lay solid foundation for the research. Besides, related studies concerning the effect of supply chain management on organizational performance are also discusses in this chapter. In the final analysis, the conceptual framework of the study is presented which illustrate various variables of the study.

2.1. Theoretical Literature Review

2.1.1. The Concept of Supply Chain Management

A supply chain is a network of businesses, people, technology, activities, information, and resources that facilitates the movement of goods and services from a supplier to a customer. Supply chain management turn natural resources, raw materials, and components into a finished product that is delivered to the customer. The Council of Supply Chain Management Professionals defines supply chain management as follows: "Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities". Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers (Sabry, 2015).

Deferent scholars have defined supply chain management for instance Chopra (2007), defined it as follows: "A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service." (Chopra, 2007).

According to Martin (1998), supply chain management is “a philosophy of an integrated approach to manage the total flow of a distribution channel from the supplier to the ultimate customer” (Ellram & Cooper, 1990). It is the management of upstream and downstream companies connecting inside and outside the company's operations with suppliers and customers to deliver value to key customers with a low-cost supply chain as a whole (Martin, 1998).

In essence, supply chain management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high performing business model (Ali, et al, 2013). In general, regarding the definition of SCM, the key elements of supply chain and its management from these definitions are therefore the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself.(Sukati, Sanyal et al. 2020)

Suppliers, manufacturers, distributors, retailers, and customers are all part of the supply chain. Since the fundamental goal of any supply chain is to meet customer needs while making a profit for the chain itself, the customers are the chain's main focus. SCM was initially associated with inventory management inside a supply chain. Later, the idea was expanded to encompass supply chain management for all operations. In order to reduce overall cost, SCM manages flows within and between supply chain stages. According to this definition, SCM includes managing product, information, and financial flows upstream and downstream in the supply chain (Mamun, 2010).

2.1.2. Supply Chain Management Practices

According to Haque, (2013), SCM practices are a fundamental to firm performance; in today’s globalized business all firms get their competitive advantage by managing various challenges within the country and internationally and this devote substantial attention. As effective SCM provides benefits that go beyond the entities or the organization itself on both of its upstream and downstream sides and those firms may comprehend their potential of integrating their external relationship that is the firms’ external suppliers, the firm itself and the firm’s customer and also the firm internal operational practices with a view to enhancing their level of competitiveness and performance as well as customer satisfaction (Muhammad, 2004).

SCM practices are multidimensional which affect the performance of partners in the supply chain. These SCM practices were seen and discussed by different researchers from different perspectives. Tan, Kannan, & Handfield (2008) identify six aspects of SCM practice through factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and JIT capability. Li Suhong (2006) in his case study-based research identified five practices at the supply chain level that are a key to creating supply chain responsiveness. They include: outsourcing, strategic supplier partnerships, customer relationships, information sharing, and product modularity.

After reviewing and consolidating the literature, four distinctive dimensions, including strategic supplier partnership, customer relationship, information flow across a supply chain, and internal lean system, are selected for measuring Influence of supply chain management practice sustainability of Plastic Industries through Recyclingin this study. The four constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, level of information sharing, and internal lean system.

2.1.2.1. Strategic Supplier Partnership

Strategic supplier partnership: is defined as the long-term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Stuart, 2007). Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. Suppliers participating early in the product design process can offer more cost-effective design choices, help select the best components and technologies, and help in design assessment (Lee, Romzi et al. 2022). An effective supplier partnership can be a critical component of a leading-edge supply chain (Noble, 2007). Raps (2005), claims that the key to success is an integrative view of the implementation process of strategy.

Researchers have emphasized the strategic importance of integrating suppliers, manufacturers, and Customers. Christopher, (2003) stresses the importance of linking an innovative strategy to the company's vision and overall business strategy. Clients are shown to be key drivers of performance

improvement and innovation and are the most significant factor in achieving integration in the supply chain.

2.1.2.2. Customer Relationship

Customer relationship refers to the full set of techniques used to handle customer complaints, create lasting connections with customers, and raise customer satisfaction (Tan, Kannan, & Handfield, 2008). An corporation can differentiate its product from rivals, maintain client loyalty, and significantly increase the value it offers to customers by maintaining close customer relationships. Lambert (2005) asserts that management of customer relationships is widely regarded as a crucial component of an organization because of the anticipated benefits that are likely to occur if done well and the likely drawbacks that will occur if it is not, as well as the definition of what exactly constitutes good customer relationship management. CRM and its implementation remains to be a prominent point of contention in CRM literature and in practice has proven to be nothing short of extreme. He further suggests that technology is a tool and to be successful, management must place its primary focus on the CRM process, the people and the procedures that make the technology effective. This is not to say that technology doesn't play a Effect in CRM or can't assist in its success. Actually, it had been observed that all customers do not contribute equally to the firm's success; hence the goal of every firm is to identify those customers who desire and deserve special treatment so that offerings can be tailored to meet their needs while achieving the firm's profit goals for the customer (Amanuel, 2018).

2.1.2.3. Information flow across a supply chain

Information sharing has two aspects: quantity and quality. Both aspects are important for the practices of supply chain management and have been treated as independent constructs in the past supply chain management studies (Tan, et al., 2002).

The level (quantity aspect) of information sharing describes how much important and confidential information is shared with supply chain partners. Shared information can range from tactical to strategic in nature, from market and customer data to logistics-related information (Tan, et al, 2002). Making undistorted and current marketing data available at every supply chain node has been highlighted by many studies as the key to a seamless supply chain (Croom, et al., 1998). Information can be utilized as a source of competitive advantage by taking the readily available

data and disseminating it to other stakeholders throughout the supply chain. Sharing of knowledge is one of the five components identified by Lalonde (2002) as constituting a strong supply chain relationship.

Stein and Sweat (2006) assert that supply chain participants that communicate often can function as a single unit. Together, they can more fully comprehend end-user requirements and, as a result, can react to market changes more quickly. Additionally, Tompkins & Ang (1992) view the efficient utilization of pertinent and timely information by all functional supply chain elements as a critical competitive and differentiating aspect.

The correctness, timeliness, sufficiency, and reliability of the information provided are only a few examples of the qualities of information sharing. Sharing of information is crucial, but how much it affects SCM depends on what information is exchanged, when, how, and with whom. Organizations appear to have a natural aversion to divulge more information than is necessary because doing so is seen as a loss of control. Given these tendencies, guaranteeing the accuracy of the information provided turns into a crucial component of efficient SCM (Feldmann and Muller, 2003). Organizations must see information as a strategic asset and make sure it moves with the least amount of delay and omission.

2.1.2.4. Lean Practices

According to Lean Enterprise Institute (2009) the term lean was coined by Krafcik in the late 80`s, even though the philosophy came to the Western world`s attention in the early 80`s as a result of competition from Japan automobile industry which offered low prices and quality products. It's difficult to define lean properly, and it's likely that any business that uses it will take a different path (Lewis, 2000). It involves eliminating all of the time and resources that are wasted during the production process. Lean can be viewed as a management concept, a management philosophy, a management style, a value, a methodology, or an ethos (Mark, Wilson and Ram, 2009). Lean is now developing into a management strategy that enhances every process at every level of a business (Womack et al., 1990; Liker, 1998).

According to Bhasin and Butcher (2006) some of the common lean procurement methodologies are; Kaizen, Kanban systems and Supplier development. A long-term philosophy, processes, people and right culture are essential to convert an organization into a lean enterprise (Liker, 2004;

Henderson et al., 1999). Long term relationships with suppliers are important elements of lean supply (Handfield, 1993). Today's demand-driven supply chains necessitate lean procurement techniques, say Liker (1996), Lathin (2001), and Ferch et al. (1998), whose objectives are to eliminate waste in all procurement cycles, prevent shortages, reduce inventory investment, reduce procurement lead time and cost, increase inventory turnover, and ensure customer satisfaction. These techniques guarantee increased effectiveness and procedural standardization.

2.1.3. Organizational Performance

Organizational performance is difficult to assess, because no common definition exists. Performance refers to an organization's ability to deal with the four systemic processes (inputs, outputs, transformations, and feedback effects) in order to meet its objectives (Damanpour & Arvind, 2011). External parties usually assess a company's ability based on its results. This explains why a company's performance is like a mirror. According to Richard et al. (2009), performance refers to an organization's actual output or results as compared to its expected outputs (or goals and objectives). It can be defined as a company's efficiency and productivity in relation to the market in which it operates. It is determined by how well a company uses its assets in its primary job of conducting business and generating income (Omondi & Muturi, 2013). The outcomes obtained in satisfying a firm's internal and external goals are referred to as performance (Liao et al., 2010).

Performance, according to Alam et al. (2011), is a multidimensional construct made up of four elements: financial and market performance, customer-focused performance, human resource performance, and product or service performance. Revenue, profits, earnings per share, market position, and other financial and market performance metrics are examples. Customer satisfaction and human resource performance indicators, such as employee satisfaction, are examples of customer-focused performance indicators. Organizational performance, according to Richard et al. (2009), encompasses three distinct areas of business outcomes: financial performance (profits, return on assets, return on investment, and so on); product market performance (sales, market share, and so on); and shareholder return (total shareholder return, economic value added, etc.). Santos and Brito (2012) proposed a subjective indicator-based performance measurement approach. Growth, profitability, employee happiness, customer satisfaction, social performance, and environmental performance are the six dimensions of this approach.

Various techniques of assessing performance are used by different companies, all of which are based on their organizational objectives. This performance metric can be evaluated in both monetary/financial and marketing terms (Bergin-Seers & Jago, 2007). Financial metrics have served as a tool for comparing organizations and evaluating an organization's behavior over time (Holmberg, 2000). Any organizational initiative, including supply chain management, should ultimately lead to enhanced organizational performance. A number of prior studies have measured organizational performance using both financial and market criteria, including return on investment (ROI), market share, profit margin on sales, the growth of ROI, the growth of sales, the growth of market share, and overall competitive position (Vickery et al.,1999; Stock et al., 2000; and Li et al., 2006). In line with the above literature, the same items adopted to measure organizational performance in this study.

Following a review of existing research, the study established an operational definition for assessing organizational performance as the sum of financial (profitability) and market-oriented indicators. Organizational performance refers to how successfully an organization meets both market-oriented and financial goals for the purposes of this study. This term encompasses both financial and market-oriented results. Thus, financial metrics (growth of sales, return on investment, profit margin on sales), marketing metrics (growth of market share) and non-financial metrics (customer satisfaction, supplier satisfaction, employee) are adapted as organizational performance measures in this study (Natnael, 2016).

2.1.4. Theoretical Framework

The study adopts three main theories namely; Resource Based View Theory, Transactions Theory and Theory of Constraints.

2.1.4.1. Resource-based view (RBV)

Wernerfelt (1984) first proposed this notion, which was later expanded upon by Barney (1991). According to the theory, the tangible and intangible resources accessible in a given business are the ultimate sources of competitive advantage (Tukamuhabwa, et al., 2011). These resources, according to the theory, should be well linked so that they complement each other in achieving the desired goals. To reap the most benefits, the organization should strive to diversify and enhance the number of resources it owns.

The theory assumes that each firm contains resources that are unique to that firm and that, if properly employed, will provide an additional competitive advantage. However, because resources are varied, and corporations are prone to having their resources duplicated by competitors, this is not always the case. As a result, operational advantage can only be gained when the available resources are unique and unlikely to be duplicated (Karia & Wong, 2011).

Business activities are highly connected thanks to advances in supply chain services (Seuring et al., 2010). The resources developed through logistics and transportation integration are more valuable than the resources of individual companies. According to the theory, organizations who participate in resource integration receive higher benefits. However, the influence of these supply chain and logistics activities on operational performance will be limited by the firm's available resources. Through strategic management, infrastructure management, and resource management, the logistics distinct capability can be instrumental in the creation of time, place, quantity, form, and possession utilities within and among firms, with the goal of creating products/services that satisfy the customer through the attainment of value (Karia & Wong, 2011).

2.1.4.2. Transactions Theory

Williamson was the first to propose the Transactions Theory (1985). The theory tries to improve vertical integration and corporate trust. According to the theory, several expenses are incurred during the execution of operations. If these costs are not adequately handled, they may result in losses rather than predicted gains (Gunasekaran & Kobu, 2007). Only when costs are minimized, primarily through asset specificity and the reduction of uncertainty, can operational efficiency be achieved (Williamson, 1985).

The significance of the theory is that it demonstrates the potential benefits of implementing integrated supply chain management practices and methods into companies. As a result, supply chain management practices will improve the firm's operational performance by not just enhancing efficiency but also lowering operational costs.

According to Platje (2013), three types of logistical flows have historically been identified: products, information, and money. The goal of transaction cost economics in relation to information flows is to lower the costs of information access, processing, use, and so on. This flow includes both pre-contractual information gathering and post-contractual agreement monitoring.

The cost of transactions affects the flow of money. Money enables price comparison (lowering market transaction costs) and development. On the other hand, money as a means of payment for goods and services is accompanied by post-contractual opportunistic behavior (cheating). Monitoring and enforcement costs associated with late or non-payment emerge when using various types of credit or when clients are not required to pay promptly. Insurance and other instruments are merely transaction charges for minimizing the risk of payment commitments not being met. In this discipline, the development of logistics services aims to lower transaction costs by providing safeguards against potential opportunistic behavior associated to inaccurate information and monetary flows.

The cost of transportation and the cost of production (from the production of raw materials to the creation of finished items) are both included in the flow of commodities(Lee, Romzi et al. 2022). When services and products are sold between companies, there are management transaction costs (connected to production within a company) and market transaction costs. Logistics is a tool for lowering transaction costs at the margin (the transaction costs of undertaking extra activity). Logistics can also be used to enhance the flow of commodities while lowering transportation and manufacturing expenses.

2.1.4.3. Theory of Constraints

Goldratt established the theory of constraints (TOC), which has been applied in a variety of management disciplines (Cyplik, et al., 2009). According to the theory, every organization has at least one limitation that prevents it from achieving its established targets and goals. As a result, the theory not only initiates but also implements breakthrough improvements.

The theory proposes that companies face challenges in conveying their products between the parties involved. As a result, incorporating transportation and logistics into the supply chain will ensure that all partners are connected. TOC is thus valuable in assessing the impact of transportation management, inventory management, and order procedures on manufacturing company performance.

Overall, all the aforementioned theories are relevant, the present study is mainly based upon the transactions theory. The theory is more appropriate for this study as it tries to include important factors that affects logistics performance including transaction cost, information flow, vertical

integration and corporate trust. According to the theory, several expenses are incurred during the execution of operations, if these costs are not managed properly, they may result in losses rather than expected gains. Only by reducing costs during the process of logistic services, principally through asset specificity and uncertainty reduction, can operational efficiency be attained, which in turn improves organizational performance. The significance of the theory is for this study is that it demonstrates the potential benefits of implementing integrated supply chain management practices and methods into companies. As a result, logistic management practices will improve the firm's performance by not just enhancing efficiency but also lowering operational costs.

2.2. Empirical Literatures

Despite the fact that many empirical researches have been conducted on the effects of supply chain management on firm performance, the available literature contains mixed evidence and yields inconclusive findings. The majority of studies found a favorable and significant effect, whereas some found insignificant effects. This section covers prior research on the impact of supply chain management on firm performance.

2.2.1. Empirical Literatures in Global Context

Previous studies have linked better organizational performance to proficiency in performing logistics operations and capabilities. For example, Suhong et al. (2004) conducted research on the effects of supply chain management methods on organizational performance and competitive advantage in the USA. Since rivalry is now across supply chains rather than between businesses, effective supply chain management (SCM) has emerged as a potentially significant method of protecting competitive advantage and enhancing organizational performance. This study tests the connections between SCM practices, competitive advantage, and organizational performance while conceptualizing and developing five dimensions of SCM practice (strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and postponement). The results indicate that higher levels of SCM practice can lead to enhanced competitive advantage and improved organizational performance. Also, competitive advantage can have a direct, positive impact on organizational performance.

Zhang and Lim (2005) published research titled "The Impact of Logistics on Organization Performance: Case Study on a USA Manufacturing Firm" in the United States. A survey of 273

manufacturing companies in the United States revealed that logistics flexibility has a large, positive, and direct impact on customer satisfaction. This proved that companies may achieve customer satisfaction by enhancing logistics flexibility, allowing for quick replenishment of incoming supplies and timely delivery of finished goods to customers. The findings show that accurate, timely, and relevant information from both inside and outside the firm enables appropriate and timely decision making.

Li et al. (2006) used their instrument for measuring Influence of supply chain management practice sustainability of Plastic Industries through Recycling (developed in 2005) in studying the impact of SCM practices on organizational performance and competitive advantage in South Korea. They discovered that SCM practices as a multidimensional concept cover upstream and downstream supply chains as well as internal supply chains. Their research also found that SCM methods have a significant impact on organizational performance and competitive advantage. Higher levels of SCM practice, according to the findings, can lead to increased competitive advantage and greater organizational performance. Furthermore, competitive advantage can have a direct and positive impact on the performance of an organization.

Kim (2006) investigates the causal relationships between supply chain management (SCM) practice, competition capability, supply chain integration level, and firm performance. He discovered that the role of SC integration as a critical intervening variable between SCM practice or competition capability and firm performance is highly emphasized in small firms, whereas the infrastructure role of SC integration, which drives the strong interrelationship between SCM practice and competition capability, is highly emphasized in large firms. This indicates that large firms have already achieved significant levels of SC integration, and that, as a result of this high level of SC integration, a closer interrelationship between SCM practice and competition capability, as well as a more significant direct effect of these two constructs on performance, may be possible. His findings suggest that efficient SC integration may be more important for performance improvement in small organizations, whereas in large firms, the close link between SCM practice and competition competence may have a greater impact on performance improvement.

Lenny et al. (2007) investigated the links between SCM practices, operational performance, and SCM-related organizational performance in Turkey. Data for this study was gathered from a sample of 203 manufacturing SMEs in Istanbul, Turkey, that specialize in the production of fabricated metal goods and general-purpose machinery. Their research uncovered a set of 12 SCM practices: Close collaboration with suppliers, close collaboration with customers Just-in-time delivery, Supply chain benchmarking, strategic planning There are only a few suppliers, Subcontracting, E-procurement, Outsourcing, third-party logistics, and holding safety stock There are numerous vendors. CM practices were shown to have a direct and beneficial impact on operational performance; however, SCM practices were not found to have a direct and significant impact on SCM-related organizational performance.

The Impact of SCM on Production Performance and Product Quality was studied by Arawati (2015). This empirical paper's main goal is to assess the significance of including supply chain management (SCM) in the Malaysian manufacturing sector and look into how it affects output efficiency and product quality. The study also makes an effort to look at the mediating role that production performance plays in the connection between SCM and product quality. SCM significantly and favorably impacts the efficiency of production and the caliber of the final product. The result also shows that the relationship between SCM and product quality is somewhat mediated by the production performance construct. Lean production, strategic supplier partnerships, quality information exchange, and new technology and innovation emerge as the SCM strategies that have the greatest impact on improving production performance and product quality.

The effect of supply chain management strategies on organizational performance in food processing firms in Dar es Salaam, Tanzania, was studied by Mollel (2015). This study's primary goal was to examine how SCM methods were understood and practically applied to organizational performance in food processing businesses in Dar es Salaam, Tanzania. Market and operational/financial performance variables were used to measure the organizational performance, while six key SCM practices (strategic supplier partnership, customer relationship, quality and level of information sharing, outsourcing, and lean practices) were used as independent variables accompanied by various measurement instruments under each variable. According to the study's findings, the majority of Tanzanian food processing companies were aware of the value of using

SCM techniques. Lean practices, strategic supplier partnerships, customer relationships, the degree and quality of information sharing, and organizational performance were all positively correlated with one another and with organizational performance in general, with outsourcing being an exception.

Bwari et al. (2016) conducted supply chain research in East African Breweries Limited in Kenya. The research was conducted using a descriptive research approach. The study focused on all of EABL's 1653 workers. The survey took a 10% sample from each stratum, resulting in a total of 165 respondents. Inventory control, distribution management, and transportation management all had a significant impact on supply chain performance, according to the study, whereas warehousing management services had a small impact. The study, on the other hand, did not look into the relationship between the research factors. Wathe (2016) looked at the impact of logistics, which was the independent variable, on the performance of manufacturing enterprises, which was the dependent variable. Both descriptive and explanatory research designs were used in this study. An e-mail survey and hand delivery were used to distribute a semi-structured questionnaire. According to the findings, there is a link between logistics and manufacturing company performance in Kenya.

Study on the effect of supply chain management strategies on organizational performance of Karachi, Pakistan's textile sector was undertaken by Waqas in 2020. Except for postponement, the study indicated that strategic supplier partnerships, customer relationships, information sharing levels, and information sharing quality all had a substantial impact on organizational performance.

2.2.2. Review of Empirical Literature in Ethiopia Context

Woldemichael (2012), conducted study on the impact of supply chain management practices on the organizational performance of basic metal and engineering industries in Ethiopia. The primary goals of this study are to: (1) evaluate the extent to which SCM practices are being used in Ethiopian BMEIs; and (2) examine the association between SCM practices and organizational performance in the same industries. The study revealed that in Ethiopian business context, especially in Basic Metal and Engineering Industries (BMEIs), the concept of SCM should be well understood and practiced because these industries are the backbone of other growing industries in the country.

Natnael (2016), conducted study entitled: “Effects of Supply Chain Management Strategy on Firm Performance (The Case of MOHA Soft Drinks Industry S.C. Addis Ababa”. This research conceptualizes and develops on five building blocks of SCM strategy (Manufacturing strategy, Outsourcing strategy, Channel Strategy, Customer service strategy and Asset network) and tests the employee prospect on effects of SCM Strategy on SC performance, and organizational performance. From the result of the analysis, it is concluded that there is strong relationship between SCM strategy, SC performance and organizational performance. Besides, SCM Strategy has an influence both on SC performance and organizational performance. On the other hand, SC performance has also an influence on organizational performance.

Kumsa (2018) conducted a study in Ethiopia to evaluate the impacts of logistics operations on organizational execution case of Modjo dry port. A relationship examination found four logistics operations, namely: Transportation management, inventory management, distribution management, and customer service are the four categories. These four variables had a significant and favorable impact on organizational success. The administration of transportation had a significant positive impact on organizational performance. The most basic activities for organizational performance are transportation management and inventory management. The dependent variable is organizational performance, and the independent variables are the rate of variation in execution clarified by inventory management, and the coefficient for inventory management development is significant.

Tsegaye (2018) investigated the impact of logistics management strategies on Ethio Telecom's performance in terms of customer service, warehouse management, inventory management, transportation management, information flow management, and supply management. According to the study, Ethio Telecom used logistics management on occasion. The study found that logistics management technique had a moderate impact on Ethio Telecom's organizational performance. The study also discovered a link between Ethio Telecom's logistics management techniques and its overall organizational performance. Customer service techniques, inventory management practices, transportation management, and information flow management practices all have predictive power on Ethio Telecom's organizational performance, according to the study.

Yordanos (2019), conducted study is aimed to explain and evaluating effect of supply chain management practices (supplier relationship management, customer relationship management, level of information sharing) on organizational performance of Medtech pharmaceuticals, Zaf pharmaceuticals and by taking the case of Ethiopian pharmaceutical manufacturing (Epharm). A conceptual frame work was used as a guidance to evaluate the relationship between the Influence of supply chain management practice sustainability of Plastic Industries through Recyclingand the organizational performance. The results showed that supplier relationship management, customer relationship management, and the degree of information sharing were all positively statistically significant for organizational performance, which is defined as having a significant impact on organizational performance when the p-value is less than 0.05 or when all of these variables affect the organizational performance of Ethiopian pharmaceutical manufacturing (Epharm).

Melat, (2021) conducted study is to investigate the effect of supply chain management practices on organizational performance in Diageo- Meta Abo Brewery Ethiopia. The results of the correlation analysis demonstrate a substantial and positive association between organizational performance and supply chain management techniques, such as strategic supplier partnerships, customer relationships, information sharing levels, and information sharing quality.

2.2.3. Literature Gaps

Regarding the literature gaps identified, the researcher was able to realize that even if some attention has been given in exploring the extent of the Influence of supply chain management practice sustainability of Plastic Industries through Recycling, there has been little evidence to prove the impact of Influence of supply chain management practice sustainability of Plastic Industries through Recycling on organization performance. Generally, from above literature reviews it can be easily understandable that despite the fact that many empirical researches have been conducted on the effects of supply chain management on firm performance, the available literature contains mixed evidence and yields inconclusive findings. The majority of studies found a favorable and significant effect and the work on supply chain management practices and its influences on different perspectives of the organization are increasing. Whereas majority of the studies (Liu and Luo, 2008; Musau, et al., 2017 and) demonstrate a positive impact of Influence of supply chain management practice sustainability of Plastic Industries through Recycling on performance, other scholars (Lenny et al., 2007; Ristovska, et al., 2017 and Dawit, 2020) indicated

a weak association between Influence of supply chain management practice sustainability of Plastic Industries through Recycling and performance.

Therefore, the empirical evidence adduced in literature linking Influence of supply chain management practice sustainability of Plastic Industries through Recycling with performance does not unequivocally rule out context-dependence results. With the hanging clouds of inconsistencies, it is difficult, without multiple evidences across different contexts and over time to conclusively affirm the nature and strength of influence Influence of supply chain management practice sustainability of Plastic Industries through Recycling had on performance (Abdul, et al., 2019). More so, there is a lack of previous studies concerning SCM practices implementation and how it impacts the organizational performance in Ethiopian plastic recycling industry. Therefore, this study had bridged the gap by examining the effect of supply chain management on organization performance of ENPLAST P.L.C.

2.3. Conceptual Framework

A conceptual framework is a collection of general ideas and principles drawn from various fields of study that are used to organize a future presentation (Kombo & Tromp, 2009). It is a research tool that assists a researcher in developing awareness and comprehension of the subject under investigation, as well as communicating that knowledge. A concept, unlike a theory, is an abstract or overall impression determined or inferred from a specific case. The researcher develops the following conceptual framework of the study based on the theoretical and empirical literature reviews.

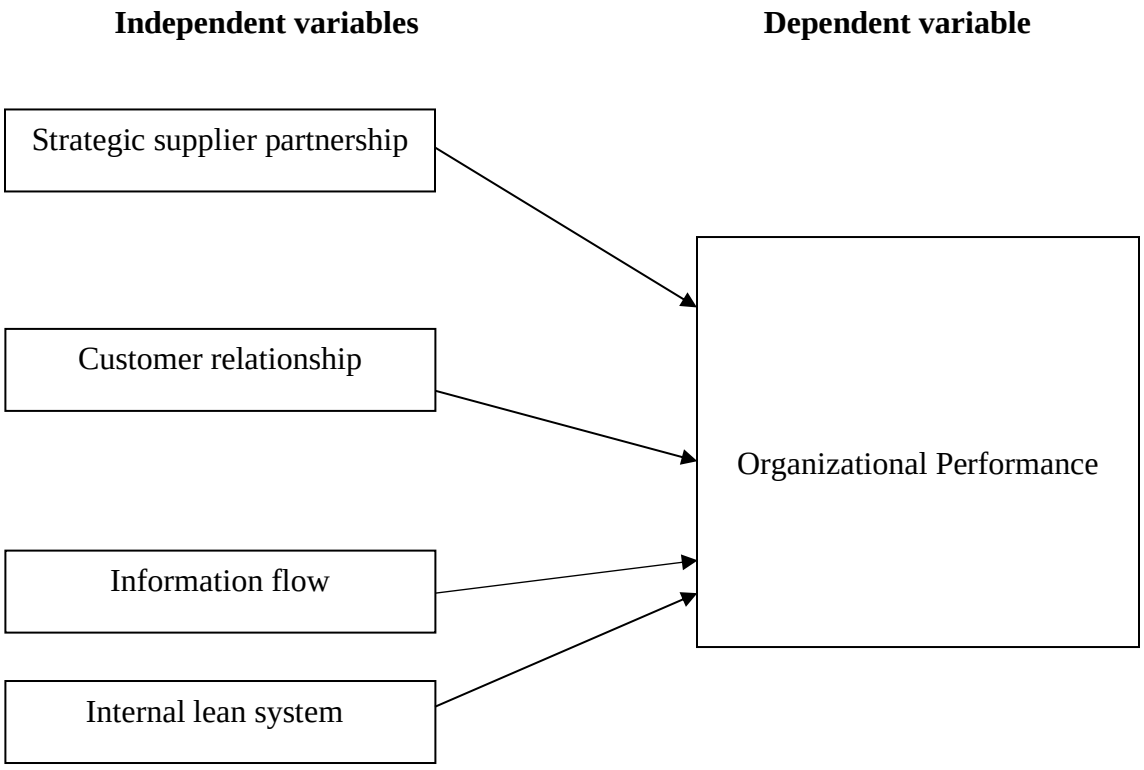


Figure 2.1 Conceptual Framework

In this framework, Influence of supply chain management practice sustainability of Plastic Industries through Recycling is independent variable and organizational performance is dependent variable. The independent variable Influence of supply chain management practice sustainability of Plastic Industries through Recycling is operationalized through: strategic supplier partnership, customer relationship, information flow, and internal lean system. The dependent variable, firm performance is operationalized through; financial metrics (growth of sales, return on investment, profit margin on sales), marketing metrics (growth of market share) and non-financial metrics (customer satisfaction, supplier satisfaction, employee) which is adopted from Natnael (2016).

CHAPTER THREE
RESEARCH METHODOLOGY

In this section, the researcher describes the procedures to ensure a methodical and well-informed investigation, focusing on sampling procedure, data collection and analysis methods. The target population and sample processes, as well as data collection tools and protocols, are explained. The term "research methodology" refers to a method for highlighting scientific operations in a way that is appropriate for the situation. It is a general standard that specifies the methodologies used in performing the research study, as well as how and what analysis should be performed on the data acquired (Akinyele, 2016). These are realized in address research methods used for the study, the data collection and how the field work for the study was conducted.

3.1. The Study Site/Area

This study is developed to of supply chain management practices on organization performance in the case of EN PLAST PLC. EN plast plcis a plastic preforms, plastic recycling and conduit manufacturer based in Addis Ababa, Ethiopia. The goal of the company is to supply the highest quality plastic recycling material and conduit. The company aim to create good working environment whereby employees feel valued and motivated. The company has a vision to be came an African Leader plastic recycling and manufacturing sector. The company has a mission is to contribute toward a healthier society by providing quality and affordable plastic products using company competitive advantage (EN plast plcis .).

3.2 Research Design

According to Kombo and Tromp (2009), research design is the plan or blueprint that guides the research process from the creation of research questions and hypotheses to reporting the findings in order to achieve the study's goal. The aim of the research was to look at the impact of supply chain management on ENPLAST P.L.C.'s organizational performance. The researcher was used an explanatory research design using a survey questionnaire to attain this objective. The goal of an explanatory research design is to explain the patterns of interactions between variables by analyzing a context or a specific problem. It aids in comprehending the nature of the independent and dependent variables' connection. Explanatory study is used to determine the cause and effect of Influence of supply chain management practice sustainability of Plastic Industries through

Recycling on organizational performance. More specifically, survey design was chosen because of its cost-effectiveness, convenience of data collection and interpretation via standardized questionnaires, and capacity to comprehend the features of the subject under investigation. As a result of the foregoing definitions, descriptions, and strengths, it is justified that an explanatory survey is the most suitable and acceptable design for this study.

- Type of research:the study is quantitative approach method .
- Sampling method: is census .
- Data collection method:
    - Surveys and Questionnaires:

  Surveys conducted in person.

  collect both quantitative data (closed-ended questions) and qualitative data (open-ended questions)

    - Interviews:
- Direct interactions between the researcher and respondents structured (predefined questionsInterviews provide in-depth insights and allow for clarification of responses
    - Observations:

  This method involved systematically observing subjects in their natural firm.

Research flow diagram

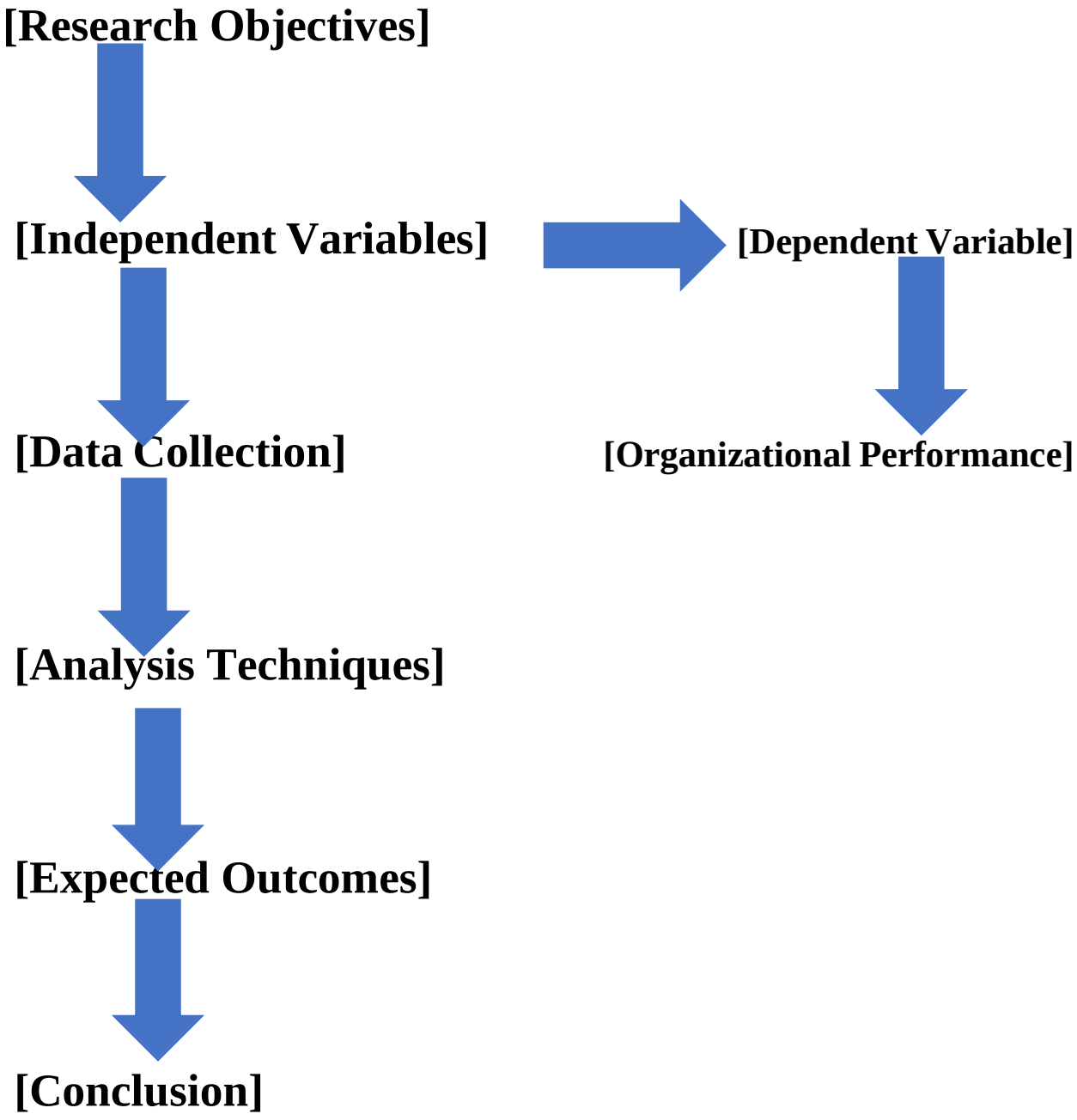


Figure 3.1 Research flow diagram

3.3. Research Approach

Regarding the research approach, the study employed quantitative approach because the study requires an analysis of the supply chain management practices which impact on organizational performance in ENPLAST P.L.C. The relationships among variables statistically tested, which required a quantitative approach to determine the relationship among the study variabl

3.3. Data Source and Type

The required data for the study were collected using both primary and secondary data collection methods. Primary data, according to Kothari (2004), are those that are obtained for the first time and hence have an original nature. The primary data collection instrument for the study was a questionnaire. Primary data was collected from employees, managements, distributes and supplies of the company for quantitative data by using a self-administered questionnaire. In addition, secondary sources of data were collected from annual reports and survey of company and government office, thesis, research report, journals and internet as a stepping board for the research.

3.4. Target Population

The complete collection of units for whom survey results are utilized to make conclusions is referred to as the target population of the survey (Smyth, 2004). The target population of this study was ENPLAST P.L.C. staffs and other stakeholders in company supply chain network that have direct relationship with supply chain management and organizational performance. From ENPLAST P.L.C., the mainly target those staffs who are working warehousing, procurement, operation, facilities, inventory, products transportation personnel, finance, marketing and corporate planning department. According to the company Human Resource Management Data, there are 66 employees in total in these working units. These departments were targeted as they are first-hand information about the company the Influence of supply chain management practice sustainability of Plastic Industries through Recycling.

Considering the small number of study population this study employed a census survey. Therefore, the researcher did not need to apply sample determination and selection techniques (Creswell, 2003). This was justified due to the total number of the population is small enough to reach and access all of them.

3.5. Data Collection Instrument

The study employed questionnaire as main data collection instrument. Questionnaires, according to Schwab (2005), are measuring devices that ask people to answer a series of questions or respond to a series of statements. Because of its simplicity and ease of administration, a questionnaire is preferred. In view of the advantages and the need to gather more information, questionnaire was administered to employees and to solicit their views concerning the effect of selected supply chain management practices on performance of ENPLAST P.L.C.

Questionnaire Design

Section 3.5.1: Demographic Information

3.5.1.1 position in the organization:

Management, Supervisor, Staff,

3.5.1.2 service year worked at ENPLAST P.L.C.?

3.5.1.3 educational background?

Section3.5. 2: Supply Chain Management Practices

3.5.2.1 rate the importance of supplier relationships in the organization?

Scale: 1 (Not Important) to 5 (Very Important)

3.5.2.2 Does ENPLAST P.L.C. engage in strategic partnerships with suppliers?

Options: Yes, No

3.5.2.3 How often does your organization share information with suppliers?

Section3.5. 3: Customer Relationship Management

3.5.3.1 customer feedback in shaping your supply chain practices Scale:

3.5.3.2 ENPLAST P.L.C. have a system for managing customer relationships.Options: Yes, No

3.5.3.3 the organization responds to customer inquiries and complaints.Scale

Section 3.5.4: Information Flow and Technology

4.1 the effectiveness of information flow within your supply chain. Scale:

3.5.4.2 technology in ENPLAST P.L.C. used to manage supply chain operations

Open-ended question

3.5.4.3 employees trained in using supply chain management software?

Options: Yes, No

Section3.5. 5: Lean Practices and Efficiency

3.5.5.1 Does your organization implement lean practices to reduce waste?

Options: Yes, No

3.5.5.2 processes reviewed for efficiency improvements.

3.5.5.3 perceive the impact of lean practices on organizational performance.Scale:

Section3.5. 6: Organizational Performance

3.5.6.1 rate overall organizational performance at ENPLAST P.L.C..Scale

3,5,6.2 SCM practices contribute to organizational performance.Scale

3,5,6.3 organizational performance has improved due to SCM practices.

Open-ended question

The questionnaire was be carefully created and evaluated with a small sample of the population to see where it can be improved. Each item was meticulously designed to collect the desired data, satisfy study objectives, and be connected to the broader research topic. The questionnaire was created based on the literature, conceptual framework, and research question in order to examine

the relationship between supply chain management and organizational performance. The majority of the questions in the study are closed-ended. This is because closed-ended questions are frequently used in surveys since they yield greater response rates. Furthermore, the ease with which responses to closed-ended questions may be processed and evaluated makes them particularly valuable when attempting to demonstrate the statistical significance of survey data.

3.6. Data Collection Procedure

Primary data was collected by administering questionnaires to ENPLAST P.L.C. employees. A pilot survey was conducted for a sample of respondents prior to the full-scale survey. The goal of the pilot survey is to see if the questionnaire produces the intended results and to detect and rule out any potential problems with the content of the questions and wordings. During the full-scale survey, the researcher was personally contact the target group and administer the questionnaire. Respondents were politely asked to complete the survey. Permission from organizations and staff were be sought, and approval was granted.

For a comprehensive questionnaire covering various aspects of supply chain management and organizational performance, estimated time:

15-20 minutes for closed-ended questions.

20-30 minutes if there are several open-ended questions requiring detailed responses.

It's advisable to conduct a pilot test with a few participants to gauge the actual time needed and adjust accordingly before the main data collection phase.

3.7. Instrument Reliability and Validity

Reliability and validity are the major criteria used to evaluate measurement. Reliability is used to

Criterion-Related Validity:

Compared results from the questionnaire with other established measures or outcomes related to supply chain management and organizational performance to see if there is a correlation.

Feedback from Participants:

After administering the questionnaire, gather qualitative feedback from respondents about their understanding of the questions and their relevance to their experiences within ENPLAST P.L.C.ensure consistence of data whereas validity is used to test the accuracy of the measurement.

3.7.1 Instrument Validity

Validity refers to the extent to which the scores from a measure represent the variable they are intended (Gakure, 2010). Validity test of the questionnaires was done on its content. Content validity measures the extent to which a test acts to measure a concept analysis of the items so as to confirm adequate coverage of the scope of the study by the measuring instrument (Oyerinde, 2011). In order to ascertain the relevance of each question to variables being measured and to ensure that the content of the instrument provide answers to the objectives of the study and the formulated hypotheses, content validity of the pilot questionnaire was tested. The clarity of the instrument items to the respondents was established so as to enhancethe instrument's validity. To establish the validity of the research instrument the researcher required opinions of experts in the field of study and reviewed the appropriateness of questions and the scales of measurement.

3.7.2 Instrument Reliability

In addition, reliability test was carried out in order to ensure the consistency of the instruments used in main administration. The study was employed Cronbach's alpha to assess reliability of the questionnaire. A reliability coefficient (alpha) of 0.70 is considered acceptable, reliable and recommended for new questionnaire. The reliability of the questionnaire was tested using the Cronbach's alpha correlation coefficient with the aid of Statistical Package for Social Sciences (SPSS) software. Accordingly, the supply chain management dimensions and organizational performance were tested as depicted in Table 3.1.

Table 3.1: Reliability Test Result

Variables	Cronbach Alpha	No. of Items
Strategic supplier partnership	0.843	6
Customer relationship	0.861	6
Information flow	0.799	8
Internal lean system	0.765	4
Organizational Performance	0.832	7

As Tavakol (2001) stated that, there are different reports about the acceptable values of alpha, ranging from 0.70 to 0.95. Hence, the Cronbach's alpha coefficient of all the above variables was fall within the stated range and concluded that there is consistency among each question in the questionnaire

3.8. Methods of Data Analysis

The primary data for this study was collected from a distributed questionnaire. After the questionnaires have been collected, the data was edited, cleaned, encoded, and checked for errors. This is a concern with data processing. This aided in the compression and grouping of data into manageable chunks for study and analysis. Following that, descriptive statistics and inferential statistical analysis were used. To explain the characteristics of the variables of interest in the study, descriptive statistics such as mean scores, percentages, frequency distribution, and standard deviations were generated. In addition, to assess the relationships between variables, inferential statistics such as correlation and multiple linear regression analysis were utilized. The following multiple linear regression equation was used to examine the effect of supply chain management on organizational performance.

$$Y1= B0+B1X1+B2X2+B3X3+ B4X4 + e$$

While in one case Y1=dependent variable in this case, organizational performance. B0 represent Constant beta/intercept. X1, X2, X3, and X4 represent independent variable that is supply chain management which is measured in five constructs, namely: strategic supplier partnership, customer r elationship, information flow, and internal lean system.

3.9. Ethical Consideration

The researcher did his best to address the ethical issues of confidentiality, privacy, and informed consent as much as possible. Consent was obtained from the administrative of the enterprise after explaining the relevance of the study. Before any data is collected, all study participants were informed of the study's goal and verbal agreement was sought from all study subjects. Participants were also be notified that they have the option to withdraw from the study at any time. The name of the interviewee was not written on the questionnaire to maintain anonymity.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This chapter presents the discussions of the results the study. As mentioned earlier, the purpose of the study was to investigate the effect of supply chain management on organizational performance on ENPLAST P.L.C.. The first part presents an analysis of the demographic information such as gender, age, education, employee category and duration of work with on ENPLAST P.L.C.. The second part explored finding from descriptive statistics regarding the data designed to respond to the research question. Then, results and discussions from correlation analysis and multiple linear regressions are presented

4.1 Response Rate

Table 4.1 indicates the response rate. When distributing the questionnaire, the aim was to gather data from 130 employees ENPLAST P.L.C. employees.

Table 4.1: Response Rate

Questionnaires distributed	Questionnaires returned	Questionnaires rejected	Usable Questionnaires	Response rate
66/66	66/63	4/3	66/62	93.5

Source: (Survey, Data, 2024)

Out of these 66 copies of the questionnaire distributed, 63 copies were returned. To make the raw data that was collected through questionnaire ready for conducting statistical analysis data cleaning was performed by checking the data for completeness and outliers. Thus, out of the63 collected copies of questionnaire, 2 were rejected because they were incomplete. Nevertheless, the usable copies helped to achieve a response rate of 93.5%, which is considered very good response rate according to Mugenda (2003).

4.2 Demography Information of Respondents

This section presents general information of respondents. Respondents were asked about their gender, age, level of education attained, work position and tenure in present company. This information is not necessarily important for addressing research objectives but they provided important information that helps the researcher to determine the ability of the respondent to contribute meaningfully to the investigation. The result is presented in Table 4.2

Table 4.2 General Information of the respondent

Main factor	Factor level	Frequency	Percentage
Gender	Male	49	74.25
	Female	17	25.75
	Total	66	100
Age	18 – 25 years	21	31.3
	26 - 40 years	35	53.7
	41 - 55 years	10	15
	Total	66	100
Educational qualification	Secondary	47	71.12
	Diploma	10	15.15
	Degree	6	9.09
	Master and above	3	4.55
	Total	66	100.0
For how long have you been employed in this company?	Under 2 years	30	45.45
	2 - 5 years	11	16.66
	above 6	25	37.88
	Total	66	100.0
Department in the Organization?	Production & operation	41	62.12
	Logistic	5	7.58
	Procurement and supply	4	6.06
	Warehouse	5	7.58
	Marketing	5	7.58
	Inventory Management	4	6.06
	Finance	2	3.03
	Total	66	100.0

Source, (Survey data, 2024)

Table 4.2 above shows the gender distribution of the respondents who participated in the study. From table 4.2 show that 74.25% were males while 25.75 % were females. This shows that there is a noticeable disparity in representation between the two sexes in the sample population. This visible gap in gender representation was not due to sampling and or non-sampling errors; instead, it was due to the un-proportional representation of males and females in the organization, which is 74.25% males and 25.75 % females. Generally, it is the reflection of the total population structure.

To maintain representativeness of the study's sample population, sample elements were taken from diverse age structures of the company's employees, which is for the purpose of this research, they were classified into four age groups as depicted in Table 4.2. Respondents represented customers from a range of ages. The age distribution was 21respondents (31.3%) were age between 18-25 years, 35 respondents (53.7%) were age between 26 - 40 years, and 10 respondents (18.7%) age between 41- 55years. The different age groups were therefore well represented in the study. Of the three age classes, the first class is termed as the youth group and all the others are groups of the adult population. From the adult population, the first age group 30-39 years of age is considered early adulthood, the 40-50 years represent middle adulthood and above 50 years of age represents late adulthood. Demographically, 29 years of age is considered the upper bound for the youth age group, and 30 years is the beginning of early adulthood. This implies that the company has a youth and early adulthood dominated population structure. This is again a reflection of the total population.

In terms of educational qualification, the sample population was classified into four categories, ranging from secondary to highest academic qualification. Table 4.2 displays the different levels of educational qualification for the sample population along with their corresponding percentage. Regarding the educational qualification, 9.09% of the respondents have First Degree and 15.15% respondents have Diploma, 4.55% of the respondents have Master Degree while the remaining 71.12% have secondary education. This implies that around 28% of respondents have achieved Diploma and above education level and hence they are able to simply fill the questionnaire and give their perception about the company supply chain management practices.

Concerning the work experience of respondents, 45.45% of the sample respondents have worked for less than 2 years, 16.66% worked for 2-5 years, and the remaining 37.88% worked for more than 6 years. This implies that almost all (55%) of the respondents have more than two years of tenure in company and hence have an important insight about the company supply chain management practices and organizational performance of the company.

Regarding the department of respondents, Table 4.2 indicates that 62.12% of the sample is from production and operation department, 10.8% is from logistic department, 6.06% from procurement and supply, 7.58% from marketing, 7.58% from warehouse, 6.06% from inventory management and the remaining 3.03% were from finance department. These work units are directly or indirectly responsible for the company's supply chain sustainability of issues and hence have firsthand information about the company supply chain sustainability of the company. Thus, all relevant departments and work units are well-represented in sample.

4.3 Descriptive Analysis of Study Variables

Descriptive statistics were used to explain the basic features of the data that was collected from the field. They present simple summaries about the sample and the measures together with simple graphic illustrations. This section discusses the descriptive statistics of measures of the three major supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) and organizational performance that were collected by the questionnaire

In line with the methodology articulated under chapter three here effort is made to analyze respondents view on the provided a five scale Likert types of questions. Respondents feedbacks were captured along the 24 items were introduced to measure the study area under each of the four major supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system). In this regard the descriptive parts of this study were analyzed based on using a descriptive statistic of mean and standard deviation. Accordingly, the composite mean value shows the average of all respondents' perceptions on each question. While, standard deviation shows how diverse are the perceptions of respondents for a given questions. Standard deviation shows that how diverse are the responses of respondents for a given construct.

High Standard Deviation means that the data are wide spread, which means that respondents give variety of opinion and the low standard deviation means that respondents express close opinion.

Table 4.3: Descriptive statistics result interpretation guide

Interval of Means	Interpretation
1.00 – 1.80	Very Low
1.81 – 2.66	Low
2.61 – 3.40	Medium
3.41 – 4.20	High
4.21 – 5.00	Very High

Source: (Shrestha, 2015)

A range of mean was constructed by using itemized Likert rating scale. The researcher was used (Shrestha, 2015) guide to interpret the result which is presented in the Table 4.3. The mean of each individual item ranging from 1- 5 falls within the following interval. The summary of descriptive statistic result is presented the Table 4.4.

Table 4.3: Summary of Descriptive Statistics for Study Variables

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Strategic supplier partnership	66	2.17	5.00	3.8869	.67932
Customer relationship	66	2.21	4.86	3.9669	.50713
Internal lean	66	1.86	5.00	3.7334	.56473
Information flow	66	2.14	4.57	3.4697	.48529
Organizational performance	66	1.45	4.91	3.3133	.79368
Valid N (listwise)	66				

Source: (Survey data, 2024)

4.3.1. Strategic Supplier Partnership

Strategic supplier partnership: is defined as the long-term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual

participating organizations to help them achieve significant ongoing benefits (Stuart, 2007). Strategic partnerships with suppliers enable organizations to work more effectively with a few important suppliers who are willing to share responsibility for the success of the products. In recognition of this fact, the study assesses the perception of respondents towards strategic supplier partnership practices of the ENPLAST P.L.C. As shown in the table 4.4, the group means of strategic supplier partnership shows that 3.88 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. Strategic supplier partnership dimension has 0.67 standard deviation, which is an indication more consensus among respondents regarding the company strategic supplier partnership practices.

4.3.2. Customer Relationship

Customer relationship management is the second components of supply chain management practices that the study assessed. Customer relationship comprises the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Tan, Kannan, &Handfield, 2008). In recognition of these facts, the study assesses the perception of respondents towards customer relationship practices of ENPLAST P.L.C. based on six items. The customer relationship management measure was used to determine the extent to which an organization developed a business process that provides the structure for how relationships with customers of that organization will be developed and managed. As shown in the table 4.4, the grand mean response for customer relationship management practices of ENPLAST P.L.C. is 3.96. According to Shrestha (2015), this considered to be high. The finding thus showed that ENPLAST P.L.C. has good relationship with the customer. Customer relationship management practice has standard deviation value of 0.506, which is an indication there are some variations on the response among respondents regarding the company customer relationship management practices.

4.3.3. Internal Lean Practice

The other important components of supply chain management practices that study examine is internal lean practices. Lean practice is associated with continuous pursuit of improving the processes, a philosophy of eliminating all non-value adding activities and reducing waste within an organization. The study assesses the perception of employees towards internal lean service of ENPLAST P.L.C. based on four items. As shown in the table 4.4, the grand mean response for the

internal lean practices of ENPLAST P.L.C. is 3.73. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. The result also illustrates internal lean practices practice has standard deviation value of 0.56, which is an indication there are little variations on the response among respondents regarding the company internal lean practices.

4.3.4. Information Flow

The respondents were also asked to rate their opinion concerning the company supply management practices in terms of information flow across a supply chain in the company. Information sharing has two aspects: quantity and quality. Both aspects are important for the practices of supply chain management and have been treated as independent constructs in the past supply chain management studies (Tan, et al., 2002). Level (quantity aspect) of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner. Quality of information sharing includes such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged. The study attempts to address both aspect of information flow across a supply chain in the company. As shown in the table 4.7, the grand mean response for the information flow across a supply chain in ENPLAST P.L.C. is 3.46. According to Shrestha (2015), this considered to be moderate. This in turn indicated that the level and quality of information flow across a supply chain in the company is moderate. The information flow across a supply chain in the company has standard deviation value of 0.48, which is an indication there are more consensus on the response among respondents regarding the information flow across a supply chain in the company.

4.3.5. Organizational Performance

The respondents were also asked to rate their opinion concerning organizational performance of ENPLAST P.L.C. As organizational performance is multi-construct, the study measure organizational performance in terms of; financial metrics (growth of sales, return on investment, profit margin on sales), marketing metrics (growth of market share) and non-financial metrics (customer satisfaction, supplier satisfaction, employee). As illustrated in Table 4.4, the grand mean score for general company staffs' opinion on the company organizational performance was 3.31 on a 5-point scale. This would indicate that the company's overall performance has considered

moderate. The average standard deviation was 0.79, indicating that at least 68% of the responses were within one standard deviation of the mean.

4.4. Correlation Results

Correlation analysis is a technique used for indicating the relationship of one variable to another and can be considered as a standardized covariance that shows the extent to which a change in one variable corresponds systematically to a change in another (Zikmund et al, 2009). The study sought to identify the relationship between supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) and organizational performance of ENPLAST P.L.C.. The correlation coefficient is a number that ranges from -1 to 1. Two variables with a positive linear correlation coefficient of +1 are perfectly correlated. A correlation of -1 indicates that two variables are negatively linearly related and a correlation coefficient of 0 indicates that there is no linear relationship between two variables. Accordingly, in order to identify whether the dependent variable and independent variables have a joint variation, a Pearson Correlation Coefficient was computed with aid of SPSS. The study used Marczyk, et al. (2005), guide to interpret the result which is presented in the Table 4.5.

Table 4.5: Correlation result interpretation guide

Correlation value in range	Interpretation
0.00 to 0.19	Weak/ very low correlation
0.20 to 0.39	Low correlation
0.40 to 0.59	Moderate correlation
0.66 to 0.79	High correlation
0.8 to 1.0	Very high correlation

Source: (Marczyk, et al., 2005)

The above interpretation guide (Table 4.5) developed by Marczyk, et al (2005) becomes handy. Accordingly, this guide has been used to interpret the results which are summarized in the coming sections.

Table 4.6: Correlation b/n SCM sustainability

		Strategic supplier partnership	Customer relationship	Internal lean	Information flow	Organizational performance
Strategic supplier partnership	Pearson Correlation	1	.528**	.469**	.487**	.628**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	66	66	66	66	66
Customer relationship	Pearson Correlation	.528**	1	.687**	.557**	.743**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	66	66	66	66	66
Internal lean	Pearson Correlation	.469**	.687**	1	.585**	.658**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	66	66	66	66	66
Information flow	Pearson Correlation	.487**	.557**	.585**	1	.641**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	66	66	66	66	66
Organizational performance	Pearson Correlation	.628**	.743**	.658**	.641**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	66	66	66	66	66

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

Source: (Survey data, 2024)

The findings of the study are presented in Table 4.6. The result shows that there are positive and relatively strong relationship between the four supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) and

organizational performance. The results show that customer relationship as one element of supply chain management practices was positively correlated to organizational performance with highest a Pearson's Correlation Coefficient of r = 0.743 and was statistically significant at 0.00. According to Marczyk, et al (2005), this relationship was high correlation. The results also revealed that internal lean is positively correlated to organizational performance with a Pearson's Correlation Coefficient of r = 0.658 and was statistically significant at 0.00. According to Marczyk, et al (2005), this relationship was also considered high. Information flow is positively correlated to organizational performance with a Pearson's Correlation Coefficient of r = 0.641 and was statistically significant at 0.00. Lastly, Strategic supplier partnership is also positively correlated to organizational performance with a Pearson's Correlation Coefficient of r = 0.628 which is statistically significant at 0.00. According to Marczyk, et al (2005), this relationship was highly correlated.

Over all, all the four supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) are positive and high relationship with organizational performance with a Pearson's Correlation Coefficient of r >0.6 in all case. This indicates that supply chain management practices had a positive correlation with the organizational performance and the relationship is considered strong.

4.5. Regression Result

This section describes the regression statistical analysis that was derived from the collected data and models. The purpose of this study was to see how supply chain management practices affected organizational performance of ENPLAST P.L.C. Regression analysis is used to accomplish this. It starts with results basic assumption test and then precedes to results of the multiple linear regression models.

4.5.1. Assumptions/diagnostic test for multiple linear regressions

Multiple linear regressions are based on the assumptions of Ordinary Least Square (OLS). When deciding to use multiple regressions to analyze data, part of the process entails ensuring that the data to be studied can really be analyzed using multiple regressions. This is because it is only appropriate to apply multiple regressions if the data "passes" the assumptions that multiple

regressions require in order to get a valid result. As a result, the variables were subjected to the necessary diagnostic tests in the next section.

4.5.1.1. Outlier, leverage and influential points

To generate valid conclusions on multiple linear regressions, the primary assumption of multiple regressions is that there should be no big outliers, high leverage points, or very influential points. According to Rousseeuw et al. (1990), outliers, leverage, and influential points are observations in a data set that are unusual in some manner and can influence the output that statistical software produces, lowering prediction accuracy and statistical significance. As a result, detecting outliers, high leverage points, and highly impactful points is crucial before using multiple regression analysis. The residual analysis is used to do this. Table 4.7 contains summaries of residual statistics.

Wilcox (2001) defines an outlier as a data point whose response y does not follow the overall trend of the data. The standardized residual (also known as the studentized residual) is a value that quantifies the size of the residuals in standard deviation units, allowing outliers to be easily identified. A "outlier" is defined as an observation with a Standardized residual (studentized residual) value larger than 3 in absolute value (Rousseeuw, et. al, 1990). There are no outliers in the sample because the dependent variable organizational performance has standardized residual values ranging from -2.353 to 2.213 in all cases.

Table 4.17: Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Std. Residual	-2.353	2.213	.000	.986	144
Stud. Residual	-2.368	2.269	.002	1.003	144
Cook's Distance	.000	.059	.007	.011	144
Centered Leverage Value	.001	.101	.028	.025	144

a. Dependent Variable: Organizational Performance

Source: (Survey data, 2024)

A data point has high leverage if it has "extreme predictor x values," according to Wilcox (2001). The incredible part about leverages is that they can assist in identifying extreme x values that may have an impact on regression analysis (Rousseeuw, et. al, 1990). According to Wilcox (2001), any observation whose leverage value, hi, is more than 3 times more than the mean leverage value (3(k+1)/n) should be flagged. According to this algorithm, any observation with a leverage value more than 0.104 is deemed a high leverage point in this investigation. Table 4.7 reveals that the leverage value for the dependent variable organizational performance ranges from 0.001 to 0.101, which is less than the 0.104 cut-off point, which is an indication that the data is free from high leverage points.

A data point is influential if it "unduly influences any component of a regression analysis, such as the expected responses, the estimated slope coefficients, or the hypothesis test findings," according to Wilcox (2001). Cook's distance is a measure of how much the residual of all records would vary if a certain record was removed from the model coefficients calculation (Rousseeuw, et. al, 1990). A popular rule of thumb, according to Wilcox (2001), is that a cook's distance higher than one should be scrutinized and possibly eliminated. Table 4.7 shows that a cook's distance for a dependent variable organizational performance range from 0 to 0.059, which is lower than the cut-off points of 1. This suggests that no data point unduly influences the estimated regression function.

4.5.1.2 Multicollinearity

When two or more independent variables are substantially correlated with each other, multicollinearity arises. This complicates determining which independent variable contributes to the variation explained in the dependent variable (Simon, 2004). Variance Inflation Factor was checked for indication of multicollinearity where their numerical values were all well below the cut-off value of 10 suggested by Neter, et al., (1996). There was no collinearity among the independent variables based on this rule of thumb.

Table 4.8: Collinearity Statistics for the explanatory vvariables

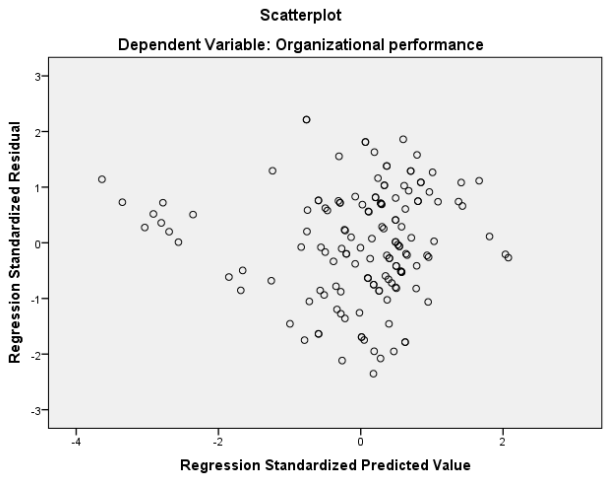
Variable	Tolerance	1/VIF
Strategic supplier partnership	.662	1.510
Customer relationship	.457	2.189
Internal lean	.465	2.151
Information flow	.579	1.726

Source: (Survey data, 2024)

4.5.1.3 Linearity

The linearity assumption in multiple regression analysis assumes that the dependent variable and each of the independent variables, as well as the dependent variable and the independent variables collectively, must have a linear relationship (Asghar & Saleh, 2012). The most frequent method for evaluating linearity is to create scatter plots and then visually evaluate them for linearity. It is a sign of linearity if the figure has no evident pattern and the points are evenly distributed above and below zero on the X-axis, and to the left and right of zero on the Y-axis. The scatter-plot of studentized residual against linearly predictive value is shown in the figures below. The figures have a horizontal band of points indicating the linear relationship.

Figure 4.1: a Studentized residual scatter plot dependent variables



Source: (SPSS Output, 2024)

4.5.1.4 Homoscedasticity

In a study, homoscedasticity occurs when the variance of residuals (error term) is the same for all predicted variables (Tabachnic & Fidell, 2007). Heteroscedasticity in a study, on the other hand, occurs when the variance of the errors varies between observations (Long & Ervin, 2000). The most commonly used method is Breusch-Pagan test which was used to test the null hypothesis that the error variances are all equal versus the alternative that the error variances area multiplicative function of one or more variables. Breusch-Pagan tests the null hypothesis that heteroscedasticity is not present. If sig-value is less than 0.05, reject the null hypothesis (Sazali, et al., 2010). In this study, the sig-value for fitted values of dependent variable organizational performance was 0.218, which are indicating that heteroscedasticity was not a concern.

Table 4.9: Breusch-Pagan for Heteroscedasticity

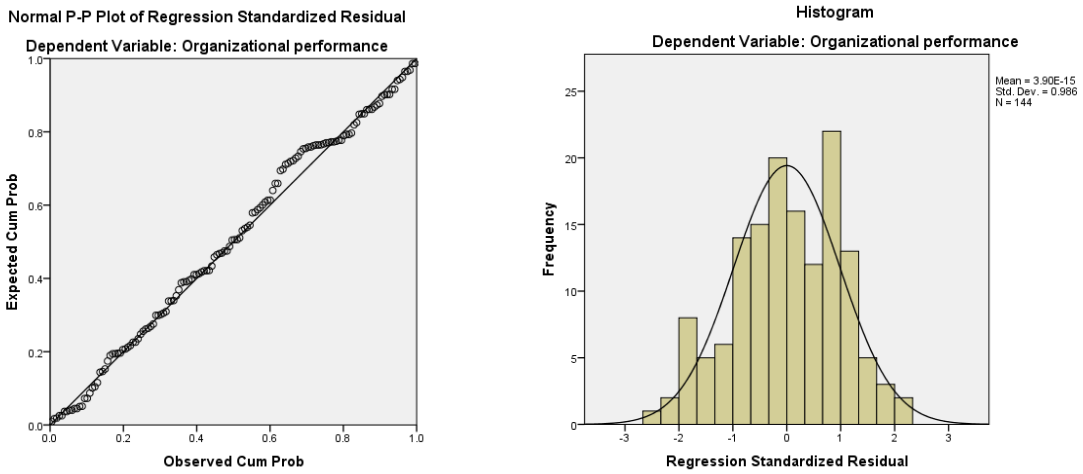
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
Ho: Constant variance
Variables: fitted values of organizational performance
chi2(1) = 1.67
Prob> chi2 = 0.218

Source: (Survey data, 2024)

4.5.1.5. Normality

The normality assumption in multiple regressions assumes that residuals (errors) are nearly regularly distributed. The residuals of the regression should follow a normal distribution in order to derive accurate inferences from regression analysis. Plotting normal P-P plot or histogram for the dependent variable to corroborate the given result is a straightforward technique to check this assumption (Asghar & Saleh, 2012). The cumulative probabilities are plotted on the X-axis, and the predicted probabilities given the normal curve are plotted on the Y-axis. The points would be on a straight diagonal line if the sample was exactly normally distributed. The graph below illustrates Normal P-P plots for the dependent variables (organizational performance), in which the points lie on a straight line, indicating that the data is normally distributed.

Figure 4.1: Normal P-P Plot and Histogram of residual for dependent variables



Source: (Survey data, 2024)

4.5.2 Analysis of Regression Results

The main objective of study was to examine the effect of supply chain management on organizational performance of ENPLAST P.L.C. This was done through regression analysis. The independent variable Influence of supply chain management practice sustainability of Plastic Industries through Recycling is operationalized through: strategic supplier partnership, customer relationship, information flow, and internal lean system. Thus, study sought to determine the effect of each of the four supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) on the organizational performance. The result of the regression analysis is presented in the following section.

4.5.2.1. Model Summary (Coefficient of Determination R^2)

Coefficient of determination explains the percentage of variation in the dependent variable (the organizational performance) that is explained by all the four independent variables (strategic supplier partnership, customer relationship, information flow, and internal lean system). The table 4.10 below preset the model summary.

Table 4.10: Model Summary for SCMS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.825[a]	.681	.672	.45473	1.713

a. Predictors: (Constant), Information flow, Strategic supplier partnership, Internal lean, Customer relationship

b. Dependent Variable: Organizational performance

Source: (Survey data, 2024)

The result shows that the four independent variables, supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) that were studied explain 67.2% of variation organizational performance of ENPLAST P.L.C. as represented by the R^2 value. The remaining 32.8% of the variability in organizational performance is left unexplained by the explanatory variables used in the study.

4.5.2.2. ANOVA Interpretation

The result in ANOVA table 4.11 shows that the sum of squares of the regression is 61.339 at 4 degrees of freedom and a mean square of 15.335. The residual sum of squares is 28.742 with 139 degrees of freedom and mean square value of 0.207. The test for the joint significant which is given by the F statistic is 74.166 , it is statistically significant. This imply that the independent variables, that are strategic supplier partnership, customer relationship, information flow, and internal lean system, considered were relevant in explaining organizational performance of ENPLAST P.L.C..

Table 4.11: ANOVA for SCMS [a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	61.339	4	15.335	74.166	.000[b]
	Residual	28.742	139	.207		
	Total	90.081	143			

a. Dependent Variable: Organizational performance

b. Predictors: (Constant), Information flow, Strategic supplier partnership, Internal lean, Customer relationship

Source: (Survey data, 2024)

4.5.2.3. Regression Coefficients

The findings in Table 4.12 show the coefficients of the regression. According to the findings, the all three logistic services (internal logistic, inbound logistic and outbound logistic) are significant in predicting the organizational performance since the p values were less than 0.05.

Table 4.12: Coefficients for SCM practices and the organizational performance

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.235	.329		-6.800	.000
	Strategic supplier partnership	.288	.069	.247	4.193	.000
	Customer relationship	.610	.111	.390	5.502	.000
	Internal lean	.208	.099	.148	2.105	.037
	Information flow	.355	.103	.217	3.444	.001

a. Dependent Variable: Organizational performance

Source: (Survey data, 2024)

Strategic supplier partnership has positive and significant effect on organizational performance with a beta value (beta =.288) and t value of 4.193 which is also statistically significant at 0.00. Similarly, Customer relationship has also positive and significant effect on organizational performance with a beta value (beta =.610) and t value of 5.502 which is also statistically significant at 0.00. Internal lean has also positive and significant effect on organizational performance with a beta value (beta =.208) and t value of 2.105 which is also statistically significant at 0.37. Lastly, information flow has also positive and significant effect on organizational performance with a beta value (beta =.355) and t value of 3.444 which is also statistically significant at 0.001.

When these beta coefficients are substituted in the equation, the model becomes

Y = 0.288SSP + 0.610ICR + 0.208IL + 0.355IFL– 2.235

Where: Y is the Organizational Performance of ENPLAST P.L.C., SSP is strategic supplier partnership, CR is customer relationship, IL represents internal lean practices and IF represents information flow across is supply chain. This means that holding other factor constant one unit improvement in strategic supplier partnership practices result in 0.288 unit increase in the organizational performance, one unit improvement in customer relationship management practice result in 0.610 unit increase in organizational performance, and one unit increase in internal lean practices result in 0.208 unit increase in organizational performance and one unit increase in information flow across supply chain result in 0.355 unit increase in organizational performance of ENPLAST P.L.C..

4.6. Discussion of Findings

The study has mainly an objective to examine the effect of supply chain sustainability of ENPLAST P.L.C. The independent variable Influence of supply chain management practice sustainability of Plastic Industries through Recycling is measures through: strategic supplier partnership, customer relationship, information flow, and internal lean system.

The results depicted overall regression model was found significant valid and fit. The values of regression coefficients i.e., strategic supplier partnership, customer relationship, information flow, and internal lean system had significant positive effect on organizational performance of ENPLAST P.L.C. The result of the study is consistent with the previous studies (Mollel, 2015; Natnael 2016; Wathe, 2016). Li et al. (2006) found that SCM methods have a significant impact on organizational performance and competitive advantage. Higher levels of SCM practice, according to the findings, can lead to increased competitive advantage and greater organizational performance. Furthermore, Wathe (2016) looked at the impact of logistics, which was the independent variable, on the performance of manufacturing enterprises, which was the dependent variable, and he found that there is a link between logistics and manufacturing company performance in Kenya.

The statistical significance of each independent variable (strategic supplier partnership, customer relationship, information flow, and internal lean system) in explaining organizational performance of ENPLAST P.L.C. is captured throughout the p-values. From the coefficient table above, customer relationship has significantly influence on organizational performance of ENPLAST

P.L.C. According to the result, holding other factor constant, one unit change in customer relationship management practice result in 0.610-unit change in organizational performance. The results of tangibility on customer satisfaction matched those of Mollel (2015), study, who found that customer relationship has significantly influence on organizational performance of Tanzanian food processing firms. This finding is consistent with Kumsa (2018), who found that customer services was considered to be one of the key factors that can affect organizational performance of Modjo dry port.

The study also found that information flow has significantly influence on organizational performance of ENPLAST P.L.C. According to the result, holding other factor constant one, one unit increase in information flow across supply chain result in 0.355 unit increase in organizational performance of ENPLAST P.L.C. This result is consistence with many studies which have undertaken with different countries. In the study which undertake in Tanzania by Mollel (2015), they found that level of information sharing had on organizational performance of food processing firms. Similarly, Waqas (2020), conducted study on the impact of supply chain management practices on organizational performance of textile industry of Karachi, Pakistan and he found that level of information sharing and quality information sharing were all significantly affecting the organizational performance.

The study further found that strategic supplier partnership practices has significantly influence on organizational performance of ENPLAST P.L.C. According to the result, holding other factors constant, one unit improvement in strategic supplier partnership practices result in 0.288 unit increase in the organizational performance of ENPLAST P.L.C. The positive and significant relationship of strategic supplier partnership with organizational performance is in line with the previous studies of Mollel (2015); Yordanos (2019), and Waqas (2020); who were found that strategic supplier partnership had significantly influence on organizational performance's

Lastly, the finding indicated that internal lean has also positive and significant effect on organizational performance of ENPLAST P.L.C. with a beta value (beta =.208) and t value of 2.105 which is also statistically significant at 0.37. When internal lean changed by one-unit, the organizational performance of ENPLAST P.L.C. changed by 0.208 units. The positive and significant effect of internal lean with organizational performance is in line with the findings of

Mollel (2015), who found lean practices has significant influence on organizational performance food processing firms. Likewise, Lenny et al. (2007), found that internal lean had significantly contributed to organizational performance of manufacturing firms in Turkey.

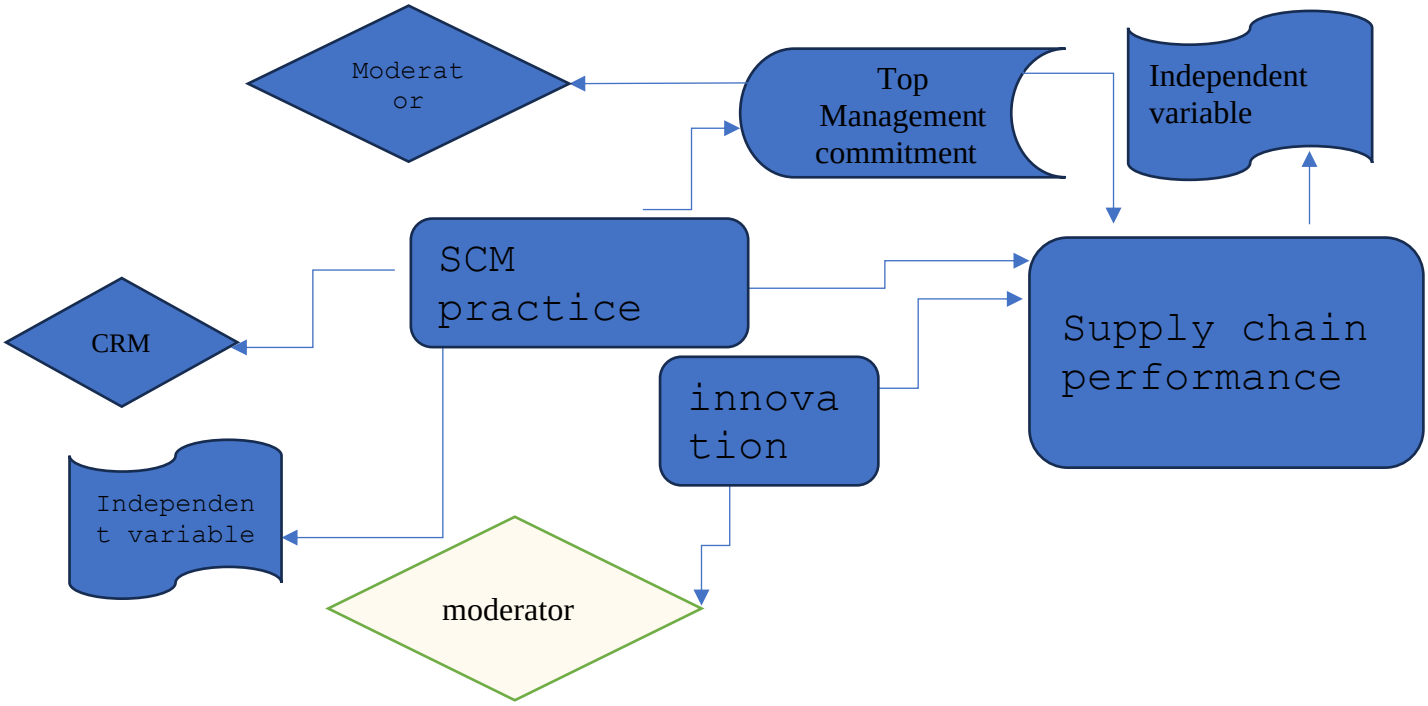


Figure 4,13 model for improving supply chain management practices on organization performance

SRM (Supplier Relationship Management) and **CRM (Customer Relationship Management)** are two distinct approaches used by organizations to manage their relationships, but they focus on different stakeholders and objectives.

What is CRM?

CRM stands for **Customer Relationship Management**. It is a software system designed to help businesses manage interactions with current and potential customers. The primary goals of CRM include:

- **Improving Business Relationships**: By maintaining detailed records of customer interactions, businesses can enhance their engagement and service quality.

- **Maximizing Revenue**: CRMs facilitate sales processes by tracking leads, managing sales pipelines, and automating marketing efforts.

- **Centralized Data Management**: All customer-related data, including contact information, sales history, and service issues, is stored in a single location for easy access and analysis. SRM stands for **Supplier Relationship Management**. This approach focuses on managing relationships with suppliers and other stakeholders. Key aspects of SRM include:

- **Enhancing Supplier Collaboration**: SRM aims to improve communication and collaboration with suppliers to create a more efficient supply chain.

- **Risk Reduction**: By monitoring supplier performance and interactions, organizations can mitigate risks associated with supply disruptions.

- **Centralized Stakeholder Information**: Similar to CRM, SRM systems store all relevant interactions with suppliers, allowing organizations to track commitments and communications effectively

Key Differences Between SRM and CRM

Feature	SRM	CRM
Primary Focus	Manages relationships with suppliers and stakeholders	Manages relationships with customers
Engagement Type	Supports multidirectional relationships (one-to-many)	Supports linear relationships (one-to-one)
Objective	Enhance collaboration, reduce risk, improve supply chain efficiency	Improve sales processes, enhance customer satisfaction, drive revenue growth
Data Management	Centralizes supplier interaction data	Centralizes customer interaction data
Usage Context	Used primarily by procurement teams and supply chain managers	Used primarily by sales, marketing, and customer service teams

While both SRM and CRM are essential for managing relationships within an organization, they serve different purposes. CRM focuses on nurturing customer relationships to drive sales and loyalty, while SRM emphasizes collaboration with suppliers to enhance operational efficiency and mitigate risks. Understanding these differences helps organizations choose the right tools for their specific relationship management need

A moderator is an individual responsible for overseeing discussions, debates, or meetings to ensure they are conducted in an organized and fair manner. Their primary duties include:

Facilitating Discussion: Moderators guide conversations, ensuring that all participants have the opportunity to contribute

Maintaining Order: They enforce time limits and manage the flow of dialogue, preventing any one participant from dominating the conversation1

In various contexts—such as panel discussions, online forums, or group interviews—the moderator plays a crucial role in creating a productive environment that enhances the overall experience for both participants and the audience.

SCM Practices

Supply Chain Management (SCM) practices encompass a range of activities and strategies aimed at optimizing the flow of goods, information, and finances throughout the supply chain. Effective SCM practices are essential for enhancing operational efficiency, reducing costs, and improving customer satisfaction.

Key SCM Practices

Supply Chain Planning (SCP): This involves forecasting demand and planning inventory levels to ensure that products are available when needed. It includes demand planning, production planning, and distribution planning.

Information Sharing (IS): Effective communication among supply chain partners is crucial. Sharing real-time data regarding inventory levels, demand forecasts, and production schedules helps all parties make informed decisions.

Supplier Relationship Management (SRM): This practice focuses on developing and maintaining positive relationships with suppliers. It involves assessing supplier performance, negotiating contracts, and fostering collaboration to enhance mutual benefits.

Customer Relationship Management (CRM): While primarily focused on managing customer interactions, CRM practices also play a role in SCM by aligning customer needs with supply chain capabilities.

Risk and Reward Sharing: Establishing agreements with suppliers and customers to share risks and rewards can lead to more resilient supply chains. This practice encourages collaboration and investment in joint initiatives.

Information Quality (IQ): Ensuring that the data shared across the supply chain is accurate and timely is vital for effective decision-making and operational efficiency.

Benefits of Implementing SCM Practices

Enhanced Efficiency: Streamlined processes reduce lead times and improve overall responsiveness to market demands.

Cost Reduction: Effective SCM practices can lower operational costs through better inventory management and supplier negotiations.

Improved Customer Satisfaction: By aligning supply chain operations with customer needs, organizations can deliver products more reliably and quickly.

Increased Agility: A well-managed supply chain can adapt more readily to changes in market conditions or customer prefer

Supply Chain Performance

Supply chain performance is a critical aspect of business operations, reflecting how effectively and efficiently a supply chain functions in meeting customer demands and organizational goals. It encompasses various metrics and key performance indicators (KPIs) that help businesses assess their supply chain's reliability, responsiveness, and overall effectiveness.

Key Metrics for Measuring Supply Chain Performance

On-Time Delivery (OTD): This metric measures the percentage of orders delivered on or before the promised date. A high OTD rate indicates a reliable supply chain.

Formula:

$$OTD=(\text{Total deliveries}/\text{On time deliveries})\times 100$$

Order Fulfillment Cycle Time: The time taken from receiving an order to delivering it to the customer. Shorter cycle times typically indicate better performance.

Formula:

Order Fulfillment Cycle Time=Delivery Date−Order Date

Perfect Order Index: This measures the percentage of orders that are delivered without any issues—on time, complete, and undamaged.

Formula:

Perfect Order Index=(Total Order−ErrorsTotal Orders)×100

Inventory Turnover: This metric indicates how often inventory is sold and replaced over a period. A higher turnover rate suggests efficient inventory management.

Formula:

Inventory Turnover= Average Inventory Cost of Goods Sold

Cash-to-Cash Cycle Time: This measures the time between outlaying cash for raw material and receiving cash from product sales. Shorter cycles are preferable.

Formula:

Cash to Cash Cycle Time=Receivable Days+Inventory Days−Payable Days

Cash to Cash Cycle Time=Receivable Days+Inventory Days−Payable Days

Factors Influencing Supply Chain Performance

Information Sharing: Effective communication and data sharing among supply chain partners enhance decision-making and operational efficiency.

Supplier Relationship Management (SRM): Strong relationships with suppliers can lead to better quality, reliability, and flexibility in the supply chain.

Customer Relationship Management (CRM): Understanding customer needs through CRM practices can align supply chain capabilities with market demands.

Lean Practices: Implementing lean methodologies helps reduce waste and improve process efficiency throughout the supply chain

To measure the effectiveness of your supply chain metrics, consider the following approaches based on the provided information:

Identify Key Performance Indicators (KPIs)

On-Time Delivery (OTD): Measures the percentage of orders delivered on time. A high OTD indicates strong supply chain performance.

Perfect Order Index: Calculates the percentage of orders that are delivered complete, on time, and undamaged. This metric reflects overall service quality.

Inventory Turnover Ratio: Indicates how often inventory is sold and replaced over a specific period, helping assess inventory management efficiency.

Order Accuracy: Measures the percentage of orders that are correctly fulfilled, impacting customer satisfaction and operational efficiency.

Use Real-Time Data

Implement systems that provide real-time visibility into supply chain operations. This allows for daily or weekly metrics tracking rather than quarterly, enabling quicker adjustments to inefficiencies as they arise.

Benchmarking

Compare your metrics against industry standards or competitors to determine where your supply chain stands in relation to others. The SCOR (Supply Chain Operations Reference) model can be useful for benchmarking performance.

Analyze Cost Metrics

Assess total costs associated with supply chain operations, including logistics costs as a percentage of sales. This helps identify areas for cost reduction while maintaining service levels25.

Performance Dashboards:Utilize performance dashboards to visualize and track key metrics in one place. This facilitates easy monitoring of vendor performance, order status, and overall supply chain health, allowing for data-driven decisions24.

Regular Reviews and Adjustments:Conduct regular reviews of your metrics to identify trends and areas needing improvement. Adjust strategies based on findings to enhance overall supply chain effectiveness.

Summary

The study investigates the effect of supply chain management on organizational performance at ENPLAST P.L.C. It begins by analyzing demographic information from 66 employees, focusing on gender, age, education, employee category, and tenure. The response rate for the distributed questionnaires was 93.5%, with 63 usable responses after data cleaning.

Key Findings:

Demographic Information:

Gender: 74.25% of respondents were male, and 25.75% were female.

Age Distribution: The majority (53.7%) were aged 26-40 years, with a good representation across different age groups.

Educational Qualification: 71.12% had secondary education, while 28% had a diploma or higher.

Work Experience: 55% of respondents had more than two years of tenure at the company.

Department Representation: Most respondents (62.12%) were from production and operations.

Descriptive Analysis of Study Variables:

The study assessed four major supply chain management practices using a five-point Likert scale:

Strategic Supplier Partnership: Mean score of 3.88 indicates good perceptions among respondents.

Customer Relationship Management: Mean score of 3.96 reflects a strong relationship with customers.

Internal Lean Practices: Mean score of 3.73 shows positive perceptions regarding efficiency improvements.

Information Flow: Mean score of 3.46 suggests moderate effectiveness in information sharing.

Organizational Performance:

Respondents rated organizational performance with a mean score of 3.31, indicating moderate overall performance based on financial and non-financial metrics.

Correlation Analysis:

The study employed Pearson Correlation Coefficient to examine relationships between supply chain practices and organizational performance, indicating varying degrees of correlation among the variables.

The findings highlight the importance of effective supply chain management practices in enhancing organizational performance at ENPLAST P.L.C., with positive perceptions reported across various dimensions of supply chain management. The study provides valuable insights for improving operational efficiency and customer relations within the organization.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study was to investigate the effect of Influence of supply chain management practice sustainability of Plastic Industries through Recycling on organizational performance of ENPLAST P.L.C. with reference to strategic supplier partnership, customer relationship, information flow, and internal lean system. In this chapter, the summary of findings, conclusions and recommendations of the study were discussed.

5.1 Summary of Findings

The general objective of study was to investigate the effect of Influence of supply chain management practice sustainability of Plastic Industries through Recycling on organizational performance of ENPLAST P.L.C. To address the aforementioned research objective, the literature on supply chain management has been reviewed; four SCM practices that may affect organizational performance are identified and subsequently, a survey was conducted. Specifically, the study has collected primary data from ENPLAST P.L.C. employees through a questionnaire, and 66 were duly completed and returned for analysis. The findings of the study based on the research objectives have been summarized as follows.

The findings of the study revealed that the combined effect of various supply chain management practices influenced organizational performance of ENPLAST P.L.C. positively and significantly. This finding was both supported by the correlation and regression result. The correlation result shows that all the four supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) are positive and high relationship with organizational performance with a Pearson's Correlation Coefficient of r >0.6 in all case. This indicates that supply chain management practices had a positive correlation with the organizational performance and the relationship is considered strong. The finding also indicates that the highest relationship was found between customer relationship and organizational performance with a Pearson's Correlation Coefficient of r = 0.743, while the lowest relationship was found between strategic supplier partnership and organizational performance with a Pearson's Correlation Coefficient of r = 0.628.

The result of regression also indicates that all predictor variables or supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) have statistically significant contribution on combined influence the organizational performance. The adjusted R^2 of 0.672 indicates 67.2% of the variance in organizational performance can be predicted by supply chain management practices by the company. Therefore, supply chain management practices have a positive and significant effect on organizational performance of ENPLAST P.L.C.

5.2 Conclusion

The study was undertaken to investigate the effect of Influence of supply chain management practice sustainability of Plastic Industries through Recycling on organizational performance of ENPLAST P.L.C. Accordingly, based on the findings presented in the above section; the researcher makes some conclusions concerning the relationship between Influence of supply chain management practice sustainability of Plastic Industries through Recycling and organizational performance.

The first specific objective of the study sought to assess the effects of strategic supplier partnership practices on organizational performance of ENPLAST P.L.C. S.C. Results revealed that strategic supplier partnership practice has positive and significant effect on organizational performance of ENPLAST P.L.C. This was supported by the test for significance which showed that the effect was statistically significant. This implies that strategic supplier partnership practice was significantly important in improving organizational performance of ENPLAST P.L.C.

The second specific objective of the study sought to investigate the effects of customer relationship on organizational performance of ENPLAST P.L.C. S.C. Results revealed that customer relationship management has significant and positive effect on organizational performance of ENPLAST P.L.C. This is supported by the test for significance which showed that the effect was statistically significant. This means that customer relationship management has a higher potential of improving organizational performance level of ENPLAST P.L.C. so that company should therefore leverage on this practice and make it a reference point for improve the organizational performance.

The third specific objective of the study aimed to examine the effects of internal lean system on organizational performance of ENPLAST P.L.C. The finding demonstrated that internal lean practice has significant and positive effect on organizational performance of ENPLAST P.L.C. The test for significance was showed that the effect was statistically significant. This means that internal lean practice has a higher potential of improving organizational performance level of ENPLAST P.L.C., so that the company should therefore leverage on this practice and used it as an important tool for improving the organizational performance.

The fourth specific objective of the study aimed to examine the effects of information flow across supply chain on organizational performance of ENPLAST P.L.C. The finding demonstrated that information flow across supply chain has significant and positive effect on organizational performance of ENPLAST P.L.C. The test for significance was showed that the effect was statistically significant. This means that information flow across supply chain has a higher potential of improving organizational performance level of ENPLAST P.L.C., so that the company should therefore leverage on information flow and used it as an important tool for improving the organizational performance.

Overall, it can be concluded that all the four supply chain management practices (strategic supplier partnership, customer relationship, information flow, and internal lean system) influence organizational performance of ENPLAST P.L.C. positively and significantly. The improvement of company supply chain management practices has a higher potential of improving organizational performance. Thus, it can be concluded that improved supply chain management practices are an increasingly important tool for company to ensure higher organizational performance.

5.3 Recommendation

Based on the study's results and conclusions, the researcher makes the following recommendations to ensure that the supply chain management practices implemented by the company contribute to the company's enhanced performance and competitive advantage.

- To improve quality products and services to satisfy customers' needs, ENPLAST P.L.C. should pay much attention on providing quality of information in order to increase effects of supply chain management on organizational performance.

- From the study, it was established that information flow across supply chain had been highly influencing the organizational performance. Thus, the management have to foster means to provide and receive accurate, reliable, and timely information to trading partners by utilizing modern ICT, giving due focus to the supply side of information. The study also recommended that the case company should improve information flow by leveraging information collected through Enterprise Resource Planning (ERP) and other transactional systems for optimized planning and improved information visibility.
- From the study, it was established that strategic supplier partnership had been moderately exploited to boost organizational performance. The study therefore recommended that the case company should create a competitive advantage by creation of supplier competencies to create customer value and achieve differentiation advantages. It should also consider integrating suppliers with customers as a competitive strategy to improve market and financial performance of the organization. More importantly, the case company is suggested to improve its relationship with suppliers from simply buy-sale relationship to a modern supply chain relationship through establishing strategic or long-term relationship, contract, and continuous information sharing in order to minimize supply uncertainty which resulted in demand and supply unmatched and dissatisfaction of customers of the case company. The case company should also manage its affairs and interactions with the organizations that supply goods and services. This includes communications, business practices, negotiations, methodologies and systems that are used to establish and maintain a relationship with a supplier.
- From the study, it was established that customer relationship had been significantly influencing the organizational performance. Thus, the study recommends ENPLAST P.L.C. to improve the relationship with customers through a continuous information sharing, follow-up them and get feedback, monitoring customers' perceptions towards the product of the company, improving its compliant management through conducting market research for better responsiveness.
- From the findings of this study, internal lean practices had also significantly affected the organizational performance. Thus, it is recommended that lean practices should be adopted by the case company and management should engage more resources to ensure that key practices such as demand management and waste management are fully implemented to

ensure great organizational performance. This is so because Lean adopters had significantly fewer inventories to support a day's sales activity, and fewer days were required to collect revenue from those sales. These differences not only reduce costs; they also dramatically impact the firm's ability to be responsive to changes in the overall supply chain, because they do not carry excessive levels of inventory or have cash tied up in unpaid customer invoices.

Over all, the finding showed that effective SCM practices creates positive impact on organizational performance. Thus, like other management areas, the company top management should consider the SCM practices as backbone for the company performance. In order to achieve advancement in marketing and financial performance in the long run through enhancing organizational performance, it is better for the organization to give due emphasis on SCM practices. Therefore, the management of ENPLAST P.L.C. should influence its strategic supplier partnership, customer relationship, information flow, and internal lean system as a way of improving the company performance

5.4 Area Further Research

Although this research provides some significant insights into logistic service of ENPLAST P.L.C., there is still a chance to extend the findings to gain a more comprehensive understanding. Research into the other factors influencing the organization performance of ENPLAST P.L.C. should be researched on since the SCM practices used in this study could not account for all the changes in organization performance. Due to time and budget constraints this research was delimited to only one plastic recycling company. The findings of this study cannot be adequately extrapolated to generalize the status of SCM in the whole plastic recycling industry in Ethiopia. Similar research should be done focusing on other companies in plastic recycling industry. Therefore, the future research may also highlight SCM in wider sample and comparative analysis on plastic recycling industry. More so, further research in the areas of SCM would be useful in understanding the impact that the SCM practices have on other performance indicators like customer satisfaction.

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APPENDIX I: RESEARCH QUESTIONNAIRE

INTERNATIONAL LEADERSHIP INSTITUTE

MASTER IN BUSINESS ADMINISTRATION

Dear respondents:

First of all, I would like to express my appreciation for your kind cooperation in providing me with relevant information. Let me introduce myself my name is Bereket Degu. I am a post graduate student at International Leadership Institute. This is a questionnaire designed to collect data on the Effect of supply chain management and its impact on organizational performance in case of ENPLAST P.L.C. which will be used as an input for a thesis in a partial fulfillment of Masters of Business Administration. Your genuine response is solely used for academic purpose and the data will be treated utmost confidentiality.

The questionnaire has been designed to utilize a maximum of 20 minutes to complete. No need of writing names required to be appeared and anonymity is guaranteed. Please read the instructions and each item in the questionnaire carefully before you give response.

Thank you so much for your willingness, cooperation and support.

General Instruction: - Circle your response or indicate "√" in the box beneath for closed-ended questions among the provided alternatives. You don't need to write your name.

Section A: Demographic Profile of Respondent

Instruction: Circle your response against any response that applies to you.

1.	Sex:	Male ☐ Female ☐
2.	Age:	
3.	Education level	Secondary school ☐ First Degree ☐ Diploma ☐ Master & above ☐
4.	For how long have you been employed in this company?	
5.	Department/work unit in the Organization?	

Part Two: Supply Chain Management Practices in the Organization

To what extent do you agree about practices of strategic supplier partnership which stated in following statements? (Please mark (✓) in appropriate box to your opinion)

Where; 1 = strongly disagree, 2 = disagree, 3 = neutral, 4=agree and 5 = strongly agree

No.	**Strategic supplier partnership:**	1	2	3	4	5
1.	Quality is our first criterion in selecting suppliers					
2.	Problems are jointly solved with suppliers and partners					
3.	The company supports financial, capacity building and others to suppliers to improve their product quality and the quantity as per the company needs					
4.	Our suppliers involve in new product development processes, planning and goal setting activities					
5.	Our company regularly measures our supplier's contribution to our profitability					
6.	Our company and suppliers are integrated and corporate each other in all supply chain activity					
No.	**Customer relationship:**	1	2	3	4	5
1	There is frequent interaction with customers to set reliability, responsiveness, and other standards					
2	The company frequently measure and evaluate customer satisfaction.					
3	The Company frequently determines future customer expectations					
4	Periodically, the company evaluates the importance of relationship with customers					
5	Our company delivers request products on time					
6	All products produced by the company are available all time in the market.					

No.	**Internal lean practices:**	1	2	3	4	5
1	The company reduces process set-up time (time required to prepare or refit equipment/workstation for production)					
2	The company has continuous quality improvement programs					
3	The company produces only what is demanded by customers					
4	The company departments are integrated on internal process activity					
No.	**Information Sharing:**	1	2	3	4	5
1	The company use advanced information technology in order to integrate its supply chain (for internal department, supplier and distributors).					
2	We and our trading partners exchange information that helps establishment of business planning.					
3	Our company provides suitable training programs for employees and trading partners.					
4	Our trading partner shares business knowledge of core business processes with us.					
5	We and our trading partners keep each other informed about events or changes that may affect the other partners.					
6	We inform trading partners in advance of changing needs.					
7.	Information exchange between our trading partners and us is timely.					
8.	Information exchange between our trading partners and us is accurate					

Part Three: Overall Organizational performance

The following questions are about how your organization has been implementing Organizational Performance. Concerning the Organizational Performance of your company, please choose the appropriate number and put (✓) to indicate the extent to which you agree or disagree with each statement. The item scales are five-point Likert type scales with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

How well an organization achieves its market-oriented goals as well as its financial goals in the past five years? 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.	1	2	3	4	5
Growth of sales is significantly increasing					
Our profit margin on sales is significantly increasing					
Growth of return on investment is significantly increasing					
Our market share is significantly increasing.					
Our customer satisfaction is significantly increasing.					
Our supplier satisfaction is significantly increasing.					
Our employee satisfaction is significantly increasing.					