



ST.MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**VALUE CHAIN ANALYSIS OF CHIP WOOD AND FURNITURE
COMPANIES: THE CASE OF ETHIOPIAN CHIP WOOD AND
FURNITURE SHARE COMPANY (ECAFCO S.C)**

BY

GEBI SHUKA ABINO

JANUARY 2015

ADDIS ABABA, ETHIOPIA

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**A THESIS SUBMITTED TO ST. MARY UNIVERSITY SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION**

JANUARY 2015

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DEDICATION

This Thesis is dedicated to my parents and my relatives for nursing me with affections and love, for giving me education opportunity and supporting me in many ways since my early school age to date . Specifically it is dedicated to my wife, Muditu Muda, who deserves lion share in my academic success, to my children who gave me the time to execute my study when I should have been concentrating my attention on them.

Last but not least it is dedicated to my mother, Muditu Massoro Turi, who took all the pains in nursing me. My mom passed away before collecting the return from the investment. I remain memorizing her throughout the rest of my life. May her soul rest in peace.

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ACKNOWLEDGEMENT

First of all, I would like to thank the almighty God for taking care of my life and supporting me in all endeavors that I have been making and for His unreserved protection to my families. Had it not been for His support and guidance, it would have been impossible to overcome the challenges I faced from the very beginning to completion of this study. I am greatly indebted to my advisor Dr. Temesgen Belayneh for his hospitality, guidance and encouragement throughout this research work that inspired me to achieve my goal. Without his professional support and encouragement, I could not have been able to bring about this research meaningful. Also, I am deeply indebted to all my relatives, friends, in general, and in particular, Girma Shuka, Dr. Desta Urgessa, Elka Bushura, Ifa Bushura and Derajie Jembere, Dinkitu Muda, Damu Hawiya for their encouragement

I acknowledge Oromia Forest and Wildlife Enterprise (OFAWE), my employer, and FARM Africa-SOS Sahel Ethiopia, funding organization for sponsoring my study collaboratively. Last but not least, my thank goes to my wife Muditu Muda and my children for their support and patience during my departure and isolation from them because of this graduate study and otherwise.

Very grateful to Almighty God for

The blessing

To my family and everyone

Involved in my life

ABBREVIATION AND ACRONYMS

ECAFCO S.C-----	Ethiopian chip wood and Furniture Share Company
GDP-----	Gross domestic product
CSA-----	Central statistical Authority
MOFED.....	Ministry of Finance and Economic Development
GTP-----	Growth and Transformation Plan
VC -----	Value chain
VCA-----	Value chain analysis
CRM-----	Customer relationship management
SCM-----	Supply chain management
SPSS-----	Statistical Package for Scientific Studies
OFAWE-----	Oromia Forest and Wildlife Enterprise
BCG-----	Boston Consulting Group
ICT-----	Information communication Technology
SBU-----	Sub-business unit
Gov't-----	Government

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ABSTRACT

This study was aimed at analyzing value chain of chip wood product at Ethiopian chip wood and furniture share company (ECAFCO S.C) with specific objectives of assessing the economic gain of the company out of the value chain network, analyze the reliability in relation to product deliveries, and identify the challenges and opportunities within the value chain of the study area. The data were collected from both primary and secondary sources. The primary data for this study were collected from 164 respondents through application of appropriate procedures. The study result showed that the company faced with decline in productivity of the machine, inconsistency of production volume, inconsistency of sales revenue and net profit. There is also inefficiency on man power side. The value chain analysis revealed that the Company is faced with lack of logistics (inbound logistics) to transport log promptly as per plan and this causes mismanagement of the stock. Concerning delivery of raw materials from international market, there is variation in raw material delivery time schedule the analysis showed that the major actors in chip wood value chain are suppliers, producers, retailers, contractors, builders and consumers. The result of correlation indicated that the selling price of chip wood board is highly affected by impulsive increase in cost of purchasing raw materials. The result of the survey showed that, value chain practices at study area had economic contribution which is being distributed among various components. It was found that the local residents have been complaining of the pollution from dust particles being released from the factory. it was found that value chain created market opportunity at study area. The result indicated that, the company does not have predetermined time schedule for maintaining machine. The analysis also showed that the company does not conduct market survey that may help the company know its position in terms of market share, core competency, weakness, in comparison to its competitors. Therefore, effort aiming at increasing investment in technology, employees ' efficiency, efficiency of logistics, and decrease wastage of time due to variation in raw material delivery time schedule, periodic market survey, and environmentally suitable alternative location to replant the factory are recommended to accelerate the chains practices and development.

Key Words: *-Value chain Analysis, value chain actors, Governance, Upgrading, Economic gain, Porter E.M Five competitive forces*

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Industrialization is the key for sustainable economic growth, and the evolution of modern construction industry in Ethiopia is a recent phenomenon. The booming construction industry contributes to the GDP of the countries. In Ethiopia this sector in 2006/2007 contributes about six percent (6%) to GDP in the context of Ethiopia (CSA, 2008).

According to Porter M.C (1990) *The competitive advantage of nations* .Macmillan. www.cengage.co.uk. poor countries like Ethiopia are with low GDP per capita, a limited amount of manufacturing activity and a very poor and fragmented infrastructure. The main features & weaknesses of infrastructure are revealed in (transport, communications, education and healthcare). Besides this, in the public sector services are often slow-moving and bureaucratic.

The country's huge infrastructure expansion and urban centers' remarkable building construction activities provided an opportunity for rapid increase in demand for construction materials. The issue of potential wood product supply is becoming important proportionately with rapidly growing building construction at regional and national level (AFDB, 2010). For one reason or another, the extent of wood use varies greatly from areas to areas.

The degree of demand is increasing with expansion and growing of construction industry. The construction industry is an economic sector of vital importance in many respects. Once man left the natural shelter of caves and began to build his own shelter where he wanted it, the most universally available material was usually wood and wood products. Wood products have multi-faceted benefits; to enlist few of them, sawn lumber may be used for door and window closures, for wall framing. (www.fao.org/docrep/c3848e/c3848e04.htm#TopOfpage)

Chip wood is one of the glued wood elements and engineered wood product manufactured from wood chips, sawmill shavings, or even saw dust. Chip wood is manufactured by mixing wood chips together with a resin or other suitable binder which is pressed

and extruded. So such elements have had importance in construction activities since long time to date. Therefore, factory fabrication is nearly always required to ensure proper control of dimension, and proper curing of the adhesive. Basically chip wood is used for ceiling, roofing, and partition of interior house and as a raw material in making different furniture. (<http://www.fpl.fed.us/documents/fplgtr190/chapter-11.pdf>)

It is visibly known that Ethiopia is one of the countries with the fastest growing economy in Africa. As an indicator to this reality, in the last nine years, the economy has registered sustainable double digit growth. This shows that the country is on the right track to achieve its development objectives (MOFED, 2010). During the fiscal year 2013/2014 overall economic performance measure (registered) was 10.1 percent on average.

The growth of the economy has been from different economic sectors; of the sectors construction sector or industry is one of the sectors that show significant and remarkable growth. Because there is fertile government investment policy a high rate of building construction has been flourishing (GTP, 2010)

Value chain is the sequence of activities required to make a product or provide a service. The concept of the global value chain can be traced back to the end of the 1970s with some work on the commodity chain. The basic idea was to trace all the sets of inputs and transformations that lead to an “ultimate consumable” and to describe a linked set of processes that culminate in this item (Hopkins and Wallerstein, 1977).

Today it is realized that the quality of products, customer services, customer satisfaction, customer retention have come to be the core elements for any business organization. The philosophy “product and sell” does not work in today’s new world order. In order for business companies to remain competent, all what they produce and deliver to the market need to be customer driven (Philip Kotler and Kevin Lane, 2009)

To this end, companies should capacitate themselves by thoroughly assessing their core competency, their weakness in comparison to the strength and weakness of their competitors. Implicitly the very purpose of any business organization is to maximize the profit through building good and lasting customer relationship. So to realize this, the company need

to engineer things around the 4Ps i.e. product, promotion, place or distribution and price of the products or services (Philip Kotler and Kelvin Lane, 2009)

As mentioned above the value chain analysis is a tool that helps the company understand and analyze its activities. To remain competent and fetch competitive advantage out of the market the organization needs to shape itself as a chain that creates value to the customers (Porter, 1985)

1.2. Statement of the Problem

Even though profit maximization is considered to be the major objective of any business organization, different challenges are becoming block against its success. The severity of the problem varies from organization to organization. The prevailing problem is handled differently by different organizations. Therefore, identifying and understanding the problems and removing them should be given greater attention.

Value chain analysis is essential to understand relationships and linkages among buyers and suppliers and a range of market actors in between (Wenz and Bokelmann, 2011).

A review of literature in agro-industry value chain in Ethiopia indicates that the sector faces many challenges due to limited market outlets, limited efforts in market linkage activities and poor market information among actors (Dereje, 2007; Kaleb, 2008; *Dendena et al*, 2009). Correspondingly, Mamo (2009) argued that small scale, dispersed and unorganized producers are unlikely to exploit market opportunities as they cannot attain the necessary economies of scale and lack bargaining power in negotiating prices.

The impressive growth that has been registered in Ethiopia during the last five years adds value to faster and enhanced development of the industrial sector in the country. This phenomenon enables the industrial sector to be the foundation and key sector for country's development activities (GTP, 2010).

Chip wood product is the main product being produced by the company. Scarcity of raw materials, inconsistent volume of production and limited producing capacity of the machine has in one way or another been a bottle neck. The above challenges may be emanated

from different reasons in the value chain. Value chain analysis is essential to explain the connection between all the actors in a particular chain of production and distribution and it shows who adds value and where, along the chain. It helps to identify pressure points and make improvements in weaker links where returns are low (Schmitz, 2005).

The imperfection and Problems in value chain hinder the potential gains that could have been attained from the existing opportunities.

Value chain analysis in relation to horticultural crops was conducted by Bezabih (2008) and Abraham Tegegn Wolde Senbet (2013) in the context of Ethiopia, identified different production and marketing problems and the gross margin obtained by different actors. However, value chain analysis of chip wood product was not so far conducted in the context of Ethiopia and in the study area too. So, this study was proposed to analyze the value chain of chip wood product in the case of Ethiopian chip wood and furniture factory S.C. (ECAFCO S.C)

1.3. Objectives of the study

1.3.1. General objectives

This study aims at assessing and analyzing value chain of chip wood product, assess economic gain of the company out of the value chain network, challenges and opportunities that the company tap out of the value chain at Ethiopia chip wood and furniture factory S.C (ECAFCO) and reliability of the product deliveries.

1.3.2. Specific objectives

1. To assess the economic gain of the company out of the value chain network
2. To analyze the reliability in relation to product deliveries
3. To identify the challenges and opportunities within the value chain of the study area.

1.4. Research questions

In order to achieve the intended objectives, the following basic questions were raised as guidance for the study.

- 1) What is the economic gain of the company out of the value chain?
- 2) With What frequency does the company order the products' deliveries?
- 3) What constraints and opportunities are there in the value chain?

1.5. Significance of the study

The study analyzed the value chain of chip wood product, economic gain that could be extracted from value chain network, opportunities and constraints that hinder the progress of the company and the overall situations related to raw materials deliveries at company under study. So this study could shed light on required efforts to be exerted so as to reverse the scenarios(existing problems in value chain).

The findings of the study hopefully will provide a holistic picture of existing challenges with in the value chain of chip wood at the organization. The information that will be generated shall benefit a number of organizations including: organization under study, government, suppliers of raw materials, and other investing private companies and individuals who would like to engage in such investment

1.6 Delimitation/Scope of the study

Ethiopian chip wood and furniture share company, has been engaged in different business units as the production of different sized chip wood boards, lumber, prefabricated and conventional houses, styropor products (Ceiling tiles, Ice boxes, Flower pots, Blocks) and furniture; it also gives timber impregnation and automotive maintenance services; due to time and financial constraints, this study is limited to chip wood product (chip wood board) value chain analysis in the case of the study areas. (ECAFCO S.C)

1.7. Organization of the Study

With the above brief introduction, the remaining part of the thesis is organized as follows. Chapter 2 presents review of literature on value chain analysis. Subsequently, research methodologies, description of the study area population and sampling techniques, types of data & instrument of data collection, and procedures of data collection are presented in Chapter 3. In Chapter 4, the results of both descriptive and inferential analysis, are presented and discussed in detail. Chapter 5, summarizes the main findings of the study and draws conclusion and appropriate recommendations

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. Concept and definition of value chain

Industry chains are classified as either 'supply' or 'value' chains. Value chain is the sequence of activities required to make a product or provide a service. The value chain of chip wood product includes input suppliers, producers, traders (wholesaler and retailers), processors and consumers. (Vermilion et al., 2008).

Supply chain: It is taken to mean the physical flow of goods that are required for raw materials to be transformed into finished products. Supply chain management is about making the chain as efficient as possible through better flow scheduling and resource use, improving quality control throughout the chain, reducing the risk associated with food safety and contamination, and decreasing the agricultural industry's response to changes in consumer demand for food attributes (Dunne, 2001).

Value chain: It is taken to mean a group of companies working together to satisfy market demands. It involves a chain of activities that are associated with adding value to a product through the production and distribution processes of each activity (McCormick and Schmitz, 2001).

Supply chain extends from the ultimate consumer back to its original steps. The chain is viewed as a whole, a single entity rather than fragmented groups, each performing its own function. A firm's supply chain includes all internal functions plus external suppliers involved in the identification and fulfillment of the needs for materials, equipment, and services (David Burt, Donald Dobler, Stephen Starling, 2003)

A value chain is the full range of activities required to bring a product from conception, through the different phases of production and transformation. A value chain is made up of a series of actors (or stakeholders) from input suppliers, producers and processors, to exporters and buyers engaged in the activities required to bring agricultural product from its conception to its end use (Kaplinsky and Morris, (2001), Bamann (2007) has identified three important levels of value chain. chain encompass a set of interdependent organizations, and associated institutions, resources, actors and activities involved in input supply, production,

processing, and distribution of a commodity. In other words, a value chain can be viewed as a set of actors and activities, and organizations and the rules governing those activities. Value chain management is about creating the added value at each link in the chain and a sustainable competitive advantage for the businesses in the chain. How value is actually created is a major concern for most businesses (Porter, 1985) indicates that value can be created by differentiation along every step of the value chain, through activities resulting in products and services that lower buyers' costs or raise buyers' performance..

An organization's competitive advantage is based on their product's value chain. The goal of the company is to deliver maximum value to the end user with the least possible total cost to the company, thereby maximizing profit (Porter, 1985).

^ Upstream Supply chain ^

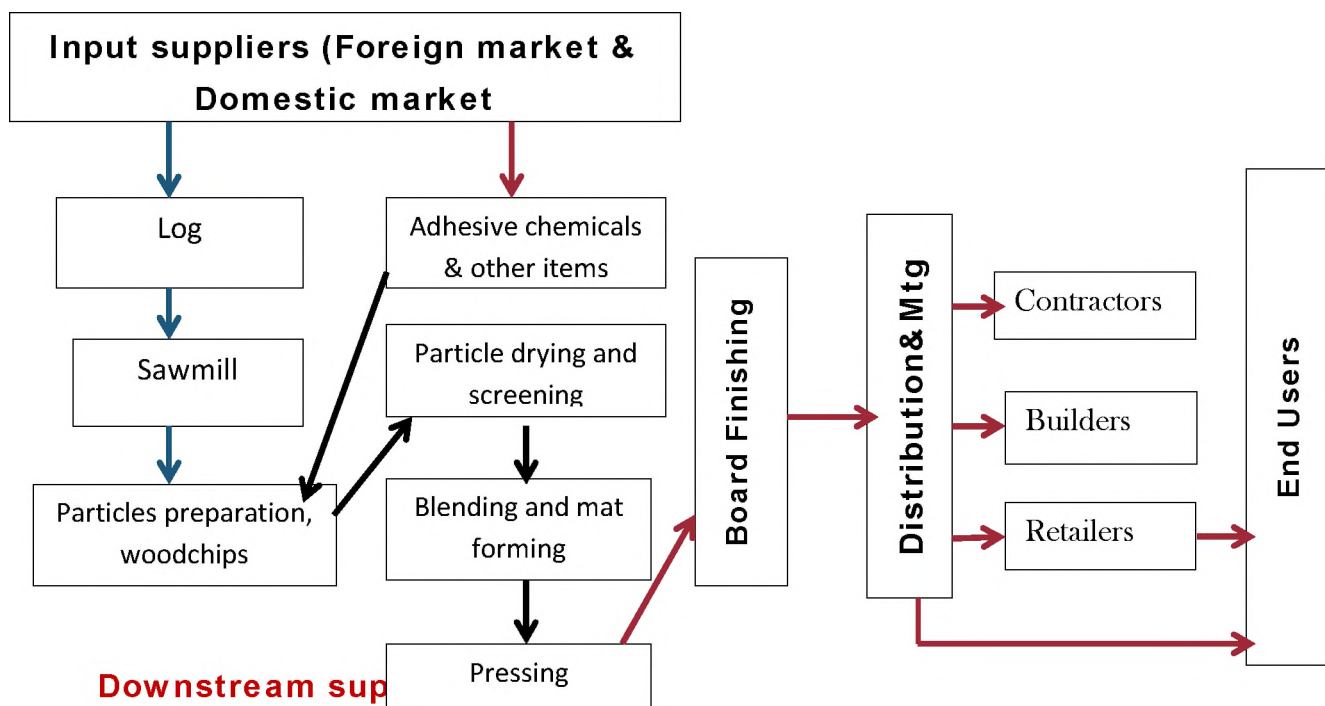


Figure:- 2.1 Simplified value chain of chip wood board.

Source: - Sketch from survey of official documents

2.2 The Role of value chain analysis in firms' sustainability

Value chain analysis examines the labor inputs, technologies, standards, regulations, products, processes and markets in specific industries and locations in order to provide a holistic view of these global industries (Gereffi and Fernandez-Stark, 2011).

The factors are examined from four perspectives: (1) the input-output structure, which describes the process of transforming raw materials into final products; (2) geographical distribution, which identifies the firms and countries participating in the chain; (3) the governance structure, which explains how access to and upgrading in the value chain is controlled; and (4) the local institutional context of the countries in which the value chain is embedded (Gereffi, 1994, 1995 and 1999).

The value chains framework helps explain how industries are organized by examining the structure and dynamics of the different actors involved. The value chain describes the full range of activities that firms and workers perform to bring a product from the design stage through to consumption and beyond. This includes both tangible and intangible value-adding activities, such as research and development, design, production, distribution, marketing and support to the final consumer.

These activities can be carried out by a single firm or divided among different firms. In the context of globalization, these activities are increasingly being carried out in inter-firm networks on a global scale (<http://www.eclac.org>) (lac

2.2.1. Economic Dimension

Value chains can be identified by looking at the key element of value chains, i.e. economic gains, governance and market-focused collaborations between and among the actors.

Economic gains/-Economic gains are concerned with the generation and distribution of returns arising from the various functions, e.g. design, production, packaging, marketing, and recycling in the chain. Economic gains are brought about by competition in the market and the need for the entrepreneur to innovate in order to survive in a competitive market.

Market-focused collaborations/-Collaboration of value chain participants is key and is usually market focused. This is one of the distinguishing features of a value chain from other traditional business relationships. Market-focused collaboration is when different business enterprises choose to work together to produce and market products and services in an effective and efficient manner in order to meet the needs of targeted consumer(s).

Governance:- ensures that interactions between firms along a value chain exhibit some reflection of organization rather than being random. Value chains are governed when parameters requiring product, process and logistic qualification are set which have consequences up and down the value chain encompassing bundles of activities, actors and functions. Coordination usually involves managing these parameters; however, it does not require that a single firm is responsible for it. The value chain's governance role is usually undertaken by a chain leader who preferably and strategically located and fully knowledgeable with the dynamics of the chain (www.eadi.org).

2.2.2 Market opportunity

The pace and scale of today's globalization is without precedent and is associated with the rapid emergence of global value chains as production processes become increasingly fragmented geographically. Information and communication technology (ICT) has made it possible to slice up the value chain and perform activities in any location that can help reduce costs. The globalization of value chains results in the physical fragmentation of production, where the various stages are optimally located across different sites as firms find it advantageous to source more of their inputs globally. The development of global value chains also offers new opportunities to companies by enabling them to expand their business opportunities within the domestic market and across borders.

The increased opportunities for companies come along with important challenges in terms of management, finance and the ability to upgrade and protect in-house technology. The stronger the relationship among the value chain participants, the better the customer retention in the value chain, the better the value chain will be upgraded, and then the better market opportunity would be (RKN, 2011).

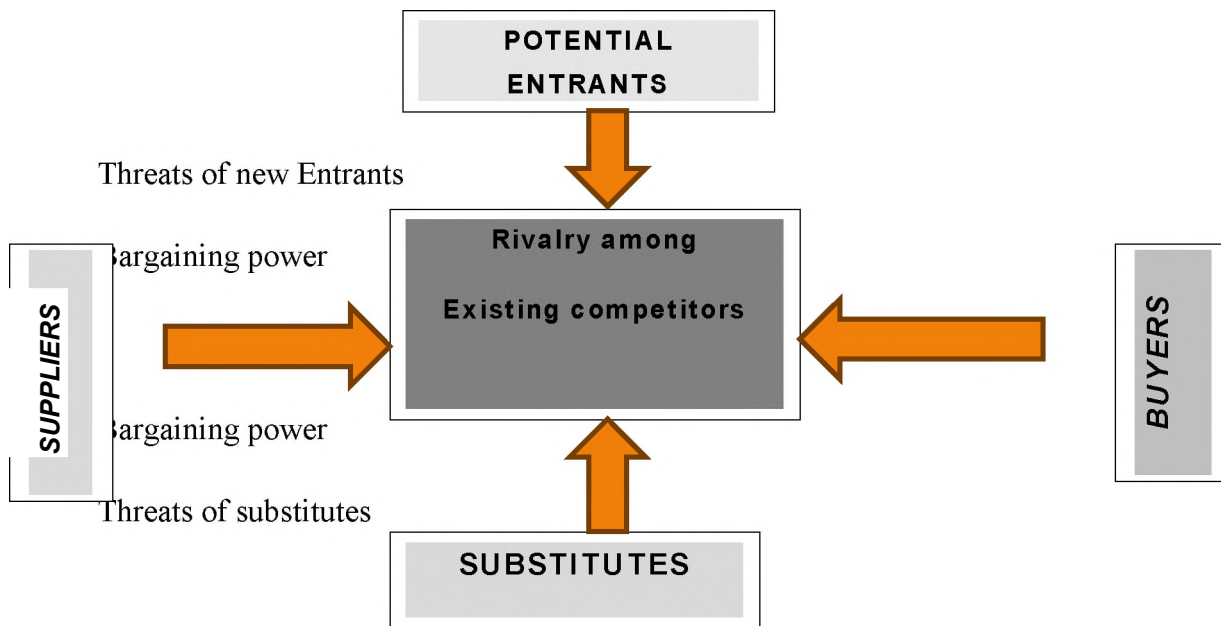


Figure 2.2: Porter E.M five competitive forces

Source-Adapted from Porter E.M. 2008, The five competitive forces that shape strategy, Harvard Business Review.

Porter’s model analyzes five competitive forces (new entrants, buyers, suppliers, and substitutes) in the market where the company is (Porter E.M., 2008). According to Porter, the rapid change in economy is the basis of the five forces model. Each company operating in the network of buyers, suppliers, substitutes, new entrants and competitors are either positively or negatively affected by the competitive forces. For a company to be able to state about industry profitability and attractiveness, the company needs to analyze the five forces (Johnson et al., 2008)

2.3. Challenges of the value chain

Globalization has important impacts on the industrial structure and dynamics of countries as it results in a changing allocation of production over a growing number of countries. The integration of new players in the global economy challenges existing comparative advantages and the competitiveness of countries, forcing them to search for new activities in which they can excel and confront the competition. The main drive is for countries to move up the

value chain and become more specialized in knowledge-intensive, high value-added activities (OECD, 2007)

These days, customers are changing. They are becoming more slippery, more difficult to catch and hold on to. They are slippery because they have access to more and more information about goods and services and choose to communicate in new ways. Effective communication across all customer touch points is what, increasingly, customers' relationship management (CRM) is all about (Jeffrey Peel, 2002). <http://www.bh.com/digitalpress>.

In certain circumstances, customers may choose not want a relationship, or certainly not a long-term relationship. The challenges for any supplier organization are to maximize the utility derived by the customer, because if utility is maximized, the customer is more likely to repeat purchase. Therefore, making value judgment about the customer is at the center of any customer relationship.

Value-added selling changes much of the sales process. Selling value is the single biggest challenges faced by sales professionals. Marketers need to develop marketing strategy using the tool kit (4Ps i.e. product, place, price, and promotion), besides this personal selling also need to fit in to the marketing mix as part of firms promotion mix or marketing communication mix.

In modern organizations, relationship selling and sales management is quite an integrated process. Therefore, organizations are advised to think through the most efficient and effective ways to manage their business from end to end (the whole value chain process) and should pay attention to manage the customer side of the business; if they fail to do so, certainly they are working to fail (Mark W. Johnston, 2010), pp. 5, 71

2.4. Value chain actors

According to Getnet (2009) value chain (VC) actors are those involved in supplying inputs, producing, processing, marketing, and consuming products? They can also be those that directly involved in the value chain (producers or suppliers, processors, traders, retailers, contractors, builders, manufacturers and consumers) or indirect actors who provide

financial or non-financial support services, such as credit agencies, business service and government, researchers.

Collaboration and partnership of value chain actors is needed to get mutual benefit from the business. Even though it is difficult to share responsibility formally between and among the value chain actors, they can make ease if they create partnership and become loyal.

Ethiopia chip wood and furniture factory S.C. uses inputs (raw materials) from both domestic market and foreign market. The company uses such materials in the process of production as logs of different length and thickness, and adhesive chemicals. In doing so suppliers from domestic and foreign market, traders, retailers, contractors, builders, end user participate in the value chain. Value chain can be viewed as a set of actors and activities, and organizations and the rules governing those activities. Typical value chain linkages include input supply, production, assembly, transport, storage, processing, wholesaling, retailing, and utilization, with exportation included as a major stage for products (Anandajayasekera and Berhanu, 2009).

A value chain is made up of a series of actors from input suppliers, producers and processors, traders and end users (Kaplinsky and Morris, 2001). Bammann (2007) has identified three important levels of value chain.

- Value chain actors: The chain of actors who directly deal with the products, i.e. produce, process, trade and own them.
- Value chain supporters: The services provided by various actors who never directly deal with the product, but whose services add value to the product.
- Value chain influencers: The regulatory framework, policies, infrastructures, etc.

The value chain concept entails the addition of value as the product progresses from input suppliers to producers and consumers.

A value chain, therefore, incorporates productive transformation and value addition at each stage of the value chain. At each stage in the value chain, the product changes hands through chain actors, transaction costs are incurred, and generally, some form of value is added. Value addition results from diverse activities including bulking, cleaning, grading, and packaging, transporting, storing and processing (Anandajayasekera and Berhanu, 2009)

2.5. Value chain Governance

Governance refers to the role of coordination and associated roles of identifying dynamic profitable opportunities and allocating roles to key players. The governance of value chains emanate from the requirement to set product, process, and logistic standards, which then influence upstream or down stream chain actors and results in activities, roles and functions (Kaplinsky and Morris, 2000).

Williamson (1980s) used the term governance to define the set of institutional arrangements in which a transaction is organized. As Gereffi's work on Global Commodity Chains and the role of governance appeared, the term coordination took on a new meaning, basically, the vertical organization of activities. The application of contract/private ordering/governance leads naturally into the reconceptualization of the firm not as a production function (in the science of choice tradition) but as a governance structure (Williamson, 2002).

According to Raikes *et al.* (2000), trust-based coordination is central for goods and services, whose characteristics change frequently, making a standardized quality determination for the purposes of industrial coordination. This applies to the manufacturing industry as well as agri-food chains. It is possible to identify in one industry several coordination forms used by different firms where the choices rely on the trust existent between the firms.

Value chains can be classified into two based on the governance structures: buyer-driven value chains, and producer-driven value chains (Kaplinsky and Morris, 2000). Buyer-driven chains are usually labor intensive industries, and so more important like in international development and agriculture. In such industries, buyers undertake the lead coordination activities and influence product specifications.

In producer-driven value chains which are more capital intensive, key producers in the chain, usually controlling key technologies, influence product specifications and play the lead role in coordinating the various links. Some chains may involve both producer and buyer driven governance. Yet in further work (Humphrey and Schmitz, 2002; Gibbon and Ponte, 2005) it is argued that governance, in the sense of a clear dominance structure, is not necessary a constitutive element of value chains. Some value chains may exhibit no governance at all, or very thin governance. In most value chains, there may be multiple points of governance, involved in setting rules, monitoring performance and/or assisting producers.

Chain governance should also be viewed in terms of ‘richness’ and ‘reach’, *i.e.*, in terms of its depth and pervasiveness (Evans and Wurster, 2000). Richness or depth of value chain governance refers to the extent to which governance affects the core activities of individual actors in the chain. Reach or pervasiveness refers to how widely the governance is applied and whether or not competing bases of power exists. In the real world, value chains may be subject to multiplicity of governance structure, often laying down conflicting rules to the poor producers (MSPA, 2010).

2.6. Value chain Upgrading

Upgrading refers to the acquisition of technological capabilities and market linkages that enable firms to improve their competitiveness and move into higher-value activities. Upgrading in firms can take place in the form of process upgrading, product upgrading, functional upgrading and chain upgrading. Upgrading entails not only improvements in products, but also investments in people, knowhow, processes, equipment and favorable work conditions (Kaplinsky and Morris, 2000).

Table 2.1: Upgrading types and challenges

Upgrading types	Specific challenges
Improving process efficiency	Improvement in overall manufacturing efficiency Better coordination of deliveries and learning to use cost effective materials input Different product specifications for production Improved and consistent input quality Human resource development
Introducing new products or improving existing products	Designs suitable for woodchips and particles And for over all manufacture Learning to utilize new and environmentally friendly lacquers and paints (adhesive chemicals)
Functional upgrading	Increasing domestic design content, within individual links or in collaboration between links and with the national system of innovation
Moving to a new value chain	-Moving from pine and logs furniture to advanced industrial products with sharp and competent demand which is research driven -willingness to share information

Source :Own ideas from analysis & survey 2014/2015

CHAPTER THREE : RESEARCH METHODOLOGY

This chapter provides research methodology to be used in the study in order to achieve research objectives. The chapter presents research design, population and sampling technique, types of data and instrument of data collection, procedure of data collection and methods of data analysis.

3.1 Description of Study area

The study area for this research shall be Ethiopia Chip wood and Furniture Factory S.c (ECAFCO S.C) out of which samples will be selected.

Ethiopian chip wood and furniture factory S.C. is a share company engaged in production of chip wood products.

The head office of the company is located in Kebele 10/18 of the Nefas-Silk Lafto Sub-city at Southern Addis Ababa. The establishment of the company dates back to 1963G.C. it was established by 14 individual entrepreneurs of whom two were Ethiopians. The production works of the enterprise began in February 1966G.C. The land holding of the company is 32,231m² in Addis Ababa.

Ethiopian chip wood and furniture share company, has been engaged in different business units as the production of different sized chip wood boards, lumber, prefabricated and conventional houses, styroporproducts (Ceiling tiles, Ice boxes, Flower pots, Blocks) and furniture; it also gives timber impregnation and automotive maintenance services

The enterprise which was a share company wholly under the ownership of the Federal government since January 1, 2000 G.C and is privatized in August 2008 G.C

3.2. Research Approach

In this research, combinations of both qualitative and quantitative approaches are employed. Qualitative approach offers the researcher the opportunity to carefully communicate and gather the experience of the respondents through interview and discussion with groups. This approach also helps the researcher to understand the situation, events, experiences and action of the participants(Maxwell,2005). While quantitative approach was employed to gather data expressed in the form of numbers through questionnaires. Descriptive statistics and inferential

statistics were used to analyze chip wood product value chain of Ethiopian chip wood and furniture share company (ECAFCO S.C).

3.3. Population and Sampling Techniques

The company has a total of 250 permanent employees' population and is categorized as top level managers, middle level managers and lower level (Front line) employees. Top level managers are 6 in number, middle level managers are 11 and front line managers or employees are 233.

Sample size will be determined using a Stratified Random sampling based on the position(top level, middle level and lower level)

In doing so top level and middle level managers, because their number is below hundred, the whole population (6 and 11 respectively) is considered to be sample.

To determine sample from the remaining 233 employees (staff) mathematical formula provided by Yamane (1967) shall be applied. Out of the total 233 employees 147 employees will be selected as a sample size. A 95% confidence level and $p = 5$.

Table 3.1: Sample size Distribution based on the position

Position	Sample frame	Sample Size
Top level managers	6	6
Middle level managers	11	11
Lower level managers	233	147
Total	250	164

In determining the sample size, that is, $n = \frac{N}{1 + H^2}$,

$$n = \frac{233}{1 + 0.05^2} = 147$$

Where n = sample size, N is the population size and e is the level of precision the total sample size was 164 employees.

3.4. Types of data and Tools/Instruments of Data collection

3.4.1. Types of data

To achieve the objectives of this study the relevant data was collected from primary and secondary sources of data. The data collected consists of quantitative (Discrete, education and continuous), qualitative data, nominal (Civil status: single, married, widowed).

To meet the objectives of the research, qualitative data regarding professional experts' perception about chip wood value chain was gathered from respondents through semi-structured questionnaires. Quantitative approach is employed to collect data from secondary sources for the purpose of analyzing the economic gain of the company out of the value chain network, to analyze the reliability in relation to product deliveries and to identify the challenges and opportunities within the value chain of the study area.

3.4.2. Instruments of Data collection

The following instruments were used in collecting quantitative and qualitative data. Quantitative data was collected from field sample survey using Self-administered questionnaire, Personal interview. Qualitative data was collected from field sample survey using, Focus-group discussion, In-depth-interviews, and Direct and indirect observation to learn the most about the situation of the respondents. Based on this, instrument validity and reliability was checked. A good response rate for this research project is expected to be 85%.

3.5. Procedures of data collection

To gather necessary data that are relevant for achieving the intended objective both primary and secondary data were used. Primary data were collected through questionnaires distributed to employees (sample respondents) of the company and semi structured interview and group discussion were employed. To this end questionnaires were developed and distributed to 164 respondents from the company under study. Participants were categorized in to three managerial levels (top, middle and lower level managers)

Secondary data were collected from secondary sources available at the company's office. These documents were; official documents of the company. After collecting the necessary data, it was summarized and tabulated using Microsoft Excel and transferred to software for further analysis.

To increase the reliability of the questionnaires, the questionnaires were pre-distributed to sample respondents. To assure whether or not the instrument was consistent, responses given by respondents was analyzed. The result showed that it was consistent. For attaining rigor in this study, the instrument was tested in advance whether a tool appears to others to be measuring what it says it does, the extent to which a tool can predict a future event, and the link it has with the underlying theory.

3.6. Methods of Data Analysis

Data processing or analysis is an important part of the whole survey operations. Descriptive statistical tools such as percentage, frequency distribution, mean, bar charts, and pie charts are used to describe and present the findings of the research.

At this point, the researcher has prepared codebook and use to enter, sort, clean, tabulate, analyze and interpret data collected in to SPSS for Window. Data analysis in this study therefore involves a set of tools that enable the researcher to analyze the data collected there researcher applied the following approaches of data analysis involving three major steps. These are classifying the data, cleaning and organizing the data for analysis (Data Preparation), Describing the data (Descriptive Statistics), and Inferential Statistics.

CHAPTER FOUR: RESULTS and DISCUSSION

4.1. Results/Findings of the Study

In this chapter of the research, the major findings are to be presented. The first section in here deals with Descriptive and inferential analysis of the sample respondents' general profile. The second section presents chip wood board value chain actors. The third section covers the analysis of chip wood board which includes profitability of the company, economic contribution of chip wood value chain in the study area. The fourth section covers about raw materials delivery time variation. The fifth part of this chapter discusses about the opportunities and challenges with in chip wood value chain. To meet the objectives of the study questionnaires were distributed to 164 sample respondents. All the respondents were responded to the questionnaires; and all the accepted responses were complete and this found to be valid for analysis.

4.1.1 Descriptive Results of the respondents' general information (Profile)

4.1.1.1. Age, Sex, Marital Status, Job Position

Concerning age of the respondents, minimum age 20 and maximum age 59 years; their average mean age is 43.43, and the variability with in the age data (St. Deviation) is 9.2. As could be observed from the result, 74.4% married and respondents who were unmarried accounts for 20.7%, divorced 3% and widowed were 1.8%.

As illustrated in table below out of 164 respondents 78.7% of the respondents were male respondents and the remaining 21.3% were female respondents. In responding to research questionnaires respondents from different working position were participated. of the total respondents 3.7% were top level managers, 6.7% were middle level managers and 89.6% were lower level or frontline workers

4.1.1.2. Educational status, Work experience

As to their education background, respondents who had first degree and above accounts for 8.5%, respondents who hold diploma accounts for 33.5%. 12.2% of the respondents were those who had certificate. Respondents who were 12th grade and 10th grade complete are 12.2% & 12.8. Those who can read and write accounts for 20.7%. Therefore, this revealed that the company had gaps in building the capacity of the employees

.Table 4.1: Respondents' educational status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 12 grade completed	20	12.2	12.2	12.2
10 grade completed as per new curriculum certificate	21	12.8	12.8	25.0
Certificate as per new curriculum	20	12.2	12.2	37.2
Diploma	55	33.5	33.5	70.7
First degree & above	14	8.5	8.5	79.3
Can read & write	34	20.7	20.7	100.0
Total	164	100.0	100.0	

Source :- From survey analysis

From the analysis it was found that, majority of the respondents were those who had diploma and those who can read and write respectively. On the other side those who had first degree and above, their percentage is among the least. In this competitive business world, human capital who are capable of doing work efficiently is very important. Business firms which are unable to fit and unable to update itself will most likely be out of the business.

Regarding work experience of the respondents, 6.7% of the respondents had work experience above 31 years, respondents who had service year of 21 to 30 years accounts for 42.1%, and those who had working experience of 11 to 20 years 28.0%. and 23.2% of the respondents had work experience of 0 to 10 years. The frequency distribution and percentage respondents' educational status & work experience is depicted respectively in table below

Table 4.2: Respondents' work experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 to 10 years	38	23.2	23.2	23.2
11 to 20	46	28.0	28.0	51.2
21 to 30	69	42.1	42.1	93.3
31 and above	11	6.7	6.7	100.0
Total	164	100.0	100.0	

Source from survey analysis

The results of the research show that majority of the respondents have been serving the company for long years; and they had a chance to have the knowhow about the company. Therefore, their response is found to be valid and reliable information to make analysis.

4.1.2. Chip wood board value chain actors

A value chain is made up of a series of actors from input suppliers, producers and processors, traders and end users. They can also be those that directly involved in the value chain (producers or suppliers, processors, traders, retailers, contractors, builders, manufacturers and consumers) and indirect actors who provide financial or non-financial support services, such as credit agencies, business service and government, researchers (Kaplinsky and Morris, 2001).

The result of the survey showed that the major chip wood value chain actors in the study area are suppliers of raw materials (international suppliers who provide adhesive chemicals, local supplier who supply log for chip wood production), processors, traders, retailers, contractors, builders, manufacturers, and end users. (ECAFCO S.C activity report of the year 2013)

4.1.3. Profitability of the company

Profitability of the company was analyzed during survey; and the result showed that 90.2% of the respondents forwarded that the company has been profitable. Of these 82.4% of the respondents responded that its profitability has been consistent and 17.6% said that its profitability has not been consistent. As consequences of the company's profitability, the respondents said that there exist employees' benefit package, periodic salary increment, minimal employees' turn over, and availability of input for executing work activities.

Table 4.3 : Company’s profitability Analysis

		Responses		Percent of Cases
		N	Percent	N
Profitability of the company wrt(a)	There exist employees benefit packages	151	26.5%	95.6%
	Periodic salary increment	149	26.1%	94.3%
	Minimal employees turnover	129	22.6%	81.6%
	Availability of inputs for executing work activities	141	24.7%	89.2%
Total		570	100.0%	360.8%

As could be observed from survey result the respondents believed that the inconsistency of company’s profitability was brought about by inefficiency of the machine (62.5%), decline in employee’s productivity (6.3%) and due to scarcity of raw materials (31.3%). As to the perception of the respondents and the results of the findings, the company does not have regular schedule for maintaining the machine; maintenance of the machine is being carried out whenever there is machine breakage. Therefore, it affected the productivity of the machine and this in turn affect profitability of the company.

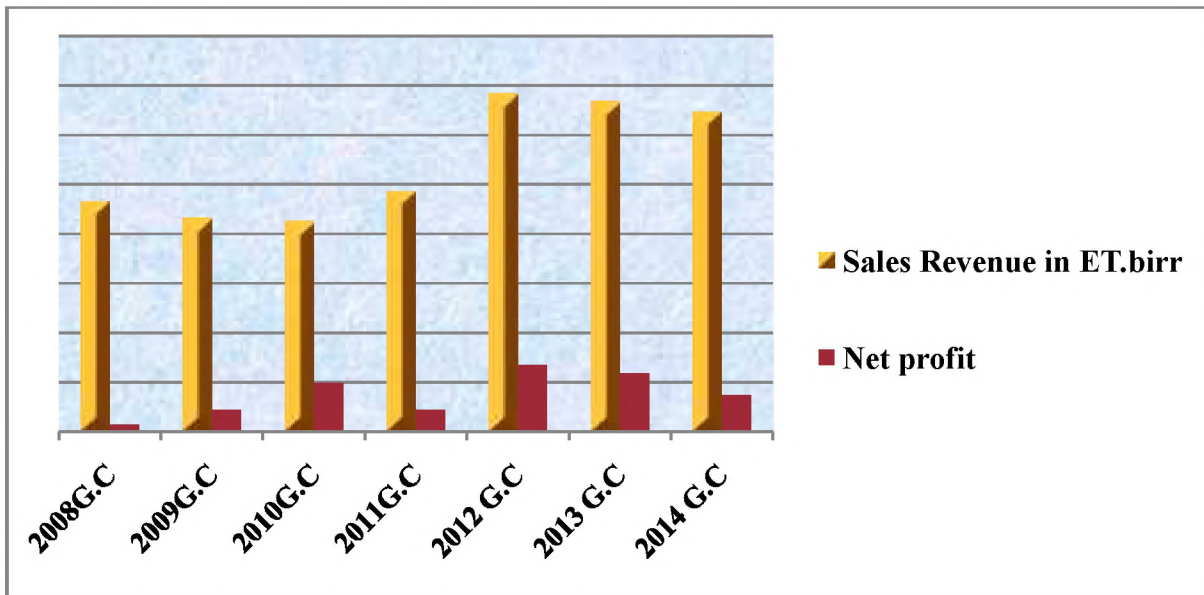


Figure 4.1 Graphical representations of company’s revenue & Net profit in mill.

Source: From survey of official documents 2014/2015

From the above illustration company's net profit fluctuates as one go from year 2008G.C to 2014G.C. therefore, it does not have consistency. Besides this when amount of average net profit per year is compared to that of average annual revenue, the amount of net profit is far apart from the revenue. This on the other way showed that there is gap in value chain performance.

4.1.4. Economic Contribution of chip wood value chain performance

4.1.4.1. Contribution to employees' Salary & Benefits

Human capital (Resource) is one of the factors of production. In any manufacturing company man power is a crucial element. These days a high level of unemployment is one of the critical socio-economic problems facing Ethiopia. To reverse this, the country has designed actionable plan in growth and transformation plan (GTP) and has been strongly working towards mitigating this problem. the commitment on the side of the government paved the way for the development of different economic sectors in the way that they could creat job opportunity.

If any company or country fails to make appropriate use of man power, most likely the company will be subject to socio-economic, political and moral consequences. Alike any business company ECAFCO S.C has created employment opportunities in the form of permanent employment and contractual employment. In accordance to this, at the moment it has 250 permanent employees and 117 contractual employees. Of the average annual revenue (Et. birr 27,193,832.57) the company has been allocating at an average 14.3% of the revenue collected for employees' salary. From the analysis it was found that, the company has been earning net profit of 3.7 million birr per year at an average. Therefore, besides the regular salary, employees have been given salary increment and bonus based on the agreement entered into by employees' association and management which states that whenever the company earns profit the employees will be given salary increment.

4.1.4.2. Contribution to investment

As indicated above some portion of the sales revenue had been utilized for the purpose of investments which encompasses; purchase of vehicle, boiler, and different equipment.

The company has been allocating an average of birr 309,221.70 (14%) of the net profit per year on investment (purchase of fixed assets).

4.1.4.3. Contribution to Gov't Revenue

Like any other companies in Ethiopia, ECAFCO S.C has been abide by country's regulation and accordingly contributing to economic growth of the country in the form of government value added tax (VAT) and income tax from employment. In materializing such a contribution of a company. About birr4,079,074.71 out of the revenue in fiscal year paid to government in the form of value added tax(VAT) and income tax from employees. Value chain economic frequencies is presented in table below

Table 4.4: Economic gain frequencies

Items		Frequency	Percent	Valid Percent	Cumulative Percent
-There exist employees benefit packages - Periodic salary increment - Minimal employees turnover -Availability of inputs for executing work activities	Valid Yes	158	96.3	96.3	96.3
	No	6	3.7	3.7	100.0
	Total	164	100.0	100.0	

Source:-From survey analysis

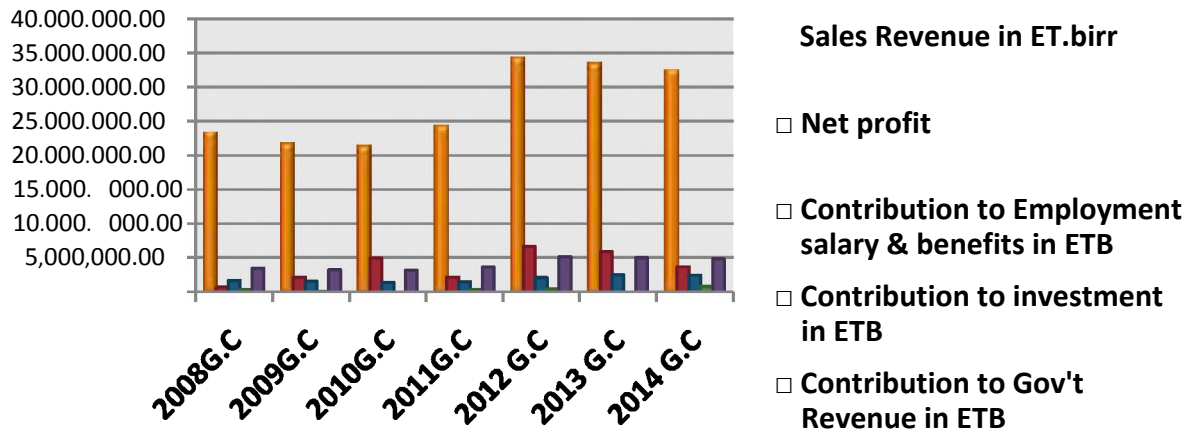


Figure 4.2: Distribution of Sales revenue & Net profit among Various Components in mill.birr
 Source: - From survey of official documents 2014/2015

4.1.5 Raw materials Delivery time variation

The supply chain management is found to be the crucial operation of any business company. In the company under assessment there are two main categories as Upstream and Downstream part of the supply chain. The upstream covered the chain from raw materials suppliers through intermediaries to Ethiopian chip wood and furniture company (ECAFCO S.C) and the downstream covered the delivery of finished product from ECAFCO S.C to customers. ECAFCO S.C purchase raw materials from international suppliers and local supplier; then the finished chip wood board are delivered to customers (contractors, builders, retailers and end users). In the case of procurement from international market, the company forwards an open tender and the agents of the international suppliers here in Ethiopia, participate on the auction. If they happen to win the bid then it is the agents who deal all the detail about the materials deliveries with the company.

The main material being purchased from foreign market was different adhesive chemicals like glue and urine formaldehydes. The company has been purchasing raw materials (adhesive chemicals) from such countries as Italy, South Africa, Sweden and since recent time from China. Performance of seven consecutive years was analyzed in order to see

delivery time variation. As could be observed from analysis, the company has been purchasing an average of 13840.85kg of glue per year by incurring birr 6,655,135.70

In local market the company purchases the raw material (Logs) from one supplier directly. There was documentation concerning the agreement on average lead time in the case of foreign purchase; despite this, the review of the official documents show that there was deliance of the delivery time and sometimes defects of the materials on arrival. So in actual performance there was deviation from what was agreed up on by parties.

As to the performance related to the purchase of logs, the company purchase 12,483.44M³ of log at an average per year at an average cost of birr 3,606,274.29. it is found that a lot of logs being piled in the compound of the company and the remaining logs was at the site in the forest concession of supplier. It was found from the interview and discussion that, the raw material (log for machine) has been there in the field for about three or more months. The respondents said that this mismanagement of log stock was brought about by shortage of logistics(trucks) and sufficient space to have the raw material.



Figure: 4.3 Log ready for use

Source :- Picture taken during survey 2014/2015

As to raw materials delivery time variability, 62.7% of the respondents said that the raw materials arrive late beyond the lead time and 37.3 % said that it is prompt and arrive as per

the agreement signed by and between the suppliers and the company. This is challenging in the case of foreign purchase as compared to local purchase.

Table 4.5: Raw material delivery schedule reliability

Items			Frequency	Percent	Valid Percent	Cumulative Percent
	-Price	Valid	Late	99	60.4	62.7
-Delivery schedule (reliability)						
-Product quality						
-Product durability						
-Aftersales service		Prompt	59	36.0	37.3	100.0
		Total	158	96.3	100.0	
	Missing	System	6	3.7		
	Total		164	100.0		

Source:- From survey analysis

The respondents believe that they found the raw materials' quality to be 88.9% excellent and 11.1% is found to be poor on arrival

Table 4.6 Raw material delivery time variation

Fiscal year (G.C)	Date of order (G.C)	Maximum lead time	Elapsed time
2008	8/4/2008	3 months	5 months& 22 days
2009	18/10/2009	3 months	3 months&8 days
2010	2/3/2010	3 months	4 months& 28 days
2011	23/09/2011	3 months	3 months& 20 days
2012	1/6/2012	3 months	2 months& 29 days
2013	17/12/2013	3 months	3 months& 25 days
2014	2/9/2014	3 months	3 months& 11 days

Source: - From company's activity report of the year 2008 -2014

From the illustration in the 4.6 above the maximum lead time for delivery of the raw materials from foreign market is 3 months from the date of ordering the materials; the findings of the actual performance reveal that there is elapsed time beyond the expected

delivery time. The maximum time taken is 5 month and 22 days which was in year 2000 E.C; and the minimum time taken was 2 months and 29 days, i.e in year 2004 E.C. so the maximum time elapsed in year 2000 E.C is 2 months and 22days which was in year 2000 E.C. Therefore, the result lead to the conclusion that, the suppliers were not punctual in delivering the raw materials as per the agreement signed by the parties; So they need to be abide by the conditions (rules) stated in the agreement signed.

4.1.6. Opportunities and challenges with in the value chain

4.1.6.1. Market Opportunity

The country's huge infrastructure expansion and urban remarkable building construction activities provided an opportunity for rapid increase in demand for construction materials. The issue of potential wood product supply is becoming important proportionately with rapidly growing building construction at regional and national level (AFDB, 2010).

ECAFECO S.C has been the leading Chip wood board producing company in Ethiopia since long years. The product is 8mm thickness and has good image in the mind of customers for its quality. Government, non-government organizations, contractors and individuals prescribe for ECAFECO's chip wood board whenever they plan to undertake building construction. So it is taken to be a brand. Government is one of the participants of chipwood value chain the study area and hence requires large volume of the product.

The research findings show that the company distribute (sells) the product at factory gate; and does not havemarket outlets elsewhere. Data of seven consecutive years (2008 G.C - 2013/14) was taken from official document and analyzed to have understanding on sales trends of the company. From the analysis made, it was found that the company is used to sell an average 5,718.86M3 of chipwood board per year and earn an average sales revenue of birr 27,193,832.57. the findings of the research show that 34.8% of the respondents responded that value chain practices create market opportunity, 4.9% believe that it creates production opportunity and only 1.8% for technology transfer; finally 58.5% of the respondents forwarded that value chain practices creates all the above mentioned (market opportunity, production opportunity, and opportunity for technology transfer.

Table 4.7: Analysis of opportunity created by value chain

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Market opportunity	57	34.8	34.8	34.8
Production opportunity	8	4.9	4.9	39.6
Opportunity for technology transfer	3	1.8	1.8	41.5
All	96	58.5	58.5	100.0
Total	164	100.0	100.0	

Source: - From survey analysis

From the table above it is depicted that value chain practices created market opportunity better than others.

4.I.6.2. Production Challenges

The increased opportunities for companies in marketing perspective come along with challenges in terms of management, finance, the ability to upgrade its capacity, utilization of flourishing technology.

ECAFCO S.C began production operation before forty years back by establishing the plant (machine). The machine is expected to use 14,256M³ of log per year and yield 12000M³ of chipwood board per year; but the actual performance respectively is 6336M³ of log and yield 5717.14M³ of chipwood at an average per year. The decline in production capacity of the machine has been a bottleneck on production. As mentioned above, the result showed that only 1.8% of the respondents believe that the value chain practices in the company created production opportunity.



Figure 4.4 Chip wood board ready for sanding & cross cutting
 Source: - Picture taken during survey 2014/2015

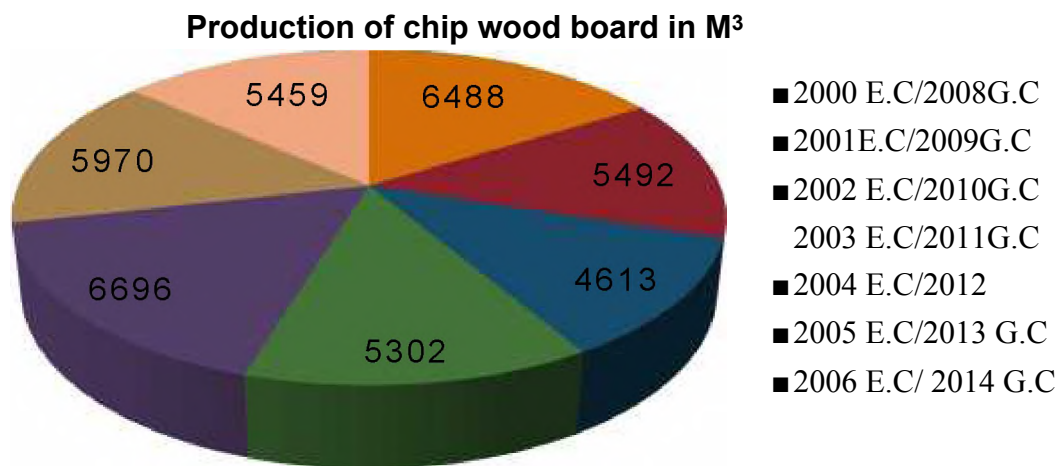


Figure 4.5 Actual volume of chip wood production for seven consecutive years
 Source: - sketch from survey of official documents 2014/2015

The company is used to produce chip wood board of 2.50mX1.25m and with different thickness(8mm,10mm,13mm,16mm,19mm). Basically chip wood board is used for ceiling, for making bed, and used in furniture work.

4.1.6. 3. Cost of purchasing Raw materials

The result of the findings shows that there is impulsive increase in price of raw materials purchased both from local market and international market. This incidence causes increase in cost of production and increase in selling price of chip wood board. Of the responses accepted 87.8% confirmed that the price of raw materials is high, and 12.2% said that it is low.

Table: 4.8 Price frequency table

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High	137	83.5	87.8	87.8
Low	19	11.6	12.2	100.0
Total	156	95.1	100.0	
Missing System	8	4.9		
Total	164	100.0		

Source: - From survey analysis

The trend of the cost purchasing raw materials and its influence of selling price of chip wood board is depicted in figure 4:2 and correlation table below.

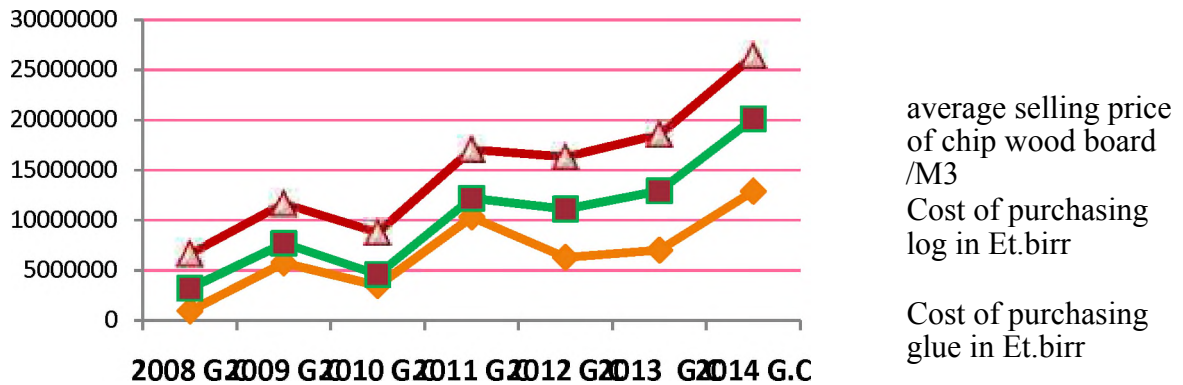


Figure: 4.6 Purchase of Raw materials

Source: from research survey 2014/2015

Table 4.9 Correlations

		Glue_cost	Log_cost	Selling_price
Glue cost	Pearson Correlation	1	.596	.844(*)
	Sig. (2-tailed)		.158	.017
	N	7	7	7
Log_cost	Pearson Correlation	.596	1	.875(**)
	Sig. (2-tailed)	.158		.010
	N	7	7	7
Selling_price	Pearson Correlation	.844(*)	.875(**)	1
	Sig. (2-tailed)	.017	.010	
	N	7	7	7

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

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

Source: - From survey analysis

The correlation revealed that the increase in cost of raw materials have a positive relationship; because increase in cost of raw materials (glue and log) leads to increase in selling price of chip wood board. As a consequence of impulsive increase in price of raw materials and increase in selling price of chip wood board, it was found that, customers tend to shift to some substitute products.

4.1.6.4. Upgrading challenges

Business world is a dynamic; it changes now and then. As it was reviewed in the literature Upgrading in firms can take place in the form of process upgrading, product upgrading, functional upgrading and chain upgrading. Upgrading entails not only improvements in products, but also investments in peoples' knowhow, processes, equipment and favorable work conditions (Gereffi, G.1999).

The result reveals that the company does not have regular schedule for maintenance of machine and even no concrete plan as to when the old machine be replaced and no schedule for employees capacity building. As could be observed from sample population,

and see two extremes with respect to educational status of the sample respondents, those who can read and write accounts for 23 % and respondents who had first degree and above accounts only for 11.6%. Improvement in overall manufacturing efficiency, better coordination of deliveries and learning to use cost effective materials input, human resource development;therefore, these are found to be that need attention.

The other critical problem found during survey (interview and discussion with the sample respondents) was that,the residents have been complaining of the pollution from dust particles being released from the factory.

4.2. Discussion

4.2.1. Descriptive Results of the respondents' general information

As mentioned in the employees' profile of the company, the company's over view of the employees in terms of higher education level needs extra ordinary effort to be improved. It is well recommended that the company has to design program for employees' capacity building (periodic training in the areas of their responsibility and employees' development. According to the literature (www.cengage.co.uk), the growth potential of the company can only be exploited if the company becomes a learning organization in which the good practice learned by individual members of the staff can be leveraged, transferred and built up on throughout its activities. According to the literature, ECAFCO S.C did not work well to develop its employees. Therefore, has to work hard to reverse the scenario.

4.2.2. Chip wood board value chain actors

We have seen in the findings that the value chain of Chip wood board at study area includes such actors as suppliers of raw materials (international suppliers who provide adhesive chemicals, local supplier who supply log), processors, wholesalers, retailers, contractors, builders, manufacturers, and end users. In here there are upstream supply chain in which raw materials supplied from supplier to ECAFCO S.C and downstream chain in which finished product delivered from the company to customers.

According to (Anandajayasekeram and Berhanu, (2009)) Value chain incorporates productive transformation and value addition at each stage of the value chain. At each stage in the value chain, the product changes hands through chain actors, transaction costs are incurred, and generally, some form of value is added. Value addition results from diverse activities including bulking, cleaning, grading, and packaging, transporting, storing and processing. According to the findings there are performance gaps on the side of raw materials suppliers (international suppliers). this gaps are going to be discussed latter in this section.

4.2.3. Profitability of the company

As could be observed from the analysis of profit and loss statement of seven consecutive years, ECAFCO S.C has been making a profit. The company has been making an average net profit of 3.7mill Et.Birr per year. The amount of net profit the company has been earning was not consistently increasing; this fluctuation was due to variability of the amount of sales revenues.

According to Peter Engel. (McGraw-Hill, 1996) and American Management Association, (1992) Many entrepreneurs start their business, at least in part, because of pride of ownership and the satisfaction that comes from being their own boss. In addition, of course, they almost certainly started their business to generate profits. There are several ways to measure company's profits other than just looking at bankaccounts which, to tell the truth, doesn't tell much about profitability. One of the methods is to analyze company's different financial statements, (*www.resources.zionsbank.com*).

The value chain performance had enabled the company to earn profit so that ECAFCO S.C had a good practice and it has been producing financial statements every three months in order to confirm its financial position.

4.2.4. Economic Contribution of chip wood value chain performance

4.2.4.1. Contribution to employees' Salary & Benefits

The prosperity of a business or industrial undertaking depends upon the efforts of the human beings employed in it. If every employee is suited to his job, does it efficiently and enthusiastically, and actively promotes the interests of the business, it will prosper to the fullest extent. (*www.anmolpublications.com*)

Alike any business company ECAFCO S.C has created employment opportunities. The result of the finding showed that 250 employees were hired on a permanent basis and 117 employees were being hired on contractual basis. Of the average annual revenue (Et.birr 27,193,832.57)the company has been allocating at an average 14.3% of the revenue collected for employees' salary. Apart from the regular salary to be paid, employees are entitled to gain

salary increment and bonus based on the agreement entered into by employees' association and management.

In this regard the company is doing well. But one thing that need to be done by the company as an assignment is that, revenue and net profit have to be consistent to meet the ever increasing employees demand for better salary and other benefits.

4.2.4.2. Contribution to Government Revenue

The most direct contribution of the business (product/services) sector to economic growth comes from its own dynamism and expansion. Especially the business services sector has experienced a remarkably strong growth process in the past two decades, in terms of both employment and value added. Business services nowadays count as one of the largest sectors contributing to economic growth at national and international level.(ECORYS NEI.,2004).

According to (. ECORYS NEI. , 2004), There is a significant and strong positive correlation between the average income per capita and the share of business.

Alike any other business companies in the country, ECAFCO S.C have been obeying country's regulation. The company has been collecting VAT from sales on behalf of the government. About birr 4,079,074.71 out of the revenue in fiscal year paid to government in the form of value added tax(VAT) and income tax from employees. This effort of the company has to be fostered through increasing the level of company's revenues so that the amount of government revenue will be increased along with it.

4.2.5. Raw materials Delivery time variation

At the company under assessment there are two categories of supply chain as Upstream and Downstream chain. The upstream covered the chain from raw materials suppliers through intermediaries to the company; the downstream chain covered the delivery of finished product (chip wood board) from the company to customers. ECAFCO S.C is used to purchase raw materials from international suppliers and local suppliers.

According to (Chase et al.2006) the suppliers' ability to deliver more quickly than its competitors can be an added advantage and satisfy their customers in respect to overall business performance of the company.

Here in the findings of the study there are variations on delivery time intervals for raw materials (various kinds of adhesive chemicals) that the company has been purchasing from international market. For instance, the maximum lead time for delivering raw material from foreign is three months, but in actual performance there are delivery time variations which range from 8 days to 2 months and 22 days beyond the lead time. So this does not seem to be healthy. Having such delivery time variation caused the machine down time and incur a cost of stock out. Consequently this will have a bad repercussion on the performance the value chain.

Supplier selection is highly recognized as the most crucial things to done by the company; this is specifically the purchasing function. Because the suppliers can affectthe company in different perspectives i.e. price, quality, delivery reliability.(Monczka, 2009).

Therefore, ECAFCO S.C needs to create enabling conditions for purchasing raw materials from suppliers who are able to deliver the raw materials promptly and thereby realize maximum utilization of production time.

With regard to raw materials from local market, only one supplier has been delivering the raw materials (Log) to the company. The log is prepared (cross cut) with different length and thickness in the forest concession of the supplier. It is the company (ECAFCO S.C) that transports the log from the site by its own logistics.

As explained in the analysis part, the raw materials (log) utilization is not found to be efficient. The lock stock is misplaced and left at the site in the forest concession. According to (Raman, 2009) inventory inaccuracy occurs when the system does not match with physical inventory. The above challenges could result from several factors such as transactional and misplacement errors (Fry et al. 2007). Therefore, if the company is to put wise utilization of log stock in place, it has to make the stock demand and quantity to be purchased match.

4.2.6. Opportunities and Challenges with in the value chain

4.2.6.1. Market opportunity

As indicated in the analysis part ECAFCO S.C has been the leading Chip wood board producing company in Ethiopia since long years. The product has mainly been used by Government, non-government organizations, contractors, builders and individuals' customers. The product is prescribed by many because of its quality.

The country's huge infrastructure expansion and urban remarkable building construction activities provided an opportunity for rapid increase in demand for construction materials. The issue of potential wood product supply is becoming important proportionately with rapidly growing building construction at regional and national level (AFDB, 2010).

According to (AFDB,2010), the rapid growth of building construction in the country along with the involvement of various customers mentioned above in the value chain have created market opportunity for the company.

4.2.6.2. Production challenges

Each business organization has the core objective to maximize its profit through satisfying the demand of its customers. To this end adequate products and services are to be available in place. an analysis conducted by (Ou et al. , 2010) showed that customers-firms relationship management improves operational performance and customer satisfaction. in here the concept is there should be product/service, seller and buyer in place. The created demand (market opportunities) for the company brought challenges on the side of production.

The result showed that the company has been producing chip wood board which is below half of the expected production capacity of the machine. The expected average volume of production per year is 12000M³ of chip wood board; the actual performance is 5718M³ of chip wood board. The machine which the company has been using was established 51 years back; and its productivity is very minimal. ECAFCO S.C is not competent in producing sufficient volume of chip wood board product.

Therefore, in order the company to compete in the industry through satisfying the increasing demand for the product, investment in modern technology is highly recommended.

4.2.6.3. Cost of purchasing Raw materials

As stated in the findings, the impulsive increase in cost of purchasing raw materials has contributed not only to change in selling price of chip wood board but also as a consequences most likely make customers shift to substitute products. ECAFCO S.C has suppliers from international market from few same sources for long time

Consumers feel an urge to purchase a product whether it is expensive or cheap. They will follow a series of consumer buying process. According to (N.C. JAIN and SAAKSHI, 2009) , the consumer buying process encompasses such process as:- need awareness, information search, check options for procurement, purchasedecision, purchase postponing.

Therefore, after information search, ECAFCO S.C needs to evaluate all the available options. Options could be desired features, pricing, and supplying company credibility and trustworthiness.

4.2.6.4. Upgrading challenges

It was indicated in the analysis that the company has been using an old machine; moreover the company does not have regular time schedule for the maintenance of the machine. Besides this employees do not have access to training and human resource development activities (opportunities to advance level of education) are not practiced.

According to (Gereffi G., 1999),business world is a dynamic, it changes now and then. Therefore, companies need to upgrade themselves. Upgrading in firms can take place in the form of process upgrading, product upgrading, functional upgrading, chain upgrading. It also encompasses investment in peoples know how, equipment and favorable work condition.

In this regard ECAFCO S.C expected to go a long distance if it is to survive in the competitive environment and thereby fetch the competitive advantages.

Issues related to company's corporate social responsibility

Any establishment has corporate social responsibility from different perspectives; its operation has to be safe and environmentally friendly, which means that its operation is not expected to be polluting the environment and should not be the causes for the complaints of the societies.

According to (N.C. JAIN and SAAKSHI) a complaint is an expression of dissatisfaction made to an organization related to its products, overall operation. Or it is the complaints handling process itself. Where a response or resolution is explicitly or implicitly expected. (2009)

To this end, the location of the company needs to be at the suitable place. Because Ethiopian chip wood and furniture share company is now in city (residential area), the residents have been complaining of the pollution from dust particles being released from the factory. Therefore, to minimize the unnecessary conflicts and consequences that may arise out of the complaints from the inhabitants, the company need to plan ahead as to how and when to move and re-establish the factory at appropriate location out of the city.

CHAPTER FIVE: SUMMARY, CONCLUSION & RECOMMENDATIONS

5.1. Summary of Major Findings

This study was aimed at analyzing value chain of chip wood board in the case of Ethiopian chip wood and furniture Share Company. The specific objectives of the study include assessing the economic gain of the company out of the value chain network, analyze the reliability in relation to product deliveries and are to identify the challenges and opportunities within the value chain of the study area. Summary was drawn from major findings of the study and the summary was stated here below.

The value chain of Chip wood board includes such actors as suppliers of raw materials(international suppliers who provide adhesive chemicals, local supplier who supply log),processors, wholesalers , retailers, contractors, builders, manufacturers, and end users

- All the respondents are in the productive age of 20 to 59 years, and with mean average age of 43.3 and St. Deviation of 9.205. Majority of the respondents, their level of education is diploma and those who can read and write. There is no regular program for employees' capacity building. Human resource development activities are not practiced.
- Majority of the respondents were married (74.4%), those who are unmarried accounts for 20.7%, those who are divorce 3% and widowed are 1.8%
- Of the respondents, 6.7% have been serving the company for long years and they had work experience of 31 years and above.42.1% are those who have work experience of 21 to 30 years. the respondents who have work experience of 11 to 20 years accounts for 28%, those who had work experience of 0 to 10 years are about 23.2%

The value chain practices at study area have economic contribution which is being distributed among various components (employees' salary and benefits, contribution

to investment, and contribution to government revenue). Despite the fact the sales revenue and net profit has not been consistent, the company has been offering salary increment and benefits. Availability of employees benefit packages, periodic salary increment, and minimal employees' turn over could be considered as an indication. Ethiopian chip wood and furniture share company is used to earn net profit. The inconsistency of net profit is believed to be entailed by decline in machine productivity which in turn leads to limited production volume

The variance in raw material delivery time and actual performance has been a challenge not to waste production time. There is the elapsed when material is being ordered from international market. The maximum lead time is three month; and the actual maximum time elapsed is found to be 2 month and 22 days. The minimum time elapsed is found to be 8 days. In delivering the raw materials, suppliers do not obey the governing conditions stipulated in the agreement signed by the parties.

The company has been producing chip wood board which is below half of the expected production capacity of the machine. The expected average volume of production per year is 12000M³ of chip wood board; the actual performance is 5718M³ of chip wood board. This limited capacity was brought about by breakage of the machine and due to old age of the machine.

The Value chain practices are better at creating market opportunity than creating production opportunity and opportunity for technology transfer at study area. Chip wood being produced by ECAFCO S.C has been considered as a brand due to its quality; different customers (government, non-government organizations, contractors, builders) recommend this product whenever there plan to carry out building construction. The long stand involvement and relationship of such customers highly contribute to market opportunity.

- Ethiopian chip wood and furniture Share Company was established 51 years back. Since its inception the machine has been in operation without its full package replacement. Its long years services and absence of predetermined time schedule for maintenance became block against productivity of the machine

- The impulsive increase in cost of purchasing raw materials has contributed to change in selling price of chip wood board with in few months' time difference at the company. The extent of price fluctuation is most likely to create uncertainty at the side of the company to retain customers.

The company is now in the network of competitive forces. There are new other companies entering the market having modern and cost efficient machine. To with stand the deterrent effect in existing market, the company is in lack of upgrading its machine, process, function, improvement in production volume, and people know how.

The inbound logistics and raw materials stock management is not well developed

5.2. Conclusion

Within the value chain of Chip wood board the supply chain is characterized by short network on the supplier's side and short and wide market base on the customer side. Log for chip wood board production has been supplied by one supplier; and adhesive chemical has been delivered from international suppliers without much involvement of many intermediaries.

Over 78.7% of the respondents were male and 21.3% were female. All are in the productive age of 20 to 59 years, their mean average age is 43.3 and St. Deviation is 9.205. Respondents were categorized by job position. In accordance to this, 3.7% were top level managers, 6.7% were middle level managers and 89.6% were lower level managers or frontline employees. As to their educational status, respondents who had diploma found to take relatively large percentage (33.5%), those who can read and write accounts for 20.7% and those who had first degree and above accounts for 8.5% only. The others respondents who were 10th grade complete, 12th grade complete and who had certificate accounts for over 12% each.

The limited education level and knowhow of majority of the respondents, along with outdated machine and limited production capacity, Ethiopian chip wood and furniture Share Company's value chain performance to have such challenges as production challenges, and Upgrading challenges.

According to the survey, majority of the respondents have been serving the company for long years; of the respondents 42.1% are those who have work experience of 21 to 30 years, work experience of 11 to 20 years accounts for 28%, those who are with work experience of 0 to 10 years are about 23.2% and finally those who served the company for 31 years and above about 6.7%.

The findings of the survey showed that, value chain practices at study area have economic contribution which is being distributed among various components. Of the average total annual revenue that has been earned (Et.birr 27,193,832.57), the company has been

allocating 14.3% for employees' salary. Availability of employees benefit packages, periodic salary increment, and minimal employees' turn over could be the consequences of value chain practices at Ethiopian chip wood and furniture share company.

As indicated in the survey result, the respondents believe that the inconsistency in the amount of net profit was entailed by decline in productivity of the machine and decrease in efficiency of man power and impulsive increase in cost of raw materials.

Raw materials' delivery time variation was the challenge in one or another ways. From the accepted responses, 62.7% of the respondents said that the raw materials arrive late beyond the lead time and 37.3 % said that it has been prompt and arrived on time; in relation to quality of the raw materials 88.9% of the respondents believe that the materials are excellent though it is no prompt and 11.1% of the respondents said that it is found to be poor on arrival. Delivery lead time for materials from international market is three months, in actual performance delivery time variation or the time elapsed beyond the lead time range from 8 days to 2 months and 22 days.

The company is losing benefit due to poor raw materials stock control. Specially stock of log from domestic supplier. The log after it is being purchased from supplier; it is kept for long time in the forest where it is easily exposed to theft, and degradation.

Value chain related challenges of Ethiopian chip wood and furniture Share Company can be summarized as mentioned below.

- S* Supply side challenges includes variation of raw materials delivery time (for international suppliers), impulsive increase in cost of purchasing raw materials, both for international and domestic market
- S* Challenges in relation to internal operation encompass limited capacity to timely transport logs from site. Besides this, the imperfect raw materials management (log), leads to wastage of resources.
- S* Production challenge has been a big problem since long time. Because the machine has served for long time, its productivity is declined

ECAFECO S.C has been operating in the industry since long years back. Its product has good image in the mind of customers. These days, the rapid increase in demand for the product brought the challenges. As indicated in the findings, the company could not produce sufficient volume of production having an old machine. This in turn caused prolonged decline in productivity of the machine. Despite this, the company could not proactively plan to invest in technology.

From the survey it was observed that, the company's expected average volume of production is 12000 M3 of chip wood per year , but the current actual average volume of production is 5,718.86M3 of chip wood board per year; and the company has been earning an average sales revenue of birr 27,193,832.57 per year.

The remaining, 34.8% said that value chain practice create market opportunity, 4.9% of the respondents forwarded that it creates an opportunity for technology transfer.As the result of the survey indicates, due to decline in productivity of the machine, manpower and scarcity of raw materials, the machine has been producing below expectation. Therefore, this day, decline in production volume of chip wood board is one of the challenges with in the value chain.Besides this the survey shows that there is no predetermined time schedule for maintaining the machine.

It was realized from the accepted responses that, 87.8% of the respondents confirmed that the price of raw materials is high, and 12.2% said that it is low. alike the respondents perception the correlation result in table 4.9 and figure 4.6above shows that, increase in cost of purchasing raw materials lead to increase in selling price ; this is because increase in cost of purchasing contribute to increase in cost of production. Therefore, during survey, the respondents forwarded that, the increase in selling price of chip wood board make some customers look for substitute products; and such incidence will affect the market share of the company.

According toGereffi, G. (1999).Business world is a dynamic; it changes now and then. Firms inevitably need to upgrade themselves in all aspects. Upgrading can take place in the form of process upgrading, product upgrading, functional upgrading and chain upgrading. It entails

not only improvements in products, but also investments in peoples' knowhow, processes, equipment and favorable work conditions. the result of the findings revealed that, the company under study has not been actively working to improve process efficiency which includes better coordination of raw materials deliveries, learning to use cost effective materials input and human resource development Therefore, these need special attention if the company is to stay being competent.

5.3. Recommendation

The recommendations which were drawn from this study are based on the significant variables from the analysis of the study. Thus, based on the findings of survey results, the following recommendations are given to the company under study.

1. ECAFCO S.C was established 51 years back; since then the machine has been in operation. These days the company is operating in a network of competitive forces. Due to an increasing significance of globalization and deregulation, the old industry structure is changing fundamentally. Technology is one of the most important drivers for the change.
To fit in to the competitive business environment and lessen the deterrent effect existing in the market, and thereby fetch competitive advantage, investment in technology (maintenance, replace an old machine by new and modern machines), is recommended.
2. The increasing globalization of business, particularly because it is being driven by information technology, has led many firms to re-examine what contributes to their competitive advantage. It was believed that the pool of personal knowledge, skills and competencies of the staff that provides development potential. Therefore, if the company is to become effective and competitive in business it needs to increase the number of employees who have skills and knowledge, retain, nurture, capacitate the man power and motivate the employees to enthusiastically use knowledge and skills in the areas of their responsibilities.
3. It is recommended that, the company need to create enabling conditions for purchasing raw materials from suppliers who are able to deliver the raw materials promptly and thereby realize maximum utilization of production time

4. The efficiency of stock handling is directly related to the quality of both inbound and outbound logistics. The inappropriate utilization of log material does have repercussion that leads to wastage of the resources; and therefore, to timely transport log and thereby increase the efficiency of raw materials' stock management, the company need to give attention for improving availability of means of transportation
5. Ethiopian chip wood and furniture share company is now located in city (residential area), it was found that the residents have been complaining of the pollution from dust particles being released from the factory.

Any establishment has corporate social responsibility from different perspectives; its operation has to be safe and environmentally friendly, which means that its operation is not expected to be polluting the environment and should not be the causes for the complaints of the societies. To this end, the location of the company need to be at the suitable place. If the company is to minimize the unnecessary conflicts and consequences that may arise out of the complaints from the inhabitants, the company need to plan ahead as to how and when to move and re-establish the factory at appropriate location out of the city.

6. Companies ranging from a few employees to large multinationals have realized the potential of marketing both locally and globally online and so have developed the facility to buy and sell their products and services. To materialize this, fresh, up to date and reliable information is crucial. There are no significant practices at the company under study.

Therefore, to equip and update the company with current information, utilization of technology has to be enhanced, and periodic market survey is recommended.

7. Ethiopian chip wood and furniture Share Company has been engaged in the production of different sized chip wood boards, lumber, prefabricated and conventional houses, styropor products (Ceiling tiles, Ice boxes, Flower pots, Blocks) and furniture; and automotive maintenance services.

In order to analyze the current business portfolio and decide which SBUs should receive more or less investment, Develop growth strategies for adding new products

to the portfolio & to decide which businesses or products should no longer be retained, further research is recommended.

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APPENDIX

1. Questionnaire

St.Mary’s University
School of Graduate studies
MBA Program

Introduction

The researcher who is carrying out this survey is a student at St.Mary University, School of Graduate Studies, participating in a graduate program in the field of Business Administration. As a partial fulfillment of the requirement for the completion of the program, I am undertaking a research on “*Value chain analysis of chip wood and furniture Industry, the case of Ethiopian chip wood and furniture Share Company (ECAFCO S.C)*”. The purpose of this questionnaire is to gather first hand data and information on value chain of chip wood product in the study area.

I have designed and ask all the questions only for academic purpose. Your full and heartedly cooperation in responding the questionnaires is the central theme to achieve the desired objective. I keep your individual answer strictly confidential. In data analysis, the answers from all respondents will be combined anonymously and no reference will be made to individuals’ response in particular. Therefore, feel free in responding to the questions to the best of your knowledge and perception to realize the objective of this study.

Thank you in advance for your cooperation.

Note: Where alternatives are given, select the best answer (in your opinion) by circling or underlining among the given choices.

I. General information (Personal Profile of the Respondents)

- * Age : _____ Year
 - * Sex : 1) Male 2) Female
 - * Education level :1) 12 grade completed 2) 10 grade completed as per new curriculum 3.Diploma 4) First degree & above 5) can read & write
 - 9 Marital status:1) Married 2) Unmarried 3) Divorce 4) Widowed
- Work experience (year of service in the company under study)
- 1) 0 to 10 years 2) 11 to 20 3) 21 to 30 4) 31 and above

II. Company related Questions

1. Do you know the mission and vision of your company? 1) yes 2) No
2. What is company's source of finance?
 - 1) From government budget 2) from non-government donation
 - 3) From own revenue 4)I do not know the source of finance
3. Is the company profit seeking or not for profit company?
 - 1) Profit seeking company 2) Not for profit company
4. If your answer for question no 3 is "1" i.e. Profit seeking, has the company been profitable?
 - 1) Yes 2) Not
5. If the company has been profitable, how reliable has the company been?
 - 2) The profitability of the company has been consistent
 - 3) The profitability of the company has not been consistent

- 1) Delaying of the delivery time 2) Price fluctuation 3) unforeseen product defect on arrival
14. Challenges in relation to raw materials from domestic source (suppliers)
- 1) Unfitness of the products in terms of both quality & quantity demanded
 - 2) Lack of alternative sources of raw materials(monopoly)
 - 3) Spontaneous (impulsive) increase in price 4) all have been challenges
15. Who are the actors in chip wood product value chain?
- 1) Traders 2) producers 3) whole sellers 4) consumers 5) all are in one or other ways actors
16. Does the performance of the chip wood product value chain contribute to economic gain of the ompany? 1) Yes 2) No
17. If your answer to question no 17 is “1” i.e. yes, evaluate and judge its contribution in relation to the following criteria (indicators). Tick the answer you think appropriate

Particulars	Contribute to	Not contribute to
Sales revenue & profit		
Capital gain		
Employment opportunity		

18. What opportunities does the value chain create to the company?
- 1) Market opportunity 2) production opportunity 3) opportunity for technology transfer
19. Rate the suppliers’ raw materials that they have been delivering to the company in relation to the following conditions

Conditions	Level	
	low	High
Price	low	High
Delivery schedule (reliability)	Late	Prompt
Product quality	Poor	Excellent

Product durability	Short lived	Lasting
Aftersales service	Poor	Excellent

2. Checklist For Interview And Discussion

A. Top Level Managers

1. How long your company stayed in operation?
2. Who are the actors in chip wood production?
3. How do you see your product in comparison to competitors' product
 - Quality
 - Quantity (production volume)
 - Market
 - in making the company profitable
4. What do you think of your company's business should be in the future

B. Middle Level Managers

5. What is the source of raw material for your factory?
6. How often you order the raw materials?
7. Expected production capacity of the machine and actual performance
8. How often your machine needs maintenance?
9. Challenges you have been encountering, and opportunities for executing the activities

C. Lower Level (Front line) Managers

10. Expected production capacity of the machine and actual performance
11. What volume of log you use per day?
12. What challenges you encounter in carrying out your activities?
 - Related to raw materials' delivery (quality, quantity, time)

- Related to maintenance of the machine

DECLARATION

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

GEBI SHUKA

Name Signature & Date

ENDORSEMENT

This thesis has been submitted to St. Mary University, School of Graduate studies for examination with my approval as a university advisor.

DRTEMESGENBELAYNEH

Advisor Signature& Date



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