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# The Effect of Supply Chain Management on Organizational Performance (In The Case Of Amhara Pipe Factory)

Addis Kibret

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**BAHIR DAR UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

**THE EFFECT OF SUPPLY CHAIN MANAGEMENT ON  
ORGANIZATIONAL PERFORMANCE (IN THE CASE OF AMHARA  
PIPE FACTORY)**

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**DECEMBER 2020**  
**BAHIR DAR, ETHIOPIA**

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**The effect of Supply Chain Management on Organizational Performance in  
Amhara Pipe Factory**

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**A Master Thesis Submitted In Partial Fulfillment of the Requirements for the  
Degree of Master of Arts in Logistics and Supply Chain Management (MA)**

**Advisor:**

**Tafere Worku /Ass.Prof/**

**December 2020**

**Bahir Dar , Ethiopia**

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**Declaration**

the effect of supply chain management on organizational  
for a partial fulfillment of the requirements for the degree  
of Master of Arts in Logistics and Supply Chain Management. This is original work carried out  
by me and has never been submitted to this or any other institution to get any other degree or  
certificates. The assistance and help I received during the course of this investigation have been  
duly acknowledged.

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**Approval of Thesis for Defense**

I hereby certify that I have supervised, read, and evaluated this thesis titled “to examine the effect of supply chain management on organizational performance in Amhara Pipe Factory” by Addis Kibret repaired under my guidance. I recommend the thesis be submitted for oral defense.

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**Examiners' Approval Form**

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**Approval of thesis for defense result**

As members of the board of examiners, we examined this thesis entitled “to examine the effect of supply chain management on organizational performance in Amhara Pipe Factory” by Addis Kibret prepared. We hereby certify that the thesis is accepted for fulfilling the requirements for the award of the degree of Master of Arts in “Logistics and Supply Chain Management”.

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## **Abstract**

*The general objective of the research is to examine the effect of supply chain management on organizational performance in Amhara Pipe Factory. As the knowledge of the researcher is concerned, there is an empirical research gap on the effect of supply chain management on organizational performance under the study. The researcher used explanatory research design to investigate the effects of these supply chain management dimensions on organizational performance. The data collection instrument was structured close ended survey questionnaires using the five point Likert scales by adopting it. The sample size was 128 respondents using simple random sampling technique. To achieve the objectives of the study, the researcher used the Statistical Package for Social Science (SPSS) in order to find the results of descriptive and inferential statistics analysis. The findings of regression coefficients of the three variables indicates that responsiveness, internal lean practices, and Information quality independent variables have a significant influence on organizational performance at 95% confidence level in the study area. Conversely, customer relationship and strategic supplier partnership independent variables have no significant influence on organizational performance under the study. It is recommended that Amhara Pipe Factory, in order to make the effects of supply chain management of the company efficient and effective, the management have to develop strong strategic supplier partnership strategies by focusing on key and very important suppliers. Since level of responsiveness, internal lean practices, and information quality have significant effect on performance of the organization, the management have to foster means to provide and receive accurate, reliable, and timely information to trading partners by utilizing modern ICT, giving due focus to the supply side of information.*

**Key Words:** *Customers relationships, Internal lean practices, Information quality, responsiveness, strategic supplier partnership, and organizational performance.*



## Table of Contents

<b>Contents</b>	<b>Page</b>
Declaration .....	iii
Examiners' Approval Form .....	v
Acknowledgement .....	vi
<i>Abstract</i> .....	vii
Table of Contents .....	viii
List of Figures .....	xi
CHAPTER ONE .....	1
INTRODUCTION .....	1
1.1 Background of the Study .....	1
1.2 Statement of the Problem .....	4
1.3 Objectives of the study .....	6
1.3.1 General Objective .....	6
1.3.2 Specific Objectives .....	6
1.4. Research Questions .....	7
1.5. Significance of the Study .....	7
1.6 Scope of the Study .....	8
1.7 Organization of the study .....	8
CHAPTER TWO .....	9
REVIEW OF RELATED LITERATURES .....	9
2.0 Introduction .....	9
2.1 Theoretical Review .....	9
2.1.1 Concept of Supply Chain Management .....	9
2.1.2 Relational View and Resource-Based View Theory .....	10
2.1.3 Supply Chain Management as a Management .....	11
2.1.4 Relationship between logistics and supply chain management .....	12
2.1.5 Initiatives and Drivers of Supply Chain .....	13
2.1.6 Supply Chain Management Practices .....	13
2.1.7 Organizational Performance .....	17
2.1.8 The effect of Supply Chain Management practices on Organization Performance .....	17
2.2 Empirical Reviews .....	18

2.3 Conceptual Framework .....	21
2.4 Research Hypothesis .....	21
CHAPTER THREE .....	23
RESEARCH METHODOLOGY .....	23
3.0 Introduction .....	23
3.1 Research Design .....	23
3.2 Research Approach .....	23
3.3 Sources and Data collection Tools .....	24
3.4 Population and Sampling .....	24
3.5 Measurement of Variables .....	25
3.6 Data Analysis .....	27
CHAPTER FOUR .....	29
DATA ANALYSIS AND INTERPRETATION .....	29
Introduction .....	29
4.1 Response Rate .....	29
4.2 Validity and Reliability Test .....	29
4.1.1. Validity .....	29
4.1.2. Reliability .....	30
4.2 Background Information of Respondents .....	31
4.3 Descriptive analysis .....	32
4.5 Inferential analysis .....	35
4.5.1. Testing assumptions of multiple linear regression .....	35
4.5.2 Pearson's Correlation Analyses .....	37
4.5.3. Multiple Linear Regression Analysis .....	38
4.5.4. Hypothesis testing .....	41
CHAPTER FIVE .....	44
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....	44
5.1 Summary .....	44
5.2 Conclusions .....	45
5.2 Recommendations .....	46
5.3 Limitation of the study .....	47
5.4 Further Studies .....	47
References .....	48
APPENDIX A- QUESTIONNAIRE .....	54

## List of Tables

Table 1 Sample size determination .....	25
Table 2 Summery of reliability Test .....	31
Table 3. Demographic Characteristics of Respondents .....	31
Table 4 Descriptive Statistics.....	33
Table 5 One-Sample Test.....	34
Table 6 Multicollineality Test.....	35
Table 7 Correlation analysis .....	38
Table 8 Model Summary .....	39
Table 9 Analysis of variance (ANOVA) .....	39
Table 10 Regression coefficient.....	40

## List of Figures

Figure 1 Conceptual framework .....	21
Figure 2 Normality Test.....	36
Figure 3 Linearity Test.....	37

# CHAPTER ONE

## INTRODUCTION

This chapter deals with the background of the study, emphasizing on effects of supply chain management on the performance of an organizations. In addition, the theoretical implications of supply chain management, its application so far and the gaps that will be answered by this study. It also highlights the objectives of the study, the importance of the study and scope of the study.

### 1.1 Background of the Study

In the last three decades, the competitive landscape has shifted from lowermost priced product, highest quality or best-performing product to the ability to respond rapidly to market needs and get the right product to the right customer at the right time (Anderson & Gerbing, 2008). The shift toward promptness has pushed organizations to enter with their entire supply chain. Subsequently, understanding and practicing supply chain management has become an obligation to compete and develop supply chain surplus in the global sphere. Actuality, an able to create business relationships with customers, suppliers and other strategic partners secured on trust and long term commitment then becomes a crucial competitive parameter (Lazarevic, 2007). Such factors like shorter product lifecycle and customer expectation, businesses have had to invest and re-focus greater attention on relationship with customers and suppliers. Accordingly, an organization supply chain has become a strategic plan driving decision making at top management level.

Since 1990s, competitions build up and markets become global subsequent to the challenges related to get a product and service to the right place at the right time and at the lowest cost. Many organizations began to realize that it is not enough to improve efficiencies within an organization but their whole supply chain has to be made reasonably. The accepting and practicing of supply chain management carry out has become an essential for staying competitive in the global market and for enhancing performance (Storey et al, 2015).

Supply chain management practices have been defined as a set of activities undertaken by an organization to encourage effective management of its supply chain (Li et al, 2006). He

recommended that supply chain management practices as multi-dimensional hypothesis that includes both upstream and downstream sides of the supply chain. Donlon (2006) has considered outsourcing, supplier partnership, information sharing, cycle time compression, and continuous process flow as supply chain management practices. Tan et al. (2008) used quality, purchasing, and customer relations to represent supply chain management practices in their observed study.

As Alvarado & Kotzab (2011) noted on inter-organizational system, they used core competencies and elimination of excess inventory through rearrangement the supply chain management practices. Tan et al. (2008) identified supply chain integration, information sharing, customer service management, geographic proximity, and just in time capability as the key aspects of supply chain management practice using factor analysis. Li et al. (2006) in his case studied based research and identified five practices at the supply chain level that are a key to creating supply chain responsiveness by including outsourcing, strategic supplier partnerships, customer relationships, information sharing, and product modularity.

It is clear that performance in organizations takes many forms depending on whom and what the measurement is meant for; since many stakeholders need different performance indicators to enable them and make well informed decisions (Manyuru, 2015). According to Stuart (2007), organizational performance incorporates three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc). Cook (2009) defined organizational performance as the ability of an organization to fulfill its mission through sound management, solid governance and a determined rededication to achieving results and effective nonprofits are mission-driven, adaptable, customer-focused, entrepreneurial, outcomes oriented and sustainable.

The previous findings suggest that an effective supply chain management practices have a direct impact on the overall financial and marketing performance of an organization (Tata, 2000; Waller and Dabholkar, 2000). Certainly, supply chain management practices is expected to increase an organization's market share, return on investment and improve overall competitive positions. For example, Tan et al. (1998) declared that customer relations and purchasing practices impact the effectiveness of supply chain management strategy and lead to financial and

market performance. Frohlich and Westbrook (2001) on the other hand suggested that organizations with wide-ranging supply chain integrations and with suppliers and customers showed the largest performance improvement in business accomplishments.

The performance of the supply chain is affected by different reasons; such as strategic supplier alliances (Narasimhan & Jayaram, 1998). An effective partnership with suppliers can be a critical factor to guide supply chain management (Li et.al, 2006) and having good relationships with customers are needed for successful implementation of supply chain management programs (Moberg et al., 2002). Moreover, Wang et al., (2008) stated that integration and coordination across supply chain can be well provided through information sharing by which supply chain partners that exchange information regularly are able to work together as a single key and they are able to understand the needs of the final consumer and respond quickly to changing market (Li et al., 2006). Power (2005) also indicated that the failures can occur in case of information delays, shortage or distortion across the supply chain. Furthermore, while information sharing is important, the significance of its impact on supply chain management depends on the extent of quality of information shared, when and how it is shared, and with whom (Holmberg, 2000 and Chizzo, 1998). Internal lean practice is the other factor that affects supply chain performance and Lean production is a production system that aims to optimize production process by reducing waste and other inefficient factors (Moslem et al., 2013).

Amhara Pipe Factory has the mission to continually increase profitability, sustainable unit case sales of pipe products by satisfying new and existing users through excellent market execution at an increasing return on investment. The company is endeavoring to meet its vision to be one of the best product producers in the Ethiopia and East Africa in producing quality product.

Therefore, the researcher has intended to empirically test the framework by identifying the relationships among supply chain management practices (strategic supplier partnership, customers relationships, responsiveness, quality of information sharing, and internal lean practices ) and organizational performance in Amhara Pipe Factory.

## **1.2 Statement of the Problem**

The basic need for supply chain management emanated from the reliantly nature of the existing business activity. In this regard Christopher, M. (2005) says that there is no longer any possibility of manufacturing and marketing acting independently of each other. Organization cannot longer act as an isolated and independent entity in competition with others similarly 'stand-alone' organizations.

In the other side, today's competitive business situation calls for companies to pay much more attention to how they manage their supply chains. Clients are insisting on greater value, faster order fulfillment, and more responsive service when they make purchases. Shorter product life cycles, global sourcing, and greater product variety have increased supply chain costs and complexity. The value chains of so many businesses are linked together that competitive advantage may be based on entire supply chains rather than individual firms. Supply chain management (SCM) today is not limited to order fulfillment but is tied to such strategic issues as the ability to create and deliver new products or to create and implement new business models (Laudon, 2011).

Many organizations have recognized that the effect of supply chain management on building sustainable competitiveness of their goods and services in an increasingly crowded market places and enhancing firm performance and overall supply chain performance and has resulted in increased attention of managers, consultants and business owners towards proper supply chain management in business organizations (Li et al, 2006; and Tan et al, 2008).

The previous findings in supply chain management have been limited at developing instruments capable of measuring supply chain management practices. Findings of Gibson et al.(2006); Alvarado et al.(2011); and Handfield (2002) have focused their investigation efforts into exploring the relationship between practices of supply chain management and organizational performance. These findings used financial and market criteria to operationalize organizational performance (return on investment, market share, profit margin on sales, the growth of return on investment, the growth of sales and the growth of market share). They also investigated the relationship among supply chain management practices, operational performance and supply chain management related organizational performance. These studies have produced various results due to operationalizing the performance of the organization subjectively and objectively. This has been



attributed to the interdisciplinary origin of supply chain management conceptual confusion, the evolutionary nature of supply chain management concepts and environmental difference where organizations operate. According to Mentzer, et al. (2001), cultural, social and economic aspect of each country and the organizations influence the relationship between supply chain management practices and its performance and organization performance.

In the same way, much of the current studies in supply chain management focused on their either upstream or downstream side of the supply chain or certain aspect of the supply chain management. Handfield and Bechtel (2002) on the supplier side identified that role of relationship with supplier in improving supplier responsiveness and Chen and Paulraj (2004) indicated the antecedence and consequences of buyer-supplier relationship. Alvarado and Kotzab (2001) focused on the downstream linkages between manufacturers and retailers. A few recent studies have considered both the upstream and downstream sides of the supply chain simultaneously and explore the relationships between supplier management practices, customer relations practices and organizational performance. Tan et al. (1998) explored the relationships between supplier management practices, customer relations practices and organizational performance; Frohlich and Westbrook (2001) investigated the effects of supplier-customer integration on organizational performance; Gyaneshwar, (2012) found operational performance through supply chain management practices and Moslem (2013) studied the impact of supply chain management practices on competitive advantage. Nevertheless, the relationship of supply chain management with performance cannot be regarded as conclusive (Cousins,et al., 2006). In spite of increasing empirical research in the last few years, important differences in research design undermine comparability: lack of consensus about the definition and dimensionality of the supply chain management practices, using of different units of analysis, and different approaches to performance measurement was the main limitation.

In spite of the fact that measuring the effect of supply chain management (strategic supplier partnership, customers relationships, responsiveness, quality of information sharing, and internal lean practices) on organizational performance comprises all the aforementioned substances, according to Khan R. W Azfara, et al (2011), measurement of effects organizational performance with regards to key practices of Supply Chain management paradigms is the area which is under research. At present, there are no guidance or set rules under which we can measure organizational

performance. The lack of clarity and comparability concerns in this area creates misunderstanding and makes it more difficult to formulate a clear strategy.

As the knowledge of the researcher is concerned, there is an empirical research gap on the effect of supply chain management on organizational performance from perspectives of strategic supplier partnership, customers relationships, responsiveness, quality of information sharing, and internal lean practices on organizational performances that incorporated forward and backward integration in Ethiopia in general and Amhara Region Amhara Pipe Factory in particular.

Therefore, for the effort to achieve generalization of the causal relationship between supply chain management and organizational performance, this study partially fills the existing literature gap and to contribute the debate by testing the relationship between supply chain management measurements and organizational performance in the study area.

### **1.3 Objectives of the study**

#### **1.3.1 General Objective**

The general objective of the study is to examine the effect of supply chain management on organizational performance in Amhara Pipe Factory.

#### **1.3.2 Specific Objectives**

In order to achieve the objective of the study, the following specific objectives have been formulated:

- To examine the effect of information quality on organizational performance in Amhara Pipe Factory
- To investigate the effect of strategic supplier partnership on organizational performance in Amhara Pipe Factory
- To examine how internal lean practices affect organizational performance in Amhara Pipe Factory
- To investigate the effect of customer relationship for organizational performance in Amhara Pipe Factory
- To investigate the effect of responsiveness for organizational performance in Amhara Pipe Factory

#### **1.4. Research Questions**

- How information quality affects organizational performance in Amhara Pipe Factory?
- How strategic supplier partnership affects organizational performance in Amhara Pipe Factory?
- How extent internal lean practices affect organizational performance in Amhara Pipe Factory?
- How customer relationship affects organizational performance in Amhara Pipe Factory?
- How responsiveness affects organizational performance in Amhara Pipe Factory ?

#### **1.5. Significance of the Study**

The result of this research is proposed to have the following contributions. An investigation of the effect of supply chain management on organizational performance is not widely researched area in Ethiopia in general and Amhara Region manufacturing business organizations in particular. As a result, examining problems associated with supply chain management practices on organizational performance in the context of this study is paramount importance.

Even though there is relatively more written about supply chain management practices on organizational performance, there is lack of attention of writers about the effects of supply chain management practices which influence organizational performance (Young, 2001). This investigation is estimated to dig out such problems by searching not entirely covered such as information quality, strategic supplier partnership, internal lean practices, customer relationship and responsiveness on organizational performance under the study.

Most findings in the area of examining the effects of supply chain management dimensions on organizational performance are accompanied in the framework of the developed countries which is not appropriate for developing countries. For this reason, the researcher perceived that this study can be conducted for the first time in Amhara Region Amhara Pipe Factory which initiates others for future studies.

Finally, it is dedicated to provide references for policy makers to use it as a direction for making decision about the effects of supply chain management dimensions on organizational performance.

## **1.6 Scope of the Study**

Geographically, the area of the study was delimited to Amhara Region with a particular reference of Amhara Pipe Factory.

Conceptually, the scope of study also focused on the major five supply chain management dimensions that influence an organizational performance (information quality, strategic supplier partnership, internal lean practices, customer relationship and responsiveness) and the relationship between these supply chain management dimensions and organizational performance under the study. The study used quantitative and explanatory research by using stratified sampling techniques. The sample size was 134 employees who are currently working in Amhara Pipe Factory and the questionnaire was distributed for these employees. There was shortage of budget and time constraint to do the research.

## **1.7 Organization of the study**

This paper was organized into five chapters. Chapter one described the background of the study, a statement of the problem, the general and specific objectives, contribution of the study, and scope of the study. Chapter two illustrated literatures which constitute the theoretical, empirical and conceptual framework of the study. The third chapter employed to present the research methodology which covers the research approach, design, population and sample size, sampling techniques, data collection methods and tools, data analysis techniques. The fourth chapter explained the analysis and discussion of major findings. Finally, chapter five briefly expressed the major findings, conclusions, recommendations, limitations and directions for future study.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURES**

#### **2.0 Introduction**

This chapter describes the theoretical, empirical and conceptual frameworks of the study and tries to make it available for the groundwork of the other sections that to deal with the different study issues. For this reason, supply chain management and organizational performance related literature will be reviewed in its chronological and theoretical circumstances.

#### **2.1 Theoretical Review**

##### **2.1.1 Concept of Supply Chain Management**

Supply Chain is a system of various organizations involved both through upstream and downstream relationship in different kinds of activities and processes (Christopher, 2003). This is an assignment of integrating organizational entity along a supply Chain and coordinating materials, information and financial flows in order to fulfill customer needs with the aim of improving competitiveness of the supply chain as an entire. The major elements of supply Chain and its management from these definitions are thus the upstream parties, the downstream parties and the integration of all the organizations involved, together with the internal function of an organization itself. Handfield (2002) described the upstream parties which consist of an organization's processes, functions, and network of suppliers while the downstream function on the other hand stresses the processes, distribution channels and functions where the product passes through to the end users. The external downstream and upstream functions are concerned and the managers involved in each upstream and downstream supplier and functions are responsible in making sure that the deliveries of products and services are done as scheduled to their destinations. Since there are cases where delays are inevitable, the managers are to ensure that the impact of the delays to the supply chain and the value it carries will be minimal. If managers in a supply Chain are involving external organizations have to deal with the people outside of its own company, in this situation common understanding have to be reached between the managers of departments inside itself the company. Nevertheless, the word supply Chain

Management has been used to describe the planning and control of materials and information flows as well as logistics activities not only internally within a company, but also externally between organizations (Cooper et al., 2007). Owing to the increasing number of forces and players, a supply Chain may developed into a supply network which will need a more complicated and complex management system.

Supply chain management can be defined as the systemic, strategic coordination of the traditional business functions and the strategies across these business functions within a particular organization and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual organization and the supply chain as a whole(Mentzer, 2001). Supply chain management focuses on how firms utilize their suppliers' technology, processes, and potential to enhance competitive advantage. It increases a competitive performance by directly integrating the internal cross-functions within an organization and effectively extending them to the external operations of external partners to be successful (Kim, 2006). Supply chain is a set of three or more entities closely involved in the upstream and downstream flows of products, services, finances and information from a source to a customer (Handfield, 2002).

The design of improving products and services through supply chain management as well as to decrease the production time and cost without compromising the product quality, is that the managers have to work willingly with other organizations in the supply chain (Handfield, 2002). In the long run, through common understanding between them and capability to decrease the risks of fears in production processes, higher degree of efficiency can be achieved. Although initially it was used mainly in manufacturing industry to improve responsiveness and flexibility, and has been found to also improve organizational competitiveness (Gunasekaran, et al., 2003), supply chain management has now been recognized by many to be an important strategic tool for organization's effectiveness and to gain competitive advantage.

### **2.1.2 Relational View and Resource-Based View Theory**

Among the important theoretical supports for the relation between supply chain management practices and performance is the resource-based view (RBV) and its expansion is relational view

(RV). The resource-based view considers that firms are not homogeneous and achieve competitive advantage due to rare, valuable, unmatched and not substitutable resources and capabilities (Barney, 1991 and Peteraf, 1993). The original approach of the resource-based view focused the internal resources owned by a firm, was broadened to consider the relationship as a source of competitive advantage and enhancement of performance. It gave rise to the Relational View (RV) (Dyer & Singh, 1998). The Relational View considers relationships as prospective of superior performance. This identifies four different sources of relational rents: substantial knowledge exchange, investments in relation specific assets, corresponding and rare resources, and lower transaction costs. The listed these sources are influenced by more effective governance instruments based on informal safeguards, such as trust and reputation (Dyer & Singh, 1998; Holcomb & Hitt, 2007). As in the resource-based view perspective, the relational resources and capabilities should be rare, valuable, and hard to imitate or to substitute in order to provide sustainable competitive advantage.

In general, the relation and impact of supply chain management in performance can be better understood if we interpret its practices using the relational view. The quality of information maps directly into accurate and timeliness knowledge exchange. The long-term relationships with suppliers and customers can help to reduce transaction costs through the development of trust and reputation (Cooper et al., 1997; Mentzer et al., 2001 and Li et al., 2006). This also can contribute to developing knowledge exchange and assure investments in specific assets. Moslem et al. (2013), on the other hand, described that internal lean practice can reduce waste and contribute to lower transaction cost.

### **2.1.3 Supply Chain Management as a Management**

This takes a system approach to view the supply chain as a single entity. It means that the partnership concept is extended into a multi firm effort to manage the flow of goods from suppliers to the ultimate customer. Every firm in the supply chain directly or indirectly affects the performance of other supply chain members, as well as the overall performance of the supply chain (Cooper et al., 2007).

Now a days, supply chain management is increasingly being recognized as the integration of major business processes across the supply chain. The implementation of supply chain

management is carried through three primary elements ; such as the supply chain network structure, the supply chain processes and the management components. In the case of supply chain network structure, this is an important to integrate decisions related to manufacturing, purchasing, stocks, warehousing and distribution. On the other hand, this is an important to design a set of standard processes which will assure rational behavior of the individuals or organizations that are part of the supply chain. The last but not least, this is necessary to define control mechanism to be able to audit performance of supply chain according to the plan. It is conducted by coordinating activities and processes in order to construct links between supply chain members and making the right decision. Many organizations are trying to set cross-industry standard processes such as Global Supply Chain Forum (GSCF), Supply-Chain Operations Reference Model (SCOR), Collaborative Planning, Forecasting & Replenishment (CPFR) and Rosseta Net, which helps members of a supply chain to integrate competently. The Global Supply Chain Forum defines supply chain management as “the integration of major business process from end user through to original suppliers that add value to customers and stake holders” (Lambert, 2005).

#### **2.1.4 Relationship between logistics and supply chain management**

As Halldorsson & Larson (2000) stated that supply chain management relation to logistics can be viewed in four different ways: Traditionalist, Re-Labeling, Unionist and Intersections. Few authors do not differentiate between supply chain management and logistics, they just interchange the names. According to Christopher (2003), he defined supply chain management as an extension of logistics. Logistics is basically a planning orientation and framework that seeks to create a single plan for the flow of products and information through a business. It is known that supply chain management builds upon this framework and seeks to achieve linkage and coordination between processes of the entities in the pipeline. Schary & Skjott-Larsen (2008) indicated that supply chain is as more than logistics. This includes the flow of material and products to customers and more than that, this also includes the organizations that are part of these processes crossing organizational boundaries to link their internal operations as part of this system. The scope of supply chain spans the entire set of organizations from procurement of material and product components to delivery of completed product to the first customer (Schary & Skjott-Larsen, 2008).



### **2.1.5 Initiatives and Drivers of Supply Chain**

In today's international economy, organizations face increasing pressure to decrease cost while sustaining production and quality levels to deliver results. To achieve these goals, organizations must successfully overcome a number of challenges. Meakem (2003) pointed out, free market economies and new technologies are creating new supply and demand markets around the world. Many companies, for example, are looking for supply from China. However, good numbers of these companies lack the information and knowledge needed to drive more supply and production offshore. Rules of free market global rivalry dictate that only the strong survive. Consequently, industries around the world are merging at a rapid rate. It in turn requires companies to select the best suppliers and pull them into core enterprise activities. Companies across geographies and industries are examining make-versus-buy options. Besides, many are finding increased value in outsourcing production of goods and services.

According to Handfield (2002), he summarizes drivers into:

1. Ever-increasing customer demand in terms of product and services, quality, delivery cost and technology as well as cycle time brought by global competition.
2. The development and greater acceptance of higher order cooperative inter-organizational relationships.
3. The information revolution. The consequence of this growth is that companies are putting more and more efforts into developing new way to increase competitiveness on the market in terms of more effective and efficient supply chain management.

### **2.1.6 Supply Chain Management Practices**

The practices of supply chain management have been defined as a set of activities undertaken in an organization to promote an effective management of its supply chain. Tan, et al.(2008) identified six aspects of supply chain management practice with factor analysis: supply chain integration, information sharing, supply chain characteristics, customer service management, geographical proximity and Just in time capability. This variable refers to several activities or practices related to operational function of firms as noted by (Muhammad, 2004). This is used to measure the supply chain management adoption and its level practices. The related practices are divided into six dimensions namely customer relations practices, strategic supplier partnership,

information quality, lean system and responsiveness. In studying and associating the literature, five distinctive dimensions are selected for measuring supply chain management practice. The five constructs cover upstream (strategic supplier partnership) and downstream (customer relationship) sides of a supply chain, information flow across a supply chain (level quality of information sharing), internal supply chain process (postponement), and responsiveness.

#### **2.1.6.1 Strategic Supplier Partnership**

The strategic supplier partnership can be defined as the long term relationship between the organization and its suppliers. This is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Stuart, 2007). The 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 who are 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). The strategically aligned companies can work closely together and eliminate wasteful time and effort (Balsmeier & Voisin, 2006). An effective supplier partnership can be a critical component of a leading edge supply chain (Noble, 2007). Raps (2005) indicated that the major to success is an integrative view of the implementation process of strategy. Many researchers have emphasized on the strategic importance of integrating manufacturers, suppliers, and Customers. Christopher, (2003) emphasizes the importance of linking an innovative strategy to the company's vision and overall business strategy. Thus, most clients are shown to be key drivers of performance improvement and innovation and are the most significant factor in achieving integration in the supply chain practices.

#### **2.1.6.2 Customer Relationship**

The relationship of customers comprises the entire array of practices which are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Tan et al., 2008). The closely customer relationship allows an organization to differentiate its product from competitors, sustain customer loyalty, and dramatically extend the value it provides to its customers.

According to Lambert (2005), management of customer relationships is widely recognized as an important component of an organization since the expected benefits are likely to occur if done well and the deterrents to arise if neglected, the determination of what exactly constitutes management of customer relationships and its implementation remains to be a prominent point of contention in many literature and in practice has proven to be nothing short of extreme. Further, he suggested that technology is a tool and to be successful, management must place its primary focus on the customer relationships management process, the people and the procedures that make the technology an effective. It is not to say that technology doesn't play an effect in customer relationships management or can't assist in its success. Normally, it had been observed that all customers do not contribute equally to the organizations' success; therefore, the goal of every firm is to identify those customers who want and deserve special treatment so that offerings can be tailored to meet their needs while achieving the firm's profit and goals for the customer.

#### **2.1.6.3 Quality of Information Sharing**

This is clear that quality of information sharing includes the aspects of accuracy, timeliness, adequacy, and credibility of information exchanged. Information sharing is important and the significance of its impact on supply chain management depends on what information is shared, when and how it is shared, and with whom. This appears that there is a built in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Assumed these predispositions, safeguarding the quality of the shared information becomes a critical aspect of effective supply chain management (Feldmann and Muller, 2003). Establishments need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion.

#### **2.1.6.4 Lean practices**

The term lean was coined by Lean Enterprise Institute (2009) in the late 80's, even though the philosophy came to the Western world's attention in the early 80's as a result of competition from Japan automobile industry which offered low prices and quality products. To precisely define lean is hard and it is likely that every company exercising lean will follow their own unique course (Lewis, 2000). This is the process of removing all of the wasted time and

resources in the production process. Lean can be considered as philosophy, a technique, a management concept, a work culture, a value, a methodology or an ethos (Mark et al., 2009). Now a day, lean is evolving into a management approach that improves all the processes at each level of an organization (Womack et al., 1990; Liker, 1998).

As Bhasin and Butcher (2006) noted, some of the common lean procurement methodologies are; Kaizen, and Supplier development. A processes, people, long term philosophy, and right culture are essential to convert an organization into a lean enterprise (Liker, 2004; Henderson et al., 1999). It is clear that long term relationships with suppliers are important elements of lean supply (Handfield, 1993). According to Lathin, (2001); Ferch, et al., (1998) today`s need driven supply chains require lean procurement methods whose goals are: to prevent shortages, reduce inventory investment, eliminate waste in all procurement cycles, reduce procurement lead time and cost, increase inventory turnover and ensure customers satisfaction. Thus, these methods ensure greater efficiency and standardization of procedures.

#### **2.1.6.5 Responsiveness**

According to Faisal (2011), responsiveness refers to the specific ability of a system or functional unit to complete assigned tasks within a given time. For example, it would refer to the ability of an artificial intelligence system to understand and carry out its tasks in a timely fashion. It is one of the criteria under the principle of robustness. The speed of activity at which it provides products to the customer as soon as possible. The other three are observability, recoverability, and task conformance.

It is much more important that a system actually spend the available resources in the best way possible. For instance, it makes sense to let the mouse driver run at a very high priority to provide fluid mouse interactions. For long-term operations, such as copying, downloading or transforming big files the most important factor is to provide good user-feedback and not the performance of the operation since it can quite well run in the background, using only spare processor time (Hausman 2004).

### **2.1.7 Organizational Performance**

According to Yamin (2009), organizational performance refers to how well an organization achieves its market oriented goals as well as its financial goals. The short-range objectives of supply chain management are primarily to increase production efficiency and decrease inventory and cycle time, while long-standing objectives are to increase market share and profits for all members of the supply chain (Tan, 2008). The financial metrics have served as a tool for comparing organizations and evaluating an organization's behavior over time (Holmberg, 2000). Any institutional initiative, including supply chain management, should ultimately lead to enhanced organizational performance. A number of previous 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 represented by constructs like, Price/Cost. This is the ability of an organization to compete against major competitors based on low price and quality (Li, 2006). The capability of an organization to offer product quality and performance that creates higher value for customers' delivery n dependability. This includes the capability of an organization to provide on time, the type and volume of product required by customers (Li et al, 2006).

### **2.1.8 The effect of Supply Chain Management practices on Organization Performance**

Supply chain management practices influence not only overall organizational performance, but also competitive advantage of the organization. This is expected to improve an organization's competitive advantage through price/cost, quality, delivery dependability, time to market, and product innovation (power, 2001). Previous studies have indicated that the various components of supply chain management practices (such as strategic supplier partnership) have an influence on various aspects of competitive advantage (such as price/cost). For instance, strategic supplier partnership can increase supplier performance, reduce time to market (Hanfield, 2007), and increase the level of customer responsiveness and satisfaction. Quality Information sharing leads to high levels of supply chain integration by assisting organizations to make reliable delivery and introduce products to the market quickly. Quality information sharing contributes positively to customer satisfaction and partnership quality (Li, 2009).

Supply chain management practices are fundamental to firm performance; in today's globalized business world all firms get their competitive advantage by managing various challenges within the country and internationally and this devote substantial attention. As an effective supply chain management provides benefits that go beyond the entities or the organization itself on both of its upstream and downstream sides and those firms may comprehend their potential of integrating their external relationship that is the firms external suppliers, the firm itself and the firms customer and also the firms internal operational practices with a view to enhancing their level of competitiveness and performance as well as customer satisfaction. (Haque, 2013). Supply chain management involves the coordination and configuration of diverse process that is necessary to make products available in a timely, reputable, and suitable condition. The uniqueness of supply chain management could be achieved by identifying and making use of supply chain management practices, in organized way. Supply chain management practices involve a set of activities undertaken by the organization to promote effective management of their supply chain(Faisal, 2011).

## **2.2 Empirical Reviews**

The finding of Otchere et al. (2013) concluded in their studies that supply chain integration openly relates with business performance. The internal collaboration directly marks firm performance and generally, higher levels of integration normally lead to better performance.

Kim (2006) found that in small firms, an effective supply chain integration plays a more critical role for sustainable performance enhancement, while, in large firms, the close interrelationship between the level of supply chain management practices and competition ability have more significant effect on performance improvement.

Flynn et al. (2010) assessed the influence of three dimensions of supply chain integration (supplier integration, customer integration, and internal lean integration) on operating and industry performance and stated that internal integration directly relates to both business and operating performance and that customer integration directly relate to operational performance. Even though supplier integration is not relate directly to either type of performance, the incorporation of supplier and customer were related to operational performance. In the same way, internal and external integration affect each other along with performance. The influence of integration between corporate competitive ability and supply chain operational capability on

performance improvement becomes insignificant as the developing stage of supply chain integration increases (Otchere et al, 2013).

A study conducted by Alireza et al. (2011) on Malaysia Electronic Industry to the existing a mode for supply chain performance by employing, supply chain quality information sharing, supply chain design, and flexibility and delivery components as independent variables influencing organizational performance. The effects from this study depicted that supply chain design impacts organizational performance positively through delivery and quality information sharing. Moreover, these quality information sharing and delivery have a direct impact on organizational performance. The results also showed that customer relation impacts organizational performance through delivery. Quality information sharing affects organizational performance directly through flexibility. The study expands the significant effect of the relationship of customers on the organizational performance.

Moslem (2013) conducted a study on influence of supply chain management practices on competitive advantage in manufacturing companies of Khuzestan province (Iran) by using strategic partnerships with supplier, customer relationship, quality of information sharing and internal lean practices as independent variables affecting the competitive advantage. The finding of this study indicated that there is positive and significant effect between supply chain management practices of strategic partnerships with supplier, customer relationship, quality of information sharing and internal lean practices and organizational performance.

A study conducted by Lenny et al. (2007) on the influence of supply chain management practices on performance of SMEs in Turkey. Based on exploratory factor analysis (EFA), the researcher grouped supply chain management practices in two factors: outsourcing and multi-suppliers (OMS), and strategic collaboration and lean practices (SCLP). The finding indicated that both factors of SCLP and OMS have a direct positive and significant influence on operational performance. In contrast, both SCLP and OMS do not have a significant and direct influence on SCM-related organizational performance.

Another research conducted by Priscila and Luiz (2011) with the topic Supply Chain Management measurement and its influence on Operational Performance), Supply Chain Management measurements were considered as consists of quality information sharing, long term relations, responsiveness and process integration as independent variables influences

organizational performance in case of Brazilian companies. The finding of the study provided evidence of a positive influence of Supply Chain Management measurements on organizational performance.

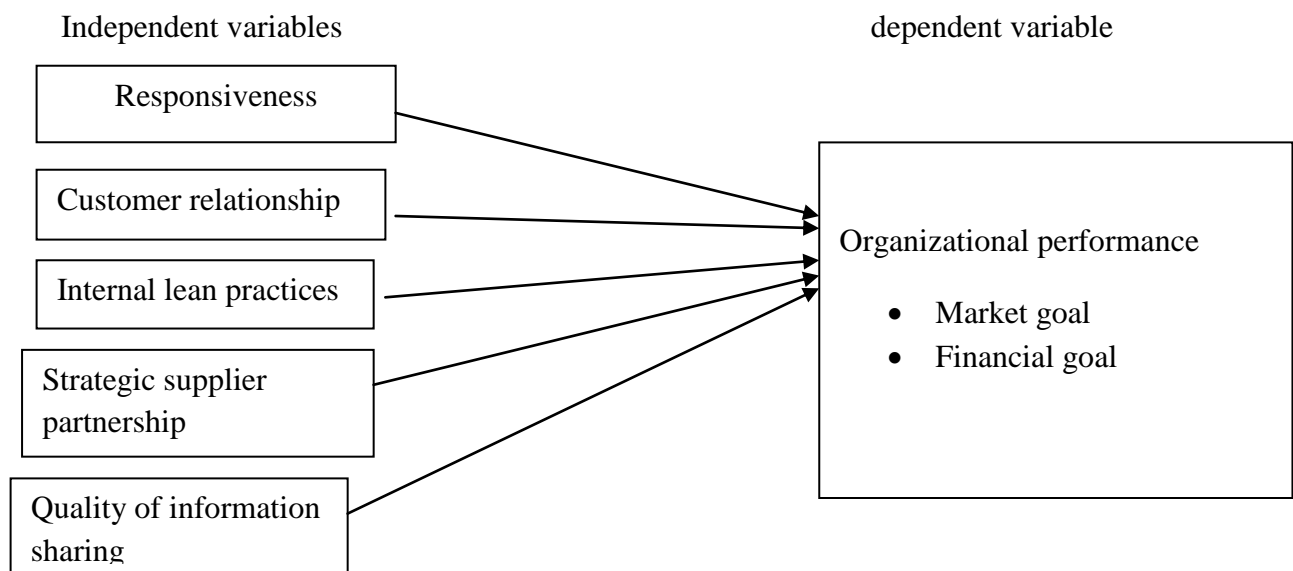
Supply Chain Management dimensions in case of Malaysian manufacturing companies conducted by Arawati (2011) and the study specifically investigates relationships between supply chain management and these associations are analyzed and the result demonstrates that supply chain management dimensions namely 'lean production', 'responsiveness and 'strategic supplier partnership' and 'quality of information appear to be of primary importance and exhibit significant effects on product quality and organizational performance.

As Adebayo (2012) conducted study on supply chain management Practices in Nigeria . The supply chain management practices considered in this paper were namely strategic supplier partnership, customer relations practices, information quality and Internal lean practices. The finding provides empirical justification for five key dimensions of supply chain management practices identified and described the relationship among supply chain management practices and organizational performance . The study showed that the listed supply chain management practices definitely impacts positively and significantly organizational performance. Mahbulbul (2013) conducted a research on effects of Supply Chain Management Practices on organizational performance in the pharmaceutical industry of Bangladesh. The results of the study indicated that supply chain management practices as observed in the industry comprise three dimensions, namely, quality information sharing, Strategic supplier partnership, and Customer relationship. However, the first two exert their impact on organizational performance, Customer relationship does not have any influence on it. In general, from above literature reviews ,it can be easily understandable that the work on supply chain management measurements/ practices and its influences on different perspectives of the organization and overall supply chain partners increasing and yields good backgrounds.



## 2.3 Conceptual Framework

Based on overall review of related literature and particularly from the work of (Sillanpa, 2010), (Klemencic, 2006), (Salazar, 2012) and (Mohammed, 2014) the following conceptual framework for this specific study will be developed as follows.



**Figure 1 Conceptual framework**

Source: (Mohammed, 2014)

## 2.4 Research Hypothesis

This study aims to investigate the effect of supply chain management practices on organizational performance in Amhara Pipe Factory by considering the relationship between these factors that influence the approaches, procedures and organizational performance with a wider list of dimensions (responsiveness, information quality, strategic supplier partnership, internal lean practices, and customer relationship).

Based on the theories, empirical studies and frameworks explained above, the following hypotheses have been formulated.

H<sub>01</sub>: Responsiveness has not a significant positive influence on organizational performance in Amhara Pipe Factory

Ha2: Customer relationship has a significant positive influence on organizational performance in Amhara Pipe Factory

Ha3: Internal lean practices have significant positive influence on organizational performance in Amhara Pipe Factory

Ha4: Strategic supplier partnership has a significant positive influence on organizational performance in Amhara Pipe Factory

Ha5: Quality of information sharing has a significant positive influence on organizational performance in Amhara Pipe Factory.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter described the research methodology that employs under the study in order to examine the model recognized and to treat the research questions described in chapter one. More specifically, this chapter presented the research design, approach, sources of data, data collection tools, population and sampling, measurement of variables, data analysis techniques of the study.

#### **3.1 Research Design**

According to Kothari (2003), research design is a comprehensive plan for data collection in an empirical research project. It creates the blueprint for gathering, measurement and analysis of data. Thus, design indicates the outlines what the investigator should achieve from analyzing the hypothesis employed inferences in the final analysis of the data. To examine influence of the independent variables in the dependent variable under the study, the researcher used explanatory research method.

The researcher used cross sectional field survey research to understand the effect of relationships between the explained (organizational performance) and explanatory (responsiveness, information quality, strategic supplier partnership, internal lean practices, and customer relationship) in Amhara Pipe Factory.

#### **3.2 Research Approach**

A quantitative research describes the phenomenon of gathering numerical data that can be analyzed using mathematical methods; because the developed propositions must be inspected with the relationship between the independent variables and dependent variable using numerical techniques is suitable to test the strength of relationships (Creswell, 1994).

The researcher employed a mathematical quantitative research method which allows gathering numerical data, measuring variables, predicting and using statistical procedures to analyze and

develop inferences.

### **3.3. Sources and Data collection Tools**

Primary data provides an appropriate means of assessing sample information and a suitable data to draw conclusion about generalizing the result from a sample of responses to the entire population (Creswell, 1994). Therefore, primary data was collected mainly from respondents who are currently working in the organization using self-administered close ended structured questionnaires. To find out consistent responses from the respondents, the investigator employed field survey- research to collect the data.

In addition, secondary sources of data was used for literature purpose from different written documents such as articles, books, annual reports, websites (internet), and other published and unpublished sources.

### **3.4 Population and Sampling**

#### **3.4.1 Population**

According to Creswell (1994) he defined that population is all people or items with the characteristics that one wishes to investigate.

The target population of study comprises employees who are currently working in Amhara Pipe Factory. The employees were considered to know the nature of supply chain management practices to satisfy customers towards and increase performance of the organization. According to Amhara Pipe Factory 2011 report, there are about 201 total employees in the company. As the result; the total population of this study was taken 201 employees.

#### **3.4.2 Sampling**

According to Zikmund (2003) he stated that a sample is a systematic selection of items from a target population for fairly representative of the population which is the subset of it. The main idea of sampling is that by choosing specific of the fundamentals in a population, conclusions could be drawn from the total population.

In order to meet the aim of the study, the researcher used stratified random sampling method from each department as indicated in table 1 below to select the employees who are working in Amhara Pipe Factory. Thus, Yamane (1967) asserted that the sample size of the study is calculated using the sample size determination formula as follows.

$$n = \frac{N}{1+Ne^2} = \frac{201}{1+201(.05)^2} = 134$$

Where n is the minimum sample size to be drawn, N is the total population from which the required sample population has been drawn, is error term (0.05). Therefore, the sample size is 134 and the questionnaire was distributed for these employees.

Table 1 Sample size determination

No.	Departments	Number of employees	Proportional sample taken
1	Production	139	139/201*134 =94
2	Finance	8	8/201*134 = 5
3	Procurement and logistics	6	6/201*134 = 4
4	Human Resource management	7	7/201*134 =5
5	Quality inspection and control	5	5/201*134 =3
6	Research and Development	4	4/201*134 =3
7	Marketing and Sales	6	6/201*134 =4
8	Warehouse management	14	14/201*134 =9
9	Security and Cleaning	12	12/201*134 = 7
<b>Total</b>		<b>201</b>	<b>134</b>

Source – Own survey 2020

### 3.5 Measurement of Variables

The independent variables of the study are determinant factors that influence organizational performance in Amhara Pipe Factory. These variables have five scopes which are responsiveness, information quality, strategic supplier partnership, internal lean practices ,and customer relationship. Thus, to measure the complete representation of independent variables and dependent variable of organizational performance, the researcher employed by adopting multiple questionnaires from different authors using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

### **3.5.1 Measurement of Independent Variables**

In this research, the independent variables are determinant factors that influence organizational performance in Amhara Pipe Factory. These variables have five components which are listed as follows.

**3.5.1.1 Responsiveness (RES):** It refers to the specific ability of a system or functional unit to complete assigned tasks within a given time (Faisal, 2011). To measure the level of continuous responsiveness 6 items were prepared by adopting (Adebayo, 2012) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

**3.5.1.2 Quality of information sharing (INQ):** It is an aspect of the accuracy, timeliness, adequacy, and credibility of information exchanged (Feldmann and Muller, 2003). To measure the level of Quality of information sharing 5 items were prepared by adopting Benito (2010) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

**3.5.1.3 Strategic supplier partnership (STSP)** is defined as the long term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Stuart, 2007). To measure the level of strategic supplier partnership 6 items were prepared by adopting Gyaneshwar (2012) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

**3.5.1. 4 Internal lean practices (ILP)** is the process of removing all of the wasted time and resources in the production process. Lean can be considered a philosophy, a work culture, a technique, a management concept, a value, a methodology or an ethos (Mark, et al., 2009). To measure the level of internal lean practices 5 items were prepared by adopting Ketchen et al.(2007) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

**3.5.1.5 Customer relationship (CUR)** is the entire array of practices that are employed for the purpose of managing customer complaints, building long-term relationships with customers, and improving customer satisfaction (Tan et al., 2008).To measure the level of Customer

relationship, 5 items were prepared by adopting Cousins(2006) using the five point Likert scales rate ranging from 5= strongly agrees, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree.

### **3.5.2 Measurement of Dependent Variable**

The dependent variable of the study is organizational performance (growth of sales , growth of market share, return on investment , profit margin on sales and overall competitive position) .It refers to how well an organization achieves its market oriented goals as well as its financial goals (Yamin, 2009). To measure the dependent variable of this study, 5 items were prepared by adopting Li Suhong et al.( 2006) using the five point Likert scales rate ranging from 5= strongly agree,4=Agree, 3= Neutral , 2= Disagree, 1 = strongly disagree. Thus, the respondents were requested to select their own choice of the five point Likert scale alternatives in order to specify their level of agreement or disagreement on each statement.

### **3.6 Data Analysis**

In order to analyze the quantitative data collected using survey questionnaires, Statistical Package for Social Sciences (SPSS Version 21) was used to present and analyze the collected data from respondents using related tables and graphs. The data collected from the field was stored, edited, coded and entered into the computer.

#### **Descriptive analysis**

The descriptive statistical data will be manipulated to present the result using table, frequency distribution and percentage, to analyze the demographic characteristics of respondents, mean and standard devion. The statistics of mean score and standard deviation was employed to observe the distribution of observations, degree of consistency and similarity among respondent responses with each independent and dependent variable under the study.

#### **Relationship Analysis**

The Pearson correlation coefficient was used to manipulate the relationship between the independent variables of (responsiveness, information quality, strategic supplier partnership, internal lean practices, and customer relationship) and dependent variable of organizational performance.

## Multiple Regression Analysis

The result of regression analysis was employed to test the finding whether it fulfills basic assumptions. Multiple regression analysis also was used to observe the effect of determinant factors (responsiveness, information quality, strategic supplier partnership, internal lean practices, and customer relationship) on the dependent variable of organizational performance.

### Regression functions

The equation of multiple regressions was built using the variables of (responsiveness, information quality, strategic supplier partnership, internal lean practices, and customer relationship) and organizational performance (Kothari, 2004).

The regression model will be presented as follows:

$$\text{ORP} = \beta_0 + \beta_1 (\text{RES}) + \beta_2 (\text{INQ}) + \beta_3 (\text{STSP}) + \beta_4 (\text{ILP}) + \beta_5 (\text{CUR}) + e$$

Where

$\beta_0$  = constant term

$\beta_1, \beta_2, \beta_3, \beta_4$  and  $\beta_5$  = slopes or coefficients of independent variables

ORP = Organizational performance

RES = Responsiveness

INQ = information quality

STSP = strategic supplier partnership

ILP = internal lean practices

CUR = customer relationship

E = error term

### 3.7. Ethical Consideration

The respondents of this study were not being required using their names or providing any form of identification. Full consent of all respondents is required before the questionnaires were administered. All subjects are assuring of total confidentiality and the data obtained used for the research purpose only. The study did not create any form of anxiety. There were no direct benefits to the subjects but the results were expected to be value to the Factory and a letter of permission was obtained from Amhara Pipe Factory.



## **CHAPTER FOUR**

### **DATA ANALYSIS AND INTERPRETATION**

#### **Introduction**

In this chapter data was presented and discussed to address the research questions and objectives. Respondents background information, descriptive statistics analysis, Pearson correlation analysis, multiple regression analysis was discussed based on the subsequent results.

#### **4.1 Response Rate**

Generally, survey questionnaires containing 36 items were distributed for employees who are currently working in Amhara Pipe Factory to get the relevant data for the study. Among the distributed questionnaires, 128 were properly filled and returned and used for analysis purpose which accounted 95.52 % response rate, but the remaining 6 questionnaires were not returned which accounted only 4.48 %.

#### **4.2 Validity and Reliability Test**

In order to reduce the possibility of getting the answer wrong, attention needs to pay to two particular on research design: reliability and validity (Saunders et. al., 2003).

##### **4.1.1. Validity**

Validity defined as the extent to which data collection method or methods accurately measure what they were intended to measure (Saunders et. al., 2003). Cooper and Schindler (2003) believe that validity refers to the extent to which a test measures what we actually wish to measure. There are two major forms: external and internal validity. The external validity of research findings refers to the data's ability generalized across persons, settings, and times. Internal validity is the ability of a research instrument to measure what proposed to measure (Cooper & Schindler, 2003).Numbers of different steps has been taken to ensure the validity of this study:

- ✓ Survey questionnaire made adaptation of previous studies and with some modification based on literature review and frame of reference.

- ✓ Questionnaires have been pre-tested by self-administer to the selected respondents before starting the survey.
- ✓ To determine the strengths and weaknesses of the questionnaire on question format, relevance, wording, clarity and order pretesting has been done. Then, the researcher reviewed and where necessary modifications made, such as clarity, order, edit repetitive questions, and avoid irrelevance questions.

#### **4.1.2. Reliability**

Reliability refers to the degree to which data collection method or methods yield consistent findings, similar observations would be made or conclusions reached by other researchers or there is transparency in how sense was made from the raw data (Saunders et, al.,2003), and Cooper and Schindler (2003) have defined reliability as many things to many people, but in most contexts, the notion of consistency emerges. A measure is reliable to the degree that it supplies consistent results. Internal reliability measured using Cronbach's alpha. Cronbach's alpha coefficient varies from 0 to 1 with 1 indicating perfect reliability and 0 no internal reliability (Bryman& Bell, 2003).

The researcher used most frequently practical estimate of a different item scale's reliability, which represents the standard of all possible split-half reliabilities for a construct. It is proposed the coefficient Alpha (called Cronach Alpha Value) that indicates the higher coefficients, the better measuring instrument on which its value ranges from 0 to 1, nevertheless, a satisfactory value should be higher than 0.7 on the scale to be reliable or acceptable(Cronbach, 1951).

According to table 1 below, the minimum coefficient of Cronbach Alpha value is 0.706 and the maximum is 0. 767 for each variant of the test. The average all over the coefficient of Cronbach Alpha value of all items was 0. 756 which is good and acceptable. The result shows that having realistically high alphas suggested that the measurement of independent and dependent variables is generally reliable under the study.

**Table 2 Summary of reliability Test**

Variables	No. of Items	No. of samples	Cronbach's alpha value
Responsiveness	6	128	.706
Information quality	5	128	.718
Strategic supplier partnership	5	128	.748
Internal lean practices	6	128	.762
Customer relationship	5	128	.767
Organizational performance	5	128	.733

Source: Field Survey 2020

## 4.2 Background Information of Respondents

The background information in this study includes Gender, age, , and education level of the respondents under the study.

Table 3. Demographic Characteristics of Respondents

Characteristics	Items	Frequency	Percent
Gender	Male	75	58.6
	Female	53	41.4
	<b>Total</b>	<b>128</b>	<b>100.00</b>
Age	21-35years	71	55.5
	36-50 years	46	35.9
	51years and above	11	8.6
	<b>Total</b>	<b>128</b>	<b>100.00</b>
Education Level	High school complete	8	6.3
	College/technic/diploma	27	21.1
	Bachelor Degree	87	68.0
	Master and above	6	4.7
	<b>Total</b>	<b>128</b>	<b>100.00</b>
Work Experience	1-5 years	32	25.0
	6-10 years	49	38.3
	Above 11 years	47	36.7
	<b>Total</b>	<b>128</b>	<b>100.00</b>

Source – field survey 2019

#### **4.2.1 Gender Distribution of Respondents**

From the total respondents of 128, 75 (58.6%) are males, whereas 53 (41.4%) of respondents are females. As it can be seen from table 4, there is an unbalanced sex distribution of respondents.

#### **4.2.2 Age Distribution of Respondents**

The above table 3 shows that 71 (55.5%) from the total respondents of 128 are within 21-35 years old, 46(35.9%) are between 36-50 years and the remaining 11(8.6%) are above 50 years' age.

#### **4.2.3 Educational Qualification of Respondents**

The above table 3 shows that 8(6.3%) from the total respondents of 128 are High school complete, 27(21.1%) have College/technic/diploma certificate, the majority 87(68%) are degree holders and the remaining 6(4.7%) are masters and above. Thus, we can understand that the majority of the respondents are first degree holders.

#### **4.2.4 Work Experience of Respondents**

Table 3 above indicates that 32 (25%) of respondents have work experience in the range of 1-5 years, the majority 49 (38.3%) of the respondents have from 6-10 years of experience, 47(36.7%) of the respondents have above 11 years of experience. We can conclude that more than half of the respondents have considerable work experience, skills and knowledge.

### **4.3 Descriptive analysis**

The descriptive statistics were used to describe the basic features of the data collected from respondents. The frequency distributions were provided for characteristics of respondents and characteristics of the businesses using frequency count and mean (standard deviation).

The study dedicated on interpreting the value of the mean and standard deviation in line with the general concepts. The mean score is the simple average of all values in a given distribution. A low score of mean indicates disagreement of responses and a high score of mean represents

agreement of responses.

The standard deviation indicates the distribution of observations around the mean and represents the degree of consistency and similarity among respondent responses. The mean score is formulated and evaluated in the following way according to (Field, 2009). The mean score below 2.5 is considered as low, the mean score from 2.5 -2.99 is considered as moderate and the mean score above 3.00 is considered as high.

**Table 4 Descriptive Statistics**

	N	Mean	Std. Deviation
Responsiveness	128	3.93	.507
Customer relationship	128	3.90	.579
Internal lean practices	128	3.85	.635
Strategic supplier partnership	128	3.91	.543
Information quality	128	3.67	.680
Organizational performance	128	3.77	.657

Source – Researcher’s Computation through SPSS 2020

The above table 4 shows the means and standard deviations of determinant factors responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality which influence organizational performance rated by respondents.

The researcher used the five point Likert’s scales rate ranging from 5= strongly agree, 4=Agree, 3= Neutral, 2= Disagree, 1 = strongly disagree. We can assume that agreement with positively-worded items performed and disagreement with negatively -worded items performed.

The above table 4 indicates that the mean score and standard deviation (M=3.93, SD =.507) for responsiveness is high which is above and there is low variation in standard deviation result.

As shown in the above table 4 ,the responses of respondents for customer relationship with the mean score 3.90 is high and according to Field (2009) as explained above notification and the standard deviation is .579 which indicates the variation of respondents response for customer relationship is low .

The above table 4 presents that the entire mean score of internal lean practice 3.85 is high which is above the average and the standard deviation is .635 that indicates the variation of respondents' response for internal lean practice is low.

The above table 4 indicates the mean score and standard deviation (M=3.91, SD =.543) for strategic supplier partnership is high which is above 3.0 and there is low variation in standard deviation result.

As shown in the above table 4 the responses of respondents for quality of information with the mean score 3.67 above the average and it is high according to Field (2009) as explained above notification and the standard deviation is .680 which indicates the variation of respondents response for quality of information is low .

Table 4 shows that the mean score and standard deviation of organizational performance is 3.77 and .657 respectively. According to Field (2009) as explained above, the mean result is high which is above the average and the standard deviation is also shown low variation of responses. This result indicates that on average, the respondents are approaching to agree to the organizational performance.

Table 5 One-Sample Test

	Test Value = 3.5					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Responsiveness	9.640	127	.000	.43229	.3436	.5210
Customer relationship	7.841	127	.000	.40156	.3002	.5029
Internal lean practices	6.348	127	.000	.35625	.2452	.4673
Strategic supplier partnership	8.540	127	.000	.41016	.3151	.5052
Information quality	2.963	127	.004	.17813	.0592	.2971
Organizational performance	4.666	127	.000	.27109	.1561	.3861

Source – Researcher's Computation through SPSS 2020

Table 5 above indicates that the mean difference of test value in one sample test of the dependent variable and the independent variables of responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality which influence are all positive which means the independent variables can influence the organizational performance. Positive result shows that the independent variables under the study have positive effect on the dependent variable of organizational performance.

## 4.5 Inferential analysis

### 4.5.1. Testing assumptions of multiple linear regression

In order to accept the regression results, most common assumptions such as multicollinearity problem, linearity and normality assumptions should be considered and fulfilled. For this reason, the following tests were conducted to check whether the assumptions of multiple linear regressions were violated or not.

#### 4.5.1.1 Test of Multicollinearity

Table 6 Multicollinearity Test

Independent variables	Collinearity Statistics	
	Tolerance	VIF
Responsiveness	.240	4.158
Customer relationship	.477	2.096
Internal lean practices	.249	4.014
Strategic supplier partnership	.262	3.813
Information quality	.263	3.808

a. Dependent Variable: ORGPERFNC

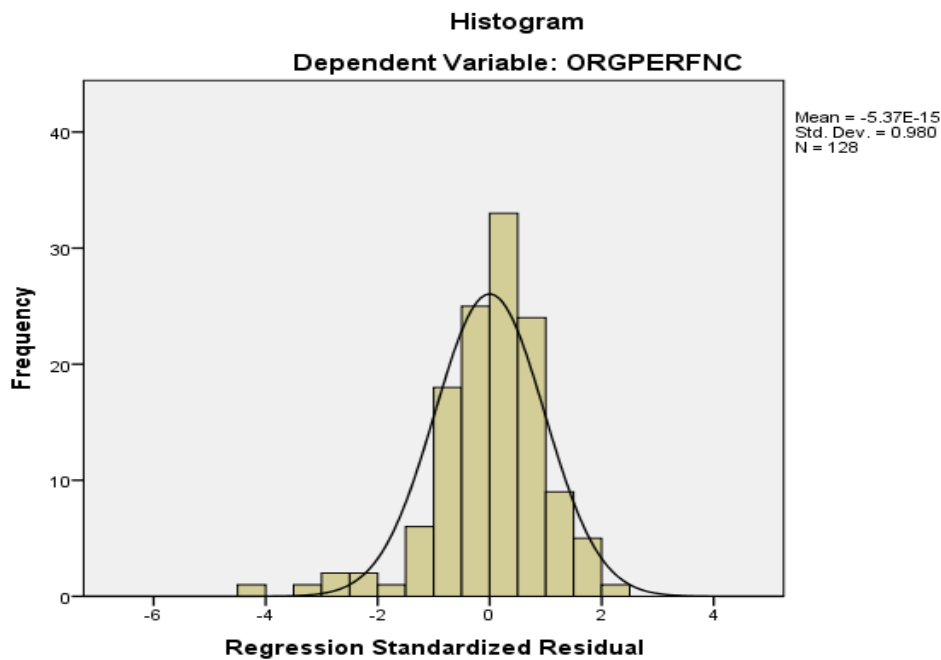
Source: own survey 2020

Among the assumptions of multiple linear regression is that the independent variables should not have very high association or correlation. When the independent variables are highly correlated, it is regarded as a problem in the model and this problem is called multi collinearity. Gujarati and porter (2010) stated that the existence of multi collinearity can be diagnosed by analyzing the values of tolerance and Variance Inflation Factors (VIF). A tolerance of  $< 0.10$  and/or a VIF  $> 10$  indicates a multicollinearity problem.

As indicated in table 6 above, the result from regression analysis of this current study showed that the value of VIF and tolerance is 2.096 to 4.158 and 0.240 to 0.477 respectively indicating that there is no multi collineality problem in the regression model used for this study. Because, Variance Inflation Factors (VIF) and tolerance all fall within the acceptance range (VIF = 1 - 10, or tolerance = 0.1 – 1.0). The information about the multicollinearity analysis is displayed in table 6 above.

#### 4.5.1.2 Test of Normality

The distribution of scores on the dependent variable should be "normal" describing a symmetrical, bell-shaped curve, having the greatest frequency of scores around the mean, with smaller frequencies towards the extremes. In order to test normality of the data, observation on the shape of the histogram, was checked using SPSS and the result indicates that data used in the study is normally distributed as indicated in figure 2 below.



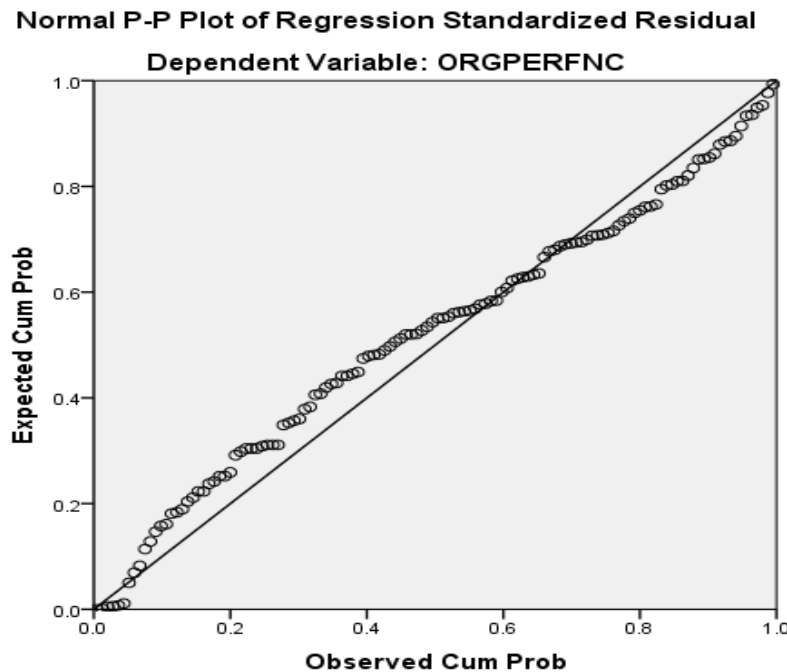
**Figure 2 Normality Test**

Source – Field Survey 2020



### 4.5.1.3 Test of linearity

Linearity assumption of multiple linear regressions was tested using P-P plot test and it was found that there is linear relationship between independent and dependent variables. The linearity result depicted the distribution of data is in line with predicted value with near to the mean zero as indicated in figure 3 below.



**Figure 3 Linearity Test**  
Source – Field Survey 2020

### 4.5.2 Pearson's Correlation Analyses

The researcher used Pearson correlation analysis to find out whether each pair of variables including responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality and perceived organizational performance are correlated. Correlation ( $r$ ) is a parametric technique which gives a measure of the strength of association between any two variables. Cohen (1992) has suggested the following guidelines:  $r = 0.10$  to  $0.29$  is weak relationship;  $r = 0.30$  to  $0.49$  is medium correlation and  $r = 0.50$  to  $1.0$  is strong relationship among variables.

The results of correlation in this study confirmed that all pair of variables are correlated at 1% significance level ranging from  $r = 0.387$  to  $0.719$  as shown in table 7 below. The correlation coefficient for each explanatory variables in relation to the organizational performance indicated that : responsiveness ( $r = .719$ ,  $p < 0.01$ ); customer relationship ( $r = .480$ ,  $p < 0.01$ ); internal lean practices ( $r = .387$ ,  $p < 0.01$ ); strategic supplier partnership ( $r = .614$ ,  $p < 0.01$ ) and information quality ( $r = .599$ ,  $p < 0.01$ ) This indicated that there is strong positive correlation between the three independent variables of responsiveness, strategic supplier partnership, and information quality with the dependent variable of organizational performance. Whereas there is moderate and positive correlation between the two independent variables of customer relationship and internal lean practices with the dependent variable of organizational performance under the study as explained by Cohen (1992) above.

Table 7 Correlation analysis

Variables	Responsiveness	Customer relationship	Internal lean practices	Strategic supplier partnership	Information quality	organizational performance
Responsiveness	1	.670**	.655**	.832**	.637**	.719**
Customer relationship	.670**	1				
Internal lean practices	.655**	.388**	1			
Strategic supplier partnership	.832**	.682**	.630**	1		
Information quality	.637**	.323**	.847**	.567**	1	
organizational performance	.719**	.480**	.387**	.614**	.599**	1
N	128	128	128	128	128	128

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

Source: own survey 2020

#### 4.5.3. Multiple Linear Regression Analysis

To estimate how well the independent variables predicted/explained the single outcome dependent variable, standard multiple linear regression analysis was conducted. Multiple linear Regression Analysis was used to determine whether the five independent variables, which

responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality have any significant effect toward perceived organizational performance. Then, to analyze the effect of the independent variables and isolate the most dominant variable is proved by comparing the regression coefficient value of each significant independent variable, in which the biggest coefficient is considered to be the variable which influences dominantly. The researcher has developed regression equations to see the effect of each of the five independent variables and to isolate which variable has dominant effect on the organizational performance. The results are indicated in table 8, 9 and 10 below.

Table 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.832 <sup>a</sup>	.692	.680	.37208	.692	54.859	5	122	.000	1.842

a. Predictors: (Constant), QUALINFS, CUSRENSHN, STSUPAR, INLEANPRA, RESPONSV

b. Dependent Variable: ORGPERFNC

The summary table 8 produced an adjusted R-square value of 0.680 suggesting that among the five variables considered, the five independent variables which include responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality were able to explain 68.0% variations in organizational performance in the study area. The remaining 32.0 % of the variance is explained by other variables not included in this study.

Table 9 Analysis of variance (ANOVA)<sup>1</sup>

	Model	Sum of Squares	df	Mean Square	F	Sig.
	1 Regression	37.973	5	7.595	54.859	.000 <sup>b</sup>
	1 Residual	16.890	122	.138		
	Total	54.863	127			

a. Dependent Variable: ORGPERFNC

b. Predictors: (Constant), QUALINFS, CUSRENSHN, STSUPAR, INLEANPRA, RESPONSV

Source – Field Survey 2020

The overall model explained 68.0 % of variance in organizational performance shows that the overall effect is statistically significant,  $F(5,122) = 54.859, p < .01$ , or that the variables have a significant combined effect on the dependent variable. The above table 9 further shows that, all the explanatory variables included in this study can significantly explain at 99% confidence level to the variation on the dependent variable.

Table 10 Regression coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.246	.272		.905	.367
	Responsiveness	.727	.133	.561	5.480	.008
	Customer relationship	.048	.082	.042	.580	.563
	Internal lean practices	.779	.104	.752	7.473	.000
	Strategic supplier partnership	.181	.119	.149	1.523	.130
	Information quality	.754	.095	.780	7.962	.005

a. Dependent Variable: ORGPERFNC

Source – Field Survey 2020

According to Field (2009), it is clear that the significant level of each variable should be less than .05 alpha values. As indicated in table 10 above, the regression coefficients of individual predictor variables (explanatory variables) revealed that the coefficients of responsiveness (Beta = 0.727,  $p < 0.05$ ); Internal lean practices (Beta = 0.779,  $p < 0.01$ ); and Information quality (Beta = 0.754,  $p < .05$ ) are significant predictors. This finding revealed that they have significant positive effect on organizational performance in Amhara Pipe Factory. In this study, customer relationship (Beta = 0.048,  $p > .05$ ) and strategic supplier partnership (Beta = 0.181,  $p > .05$ ) factors were found to be insignificant in affecting organizational performance under the study. Among the three significant variables, of responsiveness, internal lean practices, and Information quality take the dominant figure to determine the organizational performance as compared to other variables considered.

In general, table 10 above indicates that responsiveness, internal lean practices, and Information

quality independent variables have a significant influence on organizational performance at 95% confidence level in the study area. Conversely, customer relationship and strategic supplier partnership independent variables have no significant influence on organizational performance. The finding is consistent with the result obtained by Arawati (2011) and Moslem (2013).

The resulting predictive equation from our regression model using unstandardized coefficient is:

$$\text{Organizational performance (Y)} = 0.246 + 0.727 (\text{responsiveness}) + 0.779(\text{Internal lean practices,}) + 0.754 (\text{Information quality}) .$$

#### 4.5.4. Hypothesis testing

Based on the result of multiple linear regressions, the researcher has proved their statistical significance and decided on accepting and rejecting the already developed hypothesis. Entirely, there were 5 hypotheses developed to statistically test the relationship between each independent variables and the overall combined effect and the hypothesis testing result was stated as follows:

Table 11 Hypothesis Testing

Hypothesis	Description	Beta value	P-value	Decision
<b>Ha1</b>	Responsiveness has a significant positive influence on organizational performance in Amhara Pipe Factory	.561	.008	Accepted
<b>Ha2</b>	Internal lean practices have significant positive influence on organizational performance in Amhara Pipe Factory.	.752	.000	Accepted
<b>Ha3</b>	Quality of information sharing has a significant positive influence on organizational performance in Amhara Pipe Factory	.780	.005	Accepted
<b>Ha4</b>	Customer relationship has a significant positive influence on organizational performance in Amhara Pipe Factory	.042	.563	Rejected
<b>Ha5</b>	Strategic supplier partnership has a significant positive influence on organizational performance in Amhara Pipe Factory	.149	.130	Rejected

#### **Ha1: Responsiveness has a significant positive influence on organizational performance in Amhara Pipe Factory**

This hypothesis has been tested at 95% significance level and found to be significant (p-value =

0.008 < 0.05) as shown in table 11 above. This indicates that responsiveness has a significant positive relationship with organizational performance under the study. Due to this fact, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding is consistent with the result obtained by Kim (2006) ; Otchere et al, (2013); and Priscila and Luiz (2011).

**Ha2: Internal lean practices have significant positive influence on organizational performance in Amhara Pipe Factory.**

It was tested at 99% significance level and found to be significant (p-value = 0.000 < 0.05) as shown in table 11 above. This shows that internal lean practices have significant and positive relationship with organizational performance. Therefore, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding supports the previous finding of Alireza et al. (2011); Lenny et al. (2007) ; and Arawati (2011).

**Ha3: Quality of information sharing has a significant positive influence on organizational performance in Amhara Pipe Factory.**

This hypothesis has been tested at 95% significance level and found to be significant (p-value = 0.005 < 0.05) as shown in table 11 above. This indicates that quality of information sharing has a significant and positive relationship with organizational performance under the study. Due to this fact, the null hypothesis was rejected and the alternative hypothesis was accepted. The finding is consistent with the result obtained by Arawati (2011) and Moslem (2013).

**Ha4: Customer relationship has a significant positive influence on organizational performance in Amhara Pipe Factory**

This hypothesis was tested at 95% significance level and found to be insignificant. Here the result has depicted a p-value of 0.563 which is > 0.05 indicating that the study fail to reject the null hypothesis that it has no significant influence on organizational performance. As the result , the null hypothesis was accepted and the alternative hypothesis was rejected .This result is different from the previous researches done by Mahbulul (2013); and Adebayo (2012).

**Ha5: Strategic supplier partnership has a significant positive influence on organizational performance in Amhara Pipe Factory**

This hypothesis has been tested at 95% significance level and found to be insignificant. Thus, the result has showed that the p-value of 0.130 is greater than 0.05 indicating that Strategic supplier partnership has no significant influence on organizational performance. Therefore, the null hypothesis was accepted and the alternative hypothesis was rejected. This result contradicts with the previous finding of Adebayo (2012) and Flynn et al. (2010).

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

The main objective of the research is to examine the effect of supply chain management on organizational performance in Amhara Pipe Factory. The researcher used a quantitative approach with explanatory and descriptive research design. The sample size was 128 respondents using simple random sampling technique. The instrument of data collection was primarily structured close ended survey questionnaires using the five point likert scales. To achieve the research objectives, the researcher settled five hypotheses. The multiple regression models used to test these hypotheses.

Generally, survey questionnaires containing 36 items were distributed for employees who are currently working in Amhara Pipe Factory to get the relevant data for the study. Among the distributed questionnaires, 128 were properly filled and returned and used for analysis purpose which accounted 95.52 % response rate.

The correlation coefficient for each explanatory variables in relation to the organizational performance indicated that : responsiveness (  $r = .719$ ,  $p < 0.01$ ); customer relationship (  $r = .480$ ,  $p < 0.01$ ); internal lean practices (  $r = .387$ ,  $p < 0.01$ ); strategic supplier partnership (  $r = .614$ ,  $p < 0.01$ ) and information quality (  $r = .599$ ,  $p < 0.01$ ) This indicated that there is strong positive correlation between the three independent variables of responsiveness, strategic supplier partnership, and information quality with the dependent variable of organizational performance. Whereas there is moderate and positive correlation between the two independent variables such as customer relationship and internal lean practices with the dependent variable of organizational performance under the study.

The adjusted R-square value of 0.680 suggesting that among the five variables considered, the five independent variables which include responsiveness, customer relationship, internal lean practices, strategic supplier partnership, and information quality were able to explain 68.0% variations in organizational performance in the study area. The remaining 32.0 % of the variance is explained by other variables not included in this study.



The result of regression coefficients of individual predictor variables (explanatory variables) revealed that the coefficients of responsiveness (Beta = 0.727,  $p < 0.05$ ); Internal lean practices (Beta = 0.779,  $p < 0.01$ ); and Information quality (Beta = 0.754,  $p < .05$ ) are significant predictors. This finding revealed that they have significant positive effect on organizational performance in Amhara Pipe Factory.

In this study, customer relationship (Beta =0.048,  $p > 05$ ) and strategic supplier partnership (Beta =0.181,  $p > 05$ ) factors were found to be insignificant in affecting organizational performance under the study. Among the three significant variables, of responsiveness, internal lean practices, and Information quality take the dominant figure to determine the organizational performance as compared to other variables considered.

In general, the finding indicates that responsiveness, internal lean practices, and Information quality independent variables have a significant influence on organizational performance at 95% confidence level in the study area. Conversely, customer relationship and strategic supplier partnership independent variables have no significant influence on organizational performance Amhara Pipe Factory.

## **5.2 Conclusions**

To achieve the research objectives, the researcher developed five hypotheses. Pearson correlation and multiple regression models used to test these hypotheses. The descriptive statistics, correlation and regression analysis were used to get the major findings. As the result of the analysis and summary, the following findings are concluded as follows:

The effect of supply chain management practices have positively and significantly influence performance of an organization. An effective supply chain management helps an organization to achieve better performance by practicing better supply chain management. Particularly, responsiveness, internal lean practices, and Information quality independent variables have positively and significantly effect on the performance of the organization by lowering cost of

doing business and increase responsiveness to dynamisms in the market and the general environment and the use of mass and homogeneous production system.

But, customer relationship and strategic supplier partnership independent variables have no significant influence on organizational performance Amhara Pipe Factory.

Thus, responsiveness was found to be significant which indicates that responsiveness has a significant positive relationship with organizational performance under the study. The internal lean practices was found to be significant which shows that internal lean practices have significant and positive relationship with organizational performance in Amhara Pipe Factory. The quality of information sharing was found to be significant. This indicates that quality of information sharing has a significant and positive relationship with organizational performance under the study.

Customer relationship was found to be insignificant that indicating that the in study customer relationship has no significant influence on organizational performance in Amhara Pipe Factory. Strategic supplier partnership also was found to be insignificant that indicating that Strategic supplier partnership has no significant influence on organizational performance in Amhara Pipe Factory.

## **5.2 Recommendations**

Based on this finding, the researcher suggested the following recommendations are proposed to help improve organizational performance in Amhara Pipe Factory.

- To improve quality products and services to satisfy customers' needs, Amhara Pipe Factory should pay much attention on providing quality of information in order to increase effects of supply chain management on organizational performance.
- From the management perspective, the study provides information on the effects of supply chain management and their relative importance for the company. This information can be used by suppliers for adding value to their responsiveness with the current and prospective customers.

- The organization, at large has to focus on supply chain management practices factors in order to increase their organizational performance by establishing the practices at company, department and staff levels.
- In order to make the effects of supply chain management of the company efficient and effective, the management have to develop responsiveness by focusing on key and very important suppliers
- Since level of responsiveness, internal lean practices, and Information quality have significant effect on performance of the organization, the management have to foster means to provide and receive accurate, reliable, and timely information to trading partners by utilizing modern ICT, giving due focus to the supply side of information.

### **5.3 Limitation of the study**

The researcher conducted this study using Amhara Pipe Factory and thus the findings are more meaningful in this company context. Hence, it is not clear how supply chain practices are used with competitive strategies to improve performance in different contexts, such as in different organizations. This study used a cross-sectional design and cannot reflect the lag time or long-term effects of supply chain practices on organizational performance. The study only examined the moderating effect on the relationship between supply chain management practices and organizational performance. Finally, by focusing on the company, the researcher developed a broad picture of the relationship between supply chain management practices and company performance.

### **5.4 Further Studies**

Future studies can investigate this issue in other companies or conduct cross-company studies. They also might conduct longitudinal studies to examine the relationship between supply chain practices and performance. In the same way, other researchers can investigate the causal effects of competitive strategies on the qualitative facets of supply chain management. For example, they could explore what kinds of supply chain practices, such as types of information sharing, should be emphasized under various strategies.

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**APPENDIX A- QUESTIONNAIRE**  
**BAHIR DAR UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**DEPARTMENT LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

**Questionnaires to be filled by employees of Amhara Pipe Factory by adopting as explained in chapter three in measurement of Variables part.**

Dear Respondents

I am currently a student of Bahir Dar University and I am doing my Master of Logistics and supply chain management (MA) thesis, “to assess the effect of supply chain management on organizational performance in Amhara Pipe Factory”.

Your concern and careful completion of the questionnaire will contribute a lot to arrive at a right conclusion. So, you are kindly requested to provide accurate, complete, genuine and reliable information to the best of your knowledge. Feel free to discuss any topic related issues since the data will be used for this specific research only. I assure you that all the information will be kept confidential.

Thank you in advance for your cooperation and timely response!

No.	Part One: Background Information	Responses
1	Gender:	<input type="checkbox"/> Male <input type="checkbox"/> Female
2	Age:	<input type="checkbox"/> under 20years <input type="checkbox"/> 21-35years <input type="checkbox"/> 36- 36-50years <input type="checkbox"/> 51 years and above
3	Educational level	<input type="checkbox"/> High school complete <input type="checkbox"/> College diploma <input type="checkbox"/> Bachelor degree <input type="checkbox"/> Master and above
4	Work experience	<input type="checkbox"/> 1-5 years <input type="checkbox"/> 6-10 years <input type="checkbox"/> 11years and above

**Part two: Supply chain management practices in the Organization**

This section is seeking your opinion regarding to the effect of supply chain management on organizational performance. Please, indicate your agreement with each statement based on the 5-point of liker scale

1/ strongly disagree 2/ Disagree 3/ Not sure 4/ Agree 5/ strongly agree

N. o	Items	Scales				
		1	2	3	4	5
<b>Part II. Items related to Responsiveness</b>						
1	We deliver the kind of products needed					
2	We deliver customer order on time.					
3	We provide dependable delivery					
4	Time to solve customer complaints is short.					
5	We offer high quality products to our customer.					
6	We have fast product development system					
<b>Part III. Items related to Customer relationship</b>						
1	There is frequent interaction with customers to set reliability, responsiveness, and other standards					
2	The company frequently measures and evaluates customer needs					
3	The company frequently determines future customer expectations					
4	The company facilitates customers' ability to seek assistance from us.					
5	Periodically, the company evaluate the importance of relationship with customers					
<b>Part IV. Items related to Internal lean practices</b>						
1	The company reduces process set-up time					
2	The company has continuous quality improvement programs					
3	The company produces only what is demanded by customers when needed					
4	The company clears workstation for production					
5	The company cuts time required to refit equipment					
<b>Part V. Items related to Strategic supplier partnership</b>						

1	Quality is our first criterion in selecting suppliers					
2	Problems are jointly solved with suppliers					
3	The company supports suppliers to improve their product quality					
4	Key suppliers are included in continuous improvement programs					
5	Key suppliers are included in planning and goal-setting activities					
6	Key suppliers involve in new product development processes					
<b>Part VI. Items related to Quality of information sharing</b>						
1	Information exchange between our trading partners and the company is timely					
2	Information exchange between our suppliers and the company is accurate					
3	Information exchange between our suppliers and the company is complete					
4	Information exchange between our suppliers and the company is adequate					
5	Information exchange between our suppliers and the company is reliable					

**Part three: Organizational performance:** is how well an organization achieves its market oriented goals as well as its financial goals in the past five years. To what extent do you agree on the organizational performance of the company based on the following parameters? (Please mark X in appropriate box to your opinion).

Using 1/ strongly disagree 2/ Disagree 3/ Not sure 4/ Agree 5/ strongly agree

<b>Indicators of Organizational performance</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	The growth of market share has been increased					
2	The growth of sales is increasing from time to time					
3	Growth in return on investment is better					
4	Profit margin on sales has increased in a good manner					
5	Overall competitive position is better than before					

Thank You!