ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

THE EFFECT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON PERFORMANCE OF ORGANIZATION: THE CASE OF ZAK INDUSTRIAL PLC

BY

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MAY, 2022

ADDIS ABABA, ETHIOPIA

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A THESIS SUBMITTED TO St. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

MAY, 2022

ADDIS ABABA, ETHIOPIA

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Temesgen B. (PhD). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Asrat Alemayehu   _____

                                                    Signature & Date

St. Mary's University, Addis Ababa

May, 2022

St. Mary's University

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ACKNOWLEDGEMENTS

Acronyms and Abbreviations

ANOVA- analysis of variance

ERP-Enterprise Resource Planning

IT-Information Technology

SC- Supply Chain

SCM-Supply chain management

SCMP-Supply Chain Management Practice

SPSS- Statistical Package for the Social Sciences

VIF-Variance Inflation Factor S.C- Share Company

PLC-Private Limited Company

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Abstract

The interest in managing supply chains had grown rapidly among companies around the world. Many companies had moved aggressively to implement and improve on supply chain management practices with the hope of enhancing revenue, profitability, control costs and asset utilization, as well as lead to market share growth. However, these companies had not been able to formulate the right strategies required to achieve this task and this had affected negatively the performance of most organizations, therefore, the study investigated the impact of supply chain management practices on performance with reference to Zak Industrial PLC.

The objectives of the study is to establish the impact of Level of Information Sharing, Strategic supplier partnership, customer relationship, material flow management and corporate culture Practices on performance at Zak Industrial PLC. A survey was conducted by drawing a sample size of 75 employees from a target population of 100 employees using the Fisher's model through stratified sampling technique. A structured questionnaire is used to collect data.

The relationships proposed in the framework were tested using Pearson correlation, and the causal relations were analyzed using regression analysis. From the result of the analysis, it is concluded that four supply Chain Management Practice (strategic supplier partnership, customer relationship, material flow management and corporate culture) have positive and significant influence on Organizational Performance whereas; level of information sharing is not statistically significant to influence Organizational Performance. Therefore 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 Supply Chain Management Practices.

Key Words: Supply Chain Management practices, Organizational Performance

Chapter one

Introduction

1.1Background of the study

Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores; so that products are produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements (Terry et al, 2004).

The diverse definitions and perception of what supply chain management is have led to various scholars and practitioners having varying metrics or dimensions in measuring and understanding supply chain management and practices in firms. Li et al. (2006) defined supply chain management practices as the set of activities undertaken by an organization to promote effective management of its supply chain. Supply chain management practices as a multi-dimensional construct that encompasses upstream and downstream sides of supply chain (Li et al, 2006).While Tan et al (1998) represented supply chain management practices in form of quality, purchasing, and customer relationship. According to Tan et al (2002) the key aspect of supply chain management practices were supply chain integration, information sharing, customer service management, geographic proximity, and JIT capabilities.

The literature is replete on the dimensions of SCM practices from variety of perspectives according to Chin et al. 2011; the five dimensions of supply chain Management are information sharing, customer relationship, strategic supplier partnership, material flow management and corporate culture.

Business organizations need to capitalize on Supply Chain (SC) capabilities and resources to bring products and services to the market faster, at the lowest possible cost, with the appropriate product and service features and the best overall value (Linet, 2015). Performance measures are important to the effectiveness of SC. Companies can no longer focus on optimizing their own operations to the exclusion of their suppliers and customers' operations. Supply Chain Performance Measures serve as an indicator of how well the SC system is functioning. Measuring SC performance can facilitate a greater understanding of the SC and improve its overall performance. There is an emerging requirement to focus on the performance measurement of the SC in which company is a partner (Peter, 1998). Interest on performance measurement has notably increased in the last 20 years. Companies have understood that for competing in continuously changing environment, it is necessary to monitor and understand firm performances (Linet, 2015).

Performance of organization can be measured by operational performance and financial performance. These dimensions are divided into the following components: market share, return on investment (ROI), increase market share, sales growth, return on investment growth, sales margins and the overall situation of competition (Li et al ,2006).

The case company, which is Zak Industrial PLC, is a leading soap manufacturer in the Ethiopia. According to the company website, Zak industries PLC lead the Ethiopian soap, detergent and other cleaning materials market. It was established in 1944, and currently it is sold and owned by 54 capital Industries and now it is working the brands of 555 soap which were produced by Gullele Soap Factory SC. Its largest competitors are East African tiger brands, Repi-Wilmar soap and detergent Factory, TTK Industries PLC. The company has the capacity of

producing 100 tons of laundry soap, 30 tons of liquid detergent and 10 tons of beauty soap per month.

This Company uses most of its raw materials importing from different countries like, china, Dubai, Indonesia, India, Kenya etc. Therefore, this company should have effective supply chain management system in place to stay competitive in the market.

Effective SCM has become a potentially valuable way of securing competitive advantage through the improving of organizational performance and most companies have been increasingly implementing SCM practices (Bratić, 2011).Therefore, this study examines the impact of supply chain management practices on the organizational performance of Zak Industrial PLC, Ethiopia.

1.2 Statement of the problem

Due to the number of competing companies expanding both locally and globally, companies not only have to reestablish themselves to produce higher-quality products and services, decrease waste and are able to respond to the market but also to handle their supply chain management efficiently. Organizations are facing different kinds of challenges in their effort of competing in today's dynamic global markets. To remain competitive, organizations must recognize the importance of supply chain practices that improve not only their own organizational performance, but also coordinate with their supply chain partners to improve their joint performance. Yet, despite the significant advances in research and practices, many organizations continue to struggle to understand the complex issues associated with the coordinated planning and supply activities amongst the members of their su According to the research titled The Study of Supply Chain Management Strategy and Practices on Supply Chain Performance in Malaysia manufacturing

industry conducted by IndaSukati et al (2012), supply chain management practices have a significant relationship with supply chain performance statically. This study also investigates the effect of supply chain management practices in terms of strategic supplier partnership, customer relationship and information sharing on supply chain performance. This study also showed that the strong predictors of supply chain performance are strategic supplier partnership, customer relationship and information sharing. (Makena, 2014).

The recent business environment is growing to be more challenging, and so, companies have to increase their business operations to stay competitive. According to this idea, one of the most important factors for improving business operations is implementing of supply chain management practices that will translate into improved organizational performance. Although supply chain management is currently no longer a new strategy, there are still some serious practical problems that have yet to be addressed. Like lack of basic knowledge of SCM amongst the business practitioners and even though some of the practitioners have realized the importance of SCM, they lack an understanding of what constitutes a comprehensive set of SCM practices (Makena, 2014).

In the case company, there are some challenges in the industry which resulted in reducing the quality and increasing the price of products manufactured. One of the reasons for reducing quality and increasing price is the increase in the landed price of imported raw materials and unavailability of the major raw materials locally which in term can be due to the poor SCM practice of the organization. Soap industries will face the same problem, as they are part of manufacturing industries in Ethiopia.

54 capitals, which owns Zak Industry PLC now is a multinational company which has good exposure of implementing SCM in the industry but it may be difficult to directly apply and generalize that the same practices and collaboration as well as problems of SCM that exists in other countries apply in Ethiopia. This is because of Ethiopia has different Economic, political, social, legal and cultural status than other countries. The practices in other countries can be taken and implemented according to the Ethiopia context. This thesis is intended to solve the problem in Zak Industrial PLC in evaluating the effects of supply chain practices on the performance of the organization.

As far as the knowledge of the researcher is concerned and the information from the company, there is no empirical study that is conducted on the impact of Supply Chain Management practices on organizational performance in the soap industries in Ethiopia, particularly in Zak Industries PLC. This paper is to contribute to the debate by testing the relationship between SCM practices and organizational performance in Zak Industries PLC.

1.3 Research Questions

- ✓ What is the effect of information sharing on organizational performance at Zak Industries PLC, Ethiopia?
- ✓ What is the effect of strategic supplier partnership on organizational performance at Zak Industries PLC, Ethiopia?
- ✓ How does customer relationship affect organizational performance at Zak Industries PLC, Ethiopia?
- ✓ How does Material flow management affect organizational performance at Zak Industries PLC, Ethiopia?

✓ What is the effect of corporate culture on organizational performance at Zak Industries PLC, Ethiopia?

1.4 Objectives of the study

1.4.1General Objective of the Study

The general objective of the study is to investigate the impact of Supply Chain Management practices on organizational performance at Zak Industries PLC, Ethiopia

1.4.2. Specific Objectives

✓ To investigate the effect of information sharing on organizational performance of Zak Industries PLC, Ethiopia

✓ To examine the effect of strategic supplier partnership on organizational performance of Zak Industries PLC, Ethiopia

✓ To examine the effect of customer relationship on organizational performance of Zak Industries PLC, Ethiopia

✓ To assess the impact of Material flow management on organizational performance of Zak Industries PLC, Ethiopia

✓ To assess the effect corporate culture on organizational performance at Zak Industries PLC Ethiopia

1.5. Significance of the Study

The finding of the study could be useful to: Zak Industries PLC, Ethiopia and academician/researchers.

It could help management of Zak Industries PLC, Ethiopia to gain better understanding about the processes of SCM practices. From the results, the managers may either draw strategies or improve the current policies that govern supply chain management in their organization.

Academicians/Researchers-the study's findings provided a room to other researchers to use it as reference point to their future studies related to this subject. It will enable them to see the gap of what is unknown, what needs further research, elaboration and improvement. It added value to the body of knowledge in bridging the gap between theories and practical implementation of SCM practices in soap and detergent industries.

1.6 Scope of the Study

The scope of this study is limited to the effect of SCM practices on organizational performance of Zak Industries PLC.

The subject scope of this study is also limited to the company's point of reference towards strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and Internal lean practices.

The thesis findings are limited to the time at which the data and information are collected from the company.

The area of the study is limited to the case company i.e., Zak Industries PLC, through assessing how the company interact with their upper stream and the down streams of the supply chain.

1.7. Definition of Terms and concepts

- ✓ Supply Chain Management Practices: the set of activities undertaken by an organization to promote effective management of its supply chain (Li et al. 2006).

- ✓ Strategic supplier partnership: 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 (Li et al. 2006).

- ✓ Customer relationship: 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(Li et al. 2006)..

- ✓ Level of information sharing: The extent to which critical and proprietary information is communicated to one's supply chain partner(Li et al. 2006).

- ✓ Quality of information sharing: Refers to the accuracy, timeliness, adequacy, and credibility of information exchanged(Li et al. 2006)

- ✓ Internal Lean Practices: Lean is focused on identifying and eliminating waste throughout a product's entire value stream, extending not only within the organization but also along its entire supply chain network (Boyle and Scherrer, 2009)

- ✓ Organizational performance: Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (wijetunge, 2016).

1.8 Organization of the Paper

This paper is organized into three chapters.

Chapter one contains introduction; which consists of background of the study, statement of the problem, research question, and objectives of the study, significance of the study and definition of terms.

Chapter Two contains literature review, which has a detailed literature related to the content of the study, which is about supply chain management practices and Organizational Performance.

Chapter three contains the methodology of the research.

Chapter Four contains data presentation, analysis and discussion

Chapter five contains summary of major findings, conclusions and recommendations.

Chapter Two

Literature Review

2.1 Theoretical Literature

2.1.1 Supply chain management

Over the past ten years, supply chain management (SCM) has become an important focus of competitive advantage for firms and organizations. The impact of supply chain management has increased steadily, drawing on developments in information systems, management science, logistics, operations management, and other fields.

Supply chain Management (SCM) is a strategic view of materials and distribution management that shows the benefits to the individual from the boost of performance of the supply chain as a whole through the lens of the business processes across functional and corporate borders. (Christopher, 2005)

According to CSCMP (2017), Supply Chain Management (SCM) encompasses the planning and management of all activities involved in sourcing and procurement, conversion and all Logistic management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies.

Supply Chain Management can be defined as a collaborative-based strategy to link inter-organizational business operations to achieve a shared market opportunity. Supply Chain Management is a concept concerned with activities to plan, implement and control the efficient and effective sourcing, manufacturing and delivering process for products, services, and related information from the point of

material origin to the point of ultimate consumption for the purpose of conforming to end-customer requirements (Bowersox et al, 1999).

Supply chain management is as much a mindset as a practice. It involves looking beyond one organization and imagining all the entities involved in manufacturing and shipping a product or service, and then linking all of those entities so they can work efficiently and seamlessly as a team. That means uniting customers, suppliers, shippers, and more recently competitors, into a supply network for the most efficient use of time and resources (Amy Zuckerman, 2002).

2.1.2 Supply Chain Management Practices

Supply chain management practices have been defined as a set of activities undertaken in an organization to promote effective management of its supply chain (Li et al., 2006). SCM practices involve suppliers in strategic and operational decision-making, encouraging information sharing and searching for new ways to integrate upstream activities. It also involves developing customer contacts through the use of customer feedback to integrate the downstream activities and delivering orders directly to customers at point of use. To effectively achieve these goals, it is necessary to locate closer to the market, help suppliers and vendors develop JIT capability, create a compatible information platform and create SCM teams for quality and operational efficiency (Chow et al., 2008).

Supply chain practices are related to supply and materials management issues, operations, information technology and sharing (ICT) and customer service (Tan et al, 2002). Supply chain practice also includes technology, cost competitiveness, inventory management and external regulation (McMullan, 1996). All those have to be managed effectively to realize supply chain's strategic position, which allows competitive advantage (Bratić, 2011). According to Muhammad (2004), this

variable refers to several activities or practices related to operational function of firms. It is used to measure the SCM adoption and its level practices. Related practices are divided into six dimensions namely strategic supplier partnership, customer relations practices, information sharing, information quality, lean system and postponement. SCM practice depends on business strategy and collaboration in the organization, plan and execution, logistic performance and information technology and its implementation in the organization and including five distinctive dimensions: strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing and postponement (Li et al., 2006).

2.1.3 Dimensions of supply chain Management Practices

Many authors studied supply chain management practice and there are various elements and dimensions have measured or used to measure the supply chain practice.

According to Chin et al. 2011, the five dimensions of supply chain Management are information sharing, customer relationship, strategic supplier partnership, material flow management and corporate culture.

2.1.3.1 Level of Information Sharing

Information sharing means distributing useful information for systems, people or organizational units. To enhance the results of information sharing, organizations should answer four main questions: First we ask what to share, then whom to share it with, then how to share, and finally when to share. The quality of answers will help to avoid redundancy, reduce sharing costs and improve responses (Sun S., Yen J, 2005). The term 'Information Sharing' can also be referred to as 'Knowledge Sharing' or 'Information Integration'. There exists a myriad of

information in a supply chain, such as, logistic, business, strategic, tactical and many more.

Level of information sharing; information sharing has two aspects: quantity and quality and both of aspects are important for SCM practice (Li et al., 2006). Level of information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner (Li et al., 2006). Shared information can vary from strategic to tactical in nature and from information about logistic activities to general market and customer information (Mentzer et al., 2000). The objective of information sharing is to spread appropriate information for planning and controlling entire supply chain operation (In Tae Lee, 2017)

The impact of information sharing on supply chains has become more significant with recent advances in Information Technology (IT). Furthermore, some investigations have been conducted to focus on the impact of information sharing on product quality. However, there is still room for further studies to clarify exactly how and what information should be shared and the beneficial effects on quality improvement (Tsung F.,2000).

Coordination and integration in supply chain management (SCM) have long been the concerns of the academic community as well as the business world. To survive in today's economy, supply chain partners need to improve their competitive advantages by information sharing (Zha X., Ding N.,2005).

In the framework represented by Pandey et al. 2010: the types of Information to be shared are Purchases and Sales, Inventory status, Product development, Sales and forecasting, Market development, Future plan, Production cost, Technology know-how and Order tracking.

(Min et al. 2005) represent information sharing as the heart of supply chain collaboration. This means that more attention needs to be given to information sharing. A bond made between two independent members in supply channels is called a supply chain partnership. It is formed by increasing the levels of information sharing in order to lower the total costs and inventories (Yu Z., Yan H., Cheng T.C.E. 2001)

2.1.3.2 Strategic supplier partnership

It is 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 (Li et al, 2006).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 (Tan et al., 2002).

Supplier partnerships and strategic alliances refer to the co-operative and more exclusive relationships between organizations and their up-stream suppliers and downstream customers (A. Gunasekaran et al, 2004). Today many firms have taken bold steps to breakdown both inter and intra firm barriers to form alliances, with the objective of reducing uncertainty and enhancing control of supply and distribution channels. Such alliances are usually created to increase the financial and operational performance of each channel member through reductions in total cost and inventories and increased sharing of information (Maloni andBenton, 1997). Rather than concerning themselves only with price, manufacturers are looking to suppliers to work co-operatively in providing improved service,

technological innovation and product design. This development has produced a significant impact by expanding the scope of SCM through greater integration of suppliers with organizations (A. Gunasekaran et al, 2004)

The relationship is designed to control the strategic, tactical and operational capabilities of individual participating organizations to help them achieve major ongoing mutual benefits (Jie et al., 2007). A strategic partnership emphasizes direct, long-term association and encourages mutual planning and problem solving efforts (Gunasekaran, 2001). Strategically aligned organizations can work closely together and eliminate wasteful time and effort. According to Noble (1997) an effective supplier partnership can be a critical component of a leading edge supply chain (Bratić, 2011,Adebayo, 2012)

2.1.3.3 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 (Noble,1997) and (Tan, 1998) Consider customer relationship management as an important component of SCM practices. The growth of mass customization and personalized service is leading to an era in which relationship management with customers is becoming crucial for corporate survival (Wines, 1996). Good relationships with supply chain members, including customers, are needed for successful implementation of SCM programs. Close customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers (Mwale, 2014).

Customer relationship is the key element in today SCM practices implementation in any organization (Mbuthia and Rotich, 2014). This is because the world today is

in the era of massive growth of mass customization and personalized service which had forced organizations to maintain good relationship with customers for the sake of their survival (Jie et al., 2007). Close customer relationship allows an organization to differentiate its products from the competitors, and sustain customer loyalty (Bratić, 2011). Good relationships with supply chain members, including customers, are needed for successful implementation of SCM program (Mbuthia and Rotich, 2014)

2.1.3.4 Material Flow Management

Manufacturing flow management is the supply chain management process that includes all activities necessary to obtain, implement, and manage manufacturing flexibility in the supply chain and to move products through the plants (Goldsby & Garcia-Dastugue, 2003).

The implementation of material flow management offers enterprises a high potential for realizing new economic competitive advantages. The eco-efficient optimization of material flows aims at reducing costs while simultaneously achieving long-term sustainability with regard to ecological and societal aspects. Knowledge of existing methods and the latest trends is a key prerequisite for successfully implementing, refining and disseminating material flow management approaches.

2.1.3.5 Corporate culture

Barney (1986) defines organizational culture as "a complex set of values, beliefs, assumptions, and symbols that define the way in which a firm conducts its business" . In his study of sustainable competitive advantage, he argues that organizational culture has all-encompassing effects on a firm because it not only defines who this firm's relevant employees, customers, suppliers, and competitors

are, but it also defines how this firm interacts with its 8 stakeholders. Furthermore, organizational culture might influence the efficiency and effectiveness of organizational goals (Denison and Mishra, 1995)

Schein (1996) defined organizational culture as: the basic tacit assumptions about how the world is and organization to be that a group of people share and that determines their perceptions, thoughts, feelings, and their overt behaviors.

This definition includes three levels of organizational culture: artifacts, the espoused values, and the basic underlying assumptions. Artifacts refer to primarily visible, audible, and touchable behaviors taking place in an organization. Examples are organizational structures and practices. In the lower level of artifacts are the espoused values. The espoused values are "ought to be" in the organization whereas the artifacts are "what is" (Schein, 1992, 1996). Strategies, goals, and philosophies exemplify the espoused values. This definition of organizational culture suggests that an effective strategy should be aligned to the organizational culture.

It should be noted, however, that these patterns of cultures are not mutually exclusive (Al-Khalifa and Aspinwall, 2001). No organization may show only one cultural pattern. Rather, an organization is comprised of the mixed set of the four cultures. This classification of four patterns of organizational culture is for the purpose of comparison. The relative intensity of particular cultural traits defines the pattern of organization cultures in a value chain (Denison and Spreitzer, 1991).

2.1.3 Organizational Performance

Organizational performance is difficult to measure and there is no universally accepted definition. However, Organizational performance refers to how well an

organization achieves its market-oriented goals as well as its financial goals (wijetunge, 2016).

Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (Yamin S, 1999). The short-term objectives of SCM are primarily to increase productivity and reduce inventory and cycle time, while long-term objectives are to increase market share and profits for all members of the supply chain(Tan et al. 1998). Financial metrics have served as a tool for comparing organizations and evaluating an organization's behavior over time (Holmberg S, 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 Zhang., 2001).

Performance of organization can be measured by operational performance and financial performance. These dimensions are divided into the following components: market share, return on investment (ROI), increase market share, sales growth, return on investment growth, sales margins and the overall situation of competition (Li et al ,2006)

2.2. Empirical Review

This section of the literature review builds on the empirical findings that have been presented by different authors following series of tests of the adoption theories that were tested in the practical world of the SCM practices implementation.

According to the research titled The Study of Supply Chain Management Strategy and Practices on Supply Chain Performance in Malaysia manufacturing industry conducted by IndaSukati et al (2012), supply chain management practices have a significant relationship with supply chain performance statically. This study also investigates the effect of supply chain management practices in terms of strategic supplier partnership, customer relationship and information sharing on supply chain performance. This study also showed that the strong predictors of supply chain performance are strategic supplier partnership, customer relationship and information sharing.

Mwale (2014) conducted a study on supply chain management practices and organizational performance of large manufacturing firms in Nairobi, Kenya. The study clear that there is a significant relationship between supply chain management practices and organizational performance explained by the seven independent variables strategic supplier partnership, customer relationship, level of information sharing, quality of information, extent of outsourcing, lean practices and postponement. It was also clear from the study that the seven independent variables positively impact organization performance; however, customer relationship and strategic supplier management had the greatest impact. Through the analysis of the relationship between supply chain management practices and organization performance, it was demonstrated that the practices may directly affect organization performance.

Based on the study named the effect of supply chain management practices on supply chain and manufacturing firms' performance in Jordanian manufacturing firms conducted by Moh'dAnwer et al published on emerald publishing limited 2017. This paper theorizes and develops seven dimensions (strategic supplier partnership, level of information sharing, quality of information sharing, customer service management, internal lean practices, postponement and total quality management) into a SCM practices (SCMPs) construct and studies its causal relationship with the conceptualized constructs of supply chain performance (SCP) and manufacturing firms' performance (MFP). The study also explores the causal relationship between SCP and MFP. This suggests that all SCMPs play an important role and have a significant positive and direct effect on the overall MFP. This means that there is a significant positive impact and hence indicates that there is a relationship between all SCMPs, when considered together, and all MFP dimensions.

Makena (2014) conducted a study on Impact of Supply Chain Management Practices on Organizational Performance: A Case Study of Haco Industries Limited (Kenya). To study the relationship between supply chain management practices and organizational performance, four key dimensions of SCM practices (strategic supplier partnership, customer relationship, information sharing and training practices) were used as independent variables, while market/business and operational performance variables were used to measure the organizational performance. Main findings of the study revealed that there is a high level of practical implementation of SCM practices in Haco Industries ltd and that they all had a positive effect on organization's performance. That is they improved the organization's performance in terms of lowering its operational costs, reduction of lead time, high customer service levels, product quality, fast response to changes in

the market and expanding its market share and sales. A combination of all the four practices studied had a stronger effect on organization performance other than the effect of one which further shows the need to embrace a good combination of SCM practices.

Mollel (2015) conducted a study on impact of supply chain management practices on organizational performance in food processing Firms of Dar es Salaam, Tanzania. The main purpose of conducting this study was to investigate the understanding, practical implementation of SCM practices towards organizational performance in food processing firms located at Dar es Salaam, Tanzania. Six key dimensions of SCM practices (strategic supplier partnership, customer relationship, quality and level of information sharing, outsourcing and lean practices) were used as independent variables accompanied by different measurement instruments under each variable, while market and operational/financial performance variables were used to measure the organizational performance. In addition to organizational performance, the result showed that SCM practices of strategic supplier partnership, customer relationship, level and quality of information sharing and lean practices were positively related to organizational performance, except outsourcing.

2.3 Conceptual framework

Considering the various dimensions of supply chain management practices and measurement of organizational performance proposed by several researchers specially Chin et al. 2011 the research adapted a research framework that encompassed the following five dimensions of supply chain management practices: level of information sharing, strategic supplier partnership, customer relationship, material flow management and corporate culture.

Conceptual framework shows the relationship between supply chain management practices and organizational performance. In this case; level of information sharing, strategic supplier partnership, customer relationship, material flow management and corporate culture acts as the independent variables while organizational performance of Zak Industries PLC is the dependent variable respectively where each of them can either positively or negatively affect each other.

Independent Variables   Dependent variables
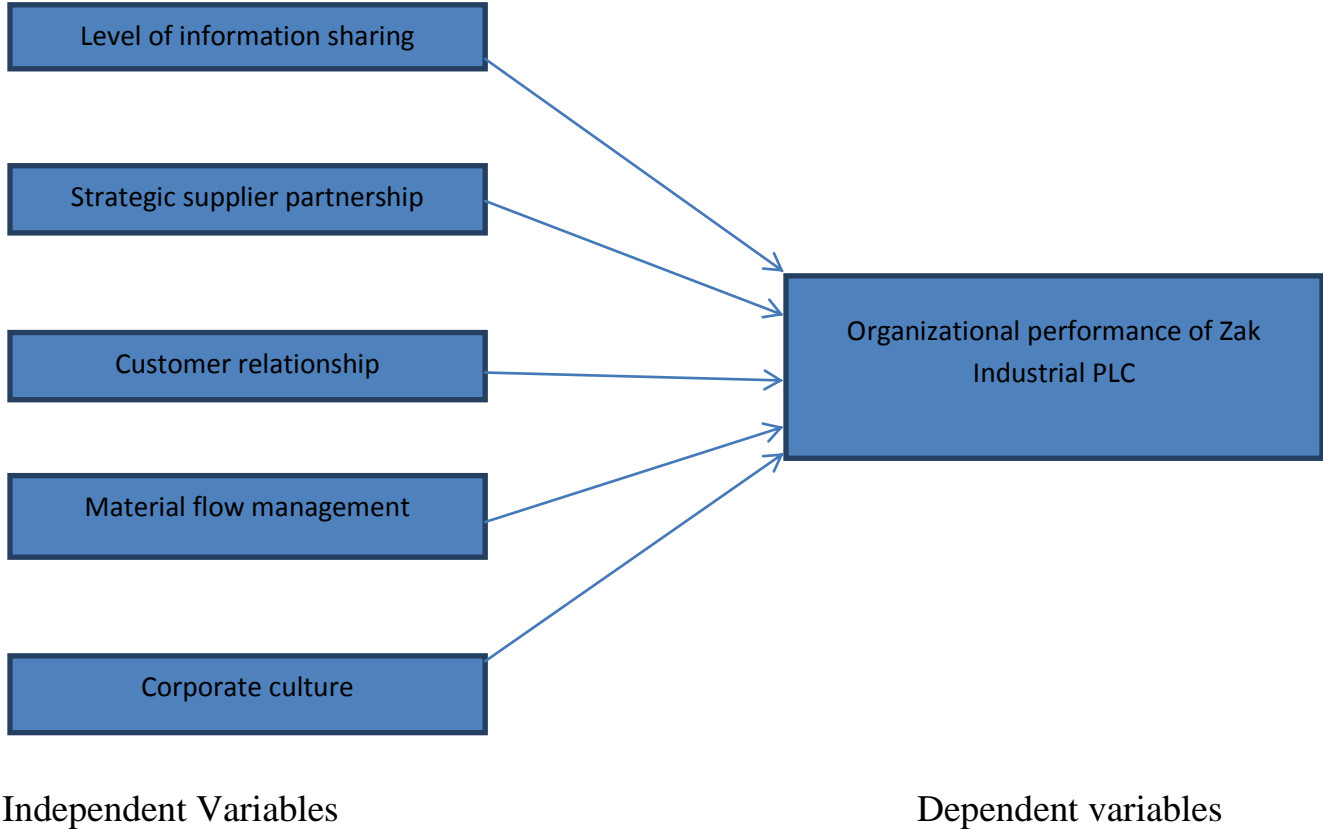
Figure 1: Conceptual framework of the research.

Source: Li et al (2006) and Mustefa (2014

2.4 Identified Literature Gap

As far as the knowledge of the researcher is concerned there is a lack of previous studies concerning supply chain management practices implementation and how it affects organizational performance. The researcher had hardly found such studies in the literature. Only few authors such as Mustefa (2014) ,Dinberu (2016) and Birhanemeskel (2018) conducted such studies. Birhanemeskel (2018) investigated the existing supply chain management practice its relation with organizational performance of Awash Winery SC. This research conceptualizes and develops five dimensions of SCM practice (strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and internal lean practices) and tests the relationships between SCM practices and organizational performance. From the result of the analysis it is concluded that there is strong relationship between SCM practices and organizational performance. Therefore, 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 to the constructs of SCM practices and the measures of organizational performance.

There is a relative lack of empirical studies examining how SCM practices impact organizational performance. There are very few documented cases showing the relation between supply chain management practices and Organizational performance. As far as the knowledge of the researcher concerned, no research had been conducted on the impact of Supply Chain management practices on organizational performance in Zak Industrial PLC, Ethiopia. Therefore this study included the aspect of how SCM practices impact overall organizational performance of Zak Industrial PL

Chapter Three

Methodology of the Study

This part describes the methodologies that are used in this study: the choice of particular research designs, data type and source of data, research approach, data gathering technique and instruments, sampling and sampling techniques and data analysis techniques along with an appropriate justification associated with each approach.

3.1 Research Approach

Yin (1994) suggests that the best research method to use for a study depends on the study's research purpose and accompanying research questions. He defines quantitative and qualitative approach as follows:

A quantitative approach implies the search for knowledge that will measure, describe and explain the phenomenon of reality. It is often formalized and well structured. Quantitative research seeks to quantify the data and, typically applies some form of statistical analysis (Malhotra, 2007).

A qualitative research is a search for knowledge that is supposed to investigates, interpret and understand the phenomena by means of perspective. Qualitative research provides insight and understanding of problem setting (Malhotra, 2007). It is often related to case studies, were the aim is to receive thorough information and thereby obtain a deeper understanding of the research problem.

Quantitative research generates factual, reliable outcome data that are usually generalized to some larger populations, and qualitative research produces reach, detailed and valid process data based on participants's, rather than the investigators perspective and interpretations (Steckler A. 1992).

In this research quantitative research will be followed to measure the effect of independent variables (supply chain Management practices) on the dependent variable (Organizational Performance) by collecting quantitative data from Zak Industrial PLC employees.

3.2 Research Design

Exploratory research is particularly useful when researchers lack a clear idea of the problems they will meet during the study (Cooper and Schindler, 2003). It is the valuable means of understanding what is happening; to seek new insights to ask questions and to asses phenomenon on new light (Robson, 2002)

Descriptive studies are more formalized and typically structured with clearly stated hypothesis or investigative questions (Cooper and Schindler, 2003).

Explanatory research is applicable when we want to evaluate cause-effect relationship between variables; that is which causes produce which effects (Yin, 1994). The investigation of cause and effect relationships in order to determine causality; to observe variation in the variable that is assumed to cause the change in the other variable and then measure the changes in the other variable using statistical methods.

This study is intended to analyze the casual relations between the dependent variable (Organizational Performance) and the independent variables (supply chain management practices) using correlation and regression, which makes the research explanatory.

3.3 Target Population

The target populations for this study are employees of Zak Industries PLC, who have the engagement and knowledge about supply chain management practices and organizational performance. From the 395 number of employees 115 are atleat certificate holders. Therefore 100 employees were eligible anf from them 79 were selected.

3.4 Sampling and Sampling Techniques

3.4.1 Sampling Techniques

A sample is the number of items selected to represent the whole population (Kothari, 2004). According to Saunders et al (2007)Sampling technique can be divided in to two Probability or representative sampling and non-probability or judgmental sampling.

Probabilistic sampling is where the chance or probability of each case being selected from the population is known and is usually equal for all cases. In fact it is based on the concept of random selection (Cooper and Schindler, 2003).

Probabilistic sampling can be separated in to five groups: simple random, systematic, stratified random, cluster and multistage (Saunders et al, 2007).

Non-probabilistic sampling the probability of each case being selected from the total population is not known and it is impossible to answer the research question or to address objectives that require making statistical influence about the characteristic of the population.

For the purpose of this study probability sampling particularly stratified sampling technique was adopted. The target population for the study (employees of Zak

Industries PLC, who have the engagement and knowledge about supply chain management practices and organizational performance) is classified into six strata based on the sectional division/departments of the company. The departments considered as strata from which data will be collected are: production department, supply chain management (which includes procurement, logistics and planning), finance, sales and marketing, warehouse and facilities management, and IT. Then the samples will be taken from each stratum according to their proportion to the total population. Since the information required for the study needs different people who have knowledge and awareness about different supply chain management practices/dimensions, and organizational performance of the organization, stratified sampling technique was adopted to have the right proportion of people from every concerned department or section.

Stratified sample is a probability sampling technique in which the researcher divides the entire target population into different sub-groups, or strata, and then randomly selects the final subjects proportionally from the different strata. This type of sampling is appropriate when the researcher wants to highlight specific subgroups within the population (Kothari (2004).

3.4.2 Sample Size

The total number of employee of Zak Industrial PLC is 395, out of which around 115 are at least certificate holders. Therefore, 100 employees were eligible to be considered as a target because they were directly engaged in supply chain related activities. To arrive at the desired sample, Fisher's model will be used as solution as it used by Linet (2015). In this case, when the target population is more than 10,000, the formula is given as:

n=z2 p*q/I2

Where:

n = Sample size [where population> 10,000]

Z = Normal deviation at the desired confidence interval. In this case at 95%, Z value at 95% is 1.96

P = Proportion of the population with the desired characteristic (taken 0.5 as the variability of the employees is not known maximum variability is taken).

 q= Proportion of the population without the desired characteristic (1-P)

I 2 = Degree of precision; will be taken to be 5% for 95 % confidence level.

I.e. $n = Z^2(P(1-P)/I^2)$

$n = (1.96)^2 \times 0.5\,[1 - 0.5]\,[0.05][0.05] = 385$

Since the number of employees is <10,000, the sample adjustment is done using the following formula.

$nf = n/(1 + n/N)$

Where: nf = The desired sample size for population <10,000

n = the calculated sample size for population greater than 10,000

N = the observed target population.

$nf = 385/(1 + 385/100)$

nf =79 employees

The sample size of 79% (79) is supported by Kothari (2004), who indicates that an optimum sample is the one that fulfills the requirements of efficiency, representativeness, reliability and flexibility. According to Kothari this sample is above 50 %.(cited at Linet, 2015)

Table 3.1 Departmental distribution of sample size

Department	Total Population	Sample size	% sample size
Production	15	12	12
Supply chain	7	5	5
Finance	15	12	12
Commercial	30	24	24
Warehouse and facilities	15	12	12
Logistics	13	10	10
ICT	5	4	4
Total	100	79	79

Source Zak Industrial PLC human resource department

3.5 Data Gathering Technique and Instruments

3.5.1 Data gathering Technique

There are normally two types of data used in researches. Primary data are normally the data originated by the researcher for the specific purpose of addressing research problem. Secondary data represents any data that had already been collected for purposes other than the problem at hand (Malhotra and Peterson 2006). According to cooper and Schneider (2003) the method selected to conduct the research will largely determine how the data are collected.

Data applied for this research is primary. The primary data has been conducted in the form of questionnaires which was distributed to employees of Zak Industrial PLC. Secondary data was also collected from different documents of the company.

3.5.2 Data Collection Instrument- Questionnaire

There are two basic requirements for the design of questionnaire, relevancy and accuracy (Zikmund 2000). For a questionnaire to be relevant only needed information should be collected. Accuracy is obtained by having high validity and reliability.

For this research the questionnaire consists of three parts. Part one prepared to gather general information about the respondents educational qualification, position, experience within the organization and department. Part two prepared to ask respondents to answer supply chain management practices of their organization and section three is about Organizational Performance of their organization.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Introduction

As discussed in previous chapter, this study attempted to examine the effect of supply chain management practices on Organizational Performance in case Zak Industrial PLC. To analyze the collected data in line with the overall objective of the research undertaking, statistical procedures were carried using SPSS (version 20). The questionnaire were developed in five scales ranging from five to one; where 5 represents Strongly Agree, 4 Agree, 3 Neutral, 2 Disagree, and 1 Strongly Disagrees .During the survey a total of 79 questionnaires were distributed to employees of Zak Industrial PLC and 75 of distributed questionnaires were returned. So the analysis was made based on 75 responded questionnaires. Descriptive statistics were used for demographic factors and SCM Practices. Also the study used Correlation analysis, specifically Pearson correlation to measure the degree of association between different variables under consideration used. Regression analysis was also used to test the effect of independent variable on dependent variable.

4.1 Respondents Profile

This descriptive analysis is used to look at the data collected and to describe that information. It is used to describe the demographic factors for more clarification. It is mainly important to make some general observations about the data gathered for general or demographics questions. The demographics factors used in this research are Educational Qualification, Job Title/Position, and Length of service in the organization and Departmental distribution. On the other hand assessing the work experience and education level of the respondents' is that, when the respondents

are more experienced and educated they have better opportunity to understand the case and give better response than else.

Table 4.1: Summary of respondents' profile

Respondent's background	Demographic characteristic	Frequency	Percentage
Educational qualification	College diploma	16	21.3
	First degree	50	66.7
	Second degree and above	9	12
Job title	Director/Manager	6	8
	Team leader	7	9.3
	Expert	23	30.7
	Other	39	52
Work experience	Under 1 year	7	9.3
	1-5 years	23	30.7
	6-10 years	31	41.3
	Over 10 year	14	18.7
Departmental representation	Production	11	14.7
	Procurement and supply chain	5	6.7
	Finance	12	16
	Sales and marketing	22	29.3

	(commercial)		
	Warehouse and facilities management	12	16
	Logistics	10	13.3
	ICT	3	4

Own Survey Data, 2018

The educational qualifications of respondents are shown in table 4.1. As it is indicated in the table, 66.7% hold a first degree. In the other way, 21.3% were diploma holders, while 12% of the respondents achieved Second Degree and above.

As table 4.1 clearly shows the frequency distribution of respondents Job title, 8% of the respondents were Director/managers, 9.3% were Team leaders, 30.7% were Experts and the remaining 52% of the respondents were from other positions like Officers.

Coming to the work experience of the respondents as shown in Table 4.1, the largest of the respondents, which is 41.3%, have 6-10 years of work experience. In the same case, 30.7% of respondents have from 1-5 years of work experience and followed by over 10 years of experience, which accounts 18.7% and 9.3% of respondents represents having less than 1 year of experience. This implies that in total more than 60% of the respondents have more than 6 years of work experience with in the case company and it is sufficient to judge and give views. This is because when the respondents are more and more experienced within the

organization they have better opportunity to know more and more about the organization.

The results of Departmental representation of respondents are shown in Table 4.1. The result indicates that 11% of the respondents were from Production department, 6.7% of the respondents were from Procurement and supply chain department, 16 % of the respondents were from Finance, 29.3% from sales and Marketing (Commercial), 16% from warehouse and facilities Management, 13.3% from transportation (Distribution), while 4 % of the respondents indicated that they were from ICT department. The results indicate that the respondents were from different department/work unit and thus they will give an independent view of supply chain management practices and Organizational performance.

4.2 Descriptive Analysis

The mean and group mean statistical values approaching to 3.00 and less indicates the poor perception, 3.00 and above indicates good perception of respondents on that particular item or variable (Pritha Bhandari, 2009).

Table 4.2: Descriptive statistics of SCMP and Organizational Performance

	N	Mean	Std. deviation
Level of information sharing	75	3.8133	.72595
Strategic supplier partnership	75	3.6827	.83769
Customer relationship	75	3.7778	.78238
Material flow management	75	3.6693	.77703
Corporate culture	75	3.9044	.63505

Organizational performance	75	3.9029	.62982

Source: Own survey data

As shown in the table 4.2, the group means of level of information sharing shows that 3.81 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. 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. Level of information sharing dimensions has scored 3.81 grand mean and standard deviation of 0.72. The overall mean shows perception of respondents about level of information sharing is good. Standard deviation shows that 68% of participants are within ± 0.72 (1 standard deviation) of the mean 3.81, 95% of participants are within ± 1.44 (2 standard deviations) of the mean 3.81 and 99% of participants are within ± 2.16 (3 standard deviations) of the mean 3.81.

For strategic supplier partnership construct, as shown in the table 4.2 the group mean shows that 3.68 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. 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. Strategic supplier partnership dimensions have scored grand mean 3.68 and standard deviation 0.84. The overall mean shows perception of respondents about strategic supplier partnership is good. Standard deviation shows that 68% of participants are within ± 0.84 (1 standard deviation) of the mean 3.68, 95% of participants are within ± 1.68 (2 standard

deviations) of the mean 3.68 and 99% of participants are within ± 2.52 (3 standard deviations) of the mean 3.68.

As shown in the table 4.2, the group mean of customer relationship shows that 3.77 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. 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. A customer relationship dimension has scored 3.77 grand mean and standard deviation 0.78. The overall mean shows perception of respondents about customer relationship is good. Standard deviation shows that 68% of participants are within ± 0.78 (1 standard deviation) of the mean 3.77, 95% of participants are within ± 1.56 (2 standard deviations) of the mean 3.77 and 99% of participants are within ± 2.34 (3 standard deviations) of the mean 3.77.

For material flow management construct, as shown in the table 4.2 the group mean shows that 3.66 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. 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. A material flow management dimension has scored 3.66 grand mean and standard deviation 0.77. The overall mean shows perception of respondents about material flow management is good. Standard deviation shows that 68% of participants are within ± 0.77 (1 standard deviation) of the mean 3.66, 95% of participants are within ± 1.54 (2 standard

deviations) of the mean 3.66 and 99% of participants are within ± 2.31 (3 standard deviations) of the mean 3.66.

As shown in the table 4.2, the mean of corporate culture shows that 3.9 mean value. The group mean value indicates that the overall perception of the respondents on this particular dimension is good. 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 employees give variety of opinion and the low standard deviation means that employees express close opinion. Corporate culture dimensions have scored grand mean 3.9 and standard deviation 0.63. The overall mean shows perception of respondents about corporate culture is good. Standard deviation shows that 68% of participants are within ± 0.63 (1 standard deviation) of the mean 3.9, 95% of participants are within ± 1.26 (2 standard deviations) of the mean 3.9 and 99% of participants are within ± 1.89 (3 standard deviations) of the mean 3.9.

As shown in the table 4.2, the mean of Organizational Performance is good. 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. Organizational Performance dimensions have scored 3.9 grand mean and standard deviation 0.63. The overall mean shows perception of respondents about Organizational Performance is good. Standard deviation shows that 68% of participants are within ± 0.63 (1 standard deviation) of the mean 3.9, 95% of participants are within ± 1.26 (2 standard deviations) of the mean 4.12 and 99% of participants are within ± 1.89 (3 standard deviations) of the mean 3.9.

4.3 Correlation Analysis

By standardizing the covariance we end up with a value that has to lie between −1 and+1 (if you find a correlation coefficient less than −1 or more than +1 you can be sure that' something has gone hideously wrong!). A coefficient of +1 indicates that the two variables are perfectly positively correlated, so as one variable increases, the other increases by a proportionate amount. Conversely, a coefficient of −1 indicates a perfect negative relationship: if one variable increases, the other decreases by a proportionate amount. A coefficient of zero indicates no linear relationship at all and so if one variable changes, the other stays the same. Because the correlation coefficient is a standardized measure of an observed effect, it is a commonly used measure of the size of an effect and that values of +.1 represent a small effect, +.3 is a medium effect and +.5 is a large effect(Andy Field 2009).

Table 4.3 Correlations between Supply Chain Management Practices and Organizational performance

Correlations								
		Level of infor matio n shari ng	Strateg ic supplie r partner ship	Custo mer relatio nship	Materi al flow manag ement	Corp orate cultu re	Supply chain manage ment practic es	Organiz ational perform ance
Level of informati on	Pearson correlati on							

sharing	Sig. (2-tailed)						
Strategic supplier partnership	Pearson correlation	.775**					
	Sig. (2-tailed)	.000					
Customer relationship	Pearson correlation	.740**	.686**				
	Sig. (2-tailed)	.000	.000				
Material flow management	Pearson correlation	.718**	.725**	.743**			
	Sig. (2-tailed)	.000	.000	.000			
Corporate culture	Pearson correlation	.620**	.560**	.602**	.562**		
	Sig (2-tailed)	.000	.000	.000	.000		
Supply chain Management	Pearson correlation	.857**	.810**	.820	.844**	.811**	
	Sig. (2-	.000	.000	.000	.000	.000	

practices	tailed)							
Organiza tional performa nce	Pearson correlati on	.718**	.737**	.747**	.742**	.700 **	.846**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
** correlation is significant at the 0.01 level (2-tailed) N=75								

Source: Own Survey Data

As it is indicated in the table 4.3, there is a positive and significant correlation between Supply chain management practices and Organizational Performance. In other words Supply chain management practices and Organizational Performance have relationship (r=0.846).

Table 4.3 also indicated that, there is a positive and significant correlation between level of information sharing and Organizational Performance. In other words Strategic supplier Partnership Dimension and Organizational Performance are correlated in a relationship (r=0.718).

Pearson correlation results are shown in table 4.3; there is positive and significant correlation between strategic supplier partnership and Organizational Performance. In other words strategic supplier partnership and Organizational Performance have relationship (r=0.737).

Pearson correlation results are shown in table 4.3, that there is positive and significant correlation between customer relationship and organizational performance. In other words customer relationship and organizational performance have a relationship or correlation (r=0.747).

As it is clearly indicated in the table 4.3, there is significant positive and significant correlation between material flow management and Organizational Performance. In other words material flow management and Organizational Performance have a relationship or correlation (r=0.742)

Table 4.3 indicates that there is significant positive correlation between corporate culture and and Organizational performance. In other words corporate culture and Organizational Performance have a relationship or correlation (r=0.700)

4.4 Regression Analysis

This regression analysis was conducted to know by how much the independent variable explains the dependent variable. It is also used to understand by how much each independent variable (Level of information sharing, strategic supplier partnership, customer relationship, material flow management and corporate culture) explains the dependent variable that is Organizational Performance

4.4.1 Testing Regression Analysis Assumptions

4.4.1.1 Sufficient Number of Observation

If you want to test the overall relationships between the independent and dependent variable, there is a rule of thumb that the number of observations is at least 50 + 8 k (where k are the number of independent variables) Cited from (Admasu, 2016). In this case the minimum number of observation required to perform regression analysis is 50 + 8*5 = 90. Therefore, 75 observations can meet the minimum requirement.

4.4.1.2 Normality Test

Normal distribution takes a form of a symmetric ball shaped curve. The standard normal distribution is one with a mean 0 and a standard deviation of 1. (Garson, 2012). According to him, skew and kurtosis with range +3 to -3 used to measure normal distribution. The skew and kurtosis result show that there were normally distributed.

Table 4.4 Normality test

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistics	Statistics	Std. Error	Statistics	Std. Error
Level of information sharing	75	-.447	.277	-.013	.548
Strategic supplier partnership	75	-.541	.277	-.517	.548
Customer relationship	75	-.733	.277	-.163	.548
Material flow management	75	-.601	.277	-.234	.548
Corporate culture	75	-.196	.277	-.529	.548
Organizational performance	75	-.908	.277	-.496	.548
Valid N (list wise)	75				

Source: Own Survey Data

4.4.1.3 Multicollinearity test

Multicollinearity exists when there is a strong correlation between two or more predictors in a regression model. Perfect multicollinearity exists when at least one predictor is perfect linear combination of the others (Field, 2009). He also stated that, perfect collinearity exists when at least one predictor is a perfect linear combination of the others. If the perfect there is perfect collinearity between predictor it becomes impossible to obtain unique estimates of regression coefficients because there are an infinite number of combinations of coefficient that would work equally well. The regression coefficients become less reliable as the degree of correlation between the independent variables increases. If there is a high degree of correlation between independent variables, there is a problem of multicollinearity.

Field (2009) cited that Variance Inflation Factor (VIF) value above 10 and a tolerance (1/VIF) value below 0.10 pose a multicollinearity problem. From table 4.5 VIF Value ranges from 1.781 to 3.399. Tolerance value ranges within the value of 0.294-0.561. In this study, these values (both VIF and tolerance level) indicate that for this analysis, there is no serious multi collinearity problem. The correlation coefficient above 0.8 or 0.9 is the cut-off point for regression analysis, Field (2005). In table 4.6 Pearson correlation matrix has indicated that the inter-correlation between the Supply Chain Management Practice constructs are below the maximum point which is 0.8/0.9.

Table 4.5 Collinearity Test

Coefficient*		
Model	Collinearity statistics	
	Tolerance	VIF

1	Level of information sharing	.294	3.399
	Strategic supplier partnership	.335	2.983
	Customer relationship	.343	2.919
	Material flow management	.347	2.884
	Corporate culture	.561	1.781
Dependent variable: organizational performance			

Source: Own Survey Data, 2018

Table 4.6 Pearson correlation between variables

Correlations						
		Level of information sharing	Strategic supplier partnership	Customer relationship	Material flow management	Corporate culture
Level of information sharing	Pearson correlation					
	Sig. (2-Tailed)					
Strategic supplier	Pearson correlatio	.775**				

partnership	n					
	Sig. (2-Tailed)	.000				
Customer relationship	Pearson correlation	.740**	.686**			
	Sig. (2-Tailed)	.000	.000			
Material flow management	Pearson correlation	.718**	.725***	.743**		
	Sig. (2-Tailed)	.000	.000	.000		
Corporate culture	Pearson correlation	.620**	.560**	.602**	.562***	1
	Sig. (2-Tailed)	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed) N=75						

Source: Own Survey Data

4.5.1.4 Durbin-Watson coefficient

Durbin-Watson coefficient tests for serial correlation between errors (Field, 2005). According to (Garson, 2012) the Durbin-Watson statistics should be between 1.5 and 2.5 for independent observations. As indicated below the table 4.7 Durbin-Watson result is 1.626, which is between 1.5 and 2.5.

Table 4.7 Durbin-Watson test

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin watson
1	.855*	.730	.711	.33875	1.626

a. Predictors: (Constant), Corporate culture, Customer Relationship, Level of information sharing, Material flow management, Strategic supplier partnership

b. Dependent Variable: Organizational Performance Source: Own Survey Data

4.5.2 Regression Model

Regression analysis was used to express the relationship between the independent and dependent variables. The dependent variable was Organizational Performance while the independent variables were the Internal Lean practices, Customer Relationship, Level of information sharing, Quality of Information Sharing, Strategic supplier partnership. The ability of independent variables to explain the changes in dependent variables was measured by adjusted R-square as shown by table 4.8.

Table 4.8 Regression Model Summary

Model Summary					
Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin Watson
1	.855*	.730	.711	.33875	1.626
a. Predictors: (Constant), corporate culture, Customer Relationship, Level of					

| information sharing, material flow management, Strategic supplier partnership | | | | | |

| b. Dependent Variable: Organizational Performance | | | | | |

From table 4.8, it is clear to see that the independent variables explained 71.1% of variations in the dependent variable as shown by the adjusted R-square (0.711). Therefore 29% of the variations in the dependent variable were due to other factors not considered by the model.

Table 4.9 ANOVA Result

ANOVA*						
Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	21.436	5	4.287	37.361	.000^b
	Residual	7.918	69	.115		
	Total	29.535	74			
a. Dependent Variable: Organizational Performance						
b. Predictors: (Constant), corporate culture, Customer Relationship, Level of information sharing, material flow management, Strategic supplier partnership						

Source: Own Survey Data

The significance of the model was further established by carrying out ANOVA test as shown by table 4.9. Table 4.9 shows that the variables of regression are statistically significantly different, they therefore measure different attributes. The p-value=0.000 is less than 0.05 therefore we confirm the significance of the model under 95% confidence level.

4.4.3 Regression Coefficients of SCMP

Table 4.10: Coefficients of SCMP dimensions

Coefficients*						
Model		Unstandardized coefficient		Standardized coefficient	t	Sig
		B	Std. error	Beta		
1	(constant)	.687	.257		2.671	.009
	Level of information sharing	.027	.100	.031	.272	.786
	Strategic supplier partnership	.180	.081	.239	2.216	.030
	Customer relationship	.180	.086	.224	2.097	.040
	Material flow management	.175	.086	.216	2.037	.045
	Corporate culture	.288	.083	.290	3.481	.001
a. Dependent Variable: Organizational Performance						

Source: Own Survey Data, 2018

From table 4.10, the constant of the model was 0.687 which was statistically significant (p-value= 0.009). The highest statistically significant coefficient was 0.288 which belonged to corporate culture (P.value= 0.001). This was followed by strategic supplier partnership, customer relationship and material flow management with coefficient of 0.180 (p-value=0.030), 0.180(0.40) and 0.175 (0.045) respectively. The coefficient for level of information sharing variable was 0.027, however not statistically significant with the coefficient for supplier p-value=

0.786. We can thus conclude that from the sample results the SCMP constructs that has significant and positive influence on organizational performance were strategic supplier partnership, customer relationship, material flow management and corporate culture. However, level of information sharing has positive but insignificant influence on organizational Performance.

4.5 Results Discussion

The objective of this study is to examine the effect of SCM practices and to empirically test the relationship between SCM practices and organizational performance with special emphasis on Zak Industrial PLC. This research is related with the elements of SCMP towards Organizational Performance in Zak Industrial PLC. The findings show that SCMP constructs can explain 71.1% of Organizational Performance in the case company. Corporate culture has greater effect on organizational Performance and it is more important the case company to focus on how to work with corporate culture. This study makes contributions by exploring the relationship between SCM practices and organizational performance. The results of the study are discussed as follows:

As the test results indicate there is positive relationship between level of information sharing and organizational performance with correlation coefficient of 0.718 (r=0.718) and significance value less than 0.001.This study is consistent with the work of Mustefa (2014) indicates that there is positive relationship between strategic supplier partnership and organizational performance

The other practice of SCM is strategic supplier partnership, which is positively correlated with organizational performance with Pearson correlation coefficient 0.737 (r=0.737) and significant level less than 0.001. The finding of this study is consistent with the work of Mollel (2015) .Based on the study result there was

strong, positive correlation between strategic supplier partnership and organizational performance which was statistically significant.

Customer relationship is one among the constructs of SCM practices which has strong positive relationship with organizational performance with correlation coefficient 0.747 (r=0.747) and significant value less than 0.001. This result is consistent with the work of and Dinberu (2016) which describes there was strong, positive correlation between customer relationship and organizational performance which was statistically significant.

Material flow management is the other construct of SCM practices which has positive and strong relation with organizational performance with correlation coefficient0.742 (r=0.742) and significance value less than 0.001. This finding is supported by the work of Mollel (2015) which indicates there was strong, positive correlation between material flow management and organizational performance which was statistically significant

Corporate culture is also one construct of SCM practices which is positively correlated with organizational performance with coefficient 0.700(r=0.700) and significance level less than 0.001. As Mollel (2015) describes there was strong, positive correlation between corporate culture and organizational performance which was statistically significant.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The main purpose of the study was to examine the effect of Supply chain management Practices on organizational performance in Zak Industrial PLC. Zak industrial PLC orientation of Supply Chain was evaluated through five SCMP dimensions including Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Material flow management and corporate culture. Based on the results of the study the summary of major findings are as follows.

With regard to the Pearson correlation analysis, it can be clearly seen as that the five supply chain management practice constructs namely Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, Material flow management and corporate culture are positively related to Organizational Performance. □ Supply chain management Practices and Organizational Performance have positive relationship, r=0.847 □ level of information sharing and Organizational Performance have positive relationship, r=0.718 □ strategic supplier partnership and Organizational Performance have positive relationship, r=0.737 □ customer relationship and Organizational Performance have positive relationship, r= 0.747 □ material flow management and Organizational Performance have positive relationship, r= 0.742 □ corporate culture and Organizational Performance have positive relationship=0.700

Regression analysis result of the study shows that Supply chain management Practices explains Organizational Performance. SCMP constructs that significantly influenced organizational performance were Customer relationship, strategic supplier partnership, material flow management and corporate culture. Whereas,

level of information sharing not statistically significant to influence the organizational performance .The regression analysis indicated that 71.1% of Organizational Performance is explained by Supply chain management Practices.

5.2 Conclusions

Based on previous theories and researches conducted in the areas of Supply Chain Management Practices and its outcomes, this study could show clear links between SCMP and Organizational Performance, which helps to deeply understand the relationship and interaction between them. The findings partially support the assumption that Supply chain management practice constructs can increase Organizational Performance. In this study, the effect of five variables (Strategic Supplier Partnership, Customer Relationship, Level of Information Sharing, material flow management and corporate culture practices) on organizational performance was investigated.

Based on the study result, we can conclude that level of information sharing and the organizational performance of Zak Industrial PLC are positively related. However, level of information sharing is not statistically significant to influence organizational performance.

According to the results of this study, it can be concluded that customer relationship and the organizational performance of Zak Industrial PLC are positively related. In addition, customer relationship has a significant effect on organizational performance.

According to the results of this study, it can be concluded that material flow management and the organizational performance of Zak Industrial PLC are positively related. In addition, material flow management has a significant effect on organizational performance.

Based on the study result, we can conclude that customer relation and the organizational performance of Zak Industrial PLC are positively related. In addition, customer relation has a significant effect on organizational performance.

According to the results obtained from the research, corporate culture has a positive and significant effect and is the most important dimension of SCMP that Zak Industrial PLC should focus in order to boost their organizational performance in the long run.

5.3 Recommendations

The findings of this research can be important evidence for managers who take charge of supply chain management practices .In light of the findings and conclusions, the following possible recommendations are suggested as being valuable for improving Supply chain management practices to assure Organizational Performance.

From the study, it was established that Level of Information Sharing had been exploited moderately to boost organizational performance. The study therefore, recommended that the case company should improve and invest on IT facilities to enhance information sharing both internally and externally. This can be done through hiring IT specialists or outsourcing. 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. Because, this could help the case company to obtain the inputs at the right time and quantity from these suppliers

and provide the required quantity by the customers when they need it. So that, this will minimizes the dissatisfaction of customers due to shortage of materials.

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. 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. Benefits include lower costs, higher quality, better forecasting and less tension between the two entities that result in a win-win relationship (Cohen, 2004).

From the study, it was established that Customer Relationship had been moderately exploited. Another important issue that is suggested to the case company's marketing department is improving 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 study, it was established that material flow management had been exploited moderately to boost organizational performance. The material flow is improved by reducing the movement and handling of materials or reducing the distance of movement. Improvements of production area can be achieved through

an efficient layout. An improved material flow can then enable improvements of material handling

From the findings of this study, corporate culture had been exploited moderately to boost organizational performance. The case company is further suggested to make the following points to increase the corporate culture. Create and communicate meaningful values, conduct proper selection, improve orientation and onboarding, enable and empower employees, engage employees all year round, coach employees, communicate effectively with employees.

Generally, So as to be competitive enough, it is better for the case company to give due attention on SCM practices for more improvement of their Organizational 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.

5.4 Areas for Further Study

This study directly focuses on Supply chain management practices and its effect on organizational Performance in Zak Industrial PLC. This research can be further explored by adding more Supply chain management practice dimensions like BPR, Distribution Planning, and others which could influence Organizational Performance. The study also formed a basis for further research in determining the extent to which information technology effects on customer satisfaction in organizations. This is because customer satisfaction has come to be regarded as a key business strategy of every organization and a benchmark against which many organizations have set their standards. The findings also formed a basis in carrying out a study on the effects of supply chain management practices on employee satisfaction in soap industries or other sectors engaged in production of goods.

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Appendix I-Descriptive statistics of SCMP

Level of information sharing	N	Mean	St. Deviation
Our organization communicates trading partners about changing of needs in advance	75	3.95	.943
Our partners share proprietary information with us	75	3.93	.875
Our trading partners keep us fully informed about issues that affect our business	75	3.76	.928
Our trading partners share business knowledge of core business processes with us	75	3.85	.954
Our organization exchange information with trading partners to establish our business planning.	75	3.68	1.016
Our organization keeps in touch frequently with our trading partners and informs each other about any changes/events that may affect the other partners business	75	3.72	1.008
	75	3.81	0.72
Strategic supplier partnership	N	Mean	St. Deviation
Our organization consider quality as our number one criterion in selecting suppliers	75	3.84	1.001
Our organization regularly solves problems jointly with our suppliers	75	3.88	.958
Our organization has helped our suppliers to improve their product quality	75	3.67	1.018

Our organization has continuous improvement programs that include our key suppliers	75	3.41	1.015
Our organization include our key suppliers in our planning and goal setting activities	75	3.76	.998
Our organization actively involves our key suppliers in new product development processes	75	3.7	1.007
	75	3.7	.82
Customer relationship	N	Mean	St. Deviation
Our organization frequently interacts with customers to set reliability, responsiveness, and other standards for us.	75	3.61	.914
Our organization frequently measure and evaluate customer satisfaction	75	3.89	1.098
Our organization frequently determine future customer expectations	75	3.69	1.000
Our organization facilitates customers' ability to seek assistance from us	75	3.67	1.031
Our organization periodically evaluates the importance of our relationship with our	75	3.84	1.014
Our organization periodically evaluates the importance of our relationship with our customers	75	3.72	.952
	75	3.74	0.82
Material flow management	N	Mean	St. Deviation

Our organization uses FIFO for managing raw and finished materials	75	3.65	.937
Our organization makes uses Material requirement planning(MRP) for demand forecasting	75	3.65	.937
Our organization uses Just-in-time (JIT) for managing the production	75	3.63	.969
Our organization uses the logistics management of both raw materials and finished goods	75	3.65	.966
Our purchasing deals with both internal and external customers of the organization	75	3.84	.931
Our material management department has good relation with other departments of the organization	75	3.65	.937
	75	3.7	.75
Corporate culture	N	Mean	St. Deviation
Our organizational culture towards material handling has affected the performance of the organization	75	3.84	.839
Our organizational culture towards material stacking and handling has increase the amount of wastage	75	4.2	.788
Our organization culture has helped the organization to achieve best performance compared with competitors	75	3.75	.902

Our corporate culture is aligned with our company culture	75	4.01	.846
Our organization works to create and maintain organizational culture within the organization	75	3.79	.920
Our organizational has a good culture towards communication of supplier and customers	75	3.85	.865
	75	3.9	0.61
Organizational Performance	N	Mean	St. Deviation
Market share	75	3.99	.993
Return on investment	75	3.96	.861
Growth on return of investment	75	4.15	1.062
The Growth of market share	75	3.81	1.023
The Growth of sales	75	3.53	1.107
Profit Margin on salesd	75	4.03	.900
	75	3.9	0.59

Appendix II-Questionnaire

This questionnaire is developed for collection of data to conduct a thesis paper on the title –''the impact of Supply Chain management practices on organizational performance in Zak Industrial PLC".

Section I. General Information

Please put mark (√) on the space provided of write on the space provided.

1. Educational Qualification

Grade 10 completed ☐   Grade 12 completed ☐   Certificate☐ College diploma ☐

First Degree   ☐ Second Degree and above ☐

2. Your department_____

3. Job Title

CEO   ☐   Director/manager   ☐   supervisor   ☐   Expert   ☐

other_____

4. Length of Service in the organization

Under 1 year ☐   1–5 years ☐   6–10 years ☐   over 10 years☐

Section II: Supply Chain Management Practices of Zak Industrial PLC

This part is about how your organization has been working on supply chain management practices. Please put mark (√) under the rank numbered 1-5.

The ranks 1-5 indicates: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Level of information sharing		1	2	3	4	5
1	Our organization communicates trading partners about changing of needs in					

		1	2	3	4	5
	advance					
2	Our partners share proprietary information with us					
3	Our trading partners keep us fully informed about issues that affect our business					
4	Our trading partners share business knowledge of core business processes with us.					
5	Our organization exchange information with trading partners to establish our business planning.					
6	Our organization keeps in touch frequently with our trading partners and informs each other about any changes/events that may affect the other partners business					
	Strategic supplier partnership	1	2	3	4	5
1	Our organization consider quality as our number one criterion in selecting suppliers					
2	Our organization regularly solves problems jointly with our suppliers					
3	Our organization has helped our suppliers to improve their product quality					
4	Our organization has continuous					

		1	2	3	4	5
	improvement programs that include our key suppliers					
5	Our organization include our key suppliers in our planning and goal setting activities					
6	Our organization actively involves our key suppliers in new product development processes.					
	Customer relationship	1	2	3	4	5
1	Our organization frequently interacts with customers to set reliability, responsiveness, and other standards for us.					
2	Our organization frequently measure and evaluate customer satisfaction					
3	Our organization frequently determine future customer expectations					
4	Our organization facilitates customers' ability to seek assistance from us					
5	Our organization periodically evaluates the importance of our relationship with our customers					
6	Our organization frequently makes customer visit on field					
	Material flow management	1	2	3	4	5
1	Our organization uses FIFO for managing					

		1	2	3	4	5
	raw and finished materials					
2	Our organization makes uses Material requirement planning(MRP) for demand forecasting					
3	Our organization uses Just-in-time (JIT) for managing the production					
4	Our organization uses the logistics management of both raw materials and finished goods					
5	Our purchasing deals with both internal and external customers of the organization					
6	Our material management department has good relation with other departments of the organization					
	Corporate culture	1	2	3	4	5
1	Our organizational culture towards material handling has affected the performance of the organization					
2	Our organizational culture towards material stacking and handling has increase the amount of wastage					
3	Our organization culture has helped the organization to achieve best performance compared with competitors					
4	Our corporate culture is aligned with our					

	company culture				
5	Our organization works to create and maintain organizational culture within the organization				
6	Our organizational has a good culture towards communication of supplier and customers				

Section III: Organizational Performance of Zak Industrial PLC

This part is regarding organizational performance of Zak Industries PLC. Please put mark

(√) under the rank numbered 1-5.

The ranks 1-5 indicates: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

What do you think is Zak Industrial PLC compared with other competitors on the below performance criteria	1	2	3	4	5
1	Market share					
2	Return on investment					
3	Growth on return of investment					
4	The growth of market share					
5	The growth of sales					
6	Profit Margin on sales					

Final comments:

a) Do you have any additional comment/opinion about the supply chain management practices of you organization?

_____

_____

_____

_____

_____

_____

_____

_____

_____

b) Do you have any additional comment/opinion on the overall performance of your organization?

_____

_____

_____

_____

_____

_____

_____ _____