



Addis Ababa University

School of Graduate Studies

MBA Program

**A Study On The Relationship Between Performance Levels Of Organizational
Value Adding Activities And Profitability Of Selected Leather Products
Manufacturers In Addis Ababa**

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Declaration by the student

I, Friew Chalachew Amsalu declare that this research work entitled “A Study on the relationship between performance levels of organizational value adding activities and profitability of Selected Leather Products Manufacturers in Addis Ababa” is the outcome of my own effort and study and that all sources of materials used for the study have been duly acknowledged. This study has not been submitted for any degree in this or any other University.

Friew Chalachew Amsalu

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Signature of Conformation by Research Advisor

Research Advisor _____

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Table of Contents

Acknowledgements	III
List of Tables and Figures	IV
List of Abbreviations	V
Abstract	VI
Chapter One- Introduction	1
1.1 Back ground of the study	1
1.2 Statement of the Problem	4
1.3 Research Questions	5
1.4 Research hypothesis	5
1.5 Objectives of the Research	7
1.6 Significance of the research	7
1.7 Scope of the Study	8
1.8 Organization of the paper	8
Chapter Two - Literature Review	9
2.1 Value Chain Defined	9
2.2 Research Constructs and Measurement Variables	11
2.2.1 Primary Value Adding Activities	12
2.2.2 Support Value Adding Activities	12
2.3 Rationale and Importance of Value Chain Analysis	13
2.4 Alternative Views and Critics of Porter's Value Chain Model	15
2.5 Previous Studies on the operational Activities of the organizations in the sector	17
Chapter Three -Research Methodology	20
3.1 Sample Size and Selection Procedure	20
3.2 Data Collection and Analysis Methods	21
3.3 Data Reliability	23
3.4 Validity Analysis	23
3.5 Research Design	24
Chapter Four- Data Analysis and Discussion of Findings	25
4.1 Organizational Characteristics of the Sample Organizations	25
4.2 Correlation Analysis of Value Chain Activities with Operating Profit Margin	30

4.3 Non Parametric Mood's Median Test	35
4.4 Analysis Of Variance (ANOVA) Hypothesis Test and Discussion of Results	38
4.4.1 Testing Assumptions of Analysis Of Variance	39
4.4.1.1 Normally Distributed Data	39
4.4.1.2 Independence.....	43
4.4.1.3 Homogeneity of Variances.....	43
4.4.1.4 Continuous Dependant Variable	45
4.4.2 Analysis Of Variance Test and Discussion of Results	46
Chapter 5- Summary of Major Findings and Recommendation	58
5.1 Summary of Major Findings	58
5.2 Recommendations	59
References	61
Appendix 1	64
Appendix 2	65

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List of Tables and Figures

Figure 1. Projected Export Value Of Leather/Leather Products	2
Figure 2. Porters Value Chain Model	11
Figure 3. Normality Test For The Response Variable (Operating Profit Margin)	41
Figure 4. Box Plots Of Operating Profit Margin For Inbound Logistics Levels Of Performance	50
Figure 5. Box Plots Of Operating Profit Margin For Operations Levels Of Performance	51
Figure 6. Box Plots Of Operating Profit Margin For Outbound Logistics Levels Of Performance	52
Figure 7. Box Plots Of Operating Profit Margin For Marketing And Sales Levels Of Performance	53
Figure 8. Box Plots Of Operating Profit Margin For Customer Service Levels Of Performance	53
Figure 9. Box Plots Of Operating Profit Margin For Firm Infrastructure Levels Of Performance	54
Figure 10. Box Plots Of Operating Profit Margin For Human Resource Management Levels Of Performance	55
Figure 11. Box Plots Of Operating Profit Margin For Technology Development Levels Of Performance	56
Figure 12. Box Plots Of Operating Profit Margin For Procurement Levels Of Performance	57
Table 1. Reliability Analysis	23
Table 2. Summary Of Organizational Characteristics.....	25
Table 3. 95 % Confidence Interval Estimate For Operating Profit Margin, Based On Ownership Form	26
Table 4. 95 % Confidence Interval Estimate For Operating Profit Margin, Based On The Age Of The Organization ...	27
Table 5. 95 % Confidence Interval Estimate For Operating Profit Margin, Based On Capital.....	27
Table 6. 95 % Confidence Interval Estimate For Operating Profit Margin, Based On Export Experience	28
Table 7. 95 % Confidence Interval Estimate For Operating Profit Margin, Based On Number Of Employees	29
Table 8. Analysis Data (Value Adding Activities And Financial Proportions)	31
Table 9. Correlation Analysis Result.....	34
Table 10. Mood's Median Test Result	37
Table 11. Inter Quartile Range Of Operating Profit Margins For Different Performance Levels	37
Table 12. Shapiro-Wilks Statistical Test Of Normality Results	42
Table 13. Homogeneity Of Variance Test Results Using Levene's And Welch's Tests	45
Table 14. Anova Results For Value Adding Activities On Operating Profit Margin	48

List of Abbreviations

ADLI - Agricultural Development Led Industrialization

AGOA- African Growth and Opportunities Act

COMESA- Common Market for Eastern and Southern Africa

COMESA-LLPI- Common Market for Eastern and Southern Africa Leather and Leather Products Institute

CSA-Central Statistics Authority

EBA- Everything But Arms

ECA-Economic Commission for Africa

ECC- Ethiopian Chamber of Commerce

ELIA- Ethiopian Leather Industries Association

ELIDI- Ethiopian Leather Industry Development Institute

ERCA-Ethiopian Revenue and Customs Authority

EU- European Union

EWEA- Ethiopian Women Exporters Association

FAO- Food and Agriculture Organization of the United Nations

GDP- Gross Domestic Product

GSP- Generalized Scheme of Preferences

IMA-Institute of Management Accountants

MoTI-Ministry of Trade and Industry

MoFED-Ministry of Finance and Economic Development

MoPED-Ministry of Planning and Economic Development

PASDEP- Plan for Accelerated and Sustained Development to End Poverty

ROI- Return on Investment

UNIDO-United Nations Industrial Development Organization

Abstract

This research was conducted to study the relationship between performance levels of organizational value adding activities and profitability of selected leather products manufacturers in Addis Ababa based on the value chain model developed by Porter (1985).

35 different organizations were included in the study. Primary data from each of the organizations was collected through questionnaires. Secondary document analysis was also conducted by accessing financial and accounting records. Theoretical framework review and previous researches and studies in light of the current industry situation were used as an input for analysis and discussion of results.

The data collected was descriptively analyzed through tabular summarization of the collected survey results, along with discussions. Correlation analysis was conducted to see how significant the associations of the value adding activities performance levels of the organizations are with their profitability. Furthermore, inferential statistics and hypothesis testing was undertaken in the form of median tests and ANOVA to test the assumption that difference in performance level in the organizational value adding activities determines the variability in profit margins of the organizations.

Significant results were obtained from both the parametric and non parametric statistical tests. Correlation analysis results showed that the dependent and independent variables have positive and significant correlation. Also significant results from Analysis of variance taking operating profit margin of organizations as the response variable and performance levels of value adding activities as factors proved that organizational profitability is determined and depends on all primary and support value adding activities performance levels.

Chapter One- Introduction

1.1 Back ground of the study

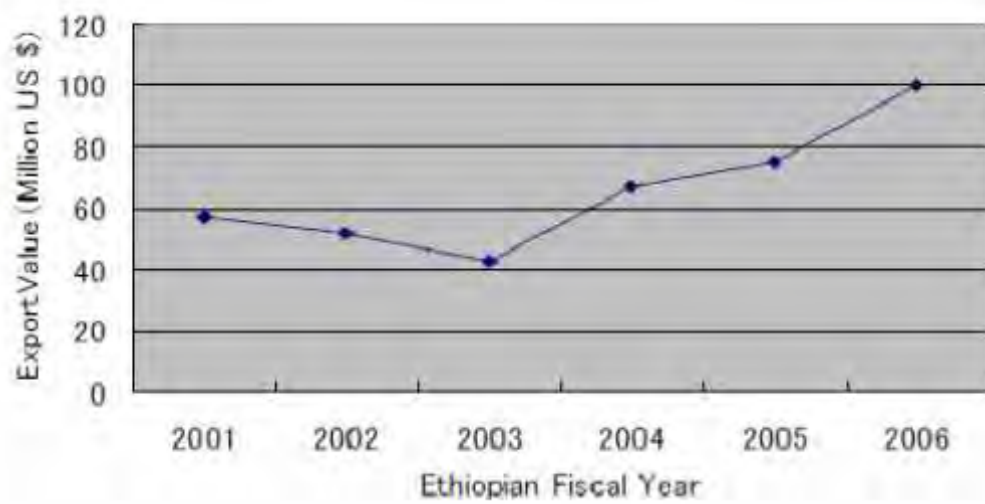
Ethiopia is a country where the agricultural sector is a dominant contributor to the economy and GDP. In 2008/09, it contributed about 43 percent of the GDP, 86 percent of foreign currency earnings, and 85% of rural employment. Generally, the overall economic growth of the country has been highly associated with the performance of the agriculture sector. Coffee is critical to the Ethiopian economy. Other important export products include oil seeds, pulses, leather and leather products, meat and meat products, fruits and vegetables, live animals, flowers 'chat' and gold. ECC, (<http://www.ethiopianchamber.com/about-ethiopian.aspx>).

In the fiscal year of (July 2009–June 2010), 78% of exports come from a handful of primary sector industries: coffee, oilseeds, chat, etc. Of the remaining 22% of exports, three-quarters comes from four industries: cut flowers, leather, meat and meat products, and clothing and textiles (ERCA, 2011).

The leather industry has been one of the major traditional industries in the country, but it is now at a turning point to change itself from a traditional industry to a modern industry to penetrate the international high value-added leather market, under the strong initiative of the Ethiopian government. In the PASDEP, the leather industry is mentioned as an important sector for trade and industry development (MoFED, 2006).

The development of the leather industry is in line with ADLI plan, which is the basic development strategy of the country, such that the promotion of high value-added leather products is going to encourage the process of the industrialization of agriculture (MoPED, 1993).

According to the statistics prepared by MoTI (2007), the projected export value of the whole leather industry including hides, leather, skins, shoes, garments, bags and so on, was 43 million US\$ in 2003/04, 56 million US\$ in 2004/05, and 75 million US\$ in 2005/06, which has increased 1.7 times in 3 years. The projected export value in 2006/07 is to reach 100million.



Given the above information, it is clear that there exists an opportunity for the development of the Finished leather products sector. Yet, if not effectively handled bringing about the desired quality and productivity of the outputs can be a serious challenge. When organizations big or small decide to enhance market coverage and competitiveness of their products and outreach customers beyond national domains, there are new challenges as the unknown and uncontrollable factors in an unfamiliar business world intensify. Anderson (2009, p. 34) states that 'Poor fit between a company's activities and core capabilities and the evolved value chain of a new host market can make foreign market entry a painful process'. Firms will have to deal with a number of new issues pertaining to customer preferences, market foundation and logistics, and others like legal and regulatory considerations.

As an alternative for increasing the export volume and international trade activities of firms, currently there is an increasing preference for linkages and trade cooperation agreements between organizations in different countries and parts of the world. One of the main driving forces behind this inclination is capitalizing on the local advantages the organizations. For example, a local producer can subcontract production for a partner in another country with specific quality and price requirements where it has advantage of resource and production costs, while its counterpart establishes markets and arranges supply and logistics for distribution of the products after importing the subcontracted products (Ireland, 2005).

Lusby (2007) indicated that the study of value chain effectiveness and performance is a logical undertaking in order to identify problems and find out ways to improve the success rate of organizations and ensure the competitiveness of their goods and services. Meeting and exceeding expectations of customers as a result of a better understanding of value chain requirements and customers' needs is one way of ensuring the sustainability of business operations. Today Value chain analysis is being perceived as the next logical step for enterprises in order to cut costs and increase ROI. This is because value chain analysis reveals which areas of the organizations still have room for improvement leading to more value added.

According to a recent publication on livestock resources, Ethiopia has 53.4 million cattle, 25.5 million sheep and 22.7 million goats (CSA, 2012). This puts the country as one of the richly endowed countries in livestock resources.

1.2 Statement of the Problem

Performing value adding activities in ways that would allow a firm the capabilities to outmatch rivals is a potential source of competitive advantage. Although potential for value adding different value adding activities vary, profitability and maintaining a sustainable market for a firm's products depends on how much aggregate value the goods and services hold in the mind of the final consumer. 'An effective value chain analysis results in the identification of new ways to perform activities to create value based upon the firm's unique way of combining its resources and capabilities' (Prajogo, et al., 2008, p. 616).

Organizational Value chain studies are inherently intended to ultimately show how organizational capabilities and business strategies can be used to deliver the maximum value to customers. Assessing company performance in undertaking the value adding primary as well as support functions enables a firm to increase its competitiveness and sustainability of its value chain and create a competitive advantage through better value contributions from its value adding activities.

Hill and Jones (2010) point out that, to perform good internal analysis company's managers need to be able to analyze the financial performance of their company, identifying how its operational activities and strategies contribute to profitability.

As much as it is significant, very few researches related to value added and value chain analysis have been conducted with the theme of firm level analysis, investigating the micro issues of organizational value chains (Brown, 1997). Most previous value chain studies have traditionally been undertaken at the macro industrial level (UNIDO, 2012), (Walters and Lancaster, 2000); spanning all the value chain actors in different sectors and industries, including the leather and leather products sector (Abebe and Schaefer, 2013).

This gap that is expected to be narrowed down therefore by making an attempt to identify which value adding activities make significant impact and influence a firm's profitability by attempting to examine the relationship between performance of value adding activities and profitability not at the industrial level but rather by making firm specific researches.

Through the study and analysis of their value chains, businesses can identify where to make upgrading on the value adding activities by determining how their revenue, cost and margins will be altered as a result of adopting alternative strategies.

Shapiro, et al (1997) suggest that Successful implementation of plans requires careful coordination of the company's activities at a detailed, operational level, specifically through a design and analysis of functions based on the value chain of a company's activities. Understanding of on which value adding activities the overall profitability of the organizations depends is imperative. Despite this fact, however, which factors are the most important to the profitability of organizations in the leather sector has not been adequately and empirically investigated.

This research examines the internal value adding activities of selected leather products producing business organizations in Addis Ababa. The competence of the leather products manufacturers in performing the major value adding functions in the organizations along with how these activities are related with profitability was studied.

1.3 Research Questions

Accordingly, based on the research problem identified the following research questions were addressed.

- What is the performance of the organizations in undertaking the value adding activities?
- What is the financial break down of cost, expense and margin percentages in the final product values?
- How does organizations' performance level in undertaking the primary and support value adding activities relate with and determine profitability?

1.4 Research hypothesis

The classic Value Chain Model of Michael Porter (1985), which consists of primary and support value chain activities was taken into consideration to identify the independent variables and the dependent variable of the study, based on which the following hypotheses were developed and tested using Analysis of Variance (ANOVA) statistical technique.

The first five hypotheses explore the relationship between the performance levels of primary value adding activities (independent factors) and profitability (response variable) while the remaining four explore the relationship between the performance levels of support value adding activities (independent factors) and profitability (response variable) of organizations.

Ho (1): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their inbound logistics value adding activity

Ho (2): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their operations value adding activity

Ho (3): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their outbound logistics value adding activity

Ho (4): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their marketing and sales value adding activity

Ho (5): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their customer service value adding activity

Ho (6): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their Firm infrastructure value adding activity

Ho (7): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their human resource management value adding activity

Ho (8): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their technology development value adding activity

Ho (9): there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their Procurement value adding activity

$H_{a(1-9)}$: there is a statistically significant difference in mean the operating profit margin of organizations based on the difference in the level of performance in each of the respective value adding activity identified in the null hypothesis

1.5 Objectives of the Research

The general objective of the research is studying the relationship between performance of value adding activities and profitability of leather products manufacturers in Addis Ababa by considering their internal value creation chain. More specifically the study seeks,

- To survey how well the organizations perform value adding activities
- To analyze the financial breakdown of final product values
- To investigate the relationship between organizational value adding activities level of performance and operating profit margin of the organizations

1.6 Significance of the research

This research presents a new perspective of how value chain research and analysis can be taken down to concentrate on organizational value chains. In addition, the research can be a future reference to other similar researches in to other sectors and organizations. Besides this, the research can be extended to encompass the value chains of other industry actors for a more comprehensive study of the leather industry value chain in the future.

The research findings will be indicative of where strategies of the organizations should focus to reconfigure their value chain activities and improve their financial as well as operational performances which will result in better and higher value added to their products.

Again, the research results will identify organizational value chain activities, which have greater or lesser contributions to and relations with profit margins of organizations. Using this as a starting point, the organizations can then decide on intervention strategies and areas for a better synchronization of organizational activities, by improving operational activities with additional potential for improvement which will lead to increased value added to their products.

Competitiveness is based on the notion that the perceived value of organizations market offerings exceeds that of the competitors in the market. This happens when the value load possessed by an organizations output has a higher weight in customers' minds.

An organization, by identifying where it has weakness in the value chain and value creation activities can take steps to boost the value contributions of its value adding activities. One way to do this is to study the relationship between the value adding activities and the profit margin of business organizations.

1.7 Scope of the Study

This research is restricted to the study of organizational value adding activities of selected leather products manufactures in Addis Ababa. The rationale behind the delimitation of the research to this specific area is the importance it presents to the national economy and its potential for development.

There is a national interest to improve the level of value addition to outputs from the agricultural sector for domestic and foreign markets. As a sub sector in the agricultural sector, the leather products economic area specifically has been selected for analysis.

This research does not cover analysis of other members of the leather sector like tanneries and input suppliers as well as informal small scale leather products manufacturers.

1.8 Organization of the paper

The research report is organized into five chapters. Chapter one is the introduction part dealing with background of the study, statement of the problem, questions, objectives, significance, delimitation and limitation of the study. The second chapter presents the review of related literature about the subject matter of the study. In chapter three, the research methodology is presented. Chapter four of the research report covers the presentation, analysis and interpretation of the data collected. In Chapter five summaries of major findings and recommendation is given.

Chapter Two - Literature Review

This Literature Review covers important issues related with value chain studies. Articles, Books, Publications and other academic resources were reviewed to present the current discoursed among academicians and professionals.

2.1 Value Chain Defined

The earliest statement of value chain concepts in academic literature goes back to the 1980s, in the renowned works of Michael Porter (1985) who used the term in his book “Competitive Advantage: Creating and Sustaining Superior Performance”. He sought to assess the contribution of various firm activities he distinguished as primary and supportive activities contributing to the overall added value of its business. Primary activities relate to the production process and include inbound logistics, operations, outbound logistics, marketing and sales, and services. Support activities are necessary for the effectiveness and efficiency of the firm, such as procurement, human resource management, technology development and firm infrastructure. ‘Every firm is a collection of activities that are performed to design, produce, and market, deliver, and support its product. All these activities can be represented using a value chain (Porter 1985, p.36) ’.

With the value chain concept Porter was able to emphasize that the profitability of a firm depends on how effectively the various activities that create product and service value added are managed. Only if those activities are performed in a way that enables the firm to generate a sufficient margin between the overall costs of the activities and the price the consumer is willing to pay, is the firm profitable. The value added in each of the activities and overall determines how competitive the company is and whether it will maintain its competitive advantages in the future.

In the process of designing competitive strategies, capabilities and performance of internal organization units should be known so that it will be matched with external environmental opportunities which can be exploited. ‘The value chain is a tool to disaggregate a business into strategically relevant activities. This enables identification of the source of competitive advantage by performing these activities more cheaply or better than its competitors’ (Walters & Lancaster 2000, p.160).

A company’s success depends on how well each value adding activity has been properly aligned within the overall value creation chain within the organization. Each functional unit that is considered to be a value adding is assumed to contribute to the profitability of the company.

The better the activities are done along the value chain; the return margin of the company will increase consequently leading to increased profitability.

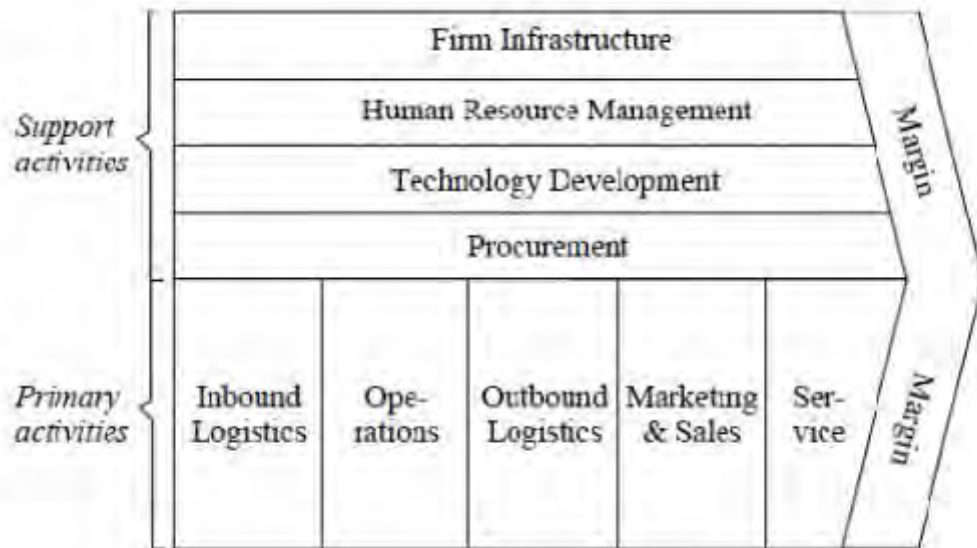
The generic value chain model of Michael Porter provides a starting point for disaggregation of activities in an organization for strategic differentiation analysis and strategic cost analysis. Fearne, et al., (2012) point out that this disaggregation of functions can also be further extended to consider broader value linkages and be applied to an inter-firm system, from raw material inputs acquisition until the final goods and services reach the customer for consumption.

Organizational value chain analysis is also an important tool for strategic company positioning in the context of the extended/industrial value chain. The supply chain focuses on the physical and logistical flow of materials from the suppliers of raw materials through distribution channels and product flows to deliver the final product and services to customers. Shapiro (2001) illustrates the network aspect in supply chains where supply chains are composed of connected transportation and logistics networks of organizations in an industry.

However, value chain analysis incorporates the value relationships and the gradual value additions to the inputs of production as the raw material is gradually transformed in to finished products. Acharyulu and Shekhar (2012, p.91) agree that 'The Value Chain VC is the expansion of the supply chain to include demand planning, defining markets and customers' requirements'.

For Business organizations with the primary objective of gaining profits, business activities are intended to produce returns to the company more than the cost it incurs to produce the goods and services outputs of an organization. Porter used the term "margin" to denote the difference between the total value and the cost of performing the value activities. In his own words, 'Value activities are the physically and technologically distinct activities a firm performs. These are the building blocks by which a firm creates a product valuable to its buyers. Margin is the difference between total value and the collective cost of performing the value activities' (Porter 1985, p.38).

According to Revsine, et al., (2004) as a measure of margin in value chain, operating profit (earnings before interest and taxes) can be used to reflect and emphasize on the contributions of the value adding activities from the operational point of view, minimizing the implications of other financing or investing activities within the organization on firm performance. Operating profit accounts for both cost of sales and operating expenses.



Porter (1985) highlighted the major decompositions for the value adding activities as follows:

2.2.1 Primary Value Adding Activities

- ✓ Inbound Logistics – incorporates activities associated with
 - Receiving, storing, and disseminating inputs to the product
 - Material handling ,warehousing
 - Inventory control, vehicle scheduling
- ✓ Operations- incorporates activities associated with
 - Facility operations, transforming inputs into the final product form
 - Machining, assembly, product testing
 - Equipment maintenance, quality control
- ✓ Outbound Logistics - incorporates activities associated with
 - Collecting, storing, and physically distributing the product to buyers
 - Finished goods warehousing, material handling
 - Product delivery, order processing, and scheduling
- ✓ Marketing and Sales- incorporates activities associated with
 - Providing a means by which buyers can purchase the product
 - Advertising, promotion, sales force, quoting
 - Channel selection, channel relations
- ✓ Service- incorporates activities associated with
 - repair
 - product returns and product adjustment
 - training

2.2.2 Support Value Adding Activities

- ✓ Firm Infrastructure- consists of a number of activities including
 - General management,
 - planning, finance, accounting
 - Legal, government affairs
- ✓ Human Resource Management - consists of activities involved in
 - Recruiting, hiring, training,
 - development, and compensation of all types of personnel

- ✓ Technology Development- consists of a company's
 - Know-how, procedures
 - technology embodied in process and operations
 - Technology research and development
- ✓ Procurement- consists of the activities in the purchasing function of organizations such as
 - Interacting with suppliers
 - Dealing with vendors,
 - Qualification rules and information systems.

The above listed sub- activities are generic by their nature, are common to most organizations and can be applied to variety of organizations in different business sectors. So in order to adapt the application of the model to study the organizational value chains of organizations in a given business sector, nature of the industry with in which the organizations operate as well as the operational characteristics unique to the organizations should be taken into consideration. Supporting this, Kaplinsky and Morris (2001, p.49) stated that 'Each value chain will have particular characteristics, whose distinctiveness and wider relevance can only be effectively captured and analyzed though an understanding of the broader issues which are involved in the context of industry relationships'.

In order to capture the essence of the research, the data collection instrument used for the research further builds on the above listed activity decompositions to improve instrument reliability and incorporate other relevant variables and factors needed to capture the data of value chain activities within the industry specific context.

2.3 Rationale and Importance of Value Chain Analysis

Value chain analysis at the organizational level and the resulting information generated from various investigative approaches towards the internal organizational performance in value creation enables managers and decision makers to select among alternative intervention options to improve the value adding activities for products and services of the organizations in the form of strategies and policies applicable to different operational activities in the organization. 'A strategic tool to measure the importance of the customer's perceived value is value chain analysis.

By enabling companies to determine the strategic advantages and disadvantages of their activities and value-creating processes in the marketplace, value chain analysis becomes essential for assessing competitive advantage' (IMA 1996, p.1).

The value chain model developed by Porter comes along with the mechanism for creating and retaining competitive advantage in market competition. Porter (1985) outlines competitive strategies for organizations generally classified as cost advantage and product differentiation.

Value chain analysis has a primary purpose of identifying ways to improve competitiveness in those two dimensions, by altering the value chain activities. Other contributors to the science of value chain research and analysis like Shank and Govindarajan (1993) outlined how a mix of relative differentiation position and relative cost advantage position of an organization provides a basis to decide on which competitive strategy an organization should adopt. Consequently, all the value adding activities should be recalibrated to bring about the desired competitive power for the organization. Furthermore in the study of firm competitiveness from the resource based view of organizations, Grant (1991) also indicated that before the appropriate strategy can be determined and implemented, analysis of organizational resources and capabilities of an organization should precede and need to be identified. Resources become basis for competitive advantage when they are not only rare but also inimitable, thus making the organization very valuable to customers.

SWOT analysis in the process of Business strategy formulation and implementation is another managerial decision making situation where value chain analysis can be used as a tool. In order to match the internal competencies to opportunities in the external and competitive environment an internal audit of organizational capabilities in the value chain activities should be conducted.

The essential justification of the value chain analysis is to identify ways of creating additional value without incurring significant costs and transfer the value created. Hitt, et al., (2011, p. 108) stated that 'The value chain is a template that firms use to analyze their cost position and to identify the multiple means that can be used to facilitate implementation of a chosen business-level strategy'. Tomkins and Carr (1996), who conducted a research on a number of international firms to investigate whether these concepts are being applied, found that the most successful firms were those that focused on the value chain and competitive advantage analysis. This is mainly because the value chain analysis enables organizations to decide on strategic decisions such as outsourcing, vertical and horizontal integration etc.

2.4 Alternative Views and Critics of Porter's Value Chain Model

At the organizational level, the value chain describes the full range of activities required to bring a product or service through the different phases of production, including physical transformation, the input of various producer services, and response to consumer demand. As such, value chains include the vertically linked interdependent processes that generate value for the consumer.

However, recently other applications of value chain studies have emerged that are not confined to the analysis of value creation activities within the organization. The concept of value chain is no longer thought to be limited only at the organizational level, as Porter did in his earlier works, but have been applied to much broader studies of extended value chains at the industry level and even at the global level.

For example according to Webber (2007), industry specific value chain analysis enables firms to identify efficiencies and competitiveness both within and among firms, acting on opportunities to build win-win linkages and collaboration.

As a member of an extended value chain at the industrial level, an organization has the chance to decide on how much to contribute the value chain, which will determine the return it expects from the value chain for the role it plays among the interconnected set of firms.

A number of researchers and academicians claim that by incorporating the impacts of linkages, relationships and other factors in the value chain analysis at the extended value chain level organizations can better understand the impact of their organizational activities on other participants. When these factors are also taken in consideration together with firm level value chain analysis, business strategies will tend to produce better results since the inputs for the strategy formulation are not only inward focusing, but also outward looking.

According to UNIDO (2006), the major distinctions of value chain literature are: (1) strategic management and business administration approaches which focus on the individual firm, (2) industrial cluster development approaches with arguments for strategic firm alliances and industry relationships and (3) the global value chain concept which emphasizes the importance of globalized impacts and factors on national and local value chains. For example, governmental and international development studies on difficulties of upgrading of producers and processors in developing countries to international markets.

Soosay, et al., (2012) stated that ‘Value Chain Analysis is a diagnostic tool for supporting the process of continuous improvement at the level of the chain as a whole (rather than individual businesses)’. Taylor (2005) defines Value Chain Analysis as the multidimensional assessment of the performance of value chains through the examination of product flows, information flows and the management and control of the chain.

These and many other similar works promote the idea that value chain analysis should not only be conducted and confined at the firm level and individual businesses, but should be applied at a broader context of value creation and flow starting from raw materials and input suppliers until the goods and services finally reach the hands of the customers.

McPhee and Wheeler (2006) also claim that business today have changed and evolved in their nature hence a revision of the value chain methodology is required to implement Porters value chain model today. ‘A purely inward focus is no longer useful, Successful firms are now replacing internally focused strategy-development models with alternatives that allow a broader view of the firm as a part of the world around it’ (McPhee and Wheeler 2006, P.40). According to them for the value-chain model to be effective for the firm, a full representation of all of the available activities should be included in the model – including those activities aimed at creating value through external relationships beyond the scope the traditional firm bound value chain model.

In their proposition of an enhanced value chain model they termed as “Added-value chain model”, they incorporated new variables of supply chain management, external networks, product usage and Brand equity, with the aim of establishing a framework that has a holistic representation of both tangible and intangible characteristics of product value to the customer. According to Varadarajan and Cunningham (1995), the concept of value added not only includes the tangible transformation of the product and services from raw materials in to finished products but also the intangible capabilities of the firm like information linkages, business knowledge and mature business relationships.

A consolidating view of the value chain at the firm level and other studies at the industry level has been presented by Rainbird (2004). He stated that these two perspectives naturally intersect. Value chain should be seen as operating at two levels concurrently without the need to focus studies at different levels separately.

By having a dynamic than static view of the value chain, it will be possible to maximize the firm's ability to tailor its activities and processes to reflect wider migrations of, and changes in, value in the industry context the firm operates in.

2.5 Previous Studies on the operational Activities of the organizations in the sector

The leather products industry is characterized by rapid evolution in designs and product features. Apart from the casually worn leather products, a highly profitable fashion leather market also exists internationally. To cope up with this dynamicity of the industry, the producers need to have the necessary inputs for production, be it leather or other product components on time. The organizations in the study rely on a limited number of tanneries for leather inputs that produce standard finished leather types which are restricted to producing semi processed leather (pickled leather) and export it to the rest of the world without further value addition. It has been reported that the biggest tanneries like Ethiopia Tannery and Shoa tannery export up to 85 % of their outputs, retaining only 15 % of their outputs for local sales, with very limited local value additions.

Mekonnen and Ayele (2008) stated that diversified leather products manufacturing responds to consumers demand for various sports, leisure and safety products, which requires design skills, knowledge and technology and special distribution channels. In addition, the increasingly flexible specialization modes of production- shorter fashion and business cycles, overcoming the adversity from leather substitutes, meeting tighter delivery schedules and shorter production runs, reducing costs and risks of maintaining inventory, etc are necessary to cope with rapidly changing market requirements. Due to these facts organizations demand for inputs and production schedules is mainly customer driven and the organizations take it in to account when deciding on what to produce.

COMESA (2011), in a regional value chain analysis of member states study some weaknesses relating to main value chain actors in the leather industry have been identified. Shortages of maintenance and spare parts, lack of proper training at both managerial and as well as operational levels, and lack or regional design and brand alternatives are some of the factors hampering the level of value additions in the industry. Product designs and production flexibility play a paramount role to stay competitive in the leather products industry and can be important sources of competitive advantage

According to COMESA (2011), even if Ethiopia is one of the countries deemed to have the highest propensity to benefit from the sector, its full potential has not yet been fully realized. Specifically, the leather products sub sector suffers from poor linkages with the other stakeholders in the industry. For example, Tanneries in landlocked countries like Ethiopia experience logistical challenges on timely delivery of spare and wear parts for their machines, with a negative impact on productivity and product quality of the leather products produced.

Moreover, the absence of the local producers of even simple accessories and components in the region further cause serious logistical challenges to footwear manufacturers, as all these inputs must be imported. Other key operational constraints include Lack of technical design and production skills and lack of integrated and supportive sector policies.

Kotler and Armstrong (2012, p.12) explain that ‘the major marketing mix tools are classified into four broad groups, called the four Ps of marketing: product, price, place, and promotion’. Currently there are initiatives in many directions that the organizations can capitalize on to their advantages from marketing point of view. To mention few, ECA (2011) on its 7th Session focused on the theme of policy actions and measures needed to accelerate the process of accelerating the establishment of a continental free trade area in Africa. This will have a positive impact on export performance of the industry organizations. COMESA besides working towards COMESA Customs Union also has a specialized wing exclusively working on leather products and the leather industry. The COMESA-LLPI has the theme of promoting Export oriented leather products production and marketing in the regional member states.

Such opportunities also exist in European markets. As per the EU’s new GSP, Ethiopia is among of the Forty-nine countries that continue to receive EBA treatment (duty free quota free access except for arms) in European Union markets. The exclusive legal basis for the new GSP is EU Regulation No 978/2012 of the European Parliament and of the Council.

The EU regulation No 978/2012 includes Ethiopia among the Beneficiary countries of the special arrangement for the least-developed countries as per Article 1(2) of the proclamation that refers to EBA treatment. There is a provision for ‘Articles of apparel and clothing accessories, of leather or of composition leather’ listed amid products that can be exported from the beneficiary countries. Besides this the Ethiopia also qualifies for preferential access to USA markets under the AGOA.

However the sector suffers from marketing related problems, for instance due to the long exporting process starting from obtaining export license to movement of export cargo which is difficult to understand and seamlessly complete all the documentation and procedural requirements. (<http://www.ethiopianchamber.com/exporters-guide.aspx>)

As a result of their membership in associations which promote export trade and improve business opportunities, the organizations benefit from extra platform where information about them and their products is conveyed to interested stakeholders. ‘Companies can attract customers by promoting various features of the Web site (thus enhancing its usefulness) or by conveying messages that focus on brand image, product assortment, competitive pricing, and customer service’ (Saeed, et al., 2003, p. 120).

Sutton and Kellow (2010) indicated that the organizations in the sector provide training to their employees either on the job or externally in collaboration with institutions like the Ethiopian Leather Industry Development Institute and Leather and Leather Products Technology Institute which was established by COMESA. The latter provides i) diploma course for three years, ii) job training course for one year, and iii) short-term training course to upgrade the skills of the actual workers at a rate of 1,000 trainees per year on average, The institutes have the objectives of providing technical support and consultancy services for existing and potential investors in the sector and to create a conducive atmosphere for developing linkages among the stakeholders in the supply chain.

Chapter Three -Research Methodology

3.1 Sample Size and Selection Procedure

Creswell (2012) stated that in practical, operational terms researchers study a target population (sometimes called the sampling frame) which is the list or record of individuals in a population that a researcher can actually obtain. According to CSA (2012) Report on Large and Medium Scale Manufacturing and Electricity Industries Survey there are formally recognized 68 large and medium scale manufacturers in the leather products industry that produce Leather garments, apparel and Footwear. Using a simple random sampling procedure, total of 40 organizations were selected, and then the data collection instruments were distributed to the organizations. The sample size accounts for about 58.88 % of the sampling frame elements.

To facilitate data acquisition and access to selected organizations two industry associations (Ethiopian Leather Industry Development Institute and Ethiopian Leather Industry Association) that were established to enhance the performance and improve export practices of local leather products manufacturers were contacted and to ensure the suitability of the selected organizations in the research, detailed information about the association members' profile in line with the purpose of the investigation was confirmed by administrative officers in the associations and their recommendations were taken into consideration.

Since the member organizations exhibit varied level of production scale and operational characteristics, it is supposed to enhance the representativeness of the data obtained and the validity of the analysis results. Out of the distributed 40 data collection instruments, 35 were fully completed and returned. To be considered complete, the data collection instrument returned from each sample organization should comprise of a fully completed questionnaire and full financial performance data extracted from audited financial reports and accounting statements.

The reluctance and unwillingness of some organizations to participate in the study or complete the questionnaire or especially provide the necessary financial data and profit margin figures led to abandonment of 5 of the organizations from the originally considered 40 sample units.

3.2 Data Collection and Analysis Methods

To conduct the research both primary and secondary data will be used. The primary Data was collected through questionnaire to be administered to managers of organizations in the study. The Instrument used for collecting secondary data was a financial data collection sheet.

The questionnaire consists of 3 parts: Personal Data, Organizational Ownership and Structure and Organizational Value Chain Activities Survey. The third part, organizational activities survey was designed based on the value chain model developed by Michael porter as described in his book *Competitive Advantage: Creating and Sustaining Superior Performance* (1985). This value chain model was adapted to develop questions that relate to organizational primary and support value chain activities, structured in a 5 point Likert items for each of the nine primary and support value chain activities filled by managerial level employees who rate the organization's performance by selecting from 5 performance levels.

Secondary document analysis was conducted to collect financial data. Tabulated financial data collection sheet with three sections was distributed to the sample organizations. The first section was to collect sales data, which is summarized for four quarters of the operational (fiscal) years and last two sections were for collecting operating costs (direct labor, direct material, factory overhead costs) and operating expenses for the same operational period in which the sales data was collected respectively.

Once the data was collected descriptive analysis was made through summarization and presentation of the survey results and analysis was conducted using MS-Excel, Minitab and SPSS softwares. Inferential analysis was also conducted by calculating the cost-expense-margin breakdown of each of the organizations from the collected financial data, and then using ANOVA, Correlation and Median Tests. The nine primary and secondary value adding activities are variables considered (assumed) to be related with final product values and return margins. Profit margin is considered to be the sum total of the added value contributed by the activities, depending on the scale to which the activities are existent and performed in the organizations. The strength and direction of correlation between the value adding activities and the profit margin shows their nature of association, while the hypothesis tests will prove if the final profit margins do depend on the level of performance of the value adding activities.

There are two sets of data types that exhibit different characteristics used in the research. On one hand the survey results from the questionnaire is an ordinal data and, on the other hand, the financial data is a continuous ratio scale data. Since the questionnaire is composed of 48 individual items classified under 9 latent variables, the Likert items were converted in to Likert scales for each organization by calculating the median score of the Likert items.

For Likert data, positional measures of location like mode and median are appropriate than calculation of item means when constructing scale variables. Wu (2007) explains that Parametric tests like ANOVA and regression analysis for populations rely on mean values and based on the assumption that the sample data variable has an approximate normal distribution. Clason and Dormody (1992) recommend that when at least one of the variables is at the ordinal scale, conservative application of measure of correlation should follow the nature of data at the lower level. Hence, this makes ordinal correlation using Spearman's rho correlation coefficient the better choice of inferential analysis in this research.

Jamieson (2004) also argues that the response categories in Likert survey design have a rank order but the intervals between values cannot be presumed equal. According to Jamieson, the appropriate descriptive and inferential statistics differ for ordinal and interval variables and if the wrong statistical technique is used, the researcher increases the chance of coming to the wrong conclusion. Kuzon et al., (1996) also writes that using parametric statistics on ordinal data is appropriate if the dependant variable considered in the study has a scale level of measurement.

The research methodology of Prajogo, et al., (2008) is adapted in this research to analyze and interpret the analysis. In the mentioned research similar data collection instrument was used, which was a 5 point Likert scale survey design. The instrument developed for the study comprised four scales of independent variables and two scales of dependent variables. The researchers were exploring the extent to which four elements of the value chain –marketing, research and development, procurement, and operations – are related with product quality and product innovation.

3.3 Data Reliability

Cronbach's alpha is the most common measure of internal consistency ("reliability") of research data collected. It is more often used when there are multiple Likert questions in a survey/questionnaire that form a scale, and there is an interest to determine if the data collected is reliable enough to be used for analysis. The reliability analysis, through calculating the Cronbach's alpha, for the Likert items revealed that the reliability test results for the dataset surpassed the threshold of 0.7 as suggested by (Nunnally, 1978).

Total item reliability analysis for the data collected through the questionnaire had Cronbach's alpha value was 0.9032 which was greater than the acceptable internal consistency cut-off point. Also the reliability analysis results for the variables used to measure the research constructs at the scale level is given in the table below.

Table 1. Reliability Analysis

Variables	Cronbach's Alpha	Number Of Items	Sampled Population
Inbound Logistics	0.7947	5	35
Operations	0.8008	6	35
Outbound Logistics	0.7069	5	35
Marketing & Sales	0.7125	7	35
Customer Service	0.7251	5	35
Firm Infrastructure	0.6948	5	35
Human Resource Management	0.7401	5	35
Technology Development	0.7510	5	35
Procurement	0.6944	5	35

Source : data collection questionnaire

Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. Cronbach's alpha will generally increase as the inter correlations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because inter correlations among test items are maximized when all items measure the same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single latent construct (Cronbach, 1951).

3.4 Validity Analysis

According to Drost (2011), Validity emphasizes in creating meaningfulness of the research components and it is concerned whether or not the data collection instrument enables true measurement of what it intended to measure. While Statistical Conclusion Validity focus on testing whether or not relationships exist between the two variables i.e. dependent and independent variables which if not fulfilled results in low statistical power, violation of assumptions and reliability of measures; Internal Validity focuses on research were comprise a representative sample of the population. The statistical results showed there was a significant relationship between the dependent and independent variables and the sample size was also representative enough which fulfills the normality assumption of the statistical tests.

3.5 Research Design

This research intended to assess the relationship between organizational value adding activities of the organizations and profitability which was asserted through quantitative and statistical hypothesis testing of the data collected. It takes the form of confirmatory research design using cross sectional data where set of theory driven predicted (priori) research hypotheses were tested.

The questionnaires used to collect data were filled by top level administrative managers in the respective organizations. The respondents participate in decisions regarding major operational activities of their organization hence they were able to sufficiently rate and describe what the performance level in their organization is with respect to the variables included under each category of value adding activity.

In that way, data which represented each organization (a single unit of measurement) was collected to through a representative proxy. To improve their understanding of the research variables and the data required, the research hypothesis with its description was presented and explained to them. The dependent variable for the study is the operating profit margin of the organizations which is assumed to be affected by the set of value adding activities that are undertaken in the organizations, which are the nine primary and secondary value chain activities taken as the independent variables for the study.

Chapter Four- Data Analysis and Discussion of Findings

4.1 Organizational Characteristics of the Sample Organizations

In order to have an understanding of the operational scale and size of the organizations involved in the study questions relating to form of ownership, age of the organizations , capital, export experience and number of employees of the organizations was solicited.

Table 2. Summary of Organizational Characteristics

No.	Characteristics	Attribute values	Frequency	Percentage
1	Form of Organization	Sole proprietorship	9	25.72
		PLC	26	74.28
		Total	35	100
2	Age of the organization	<10 years	7	20
		10-15 years	12	33.33
		>15 years	16	46.66
		Total	35	100
3	Capital	<2,500,000 Birr	3	8.57
		2,500,000-5,000,000 Birr	6	17.14
		5,000,000-10,000,000 Birr	14	40
		>10,000,000 Birr	12	34.28
		Total	35	100
4	Export experience	≤5 years	5	13.33
		6-10 years	12	33.33
		≥11 years	18	53.33
		Total	35	100
5	Number of employees	<100	13	37.14
		100-200	9	25.71
		200-300	9	25.71
		>300	4	11.42
		Total	35	100

Source : data collection questionnaire

In relation with the dependant variable of the research, a 95 % confidence interval estimate of the population operating profit margin, with respect to the ownership, size age and other organizational characteristics was also constructed and the result is given along with the discussions of the results in the subsequent tables.

The first organizational characteristic considered is the form of ownership in the sample organizations. Referring to table 2, there are two forms of organizations that characterize the samples taken for the study. While sole proprietorship accounts for 25.72 percent of the organizations, 74.28 % of the organizations are private limited companies. Majority of the latter companies are the ones with largest capital.

Table 3. 95 % confidence interval estimate for Operating Profit Margin, based on Ownership Form

Form of Ownership	N	Mean (OPM)	STDV (OPM)	STD error (OPM)	95 % CI		Max	Min
					Lower bound	upper bound		
Sole Proprietorship	9	0.0959	0.0371	0.0124	0.0673	0.1244	0.1563	0.0489
Private Limited Company	26	0.138	0.0541	0.0106	0.1162	0.1599	0.2638	0.0668

Source : data collection questionnaire

The mean operating profit margin of the private limited companies is much higher than that of the companies owned by sole proprietors and the confidence interval estimate also puts the population operating profit margin in a higher range than that of sole proprietorship companies. In most cases, smaller companies started by single individuals have the owners taking active managerial positions in both operational and administrative areas. However, in private limited companies most managerial responsibilities are delegated to other employees who do not have ownership stakes in the organizations.

20 % of the organizations are young with age of less than 10 years. The majority 46.6 % of the organizations are mature which have existed for more than 15 years. Organizations with age of 10 -15 years account for 33.33 % of the organizations taken in the study. Table 4 below shows that the confidence interval for estimation for the range of operating profit margin increases with the age of the organizations. If we take the upper boundaries for instance operating profit margin is 0.1338, 0.14 and 0.1814 respectively for <10 years, 10-15 years, >15 years range.

Table 4. 95 % confidence interval estimate for Operating Profit Margin, based on the age of the organization

Age of the Organization	N	Mean (OPM)	STDV (OPM)	STD error (OPM)	95 % CI		Max	Min
					Lower bound	upper bound		
≤10 years	7	0.0976	0.0392	0.0148	0.0614	0.1338	0.1698	0.0489
11-15 years	12	0.1134	0.042	0.0121	0.0867	0.14	0.2079	0.0668
≥16 years	16	0.1505	0.0579	0.0145	0.1197	0.1814	0.2638	0.062

Source : data collection questionnaire

This might be due to the fact that longer year of operation gives an organization the opportunity to improve its profitability as a result of more learning and experience, being relatively well established in the market with longer years of market presence which leads to a sustainable market share. Majumdar (1997) stated that With respect to the impact of age, older firms are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of newness and can, therefore, enjoy superior performance. In the research he conducted on several industrial firms in India, older age of organizations was found to be consistently linked to higher profitability.

When it comes to capital accumulation of the sample organizations, 40 % and 34.28 % of them have capital amounting within 5 to 10 and more than 10 million birr respectively. Such organizations have mass production systems that require machineries and installations to accommodate considerable production outputs. Smaller organizations that focus on specialized and fewer products relaying mainly on craftsmanship of skilled labor inputs in their production systems have relatively smaller capital. 8.57 % of the organizations have less than 2.5 million Birr. The remaining 17.14 % of the organizations have capital ranging from 2.5 to 5 million birr.

Table 5. 95 % confidence interval estimate for Operating Profit Margin, based on capital

Capital In Million Birr	N	Mean (OPM)	STDV (OPM)	STD error (OPM)	95 % CI		Max	Min
					Lower bound	upper bound		
< 2.5	3	0.0732	0.00753	0.00435	0.05449	0.09191	0.0815	0.0668
2.5 - 5	6	0.1227	0.0443	0.0181	0.0763	0.1692	0.1991	0.0854
5-10	14	0.1199	0.0503	0.0134	0.0909	0.1489	0.2079	0.0489
> 10	12	0.1514	0.0577	0.0166	0.1148	0.1881	0.2638	0.0738

Source : data collection questionnaire

The populations mean operating profit margin confidence intervals for the different size of capital accumulation, as shown on table 4 above is also consistent with the results form table 4 which shows the relationship between profit margin and age of the organization. The lower bounds of the confidence intervals for < 2.5 , 2.5 – 5, 5-10 and > 10 million birr capital is 0.05449, 0.0763 , 0.0909 and 0.1148 respectively. The mean operating profit margin of the groups is seen to be higher and higher as the amount of capital range increases.

According to Penrose (1959) the size of a firm affects performance in many ways. Key features of a large firm are its diverse capabilities, the abilities to exploit economies of scale and scope and the formalization of procedures. These characteristics, by making the implementation of operations more effective, allow larger firms to generate superior performance relative to smaller firms. Besides this, grater investment in capital also enables mass production there by increasing the sales volume of the organizations.

The export experience of the organizations also varies from less than 5 years to more than 10 years experience in foreign and international markets. While the former accounts for only 13.33 % of the samples taken, the latter group accounts for the lion’s share of the samples organizations making up 53.33 % of the samples. Export experience with foreign countries and participation in international markets ranges from partaking in international trade fairs abroad and selling custom products to interested foreign customers at a smaller scale to contractual agreements of large scale and mass productions as per the product and production specifications of foreign clients. In some cases, such agreements also include production of leather product components and export to foreign companies for assembly and conversion in to finished products by other leather products manufacturing companies abroad.

Table 6. 95 % confidence interval estimate for Operating Profit Margin, based on export experience

Export Experience	N	Mean (OPM)	STDV (OPM)	STD error (OPM)	95 % CI		Max	Min
					lower bound	upper bound		
≤5 years	5	0.1025	0.0307	0.0137	0.0644	0.1407	0.1493	0.0668
6-10 years	12	0.1244	0.0597	0.0172	0.0864	0.1623	0.2609	0.0489
≥11 years	18	0.1359	0.0534	0.0126	0.1094	0.1625	0.2638	0.062

Source : data collection questionnaire

The confidence intervals indicate that the operating profit margins of the organizations tend to be higher with longer years of export experience. This might be due to the higher value of leather products in export markets and additional gains that will be obtained due to foreign exchange advantages that favors exporters.

Among the organizations, 37.14 % of them have fewer than 100 employees; two quarters of the organizations each have one hundred to two hundred and two hundred to three hundred employees respectively. 11.42 % of the organizations also have more than three hundred workers.

Table 7. 95 % confidence interval estimate for Operating Profit Margin, based on number of employees

Number of Employees	N	Mean (OPM)	STDV (OPM)	STD error (OPM)	95 % CI		Max	Min
					lower bound	upper bound		
< 100	13	0.1379	0.0367	0.0102	0.1157	0.1601	0.2079	0.0815
100-200	9	0.1468	0.0728	0.0243	0.0909	0.2027	0.2638	0.0668
200-300	9	0.1043	0.0521	0.0174	0.0642	0.1443	0.1991	0.0489
> 300	4	0.0999	0.0321	0.016	0.0489	0.1509	0.1457	0.0713

Source : data collection questionnaire

Sutton and Kellow (2010) have found that most firms in the leather products manufacturing industry in Ethiopia employ traditional production systems, which as compared to major international competitors are relatively, labor intensive. Thus labor for the most part represents a considerable amount of the direct production costs of most organizations in the sector. As table 6 above shows the confidence interval range is highest for the organizations which have relatively the least number of employees, and confidence interval gets lower, with increasing number of employees in each subsequent group. In line with this, the mean of each group steadily declines from the group with the least number of employees to the largest number of employees.

4.2 Correlation Analysis of Value Chain Activities with Operating Profit Margin

Based on the survey results obtained and financial data collected, a correlation analysis was conducted to see how the financial performance of the organizations measured by their operating profit margin is associated with their performance of their value adding activities. Most previous researches in the subject matter of the value chain focused mainly on industry level studies, emphasizing on industry linkages and relationships of the value chain members as a whole. However, it is equally important to study the micro level value chains within the organizations and explore the relationships of the activities with each other and how these activities determine the performance and contribution margin of the firms.

The values of the latent constructs in this research were obtained through variable construction in SPSS by means of transforming the survey results for the items in each scale of the questionnaire into a single median measurement value for each of the 35 organizations.

The data was compiled from the data collection questionnaire and financial data collection sheet distributed to the sample organizations. As indicated in the methodology section, the Spearman's correlation coefficient as a measure of association between the nine value adding activities values and the operating profit margin proportion of the organizations was computed in SPSS. The median is used as a basis to determine the composite scores of each construct, which are the nine value adding activities considered in the research.

The table below presents the measurements of the value adding activities, and the financial data proportions for the organizations in the study.

Table 8. Analysis Data (Value Adding Activities and Financial Proportions)

NO.	Value Adding Activities Performance									Financial Proportions			
	IL	OP	OL	MS	CS	FI	HR	TD	PR	CGS	GPM	OEM	OPM
1	4	5	4	4	5	2	3	5	5	0.7131	0.2869	0.1376	0.1493
2	5	5	5	4	4	5	5	5	4	0.4408	0.5592	0.2983	0.2609
3	4	5	5	3	4	4	5	4	5	0.5933	0.4067	0.2171	0.1896
4	2	2	4	2	5	4	4	2	2	0.6601	0.3399	0.2584	0.0815
5	5	5	4	4	5	2	4	2	5	0.7046	0.2954	0.1748	0.1206
6	5	5	5	5	5	5	5	5	4	0.6429	0.3571	0.1821	0.175
7	5	5	4	4	4	4	5	2	2	0.6342	0.3658	0.2201	0.1457
8	2	2	4	2	2	2	3	2	5	0.8395	0.1605	0.0937	0.0668
9	4	5	4	5	5	5	4	4	4	0.7187	0.2813	0.1115	0.1698
10	3	4	3	2	4	2	4	3	3	0.7277	0.2723	0.1666	0.1057
11	5	5	4	5	5	5	5	4	5	0.6493	0.3507	0.1428	0.2079
12	5	5	5	4	4	4	5	5	5	0.7021	0.2979	0.0988	0.1991
13	5	5	5	4	3	4	5	5	4	0.7008	0.2992	0.1289	0.1703
14	5	5	5	3	5	5	5	5	5	0.2915	0.7085	0.4447	0.2638
15	2	3	3	2	2	2	3	3	2	0.784	0.2159	0.1669	0.0489
16	3	4	2	3	5	3	3	2	2	0.6894	0.3106	0.2051	0.1055
17	3	4	3	2	5	2	5	3	4	0.7049	0.2951	0.2238	0.0713
18	4	4	3	4	3	4	4	3	5	0.7614	0.2386	0.1378	0.1008
19	5	5	3	5	4	5	4	3	4	0.6981	0.3019	0.1607	0.1412
20	2	4	2	2	4	2	4	2	3	0.7181	0.2819	0.1933	0.0886
21	3	4	2	3	3	3	3	2	4	0.7943	0.2057	0.1389	0.0668
22	2	4	3	4	3	4	5	3	3	0.7649	0.2351	0.1403	0.0948
23	5	5	4	5	4	5	3	4	4	0.6551	0.3449	0.2176	0.1273
24	5	5	2	4	5	4	5	2	5	0.7546	0.2454	0.109	0.1364
25	4	4	3	4	3	4	5	3	3	0.7781	0.2219	0.1274	0.0945
26	5	4	5	3	5	3	4	5	4	0.8572	0.1428	0.0449	0.0979
27	5	3	5	2	3	2	3	2	2	0.7833	0.2167	0.1547	0.062
28	4	5	5	4	5	4	5	3	4	0.8119	0.1881	0.0574	0.1307
29	5	4	4	5	3	4	3	3	5	0.6872	0.3128	0.2014	0.1114
30	4	5	5	4	5	4	4	4	4	0.6511	0.3489	0.201	0.1479
31	3	4	4	4	3	2	5	3	3	0.7439	0.2561	0.1402	0.1159
32	5	5	4	5	4	4	3	4	4	0.6673	0.3327	0.2473	0.0854
33	5	5	5	3	4	2	5	2	5	0.7577	0.2423	0.086	0.1563
34	4	4	3	4	3	4	5	3	3	0.8259	0.1741	0.1003	0.0738
35	3	4	4	4	3	4	5	3	3	0.7983	0.2017	0.1135	0.0882

Source: researcher's survey and financial statements of the organizations (SPSS output)

Note:

- **IL** = inbound logistics , **OP**= operations, **OL** =outbound logistics, **MS**= marketing and sales, **CS**= customer service, **FI**=firm infrastructure, **HR**=human resource management , **TD**= technology development, **PR**=procurement
- **CGSM**= cost of goods sold proportion, **GPM**= gross profit margin, **OEM**= operating expense proportion, **OPM**= operating profit margin
- 5 = “ very Strong” , 4= “strong” , 3= “average” , 2= “ weak”

A positive coefficient indicates that two variables systematically vary in the same direction: as one variable increases, the other variable tends to increase. The closer the coefficient is to +1.00, the stronger the positive association. A negative coefficient indicates that two variables systematically vary in opposite directions: as one variable increases, the other variable tends to decrease. The closer the coefficient is to -1.00, the stronger the negative association. A coefficient close to zero indicates that no systematic co-varying exists between the variables.

In order to interpret correlation results analyzed using spearman’s correlation coefficient (r_s), Pallant (2007) suggests that Spearman’s rho correlation results can be interpreted as follows:

- $r_s = 0.10$ to 0.29 small correlation
- $r_s = 0.30$ to 0.49 medium correlation
- $r_s = 0.50$ to 1.00 high correlation

Also the significance value tells us if the probability of the correlation is as a result of accidental coincidence or not. In most cases, social scientists accept any probability value below 0.05 as being statistically meaningful and so any probability value below 0.05 is regarded as indicative of genuine relationship between the variables. In other words at the 0.05 level of significance ($P < 0.05$), the researcher can be 95% confident that the relationship between these two variables is not due to chance and a statistically significant relationship exists among the variables under consideration. Hence, we can have confidence that the association is genuine and not a chance result.

Another approach to determine if there is a statistically significant correlation between two given variables is to look at the critical values given in critical values of the spearman rank order correlation coefficients (the r_s) tables.

At the determined or selected significance level for the study and the sample size of the study, the calculated value of r_s should at least be equal or exceed the critical value given in the r_s critical values table. If these criteria are fulfilled we can say that the correlation coefficient result is statistically significant at the level you have chosen. So from the table at $n= 15$, the critical values for the two level of significance are

- $r_s = 0.521$ at 0.05 level of significance and ,
- $r_s = 0.654$ at 0.01 level of significance

The spearman's correlation coefficient is a non-parametric test used to analyze the correlation between independent and dependent variables. It is thus appropriate when the data represent an ordinal scale. This research has examined the nature and strength of the relationship between organizational value adding activities and firm performance. The Spearman correlation analysis showed that each of the nine primary and support value adding variables that are considered to be the independent factors were positively correlated to the dependent variables of operating profit margin of the organizations.

Referring table 8 below, statistically significant and strong positive relationship at both 0.01 and 0.05 level of significance is observed between operating profit margin and all the primary and secondary value adding activities. Based on the cutoff points for level of correlation stated by Pallant (2007), all the coefficients are in the high correlation range with the exception of marketing and sales and customer service independent factors, which although are in the medium correlation range, are close to the cut of point of the high correlation range i.e. (0.5), with 0.465 and 0.474 correlation coefficient values respectively.

Thus, the results indicate that, given 0.01 level of significance, we can be 99 % confident in claiming that the organizational value adding activities and operating profit margin vary together with a strong positive association. If the organizations have good performance in these activities, as measured by the computed scores given in table 9, it is highly likely that these organizations will also have a higher value of profitability as measured by operating profit margin.

A point of caution when interpreting spearman's correlation coefficient is the issue of Multicollinearity, which is stated by Anderson, et.al, (2011) as the case where the inter variable correlations among the predictors is high (0.7) indicating inherent problems of multicollinearity and other validity issues.

		IL	OP	OL	MS	CS	FI	HR	TD	PR	OPM	
Spearman's rho	IL	Correlation Sig. (2-tailed) N	1.000 .000 35	.676** .000 35	.513** .002 35	.536** .001 35	.268 .120 35	.448** .007 35	.173 .319 35	.376* .026 35	.443** .008 35	.583** .000 35
	OP	Correlation Sig. (2-tailed) N	.676** .000 35	1.000 .000 35	.426* .011 35	.605** .000 35	.512** .002 35	.523** .001 35	.349* .040 35	.491** .003 35	.512** .002 35	.841** .000 35
	OL	Correlation Sig. (2-tailed) N	.513** .002 35	.426* .011 35	1.000 .000 35	.124 .476 35	.209 .229 35	.235 .174 35	.258 .135 35	.534** .001 35	.299 .081 35	.537** .001 35
	MS	Correlation Sig. (2-tailed) N	.536** .001 35	.605** .000 35	.124 .476 35	1.000 .000 35	.120 .491 35	.689** .000 35	.136 .435 35	.429* .010 35	.283 .100 35	.465** .005 35
	CS	Correlation Sig. (2-tailed) N	.268 .120 35	.512** .002 35	.209 .229 35	.120 .491 35	1.000 .000 35	.223 .198 35	.127 .467 35	.225 .195 35	.239 .166 35	.474** .004 35
	FI	Correlation Sig. (2-tailed) N	.448** .007 35	.523** .001 35	.235 .174 35	.689** .000 35	.223 .198 35	1.000 .000 35	.324 .057 35	.506** .002 35	.170 .328 35	.553** .001 35
	HR	Correlation Sig. (2-tailed) N	.173 .319 35	.349* .040 35	.258 .135 35	.136 .435 35	.127 .467 35	.324 .057 35	1.000 .000 35	.220 .204 35	.081 .643 35	.468** .005 35
	TD	Correlation Sig. (2-tailed) N	.376* .026 35	.491** .003 35	.534** .001 35	.429* .010 35	.225 .195 35	.506** .002 35	.220 .204 35	1.000 .000 35	.319 .062 35	.577** .000 35
	PR	Correlation Sig. (2-tailed) N	.443** .008 35	.512** .002 35	.299 .081 35	.283 .100 35	.239 .166 35	.170 .328 35	.081 .643 35	.319 .062 35	1.000 .000 35	.515** .002 35
	OPM	Correlation Sig. (2-tailed) N	.583** .0002 35	.841** .0000 35	.537** .0009 35	.465** .0049 35	.474** .0041 35	.553** .0006 35	.468** .0046 35	.577** .0003 35	.515** .0016 35	1.000 .000 35

Note:

- **IL** = inbound logistics , **OP**= operations, **OL** =outbound logistics, **MS**= marketing and sales, **CS**= customer service, **FI**=firm infrastructure, **HR**=human resource management , **TD**= technology development, **PR**=procurement
- **CGSM**= cost of goods sold proportion, **GPM**= gross profit margin, **OEM**= operating expense proportion, **OPM**= operating profit margin

4.3 Non Parametric Mood's Median Test

Going further from the correlation analysis and results from the previous section, it would be logical to extend the analysis of the data by considering the levels of performance of the organizations with respect to each of the independent variables. While correlation takes in to account all the data set as a whole without any consideration of the levels of the independent variables within themselves for analysis purposes, non parametric tests like the moods median test accounts for the layers and levels of the data in each of the predictor variables.

Mood's median test is one of the most versatile and generic non parametric hypothesis test because the test does not have more conservative assumptions as seen in most other parametric tests about the nature of the population. In fact, the only two assumptions of the moods median test are:

- Observations are independent
- The dependant or response variable forms a continuous distribution

Assumption of normality is a frequent requirement for most statistical hypothesis tests, but the moods median test does not require any specific type of distribution for the data, so it is a natural starting point to see whether the differences in the levels of the independent variables have an impact on what values the dependent variable is expected to have.

A related non parametric statistical test applied to differences in median is the Mann-Whitney median test, which is appropriate for data where the independent variables have two levels. However, the data for this particular research is measured by a 5 point likert scale, corresponding to the level of performance of the organizations ranging from very strong to very weak based on the perceptions of the managers regarding each value adding activity.

Mumby (2002) indicated that the reason why we should be concerned with the power of non-parametric methods is that the most obvious and possibly common case is when field data do not meet the distribution assumptions of parametric methods, even after transformation. Another important case is when field data are not gathered on interval scales but rather on Ordinal and categorical scales.

Mood's median test performs a hypothesis test of the equality of population medians in a one-way design. It is sometimes called a median test or sign scores test. Mood's median test is robust against outliers and errors in data, and is particularly appropriate in the preliminary stages of analysis, which is the case here.

The null hypothesis of the test is that the median value of each level in the independent variable is equal. The alternative hypothesis is stated as the median value of the several levels across a given independent variable is different or not equal. Hence, the hypothesis for this research data is given as :

H₍₀₎: The populations represented by the levels of performance in the independent value adding activities have the same median on the quantitative response variable (operating profit margin)

H_(a) : The populations represented by the levels of performance in the independent value adding activities have different medians on the quantitative response variable (operating profit margin)

while the null hypothesis states that the median operating profit margins of the organizations is the same across different levels of performance, the research hypothesis is that higher medians of operating profit margin should be observed for groups of organizations with higher performance; while lower median values are expected to be the case for groups which have a lower performance in their value adding activities.

Table 10 below presents the test statistic, degree of freedom and the P values for the research data. Given the chosen level of significance of 0.05, the tests for each of the nine primary and secondary value adding activities, the results from Minitab statistical software analysis will indicate whether the null hypothesis should be rejected or should be accepted.

Table 10. Mood's median test Result

Moods Median Test Results			
Independent Variable	Chi-Square Test Statistic	D.F.	P Value
Inbound Logistics	15.48	3	0.001
Operations	31.22	3	0.000
Outbound Logistics	9.93	3	0.019
Marketing And Sales	8.86	3	0.031
After sale And Customer Service	11.90	3	0.008
Firm Infrastructure	11.65	3	0.009
Human Resource Management	4.33	2	0.114
Technology Development	11.95	3	0.008
Procurement	12.39	3	0.006

Source : researchers survey data , D.F = degrees of freedom

As it can be seen from the table above, there is statistically significant difference in the median values of operating profit margin for different levels of performance in the value adding activities. To further substantiate the claim, the inter-quartile range of operating profit margins for different performance levels in each of the value adding activities shows consistency with the results from the mood's median test in such a way that the value of inter quartile range ($Q_3 - Q_1$) tends to be progressively higher for higher performance levels, and lower for lower performance levels of the value adding activities under consideration.

Table 11. inter quartile range of operating profit margins for different performance levels

		Inter Quartile Range Of Value Adding Activities Against Operating Profit Margin								
		IL	OP	OL	MS	CS	FI	HR	TD	PR
Performance Level	2	0.034	0.015	0.056	0.027	0.018	0.062	-	0.072	0.070
	3	0.038	0.013	0.033	0.118	0.040	0.039	0.055	0.037	0.018
	4	0.069	0.025	0.062	0.054	0.091	0.060	0.051	0.077	0.082
	5	0.079	0.057	0.068	0.064	0.071	0.12	0.100	0.112	0.088

Source : researchers survey data

Note :

- Overall median = 0.116

- IL = inbound logistics , OP= operations, OL =outbound logistics, MS= marketing and sales, CS= customer service, FI=firm infrastructure, HR=human resource management , TD= technology development, PR=procurement
- CGSM= cost of goods sold proportion, GPM= gross profit margin, OEM= operating expense proportion, OPM= operating profit margin
- 5 = “ very Strong” , 4= “strong” , 3= “average” , 2= “ weak”

The exception in the model is the case of human resource management, where we fail to reject the null hypothesis, given the level of significance, because the P value is much higher than 0.05. but for the rest of the independent variables , the null hypothesis is rejected leading to the claim that the median value of operating profit margin varies across groups with varied level of performance in the respective value adding activity, as it is indicated by both the mood’s median test results and the interquartile range values that are different across the levels.

4.4 Analysis Of Variance (ANOVA) Hypothesis Test and Discussion of Results

The main statistical test intended to be conducted in this research is the analysis of variance or ANOVA test, that was used to test the assumption made initially that the profitability of organizations as measured by their operating profit margin depends on the level of performance in the value adding activities mentioned and discussed in several sections earlier. Hence ANOVA tests on the survey data indicated whether or not the level of performance in the value adding activities of organizations has a significant impact on organizational profitability.

The previous statistical tests conducted, which are the spearman’s correlation coefficient and moods median test are meant to be staging grounds and preliminary tests to move on and conduct a more powerful parametric test like ANOVA, which has more power in explaining the relationship between the independent and the dependant variables of the research.

As an extension to the T test which compares the means of two groups, ANOVA compares the means of several groups. The response (dependant) variable is measured by a scale level and is a continuous variable, while the factor (independent) variable is a categorical or ordinal variable.

One way ANOVA tests were conducted on each of the nine primary and secondary value adding activities, taking operating profit margin of the organizations as the response variable.

As mentioned in chapter one of this research report, the null and alternative hypothesis for ANOVA are :

$$\mathbf{H}_0: \mu_1 = \mu_2 = \mu_3$$

\mathbf{H}_a : at least one mean differs from the rest

So for the case of this research, the null and alternative hypothesis is stated as

H₀: there is no statistically significant difference of means based on different levels of performance of value adding activities

H_a: there is a statistically significant difference of means based on different levels of performance of value adding activities

If the test results indicate that the null hypothesis is true then the conclusion will be that, operating profit margin will not be affected even if the level of performance in the value adding activities is different and hence, the impact of higher or lower levels of performance in the value adding activities does not result in the changes of the operating profit margins of the organizations.

On the contrary, if the research results support the research (alternative) hypothesis that will be an indication that the operating profit margin of organizations is indeed impacted by the levels of difference in the value adding activities and the mean operating profit margin varies across different levels of the value adding activities.

4.4.1 Testing Assumptions of Analysis Of Variance

4.4.1.1 Normally Distributed Data

This assumption is to check whether the collected data is acquired from a normally distributed population. Parametric tests like ANOVA assume that the population that is represented by a sample is normally distributed. There are several ways to ensure that the response variable is normally distributed. Starting from visual techniques like observation of the shape of histograms and confidence intervals that will reveal skewness other signs of non-normality , more robust

hypothesis tests can also be conducted to ensure whether the sample data is in fact obtained from a normally distributed population.

In this research, both the visual inspection of the shape of the distribution through the construction of histograms of the data and hypothesis test is conducted using the Anderson-Darling Test of Normality

Parametric statistical tests, by definition, assume that the data being tested is normally distributed and use of the mean as the measure of central tendency. Sample data sets might often seem to be skewed when inspected visually and it might be difficult to state a concrete claim that the data is normally distributed, and continue to the comparison of means.

As stated by Stephens (1974) The Anderson-Darling test is used to test if a sample of data came from a population with a specific distribution. The Anderson-Darling test makes use of the specific distribution in calculating critical values. This has the advantage of allowing a more sensitive test but the critical values must be calculated for each type of distribution (normal, exponential, lognormal, etc.). The null and alternative hypotheses of the test are stated as:

H₀: the data are normally distributed

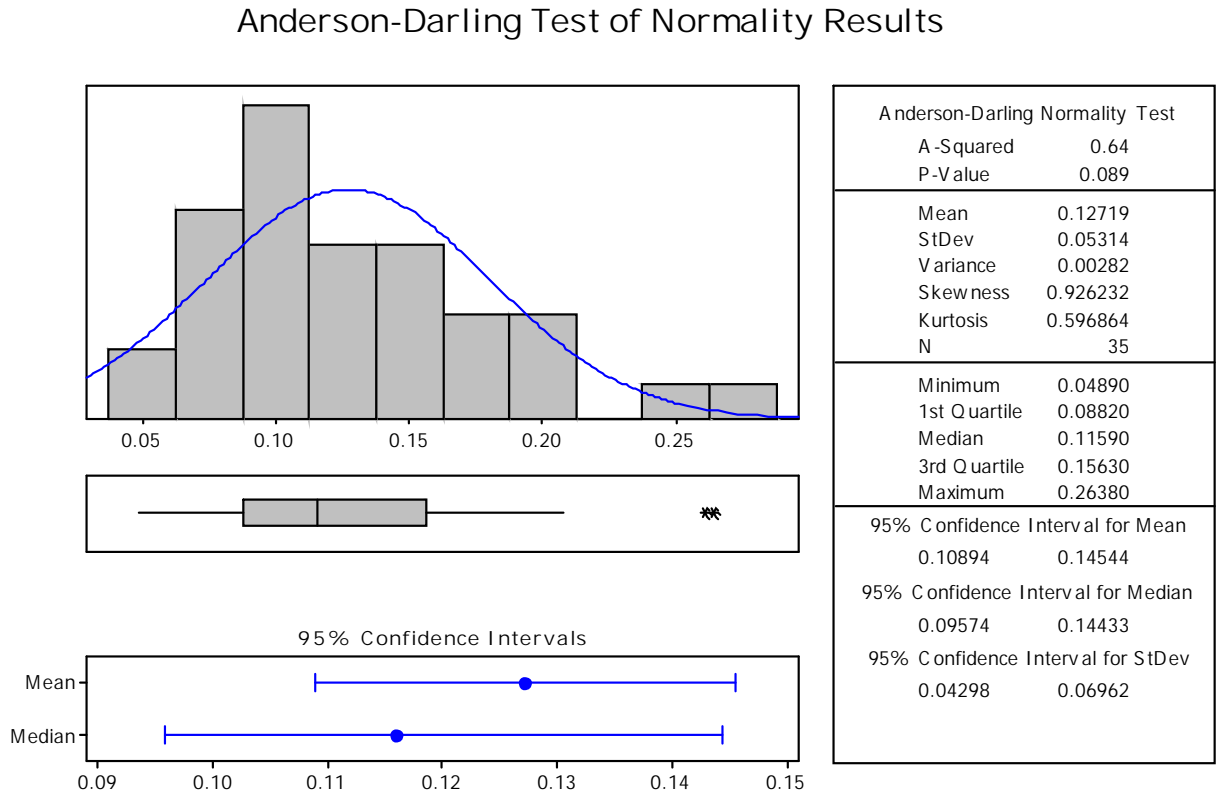
H_a: the data are not normally distributed

There are many non-parametric and robust techniques that do not make strong distributional assumptions. However, techniques based on specific distributional assumptions are in general more powerful than non-parametric and robust techniques. Therefore, if the distributional assumptions can be validated, they are generally preferred. Many statistical tests and procedures are based on specific distributional assumptions. The assumption of normality is particularly common in classical statistical tests.

To reject the H₀ or to fail to reject the null hypothesis that states the population follows a specific type of distribution (normal in this case) the A² Anderson-Darling test statistic or the P value approach can be used. If the data does not follow the specific type of distribution stated in the null hypothesis, then the value of the A² test statistic will be large and the P value will be low, specifically less than the chosen level of significance.

However, if the null hypothesis assumption is to be retained, and the data is generated from a normal distribution, the test statistic will small with a corresponding high P value and consequently the hypothesis of normality will not be rejected.

Figure 3. Normality Test for the Response Variable (Operating Profit Margin)



Source : researchers survey data

Starting from the visual inspection of the histogram of the data distribution as well as the confidence intervals of the mean and the median, it can be declared that the data seems to have a normal distribution.

Moreover, the Anderson-Darling test statistics as well as the corresponding P value also provide a concrete basis to claim that the population has a normal distribution. Given the level of significance of 0.05 for the study, the test results have a P value of 0.089 and A² test statistic of 0.64. Since the P value is greater than the level of significance then we fail to reject the H₀ which fulfills the assumption that the population is normally distributed. Since the data has a normal distribution then the application of parametric tests on the data is possible.

Once it is proven that the data considered in its entirety is a normally distributed, the normality tests should be widened for each of the levels in the dependant variables. In this step of ensuring the assumption of normality is satisfied before conducting One-way ANOVA test, a hypothesis test is undertaken, where the Null Hypothesis is that there is no significant departure from normality for each of the groups/levels, as such; retaining the null hypothesis indicates that the assumption of normality has been met for the given samples. The Alternative Hypothesis is that there is a significant departure from normality, as such; rejecting the null hypothesis in favor of the alternative indicates that the assumption of normality has not been met for the given samples. Hence the null and alternative hypothesis, the null and alternative hypothesis is given as:

H₀: there is no statistically significant departure from normality for each of the groups/levels

H_a: there is a statistically significant departure from normality for each of the groups/levels

In this research the Shapiro-Wilks statistical test of the hypothesis that sample data have been drawn from a normally distributed population was conducted and the results are summarized in the table below.

Table 12. Shapiro-Wilks Statistical Test of Normality Results

		Shapiro-Wilks Statistical Test Of Normality In the Levels Of the independent Variables								
		IL			OP			OL		
		Statistic	DF	Sig.	Statistic	DF	Sig.	Statistic	DF	Sig.
level	2	.940	5	.664	.809	4	.119	.992	4	.967
	3	.905	6	.407	.923	3	.463	.961	8	.822
	4	.965	8	.857	.947	13	.547	.956	12	.729
	5	.957	16	.614	.931	18	.198	.964	11	.817
		MS			CS			FI		
		Statistic	DF	Sig.	Statistic	DF	Sig.	Statistic	DF	Sig.
level	2	.987	7	.985	.968	3	.661	.941	10	.566
	3	.943	6	.682	.885	9	.178	.891	3	.356
	4	.905	15	.112	.939	10	.545	.915	15	.161
	5	.985	7	.980	.949	13	.596	.907	7	.374
		HR			TD			PR		
		Statistic	DF	Sig.	Statistic	DF	Sig.	Statistic	DF	Sig.
level	2				.912	10	.294	.952	5	.755
	3	.940	9	.586	.987	12	.999	.967	7	.875
	4	.931	9	.493	.976	6	.931	.929	12	.375
	5	.945	17	.377	.938	7	.617	.979	11	.963

Source : researchers survey data

Note:

- IL = inbound logistics , OP= operations, OL =outbound logistics, MS= marketing and sales, CS= customer service, FI=firm infrastructure, HR=human resource management , TD= technology development, PR=procurement
- 5 = “ very Strong” , 4= “strong” , 3= “average” , 2= “ weak”

Form table 12 above where $\alpha = .05$, given that all significance values are greater than alpha we fail to reject the null hypothesis that assumes there is no statistically significant departure from normality for each of the groups/levels. Accordingly the conclusion is that each of the levels for every Independent Variable is normally distributed. Therefore, the assumption of normality has been met for the research sample.

4.4.1.2 Independence

This assumption states that the research sample design should have independently observed units; where by measurement from one observation (measurement) does not depend, in any way on the observations (measurement) on other sample units

In this research, data was collected from each organization independently without any influence on each other so the requirement of independence is fulfilled. The independence assumption is more of a sampling design issue and as long as the researcher makes sure that each observation is independently done without any influence of other observations, the assumption of normality is fulfilled.

The independence assumption is met when sample selection is random. Thus it is based on the sampling procedures used to create the sample units. Since the research follows a random sampling procedure this supplements the claim that the assumption of normality is met.

4.4.1.3 Homogeneity of Variances

An important testing assumption for ANOVA and other similar parametric tests is that the population variance across the levels of the independent variable is equal. Homogeneity of variances can be checked by construction box plots, error bar graphs as well other diagrammatic representation of the data can be used to test Homogeneity of variance. Nevertheless a more vigorous procedure is based on actual hypothesis tests that will strongly prove if the assumption is met.

Common statistical tests for proving homogeneity of variance assumption are Levene's Test (for any continuous distribution), Welch statistic or the Brown-Forsythe statistic by applying an adjusted F test.

In this research, Levene's Test as well as the Welch robust test of homogeneity of variance was performed and the results indicated that the homogeneity of variance assumption is satisfied.

When stated in a hypothesis testing form, for Levene's test of equality of variance, the null hypothesis states that the variances across the groups or levels being tested are equal and the alternative hypothesis is tested given as the variance across the groups is not equal. In other words,

$$\mathbf{H_0: } \sigma_1^2 = \sigma_2^2 = \sigma_3^2 = \dots = \sigma_n^2$$

H_a: Not all of the variances are equal.

If the test results show a large value of Levene's test statistic and a P value that is less than the chosen level of significance, then we fail to reject H₀ retaining the assumption the homogeneity of variance assumption is met. In the case of Welch's robust test of Welch robust test of homogeneity of variance, the P value is expected to be less than the chosen level of significance, hence leading to the assertion that the variance of the groups across the population is statistically assumed to be equal.

If the two tests show that the homogeneity of variance assumption is fulfilled then the results of ANOVA tests will be valid and acceptable. But due to some reasons the assumption is not satisfied, then other Non-Parametric equivalent tests like the Kruskal-Wallis H test can be used instead when there is a violation of this assumption. The Kruskal-Wallis test does not assume population normality nor homogeneity of variance, as does the parametric ANOVA, and only requires ordinal scaling of the dependent variable. It issued when violations of population normality and/or homogeneity of variance are extreme or when interval or ratio scaling are required and not met by the data.

From Table 13 below, both the Levene's test and Welch test used to test the assumption of homogeneity of variance resulted in test statistics and significance values that prove that the homogeneity of variance assumption is satisfied.

Levene's test was not significant for all independent variables and so we retain null hypothesis in which the data used for the study had equal variances for all independent variables. The p-value exceeded alpha level of 0.05, suggesting that the variances for the all groups of subjects are equal; therefore, the assumption is justified.

Table 13. Homogeneity of Variance Test Results Using Levene's And Welch's Tests

		Test Statistic	DF1	DF2	P Value
Levene's Test Of Homogeneity Of Variance	IL	2.623	3	31	.068
	OP	2.53	3	31	.075
	OL	1.458	3	31	.245
	MS	2.418	3	31	.085
	CS	1.398	3	31	.262
	FI	1.617	3	31	.205
	HR	3.230	2	32	.053
	TD	2.261	3	31	.101
	PR	2.425	3	31	.084
Welch's Robust Test Of Homogeneity Of Variance	IL	8.697	3	14.879	.001
	OP	19.787	3	3.691	.009
	OL	4.634	3	12.635	.021
	MS	9.457	3	13.141	.001
	CS	11.059	3	9.071	.002
	FI	6.239	3	10.246	.011
	HR	5.173	2	20.346	.015
	TD	6.350	3	12.954	.007
	PR	5.226	3	12.881	.014

Source : researchers survey data

Note :

- IL = inbound logistics , OP= operations, OL =outbound logistics, MS= marketing and sales, CS= customer service, FI=firm infrastructure, HR=human resource management , TD= technology development, PR=procurement

4.4.1.4 Continuous Dependant Variable

The response variable in this research that is used for all hypothesis tests is measured by the continuous distribution of the operating profit margin of the organizations, which is at the scale level of measurement. So here again, the assumption that the dependent variable in the hypothesis test is a continuous variable is fulfilled as well.

4.4.2 Analysis Of Variance Test and Discussion of Results

Survey data collected for research purposes represents meaningful relationships among the variables being studied in the research. The purpose of statistical hypothesis tests is then to use the data to quantify and ascertain the existence as well as the nature of the relationship among the variables of interest, and serve as a basis to extend and generalize the findings to the population from which the samples were taken.

As mentioned in the first chapter of this research, hypothesis testing with ANOVA was conducted to see the relationship between the value adding activities of the organizations and their operating profit margin. The logic behind this test is, to see if operating profit margin is influenced and depends on the level of performance in the value adding activities classified as primary and secondary value adding activities. Furthermore, the extent to which the operating profit margin of the organization is influenced by each of the value adding activities will also be revealed through the coefficient of determination or (R^2) square from the one way ANOVA tests for each of the nine value adding activities.

The statistic R^2 is useful for interpreting the results of certain statistical analyses; since it represents the percentage of variation in a response variable that is explained by its relationship with one or more predictor variables.

In this research one-way ANOVA was conducted to test the hypothesis that the mean operating profit margin of organizations depend on the level of performance in the value adding activities. Therefore, we assume that the groups represent different levels of a single theoretical variable.

Based on the results of the previous non parametric tests of spearman's correlation coefficient and moods median test, a foundation has been established that the operating profit margin of organizations varies with different levels of performance in the value adding activities.

If the ANOVA tests results are consistent with the results obtained from the previous tests then it can be concluded with a high degree of assurance that organizations value adding activities can be used as an explanatory factor for the variation in the operating profit margin.

Also, an important implication from the test results will be to identify which value adding activities have more explanatory and determining impact on the operating profit margin of the organizations.

In that way, the test results can be converted in actual intervention actions in the organizations because, more emphasis should be given to the factors (the set of value adding activities) that seem to influence profitability of the organizations more than the others.

The data collection instrument consisted of a survey questionnaire used to collect information about the performance of each organization with respect to the value adding activities. Each organization was represented by a proxy managerial level of employee, with their critical points of view on the variables, who rated the organization in the nine value adding activity dimensions of the independent variables. The level of agreement explains the existence and application of a given value adding activity. If the Likert scale shows an agreement to the elements (Likert items) for a given determinant factors this point towards a strong performance of the organization in that specific value adding activity. On the contrary if the scale shows a disagreement, then this can be translated as a weak performance in the value adding activity.

ANOVA compares the variability that exists within the groups or levels to the variability that exists between the groups or levels to determine if there are any differences among the means. The variability between the groups is measured by comparing the observed group means to the mean of all of the groups put together. Consequently, as the differences between the groups get bigger it is expected that the average difference between the mean of the groups and the overall mean also gets bigger.

So the need of ANOVA hypothesis test is that, even if the population means of the groups under investigation are equal, there is a chance also called sampling error that the mean of the groups or the levels might be different due to randomization of sample selection. For each of the groups in the independent variable the influence of random variability is the sole cause of a different value in the dependant variable. Using the variability of the response variable, the amount of variability can be estimated in the sample data collected.

Then, The F test statistic is used to see how large the differences are between the groups compared to the amount of random variability in the measurements to determine how likely it is that one would obtain differences as large as one observed due to random chance alone. This statistic essentially tells how large the differences are between our groups relative to how much random variability that exists in the observations. Table 14 below presents the one way ANOVA test results.

Table 14. ANOVA Results for Value Adding Activities on Operating Profit Margin

	OPM	DF	SUM OF SQUARES	MEAN SQUARE	F	SIG.	R ² (%)
IL	Between Groups	3	0.03191	0.01064	5.15	0.005	33.24
	Within Groups	31	0.06408	0.00207			
	Total	34	0.096				
OP	Between Groups	3	0.05698	0.01899	15.09	0.000	55.42
	Within Groups	31	0.03902	0.00126			
	Total	34	0.096				
OL	Between Groups	3	0.03241	0.0108	5.27	0.005	33.76
	Within Groups	31	0.06359	0.00205			
	Total	34	0.096				
MS	Between Groups	3	0.02466	0.00822	3.57	0.025	25.69
	Within Groups	31	0.07133	0.0023			
	Total	34	0.096				
CS	Between Groups	3	0.02662	0.00887	3.97	0.017	27.73
	Within Groups	31	0.06937	0.00224			
	Total	34	0.096				
FI	Between Groups	3	0.04221	0.01407	8.11	0.000	43.97
	Within Groups	31	0.05378	0.00173			
	Total	34	0.096				
HR	Between Groups	2	0.02237	0.01118	4.86	0.014	23.3
	Within Groups	32	0.07363	0.0023			
	Total	34	0.096				
TD	Between Groups	3	0.04644	0.01548	9.68	0.000	48.38
	Within Groups	31	0.04955	0.0016			
	Total	34	0.096				
PR	Between Groups	3	0.02439	0.00813	3.52	0.026	25.4
	Within Groups	31	0.07161	0.00231			
	Total	34	0.096				

Source : researchers survey data

Note :

- IL = inbound logistics , OP= operations, OL =outbound logistics, MS= marketing and sales, CS= customer service, FI=firm infrastructure, HR=human resource management , TD= technology development, PR=procurement

The final decision on whether to reject the null hypothesis or fail to reject it is made by comparing the corresponding P value of the test statistic with the chosen level of significance (0.05) for the research. If the P value is less than the level of significance selected for the research, then as mentioned above, random variability and chance is not the responsible reason to get a variation as large as it is obtained from the test result, but rather due to the true population variability leading to the rejection of the null hypothesis.

However, if the P value falls below the level of significance it is an indication that the variability observed between the groups is due to chance and there is no conclusive evidence to assume that the population variability is different for the groups as well. In this case, we fail to reject the null hypothesis. Larger values of F mean that the difference between the groups' means is large compared to the random variability in the measurements, so it is less likely that the observed results are due to chance alone.

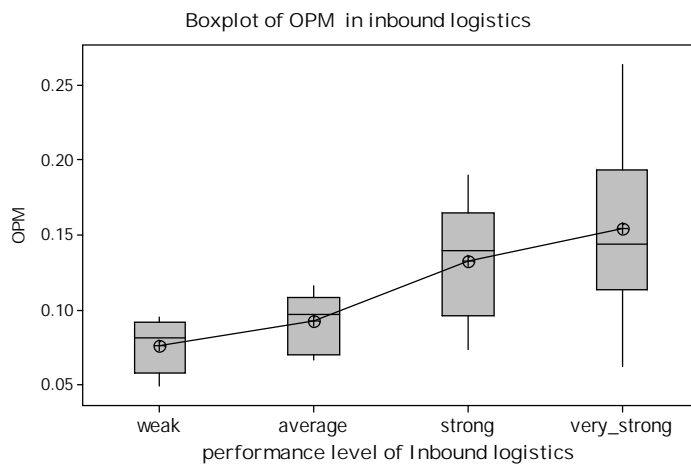
In this research null hypothesis assumes that there is no statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in their value adding activities. The counterpart for the null hypothesis, which is the alternative hypothesis, is that there is a statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in the respective value adding activity mentioned in the null hypothesis.

If the ANOVA results that shows an overall difference between the group means are significant then Post hoc comparisons, also called multiple comparison tests were conducted to test the statistical significance of pair wise differences between group means. While The F ratio of the ANOVA tells us that some sort of statistically significant differences exist somewhere among the groups being studied, Subsequent post hoc, analysis are meant to specify what kind and where. If the assumption of homogeneity of variance has been met (Equal Variances Assumed) – the most commonly used test is the Tukey (HSD) test.

In this research, Post hoc comparisons using Tukey's procedures were used to determine which pairs of the three group means differed along with the box plots of the levels in the independent variable.

The first null hypothesis states that there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their inbound logistics value adding activity. The ANOVA test results were significant $F(3,31)= 5.15$, $p=0.005$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their inbound logistics value adding activity.

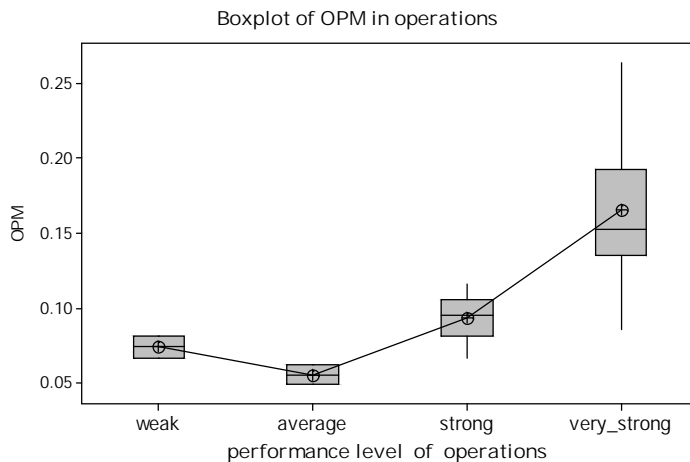
Figure 4. Box Plots of Operating Profit Margin for Inbound Logistics Levels of Performance



Form the visual inspection of the box plots of the independent variable levels, there is small difference of operating profit margins between weak and average performance as well as strong and very strong levels of performance. However the means are higher as the level of performance increases. Tukey (HSD) test was also significant between weak performance and very strong performance ($p= 0.011$) and between average and strong performance ($p=0.038$).this shows that generally there is a significant difference between low level of performance and high level of performance.

The second null hypothesis states that there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their operations value adding activity. The ANOVA test results were significant $F(3,31)= 15.09$, $p=0.000$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their operations value adding activity.

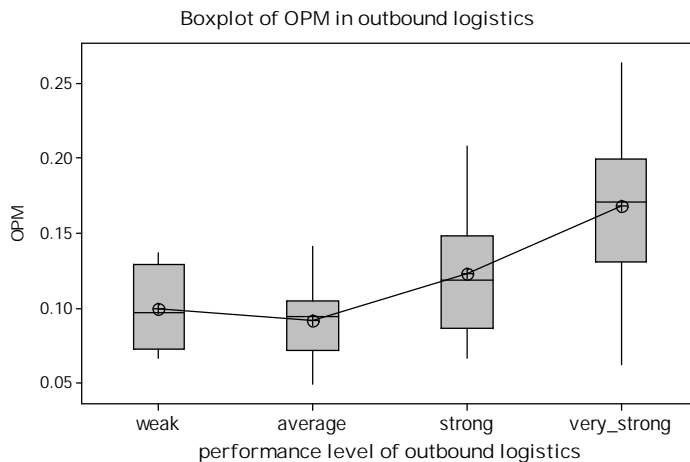
Figure 5. Box Plots of Operating Profit Margin for operations Levels of Performance



The figure above shows a steep increase in mean operating profit margin across the levels of performance in the operations value adding activity. While the mean operating profit margins of the weak average and strong levels of performance are relatively closer to each other, the value for very strong level of performance is further and much higher than the rest (mean =0.1653). Tukey (HSD) test was also significant between weak performance, average performance and strong performance with very strong performance having a P value of P=0.008, P=0.001 and P=0.000 levels of performance respectively.

The third null hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their outbound logistics value adding activity. The ANOVA test results were significant $F(3,31)= 5.27$, $p= 0.005$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their outbound logistics value adding activity.

Figure 6. Box Plots of Operating Profit Margin for outbound logistics Levels of Performance

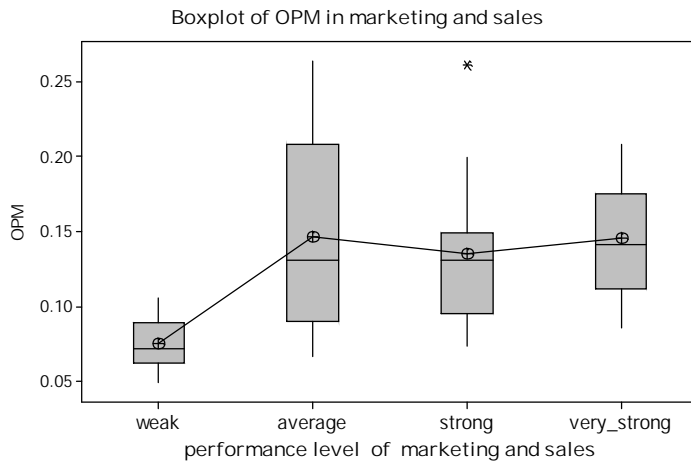


The figure above shows greater degree of overlap of the box plots between the weak average and strong levels of performance as well as mean operating profit values that are closer to each other (0.0993, 0.0913 and 0.1224) respectively. This indicates that the actual point of difference lies somewhere else across the groups. In fact the only significant mean difference from Tukey's post hoc comparison test was obtained between average and strong levels of Performance with P value of 0.005.

The fourth null hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their marketing and sales value adding activity. The ANOVA test results were significant $F(3,31)=3.57$, $p=0.025$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their marketing and sales value adding activity.

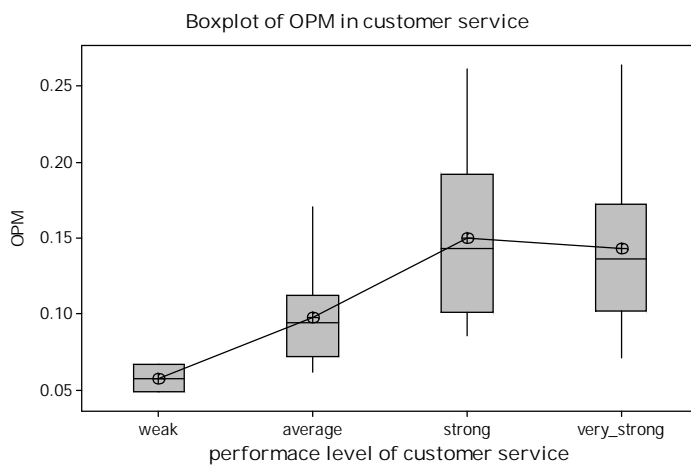
Figure 6 below shows that the mean operating profit margin values of the average strong and very strong levels of performance are almost equal and closer to each other. The most noticeable change in slope of the line connecting the mean operating profit margin value in the figure occurs between the weak and average levels of performance. In more concrete terms, the statistically significant difference of operating profit margin across the levels of performance for Tukey's post hoc comparison test was obtained between weak with strong and very strong levels of performance having significance values of 0.047 and 0.046 respectively. However the highest mean operating profit margin was in the average performance level with value of 0.1466.

Figure 7. Box Plots of Operating Profit Margin for marketing and sales Levels of Performance



The fifth null hypothesis states that there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their customer service value adding activity. The ANOVA test results were significant $F(3,31) = 3.97$, $p = 0.017$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their customer service value adding activity.

Figure 8. Box Plots of Operating Profit Margin for customer service Levels of Performance

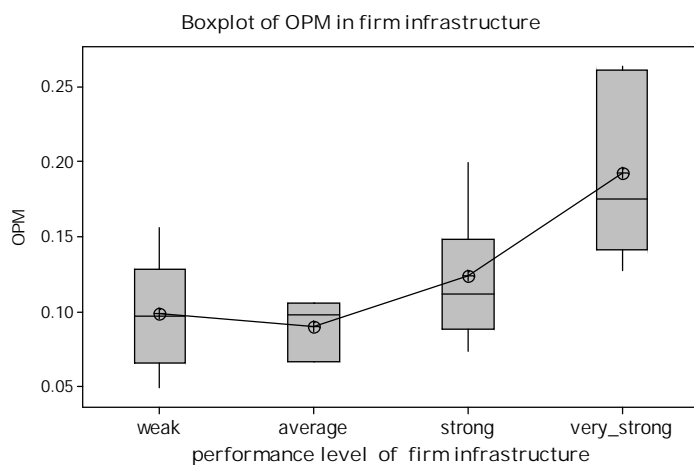


Comparison of the box plots for different levels of the independent variable reveals that the mean values of the strong and very strong performance level are closer to each other but higher than both weak and average levels of performance.

For this predicting factor, the highest mean operating profit margin is obtained in the strong level of performance with mean value of 0.1499. Even though the visual inspection shows a large difference between the mean values of the weak level with strong and very strong level of performance Tukey's post hoc comparison test did not result in any significant results for pair wise comparison of the means all over the levels.

The sixth null hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their Firm infrastructure value adding activity. The ANOVA test results were significant $F(3,31)= 8.11$, $p= 0.000$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their Firm infrastructure value adding activity.

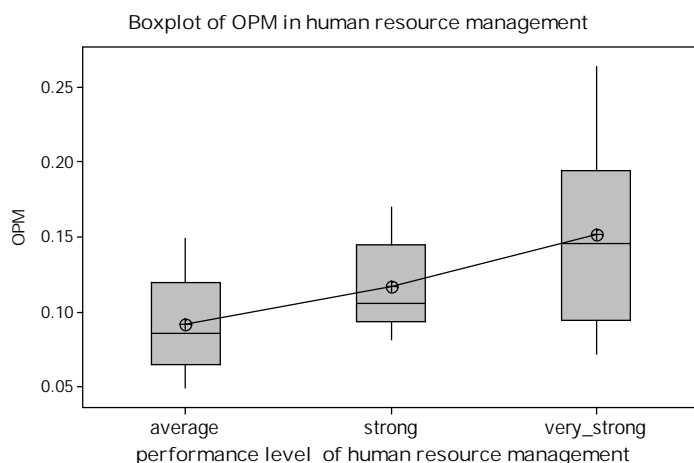
Figure 9. Box Plots of Operating Profit Margin for Firm infrastructure Levels of Performance



As it can be seen from figure 8 above, large areas in the box plots of weak and average levels of performance overlap each other, and also the mean values are closer to each other. A significant trend in the figure is shown by the steady increase of mean operating profit margin starting from the average to the very strong levels of performance, where it is the highest with mean value of 0.1922. Tukey's post hoc test also revealed that the significant difference of means is found between the weak, average and strong levels with the very strong level of performance having significance values of 0.000, 0.006 and 0.006 P values respectively.

The seventh null hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their human resource management value adding activity. The ANOVA test results were significant $F(2,32)= 4.86$, $p= 0.014$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their human resource management value adding activity.

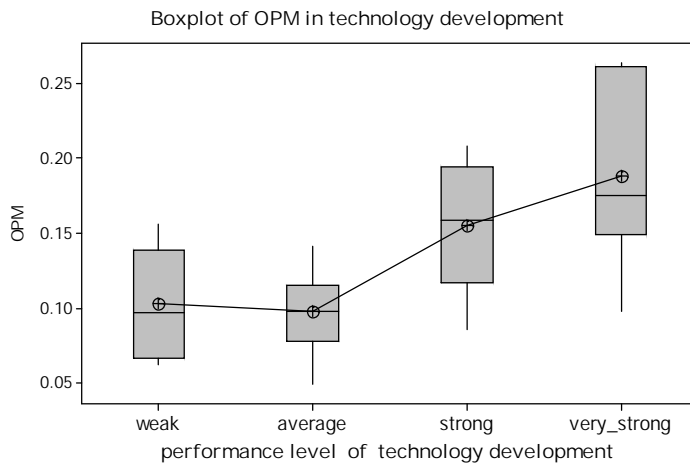
Figure 10. Box Plots of Operating Profit Margin for human resource management Levels of Performance



The Tukey's post hoc Post hoc comparisons procedure to determine which pairs of the three performance levels of human resource management performance levels means differed resulted a significant result between the average and very strong performance levels with P value of 0.013. The level means for the average, strong and very strong levels of performance are 0.091, 0.11 and 0.151 respectively.

The eighth null hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their technology development value adding activity. The ANOVA test results were significant $F(3,31)= 9.68$, $p= 0.000$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their technology development value adding activity.

Figure 11. Box Plots of Operating Profit Margin for technology development Levels of Performance

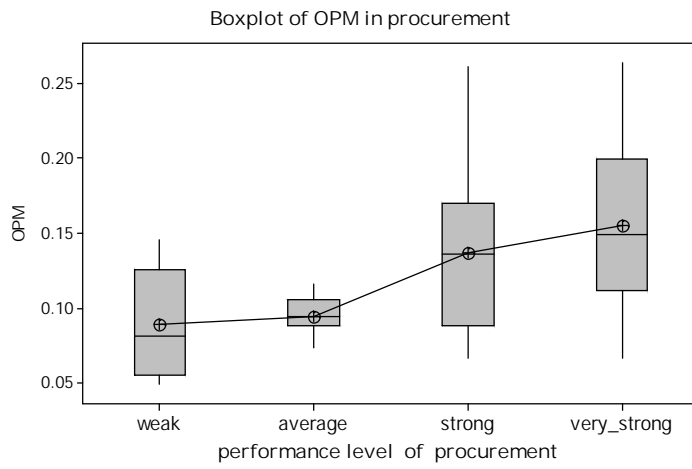


Weak and average performance levels with respect to technology development have mean operating profit margin values closer to each other. Similarly, it can be seen from table that strong and very strong levels also have closer mean operating profit values. Hence the actual difference between level means seems to occur generally between below average and above average levels of performance. For this independent factor, The Tukey's post hoc Post hoc comparisons resulted in significant results between weak and very strong levels ($P= 0.001$); between average and strong levels of performance ($P= 0.039$) and between average and very strong levels of performance ($P= 0.000$)

The final ANOVA hypothesis states that there is there is no statistically significant difference in the mean operating profit margin of the organization for different levels of performance in their procurement value adding activity. The ANOVA test results were significant $F(3,31)= 3.52$, $p= 0.026$ thus there is a significant evidence to reject the null hypothesis and conclude that there is a significant difference in operating profit margin of the organizations based on the level of performance in their procurement value adding activity.

Graphical analysis of the box plots for the levels of performance in this independent variable show that the mean operating profit margin values steadily increase as the performance level gets higher and higher. While the weak level of performance group has the lowest mean operating profit margin of 0.088 the very strong level of performance has the highest mean operating profit margin of 0.154. The only significant mean difference between levels as per Tukey's post hoc test for this factor exists between the average and very strong performance with P value of 0.065.

Figure 12. Box Plots of Operating Profit Margin for procurement Levels of Performance



Chapter 5- Summary of Major Findings and Recommendation

5.1 Summary of Major Findings

- Majority of the organizations are private limited companies, with an estimated operating profit margin ranging from 11.62 % to of 15.99 %. In terms of capital around 75 % of the organizations have capital of at least 5 million birr. Also confidence interval estimates suggest that profitability of businesses with larger capital have higher profit margins. Younger organizations in the sector have less operating profit margins which might be attributed to issues relating to sales volume, economies of scale and other factors. In terms of labor costs and profitability, businesses which employ large number of labor tend to have less operating profit margin than those which employ less number of labor. This might be due to the fact that the manufacturing operations are highly labor intensive.
- The cost of goods sold proportion out of total sales value of the leather products sold by the organizations indicates that for majority of the organizations the cost of goods sold account for 70 percent or more of the total sales, while operating profit margin ranges from 4 % of total sales to more than 25 %. This profitability measure is considered to represent the value added by the organizations as a result of internal value adding operational activities
- Correlation analysis was conducted in order to determine if there were any relationships between the performance levels in the primary and support value adding activities and profitability of the organizations measured by their operating profit margins. Performance levels in the All of the primary and support value adding activities are found to be positively correlated with the profitability of the organizations. At 0.05 level of significance, most value adding activities had a significant correlation coefficient of more than 0.5. This proves that higher performance in value adding activities varies positively with the operating profit margins.
- Similarly Mood's non parametric median test of relationship between different performance levels in each value adding activity and operating profit margin showed that the there is statistically significant difference in the median values of operating profit margin for different levels of performance in the value adding activities at 0.05 level of significance.
- The inter quartile range of operating profit margin tends to be progressively higher for higher performance levels, and lower for lower performance levels of the value adding activities
- In this research parametric test of Analysis of variance was conducted with the null hypothesis that assumes there is no statistically significant difference in the mean operating profit margin of

organizations based on the difference in the level of performance in their value adding activities. The counterpart for the null hypothesis, which is the alternative hypothesis, is that there is a statistically significant difference in the mean operating profit margin of organizations based on the difference in the level of performance in the respective value adding activity mentioned in the null hypothesis. At 0.05 level of significance significant results were obtained in favor of the alternative hypothesis proving that mean operating profit margins does depend on the level of performance in the value adding activities and is different for performance levels

5.2 Recommendations

- The research result indicates that actual production activity is not the only source of difference in operating profit margin, which is usually given more concern than other factors in terms of determining profitability. Each of the value adding activities both primary and support have a significant positive impact on operating profit margin.
- By undertaking studies in their value adding activities to identify problems and solving them to improve their performance organizations can enhance their profitability. Even if traditionally some value adding activities are given more emphasis than others, having an all rounded approach towards improving value adding activities performance levels creates a synergetic impact on improving operating profit margin, because as seen from the analysis test results in the research, there are other value adding activities that are indeed significant in impacting profitability.
- Business and enterprises in the sector need to measure analyze and improve their overall performance as they encounter increasing competition from an ever-changing business environment. Hence designing and implementing strategies that capitalize simultaneously on improvement in their internal value adding activities and external opportunities will result in better business profitability.
- The level of performance in operations as well as technology development value adding activities of the organizations resulted in higher coefficient of determination values with respect to organizational profitability. This indicates that currently the two most important determinants of operating profit margins are the above mentioned value adding activities. Even so, other value adding activities also have significant impact on profitability, signifying still there is room to improve performance in those value adding activities.

- The organizations should work closely with organizations that provide technical and training assistance for the sector association. In that way proper quality and performance standard benchmarks to gauge how well they are performing their value adding activities can be established and implemented.
- Improving the contribution of the value adding activities requires investment and studies to identify ways of upgrading and standardizing the work being done in the value adding activities. This results in better tracking the incremental value additions at each stage of the organizational value chain, and continuously monitor and improve the value adding activities for more profit and competitiveness. Then intervention strategies can result in improvement of their value adding activities, their by improving their profitability

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Appendix 1
List and Address of Organizations

Business Organization	Telephone Address
AB Leather	251-911248876
Ayni's Leather Designs	251-911407037
Bale Leather	251-115539428
Davimpex Enterprise	251-115159040
Kangaroo Shoe	251-114401990
Abysiniya Leather Shoes	251-115526898
Ethio-Sung Bine Leather Garments	251-115531332
Genuine Leather PIC	251-115531894
Jonzo Leather Garments	251-116621508
Ambessa Shoe S.C.	251-112754269
Berehe Assefa Shoe Factory	251-111223137
Gamb Shoe Trading & Industry	251-112756443
Ethio-Leather Industry Plc (Elico)	251-114655152
Tikur Abay Shoe S.C.	251-112701803
Ramsay Shoe Factory	251-112753728
Melese Teka Shoe Factory	251-112751877
Feme Leather And Canvas Swing	251-911205195
Dire Industries Plc (Leather)	251-112132145
Endu Leather Shoes	251-113715195
Batu Leather shoes	251-114168759
Joy Leather Plc	251-911213653
Z Leather &Textile Garments	251-911553256
Beni Leather Shoe & Sole Factory	251-911205299
Temesege Zewdie Leather Products	251-115154374
Misgana Leather Shoes	251-114650763
Modern Zege Leather	251-115157279
Nabe Leather	251-911602 428
New Wing Addis	251-114401677
Ok Jamaica Leather Shoes	251-114401990
Peacock Shoes	251-112756463
Ras Dashen Shoe Factory	251-116293167
Sheba Leather	251-115506120
Shir Shir Leather	251-911615876
Walia Leather	251-114421212

Appendix 2

Questionnaire

Addis Ababa University

School of Graduate Studies

Department of Management

MBA Program

Dear respondent,

First of all I want to express my gratitude for your willingness to fill this questionnaire.

The purpose of this questionnaire is to collect primary data to be used for a research that I am currently undertaking as a partial requirement to obtain my MBA degree from Addis Ababa University. The theme of the research is “A Study On the Relationship Between Organizational Value Adding Activities and Profitability of Selected Leather Products Manufacturers In Addis Ababa Based on Michael Porter’s Value Chain Model”. The questions are designed to capture data regarding different operational and functional areas, which will be indicative of the value creation chain in your organization.

For confidentiality, there is no need to write your name or any other identifying marks on the questionnaire. Please try to fill the questionnaire frankly, selecting your answers appropriately. When you complete filling it, Please check your answers to make sure that you have answered all the questions. If you need any clarifications on the questions you can reach me any time through my address given below. **Any information you provide will be used only for academic purposes and its use will be confined exclusively for this research.**

Thank you in advance!!

Personal Data

☞ Please Put “☑” Mark in an appropriate Answer Box

No.	Characteristics	Possible Answers				
1.1	Sex	Male <input type="checkbox"/>	Female <input type="checkbox"/>			
1.2	Age	30 <input type="checkbox"/>	31-35 <input type="checkbox"/>	36-40 <input type="checkbox"/>	41-45 <input type="checkbox"/>	46 <input type="checkbox"/>
1.3	Marital Status	Unmarried <input type="checkbox"/>	Married <input type="checkbox"/>	Divorced <input type="checkbox"/>		
1.4	Educational Status	Below grade 12 <input type="checkbox"/>	12 complete <input type="checkbox"/>	Diploma <input type="checkbox"/>	1 st degree <input type="checkbox"/>	Masters & above <input type="checkbox"/>

Organizational characteristics

No.	Questions	Possible Answers			
2.1	Form of ownership	Sole Proprietorship <input type="checkbox"/>		Partnership <input type="checkbox"/>	P.L.C. <input type="checkbox"/>
2.2	How old is your organization	<10 years <input type="checkbox"/>		10-15 years <input type="checkbox"/>	> 15 years <input type="checkbox"/>
2.3	How much is your Capital now? (in birr)	2,500,000 <input type="checkbox"/>	2,500,000-5,000,000 <input type="checkbox"/>	5,000,000-10,000,000 <input type="checkbox"/>	10,000,000 <input type="checkbox"/>
2.4	How many employees do you have?	100 <input type="checkbox"/>	100-200 <input type="checkbox"/>	200-300 <input type="checkbox"/>	300 <input type="checkbox"/>
2.5	For how long have you Been Exporting your Products to foreign markets?	5 years <input type="checkbox"/>		6-10 years <input type="checkbox"/>	11 years <input type="checkbox"/>

Organizational Value adding Activities Survey

☞ Please Put “✓” Mark in an appropriate Answer Box from the list of opinion magnitude scale answers that comes closest to your opinion of the level of performance in the value adding activities.

No.	question	Very strong	Strong	average	weak	Very weak
3.1	inbound logistics					
3.1.1	there is application of modern inventory management techniques.					
3.1.2	there exists effective communication between your inbound logistics division and the production department.					
3.1.3	raw materials and inputs are properly kept in ware houses.					
3.1.4	once inputs have been received, there is proper controlling on how the inputs are transferred from warehouse (inventory) to production.					
3.1.5	raw materials supply is balanced with finished products demand					
3.2	Operations					
3.2.1	Production and manufacturing is undertaken using cost efficient machinery and equipment					
3.2.2	Machines and equipments enable to easily produce new product designs					
3.2.3	Production and manufacturing techniques are designed to measure product value added and production costs					
3.2.4	Product testing and quality control is undertaken on regular basis					
3.2.5	Machinery and equipment is maintained on regular basis					
3.2.6	The organization has experience of customized production based on agreements and product specifications with sub-contractors (or) customers					

3.3	Out Bound Logistics	Very strong	Strong	average	weak	Very weak
3.3.1	There exists an organized inventory management for finished products					
3.3.2	Finished products are packed with reliable packages					
3.3.3	Products are distributed and delivered to customer through transportation alternatives with quick access to markets					
3.3.4	There is an optimized connection between marketing (sales) and outbound logistics					
3.3.5	Delivery deadlines of customers orders are consistently met					
3.4	Marketing and Sales					
3.4.1	Marketing efforts are undertaken to make the products more accessible to customers					
3.4.2	International trade agreements benefit the organization to increase products sales in foreign markets					
3.4.3	Promotion and advertising is used to beat competitors and expand markets					
3.4.4	There are by- lateral agreements and deals with marketing channel members					
3.4.5	Marketing activities focus on creating a long lasting relations with customers					
3.4.6	Market research is used to design and implement marketing strategies					
3.4.7	The organization faces little difficulty and problems in the exporting process					
3.5	Customer service					
3.5.1	The organization offers warranty for its products					
3.5.2	Sufficient information about the company's products is available and communicated to current and potential customers					
3.5.3	Customers have the right to return defective products as per return policies					
3.5.4	Marketing officers (employees) are trained to develop skills for superior customer service					
3.5.5	There is a system for accepting and dealing with customers complaints					

3.6	Firm infrastructure	Very strong	Strong	average	weak	Very weak
3.6.1	The company prepares a strategic plan and the company management actively controls its implementation					
3.6.2	There is a strong financial system integrating all the functional units of the company					
3.6.3	There is a clear distinction between financial and operational aspects for planning and controlling purposes					
3.6.4	There are operational manuals and policies for operational and administrative units of the company					
3.6.5	There is an established system to solve legal and regulatory issues that arise from the firms commitment to its customers and governing bodies					
3.7	Human Resource Management					
3.7.1	There are formal procedures and operational guidelines to recruit and hire qualified employees.					
3.7.2	The organization provides sufficient training for employees skill and attitude development					
3.7.3	The compensation scheme of the organization reinforces and motivates the employees for increased productivity					
3.7.4	Employees are seen as a very important asset of the organization to maintain its competitive advantage					
3.7.5	The company management has a positive attitude and willingness to address the concerns and needs of the employees					
3.8	Technology development					
3.8.1	Modern computer based information processing technologies are an integral part of operations and management					
3.8.2	Availability of innovative and up-to-date production technologies enable the firm to produce products that have good competitive advantage					
3.8.3	The organizations sets budget plans for acquisition and implementation of better production technologies					
3.8.4	The company possesses technologies that most other competitors do not have					
3.8.5	There are research and development activities undertaken to identify new technological trends and changes					

3.9	Procurement (Purchasing)					
3.9.1	There is a system for checking the quality of purchased inputs and raw materials for production					
3.9.2	The company tries to maintain long lasting relationships with its suppliers					
3.9.3	There is little or no shortages of raw materials for production as a result of the company purchasing policy and procedure					
3.9.4	The company follows a competitive procurement strategy to select suppliers					
3.9.5	Procurement of raw materials and inputs considers customers needs , than just focusing on the requirements of the production department.					