Factors affecting performance of manufacturing firm, in the case of Oromia Forest and Wild Life Enterprise, Jimma Branch

A Thesis submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Masterof Sciences in Business Administration.

By: Aniza Husein

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF BUSINESS ADMINISTRATION

July, 2020

Jimma, Ethiopia

Factors affecting performance of manufacturing firm, in the case of Oromia Forest and Wild Life Enterprise, Jimma Branch

A Thesis submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Sciences in Business Administration.

By: …

Main Advisor: Emnet Negash (MBA, Asso.Professor)

Co-advisor: Mohammed Yasin (MBA)

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF BUSINESS ADMINISTRATION

July, 2020

Jimma, Ethiopia

DECLARATION

I, theundersigned,declarethatthisstudyentitled“Factors affecting performance of manufacturing firm, in the case of Oromia Forest and Wild Life Enterprise, Jimma Branch” is myoriginalworkandhasnotbeenpresentedfor a degree in anyotheruniversity, andthatallsourcesofmaterialsused forthestudyhavebeendulyacknowledged.

Declaredby:

Name: _____

Signature: _____

Date: _____

CERTIFICATE

This is to certify that this study, "Factors Affecting the Performance of Manufacturing Industry in Oromia Forest and Wild Life Enterprise; The case of Jimma Branch", undertaken by Aniza Husein for the partial fulfillment of Master of Sciences Degree in business administration at Jimma University, is an original work and not submitted earlier for any degree either at this University or any other University.

Research Advisor:

Mr. Emnet Negash MBA, Associate, professor)

Signature: _____

Date: _____

Research Co-advisor:

Mr. Mohammed Yassin (MBA)

Signature: _____

Date: _____

Abstract

The objective of this study was to identify factors that affect the performance of manufacturing industry in Oromia Forest and Wild Life Enterprise Jimma branch. Descriptive studies deign and mixed research approach (both qualitative and quantitative) was used to answer the research questions. Primary data have been collected through questionnaire and interview. To achieve the objective of the study 121 questionnaires were distributed and 114 of them were successfully completed and analyzed. To analyze the data a combination of descriptive form of data analysis and multiple regression analysis was used. Multiple regression analysis was performed to investigate the effect of each explanatory variable on firm manufacturing performance. The result shows that the 54% of the variances in the performance of firm manufacturing can be explained by the independent variables. The remaining variances on the dependent variable could be explained by other explanatory variables not included in this study. Accordingly strategic flexibility makes the strongest unique contribution of 37.9% to explain the performance of firm manufacturing. Among the expected factors; manufacturing technology, strategic flexibility and environmental dynamism have a positive effect on the performance of firm manufacturing, but resource constraint has a negative effect on the performance of firm manufacturing inOromia Forest and Wild Life Enterprise; the case of Jimma Branch. It is hoped *that Oromia Forest and Wild Life Enterprise in Jimma branch should improve the performance of firm manufacturing by increasing human resource, financial resources and technological resources.*

Key words*: Firm, Manufacturing, Performance, Industry*

Acknowledgment

First of all, may all praise be to Allah (S.W.), my God the one and only, for blessing me with good health and for giving me the strength, patience and guidance to endure and complete this thesis. I would like to thank my main advisor: Emnet Negash (Associate Professor)and my co-advisor: Mohammed Yasin (MB)for giving me constructive idea during the process of this thesis.

I would also like to extend my gratitude to all of my Family and friends who supported me during the completion of this thesis

Table of Contents

List of table

List of Figure

Acronyms

AMT = Advanced Manufacturing Technology

BIUDO = Bureau of Industry & Urban development of Oromia

ECAFCOSC = Ethiopian chip wood and Furniture Share Company

FDRE = Federal Democratic Republic of Ethiopia

FRMSEDA = Federal and Regional Micro and Small Enterprise Strategy

GTP = Growth and Transformation Plan

GDP = Gross Domestic Product

Gov't = Government

IMF = International Monetary Fund

MOTI = Ministry of Trade and Industry

MSE = Micro and Small Enterprise

MSEDSE = Micro and Small Enterprise Development Strategy of Ethiopia

MUDC = Ministry of Urban Development and Construction.

NGO = Non-GovernmentalOrganization

OFAWE = Oromia Forest and Wildlife Enterprise

OFI = Oromia forest and industry

OIC = Oromia Investment Commission

OP = Organizational Performance

SBU = Sub-business unit

SCM = Supply chain management

SPSS = Statistical Package for Scientific Studies

SWOT= Strength, weakens, opportunity and threats

VIF = variance inflation factor

CHAPTER ONE

1. 1 Background of the study

The manufacturing scene has experienced rapid changes over the last two decades and this has driven manufacturing firms to respond to uncertainty more rapidly. Thus, emerging of world class competitors in domestic and international business require manufacturing firm to revamp their processes to fulfill market needs. Therefore, fundamental goal of manufacturing firm's corporate and functional level strategies is the development of sustainable competitive advantage (Hitt *et al*., 2007). Thus, shifting exploration from conventional way of thinking to strategic thinking as one of the core elements enable organization to equip well in order to wave through competition (Giunipero *et al.*, 2006).

The manufacturing industry today is in a state of metamorphosis with contemporary issues such as customer satisfaction, competitive advantage, revenue and expenditures, organizational culture, technological advancement, global markets, diverse customer demands and need for effective workforce with a global mindset penetrating every aspect of the organization. For a long time, manufacturing firms in the world have been taking advantage of, and spending money and trusting external providers of competitive services in order to offer cost effectiveness and efficiency of internal resource procedures (Nzioka, 2013).

There has been a realization that manufacturing is the lifeblood of an economy because of the critical role it plays in a country's long-term prosperity (Owuoth, 2010). The financial crisis delivered a body blow to the manufacturing sector from which it is still recovering. A closely watched survey of manufacturing managers shows that activity in the sector slowed over the summer of 2010 after returning to growth in late 2009.Worries over the scale of national deficits, and the spending cuts needed to bring government finances back into balance hang over the sector (Owuoth, 2010).

Africa's manufacturing sector has been transformed over time, reflecting changes in national policies, varying domestic demand and the world market dynamics. Importance of the manufacturing sector to the national economies of the Africa countries has varied across different periods since independence, however, in the recent years its contribution to the national income and hence its importance has been on the rise. Industrial structure, policy, output

composition and magnitude have experienced notable changes over time in Africa region Gathuiya, (2011). Although manufacturing is usually a small sector in African economies, in terms of share of total output or employment, growth of this sector has long been considered crucial for economic development.

There are also environmental factor affects the business which includes social,economic, cultural, political, legal and technological factors. In addition to this there are also personal attitudes or internal factors that affect the performance of firm manufacturing, which are related to the person's individual attitude, training and technical experience (Werotew, 2010).

Many scholars have examined the various factors that contribute towards the superior performance of firm manufacturing have given more importance to the external factors and the internal factors (Brantjes, & Hoorn, 2002). Environmental dynamism, resource constraint, strategic flexibility and information technology were key determinants of firm manufacturing performance(Rutherford & Oswald, 2000, and Jennifer*et al.,* 2017). Besides these factors demographic characteristics such as gender, age, education, and experience are basic fundamentals to determine firm manufacturing performance (Obaidullah, & Alam, 2011).

Ethiopia is one of the developing countries which have taken measures to enhance the operation of manufacturing industries performance by considering its contribution to the overall development, employment and poverty alleviation. According to Hana (2014), Ethiopia has now become the 7^{th} biggest economy in Africa and the 69^{th} in the world with 118.2 Billion USD GDP purchasing power parity for 2013. That is over 9 billion USD growths from the previous year and was hailed as a remarkable annual growth particularly for an economy without oil, gas or any significant minerals and much ahead of many notable countries with oil.

Sector wise, agriculture which is the main stay of the economy grew by 6.6 percent while industry and services expanded by 20.2 and 10.8 percent, respectively revealing the fact that the economic growth in Ethiopia has turned to become broad based (Seid, 2019). The percentage share of GDP by major economic sector in the year 2014/15 was 38.5 for agriculture, 15.1 for industry and 46.3 for the service sector but these figures changed to, 44.7, 10.5 and 45.5% in the year 2017/18 in the same order of the sectors (IMF, 2019). This implies that the share of manufacturing in GDP has been growing slowly through time. As a result, it can be argued that

Ethiopia is going through premature deindustrialization in a context where manufacturing and industry are still relatively under-developed. Ethiopia seems to have 'peaked' at a point much lower than in much of Asia (Phillips, 2009).

In Oromia Forest and Wildlife Enterprise (OFWE) is an autonomous fully government-owned organization established with regulation number 122/2009, issued in July 2009 by the Oromia State Council under the Federal Democratic Republic of Ethiopia. OFWE works to ensure conservation, sustainable development and the use of forest and wildlife resources in its concessions through community participation; to ensure supply of forest products to domestic and national markets by enhancing the forest industry; and subsequently contribute to regional and national socio-economic development.

To date, OFWE by concession owns and manages an estimated area of 1.75 million hectares of forestland, including 1.2 million ha of natural forest, 74,000 ha of forest plantations and 470,000 ha of other land types within the Oromia region. Re-demarcation of OFWE's concession has been underway since 2009. Accordingly, about 2 million hector of forest land has already been re-demarcated and it is expected that this figure could rise significantly once the assessment is completed and other vegetation types such as woodlands are included. For the ease of administration, OFWE has its headquarters in Addis Ababa, eight of its branch forest enterprises are found at the vicinity where the forest resources are found, and one forest industry (Shager) based in Addis Ababa. Therefore, this study was focused to find out the various factors that affects the performance of firm manufacturing in Oromia Forest and Wildlife Enterprise industry in Jimma branch.

1.2. Statement of the Problem

Manufacturing industries play significant role in the creation of employment opportunities and generations of income for quite a large proportion of population. (Nyabiage& Kapchanga, 2014) observes that the health of economy as a whole has strong relationship with thehealth and nature of industries.

Literature recognizes that internal and external-environmental factors influence the performance of firm manufacturing. Though there are empirical studies that highlightfactors affecting the performance of firm manufacturing, there is little work thatcombines both internal and external

environmental factors. In other words, many studies (Hawawini, *et al.*, 2003) argue that external firm factors play a moreimportant role in dictating the influence of firm performance.

The previous studies especially in the study area emphasize only on the determinants of Micro andSmall Enterprises‟ performance and success. But the manufacturing industries, mediumand large industries which are the future direction of our countries strategic goal areignored. This is consistent with (Alkali, 2012) that says, there is no empirical study thatemphasizes on large manufacturing firms as unit of analysis. Manufacturing industrieshave to play an important role in terms of contributing to the reduction of unemploymentand to better the standard of living of the people of Ethiopia. Therefore, this study seeks to find outthe factor that affects the performance of manufacturing industries in Oromia forest and wild lifeenterprise in Jimma branch so as to better understand why and how they can be improved.This will promote adoption of necessary measures and a plan of action to regulate this sector. The present study, therefore, fills the aforementioned two gaps by considering factors that affect the performance of firm manufacturing regardless of their size.

1.3. Research Questions

This study aims to address the following main research questions:

1. What is the effect of environmental dynamism on the performance of firm manufacturing?
2. What is the effect of manufacturing technology on the performance of firm manufacturing?
3. What is the effect of strategic flexibility on the performance of firm manufacturing?
4. What is the effect of resource constraint on the performance of firm manufacturing?

1.4. General objective

1.4.1 General objective

To find out the factors that affects the performance of firm's manufacturing industry in Oromia Forest and Wild Life Enterprise; in the case of Jimma Branch.

1.4.2Specific objectives

- ✓ To investigate the effect of environmental dynamism on the performance of firm manufacturing

- ✓ To examine the influence of manufacturing technology on the performance of firm manufacturing.
- ✓ To identify the effect of strategic flexibility on the performance of firm manufacturing
- ✓ To identify the effect of resource constraint on the performance of firm manufacturing

1.5. Significance of the study

For socio-economic development of any country, a strong industrial base is necessary. The natural resources need to be developed and utilized both as input to industrial production and as direct products for the social well-being of the citizen. To realize this, Government for the past one and half decades, focused in its industrial policy mainly on the promotion and establishment of small and medium industries to achievement import substitution process. Even if in the past in this sector different changes are registered still know in our country manufacturing industries operate under various conditions and constraints, which need a serious attention to perform like the direction, set by the government in its strategy.

So, the finding of this work enables to develop awareness for zonal and town government officials, owners and other stake holders about the factors that hiders the performance of firm manufacturing in Oromia Forest and Wild Life Enterprise in Jimma Branch.

As far as the knowledge of researchers concerned, there are no empirical research works done inthe zone focusing on the manufacturing industries. Therefore, this may give chance for others who are interested to know factors that affect the performance of manufacturing industries to make farther studies on the subject and this may add something of value to the existing body of knowledge related to the issue of firm manufacturing performance.

1.6Scope of the Study

The study focused on factors affecting the performance of firm manufacturing in Oromia Forest and Wild Life Enterprise, Jimma Branch.If the research includes all the industries found in the Jimma zone would be more effective and beneficial. But the study was delimited only Oromia Forest and Wild Life Enterprise, Jimma Branch due to some constraints such as shortage of time, and financial constraint. Although, there are different issues that can be researched in relation to the performance of firm manufacturing, the study is delimited to independent variables namely, environmental dynamism, strategic flexibility, manufacturing technology, and resource

constraint and dependent variable firm manufacturing performance, which are measured in Likert scale questionnaire.

1.7 Organization of the study

Chapter one is the introductory part which contains back ground of the study, statement of the problem, basic research questions, objectives (general and specific objective) of the study, significance of the study, delimitation and definition of terms. Chapter two focuses on review of related literature of the study with its wider context and to show readers how the study supplements the work that already been done on the topic. The research design, sample and sampling techniques, types and source of data analysis included in chapter three. While data analysis presented in chapter four, finally, findings conclusions and recommendation looked in chapter five.

1.8 Definitions of Terms

Manufacturing industry: refers to any business that transforms raw materials into finished or semi-finished goods using machines, tools and labor. Manufacturing sectors include production of food, chemicals, textiles, machines and equipment etc. **(Source:** Standard Industrial Classification)

Performance: is a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results (Kaplan & Norton, 1992,Lebans&Euske 2006).

Industry: means any systematic activity carried on by co-operation between an employer and his workmen (whether such workmen are employed by such employer directly or through any agency, including a contractor) for the production, supply or distribution of goods or services with a view to satisfy human wants or wishes.

Strategic flexibility: refers to the company's agility, to its capacity to adapt andrespond in a timely and appropriate manner to substantial, uncertain, and fast occurring environmental changes that have a meaningful impact on the organization’s performance (Roca-Puig et al., 2005; Aaker and Mascarenhas 1984; Golden and Powell, 2000; Upton, 1995).

Environmental dynamism: represents the perceived frequency of change and turnover in the marketing forces of the external/task environment. Aldrich,(1979).

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

To do any research activity it is important to review what has been done on the area of the topic to have more theoretical knowledge and understanding related to the problem. To this effect, major issues related to firms manufacturing industries raised by different researchers will be review. Thus, this chapter sees with definitions of manufacturing industry, Factors affecting firm Performance, Investment Incentive, Guarantees and Protection of Manufacturing Industry in Ethiopia,Factors affecting firm Performance, Resource constraints, Manufacturing Technology.Environmental Dynamism,Conceptual Framework,and then strategic flexibility are addressed.

2.1. Manufacturing at the Global and Ethiopian Context

2.1.1. Manufacturing at the Global

From the available literature, the structural transformation of a traditional economydominated by primary activities into a modern economy where high-productivityactivities in manufacturing assume an important role remains a defining feature ofeconomic development (Maddison, 2007). Modern manufacturing has led todramatic changes in the structure of the world economy and to sustained increases in the growth of labor productivity and economic welfare. Industrialization was rightly seen as the main engine ofgrowth and development. Based on the importance of manufacturing industries differentscholars defines its classification in different ways in relation to the objective of thebusiness the analyst has in mind and the period in time.

The Research institute for Management Sciences, University of Delft, The Netherlands,has classified manufacturing industries into four groups based on the numbers ofemployees they can involves in industries Jones and George, (2009) classified industriesinto eight by size. They adopted the functional approach, and emphasized how small andmedium sized industries differ from larger industries by bringing out clearly the differingcharacteristics which include little specialization, close personal contact of managementwith production workers and lack of access to capital.

The Indian official version defines small scale to large manufacturing industry on thebase of capitals and employment. Similarly in Nigeria, the Industrial Research Unit ofUniversity of Ife defined a small scale industry to large ones on the base of total capitalsthey invest and on their

power of employing labor (Ogunleye, 2004).He however pointed out that anydifferences in definition noticed between industrial sectors are ascribed to differences incapital requirements, while the differences among countries could arise as a result oflevels of industrial development. Thus, what may be defined as SME in a developedcountry may be regarded as large scale enterprises in a developing country consideringsuch parameters as capital investment and employment of labor It is therefore importantto realize that definition of manufacturing industries changes overtime, and even amongdeveloping countries.

From these discussion someone can realize that countries whether developed ordeveloping have common understanding and criteria on definitions of industries thoughthey classified based on their economic levels and intentions.

2.1.2. Manufacturing Industries in Ethiopian Context

Stephen and Wasiu, 2013 found that in defining micro and small scale enterprise, andindustries references are made to qualitative and quantitative measures based on thenumber of people employed in the enterprise or industries, investment out lay, annualsales turn over or a combination of these measures. In light of this, the definition andclassification of industries in our countries context are discussed as follows. Thisclassification of industrial company or enterprise is based on, the new Micro and Small Enterprise Development Strategy of Ethiopia (MSEDSE, 2011). Principally thisClassification of the size of industrial company is based on man power (work force) and11capital (This capital includes machinery cost and working capital and excludes land andbuilding cost of an industrial company).

The government of Ethiopia has designed and implemented long, medium and short term plans to mitigate poverty and ensure rapid and sustainable economic development inmultiple sectors. To ensure accelerated and sustainable economic development, thegovernment believes that industrial growth is a fundamental tool. Based on GTP of Manufacturing industry sector textile and garment, leather industry,Agro-processing, pharmaceutical, chemical, metal industry and Meat & milk industrywere the prioritized sub sectors. So far, different supports and co ordinations the abovesub sectors have been made to achieve the GTP goals.

The Government of Ethiopia has given emphasis to ensuring fast and sustaineddevelopment of industrial sector in its Growth and Transformation Plan (2010/11 -2014/15). In Ethiopia 2,717

operational manufacturing industries are fond, out of thesemanufacturing industries 1603(59%) are fond in Oromia regional state.

As development tool, developing industrial zones has been considered to help sustain thedevelopment of the economy by targeting local and foreign direct investments, enhancing competitiveness, and facilitating export-led growth. Through the industrial zonedevelopment program, the Government of Ethiopia intends to create favorable conditionfor private sector investment in priority industries. (Source: Federal Investment Agencydata base).

2.2. Investment Incentive, Guarantees and Protection of Manufacturing Industry in Ethiopia

2.2.1. Investment guarantees and protections

The Constitution and other laws of the country protect private property. Investment Proclamation No. 769/2012 Says, the encouragement and expansion of investment especially in the manufacturing industries has become necessary so as to strengthen the domestic production capacity and there by accelerate the economic development of the country and improve the living standards of its people. The proclamation further states by supporting a foreign investor have the right to make the following remittances out of Ethiopia in convertible foreign currency: Profit and dividends, Principals and interest payments on external loans, Payments related to technology transfer agreements, Payments related to collaboration agreements, Proceeds from the sale or liquidation of an enterprise, Compensation paid to an investor and Proceeds from the sale or transfer of shares or partial ownership of an enterprise to domestic investor.

2.2.2. Investment Incentives

The Council of Ministers Regulations No.270/2012, the amendment investment incentive and investment areas regulation No.312/2014 and Investment Proclamation No.769/2012 specifies the areas of investment eligible for investment incentives.The areas of investment eligible for investment incentives include: Tax incentives, import duty exemptions, tax holidays, etc. that promote priority sectors, particularly where these sectors face handicaps such as the currently inadequate trade logistics.

2.2.2.1. Fiscal Incentive

Based on above mentioned regulations and proclamation the following incentives are given to investors. To encourage private investment and promote the inflow of foreign capital and technology into Ethiopia the following customs duty exemptions are provided for investors (both domestic and foreign) engaged in eligible new enterprises or expansion projects in manufacturing industries.

- 100% exemption from the payment of customs duties and other taxes levied on imports is granted to all capital goods such as plant machinery and equipment and construction materials
- Spare parts worth up to 15% of the total value of the imported investment capital goods provided that the goods are also exempted from the payment of customs duties,
- An investor granted with a custom duty exemption will be allowed to import spare parts duty free within five years from the date of commissioning of a project
- An investor entitled to a duty-free privilege buys capital goods or construction materials from capital goods or construction materials from local manufacturing industries shall be refunded customs duty paid for raw materials or components used as in puts for the production of goods and
- Investment capital goods imported without the payment of custom duties and other taxes levied on imports may be transferred to another investor enjoying similar privileges.
- If an investor engaged in new manufacturing industries shall be entitled to an income tax deduction of 30% for three consecutive years after the expiry of the income tax exemption period.
- An investor to expand or upgrading his existing enterprise increasing in volume at least by 50 percent of attainable production or service rendering line at least by 100 percent of an existing enterprise is entitled to the income tax exemption period.
- An investor who exports 60 percent his products or services or supplies to an exporter shall be exempted for additional 2 years. (Source: Ministry of Industry data base).

2.2.2.2. Non –fiscal Incentive

The non – fiscal incentives given to all exporters who invest to produce export products will be allowed to import machinery and equipment necessary for their investment projects through suppliers credit.(source : Ministry of Industry data base).

2.3. Factors affecting firm Performance

Research on performance measurement has gone through many phases in the last 30 years: initially they were focused mostly on financial indicators; with time, the complexity of the performance measurement system increased by using both financial as well as non-financial indicators. Since the late '80s, researchers, consulting firms and practitioners have stressed the need to put an increased emphasis on non-financial indicators in the performance measurement process.

Performance itself is likely to be somewhat firm specific: as the strategic choices a firm makes will dictate which performance measures will reflect the latent performance construct. Understanding how different independent variables link to a dependent performance variable is then no longer trivial Kates, and Galbraith, (2007). Assuming away this dimensionality will lead to misdirected or biased measurement. From a measurement perspective, it is unlikely that changing strategies leaves the dimensionality of the performance indicators unchanged. Because different strategies relate to different dimensions of performance, so they also alter the way these performance dimensions load onto the latent construct.

The impact of the performance measurement process on the organizational performance was the objective of many studies in the last few years, driven by the desire to identify whether the way in which performance is measured has a significant and positive impact on organizational performance. In this category falls the study conducted by Bourne et al. (2005) in which the performance measurement process was demonstrated to have a positive impact on the business success can be taken as a guide line to measure their effect on firms performance.

From above explanation and related literature a researcher uses three specific areas of firm outcomes: (1) financial performance (profits, return on assets, return on investment, etc.); (2) market performance (sales, market share, etc.); and (3) shareholder return (total shareholder return, economic value added, etc.) to evaluates organizational performance of manufacturing

industries, Thus, a research expect that organizations, especially those in manufacturing, to use both financial and non-financial indicators in measuring their performance.

Some researchers suggest that the dynamics of the success of businesses remains a black box. Others argued that the success of enterprises is a function of both external and internal factors. It is widely recognized that successful organizations are those that best adapt to fit the opportunities and constraints inherent in the environment in which they operate.

According to Miller and Dess, (2006), the external environment of the enterprise can be classified into two, namely, general and competitive environments. The general environment consists of the political-legal, macroeconomic, socio-cultural, technological, demographic and global factors that might affect the organization's activities. On the other hand, the competitive environment consists of other specific organizations that are likely to influence the profitability of the enterprise such as customers, suppliers and competitors. Several studies in both developed and developing countries have identified a range of external critical success factors that relate the general as well as the competitive environment of the firm.

So, the intention of this study is to assess factors that affect the performance of manufacturing industries internally and externally based on factors of performance; firms characteristics, strategic flexibility, manufacturing technology, lumber manufacturing and environmental dynamism.

2.3.1. Resource constraints

According to Ayoade (2015), managingmanufacturing operations is akin to playing symphony with people, systems and processes. As long as these elements are balanced and in harmony the operations go on smoothly and efficiently. Resources are very important assets of manufacturing operations (Bouquin, 2014).Resources can be the strongest and the weakest link to manufacturing performance. Even in a highly automated and system controlled design, manufacturing operations are heavily dependent upon personnel and infrastructure to help run and manage operations (Harmon, 2013).According to Budugan and Georgescu (2009), there are top major classes of the resources that influence performance of manufacturing firms which are financial resources and human resources.

Financial resources are the money that is used to boost the operation of manufacturing firms. According to Ango (2008), financial shortage is a major limitation to any manufacturing firm. Some organizations that venture into manufacturing business do not have sufficient capital or funds to boost their business. In some cases even where credit is available the owner or manager may lack freedom of choice because the lending conditions may force the purchase of heavy, immovable equipment that can serve as collateral for the loan. Credits constrains operates in variety of ways in Kenya where undeveloped capital market forces entrepreneurs in the manufacturing sector to rely on self-financing. This has caused them to rely on high cost short term finance (Wanjohi & Mugure, 2008).

Human resource is the availability of skills, talent and know-how of employees that is required to perform the everyday tasks that are required by the manufacturing firm's strategy. It is the value that the employees of manufacturing business provide through the application of skills, know-how and expertise (Drury, 2015). Human resource is inherent in people and cannot be owned by the manufacturing organization. Therefore, it can leave an organization when people leave it also encompasses how effectively an organization uses its people resources as measured by creativity and innovation (Emmanuel, 2014).Without competent people both in managerial and employee positions, manufacturing organizations will not be able to accomplish their goals. This means that the manufacturing firm will not be on a competitive edge with other firms in other industries (Mugo, 2010).

Bouquin (2014) suggests that the manufacturing organization's employees can determine the ultimate success of their organizations given the importance of people in the manufacturing organizations; most strategic human resource departments consider the management of the competencies and capabilities of these human assets the primary goal. Emmanuel (2014) argues that effective human resource management will generate a higher capacity to attract and hold employees who are qualified and motivated for good performance, and also the benefits from having adequate and qualified employees are numerous. According to Khan (2010), manufacturing departments tend to employ progressive human resource practices in which the emphasis is on assessing the knowledge, skills and abilities needed for the future and to institute staffing, appraisal and evaluation, incentive and compensation, and training and development programmers to meet those needs.

H1: Resource constraint has a negative effect on firm's performance

2.3.2. Manufacturing Technology

According to Kuratko and Hodgell (2011), ICT choice has important implication for growth and productivity in manufacturing industry. The use of information communication technology is always tied to an objective. Because of various types of technology can be used to achieve manufacturing organization goal or objective, the issue of choice arises. Moustafa, (2010) asserted that effective choice is based on pre-selected criteria for an ICT's meeting specified. Further, it also depends on the ability to identify and recognize opportunities in different technologies. The expected outcome is that the firm will select the most suitable or "appropriate" technology in its circumstances.

Technological capability (TC) has been studied for over 30 years since 1980 as according to the earliest literature of model development on technological capability by Kim (1989) Firms are originally technologically immature and incapable, where technological capability starts to be developed through the learning process over time when knowledge starts to accumulate and the firms are able to progressively run new activities while improving the capabilities G. Dutrénit(2004). This has proof that the development of technological capability is not a short term commitment. For technological capability to be built, it must involve with a long term process instead of a short term planning (S. M. M. Husseini and C. O'Brien,.2004).

Therefore, it must takes effort of every component to obtain the result of the firm performance and acquire competitive advantages while at the same time trying to sustain the commercial success in the local and global market during the long life span. In a long-term view, technological interactions between firms and their environments have to be considered in manufacturing strategy formulations in both national and company levels, where firms' technological capabilities help build technological characteristics in both internal and external contexts in an accumulating procedure (S. M. M. Husseini and C. O'Brien,.2004).

Technological capability is a term that encompasses the system of activities, physical systems, skills and knowledge bases, managerial systems of education and reward, and values that create a special advantage for an organization or line of business. Basically, firms must be capable in operating, maintaining, adapting, and assimilating the transferred technology to survive the

changing industrial technology. There are two main dimensions of technological capability which are activities and strategies A. Bergek,*et al*. (2008).Activities concerned with the research and development activity in term of patenting, product launching, and problem solving whereas strategy will consider on the technological sourcing.

It is known that the development of technological capability (TC) helps a company gain competitive advantage (H. Panda and K. Ramanathan,.1996 and Z. Rahmani and E. Keshavarz,.2015). Basically, three areas of manufacturing sector that affected by technological changes are information technology, materials technology, and manufacturing process technology T. G. Gunn,(1987). A bunch of studies have been carried out on the effect of TC towards manufacturing, high-technology, or technology-based firms' performance specifically. The performance indicators differed within different studies' focus. It is acknowledged that TC is one most essential capabilities that has the impact on firm performances Z. Suet al,(2013).

TC has been tested on its impact towards operational performance aspects namely; innovative output and technological impact R. Kotha,*et al*(2011).competitive priorities(Z. Rahmani and E. Keshavarz2015).customer satisfactionD. chepkemboi Limo,(2016) innovativenessM. Renko*et al*,(2009).Strategic launch decisions (M.-H. Hsieh and K.-H. Tsai, 2007).system efficiencyT. O. Oyebisi,et al, (2004).Main technology performance H. Hajihoseini,*et al*,*(*2009).Innovation performance (G. Guifu and M. Hongjia, 2009 and J. Shan and D. R. Jolly, 2010).manufacturing or operational performance (S. M. M. Husseini and C. O'Brien, 2004,F. Khan and A. Haleem,2008and D. X. Peng, 2008).And new product development performance (B. Yu,2014. AndY. Wang, 2008).

The fundamental economic role of computers becomes clearer if one thinks about organizations and markets as information processors (Galbraith, 1977; Simon, 1976; Hayek, 1945). Most of our economic institutions and intuitions emerged in an era of relatively high communications costs, limited computational capability, and related constraints. Information technology (IT), defined as computers as well as related digital communication technology, has the broad power to reduce the costs of coordination, communications, and information processing. Thus a hypothesis is:

H2: Manufacturing technology has direct influence on the performance of manufacturing.

2.3.3. Environmental Dynamism

Environmental dynamism represents the rate of change in an environment. For example, Wijbenga and van Witteloostuijn (2007) defined environmental dynamism as the rate at which the preferences of consumers and the services of organizations change over time. (Akgün *et al.* 2008; Gül, 2011) linking environmental dynamism directly with performance. Verdu-Jover *et al.* (2006) has also been suggested that the resource and capability theory, and competitiveness literatures stressed that perception the external business environment opportunities influence organization strategy which in turn influences organizational performance.

Environmental dynamism is a widely-explored construct in the organization theory and strategic management literatures. It refers to the degree of instability or turbulence of such key operating concerns as market and industry conditions as well as more general technological, economic, social, and political forces (Dess and Beard, 1984). Empirically Keats and Hitt (1988) linked Dynamism to organization environment as strategic diversification and organizational "postures" toward innovation (Zahra and Pearce, 1990). These studies and others indicate the importance of the environmental dynamism construct in explaining firm-level phenomena.

Dynamic business environments may be characterized by changes in various market elements, such as customer preferences, technology and competitor structure. The terms ‘turbulence’ and ‘volatility’ refer to environmental characteristics similar to environmental dynamism and they all are related to the degree and speed of changes (Ansoff, 1979).

Environmental dynamism refers to the rate of change and the level of factors instability within an environment (Li and Simerly, 1998). It could thus be defined with reference to technological change and instability or unpredictability of the environment (Tegarden et al., 2005). Extreme situations of environmental dynamism result in conditions of ‘hyper competition’, where the benefits derived from almost all form of competitive advantage are short-lived (Bierly and Daly, 2007). Iansity (1995) suggests that emergent levels of environmental dynamism lead to more uncertainty in product development, which also reduces the predictability and effects of change the changes. From these findings we can state a following hypothesis:

H3: The performance of firms is negatively influenced by environmental dynamism.

2.3.4. Strategic flexibility

Strategic flexibility refers to an ability of firms to respond and adapt to environmental changes. Todevelop strategic flexibility organizations should exercise strategic leadership, build dynamic core competence, focus and develop human capital, effectively use new manufacturing and information technologies, implement new organization structure and, have innovative culture (Hitt *et al*., 1998).

Especially, organization should prefer flat and horizontal structures that enhance innovation and speed of strategic actions. Also, firms choose ambidexterity as a strategic alternative to become more flexible. Ambidextrous firms are capable of exploiting existing competencies as well as exploring new opportunities with equal dexterity (Lubatkin *et al*., 2006). Ambidexterity may help businesses to adapt changeable environmental conditions by enabling characteristics of horizontal organization structure.

Strategic flexibility provides many advantages to businesses. Flexible firms rapidly shift from one strategy to another. So, they can realize different strategic actions in the competitive arena. Also, strategic flexibility enables businesses to obtain sustainable competitive advantage by making businesses become more proactive. Proactive firms can analyze their environment and determine the external opportunities and threats better than other firms. Thus, they can take advantage of opportunities while protecting themselves against the environmental threats. Furthermore, empirical evidences have suggested that strategic flexibility effects business performance positively (Nadkarni and Narayanan, 2007). In addition to this, strategic flexibility may improve to innovation performance of a firm in a dynamic environment. Strategic flexibility can influence innovation performance by providing more flexible processes and structure. Innovation is the most important source of competitive advantage. Since, innovation can result in new products that better satisfy customer needs, can improve the quality of existing products, or can reduce the costs of making products that customers want (Hill and Jones, 2008) Strategic flexibility is about company ability to restructure itself internally as well as its relationship with the external environment (Roberts and Stockport, 2009). According to this definition, strategic flexibility is a concept that include in both internal and external conditions. So, firms that want to achieve strategic flexibility should consider all the factors that are related to organizational environment.

Sanchez (1995), stated that strategic flexibility refers to respond more quickly than ever before to changing technological and market opportunities by producing more new products, offering broader product lines, and improving products more rapidly. Since, new competitive landscape requires becoming faster than other firms to survive in flux market. Under the growing pressure of the intensified global competition manufacturing industries faces a number of challenges, which require the understanding of strategies that drive performance of the companies. A number of studies emphasize the relative importance of a distinctive strategy in determining the firm's economic performance in various environments and examine the relationship between industry- and firm-level strategy and firms‟ performance (Hitt, Hoskisson and Hicheon, 1997; Lee and Giorgis, 2004; Ural and Acaravci, 2006). Various determinants of firms‟ performance have been identified in several industries, but those factors seem to differ across different countries and industries (Amoako-Gyampah and Acquaah, 2008). From this we can propose a following hypothesis:

H4: Strategic flexibility has a positive effect on the performance of firms.

2.4. Empirical Literature Review

Various studies have been done such as Collier and Gunning (2009) in their two survey papers posed the question as to why success of manufacturing firms has been such a rarity in Africa. In their first paper they ask if macro and micro evidence give broadly similar answers to the question as to why Africa performed badly. In their second paper they consider whether it is policy or destiny, either internal or external, which the principle determinant of widespreadfailure in Africa is. Their answer in their first paper is that both macro and micro evidence point in the same direction - Africa suffers from low social capital, poor infrastructure and risk. Their second paper argues that it is policy not destiny that is the key to poor performance. Their analysis points to poor policy resulting in a nexus of constraints from which escape is difficult but not impossible.

Trade liberalization and macroeconomic stability are policies which have frequently been adopted at the same time as large nominal devaluations. In these areas of macroeconomic policy there have been divergent outcomes. Ghana is a good example of a country which has made substantial progress on trade liberalization but has had verymuch less success with macro stability. South Africa is a country which since 1994 has moved rapidly in both areas. In terms of

export growth generally Ghana has been more successful than South Africa. In terms of manufacturing export growth South Africa has been the more successful economy of the two.

Unlike the case in developing countries, there is growing research analyzing the determinants of firm-level profit variation in industrialized countries where one of the major issues has beenthe nature of product market competition and the role of concentration, economies of scale and the presence of outside competitive forces in the form of entry-exit barriers on firm profitability (Porter, 1980; Slater and Olson, 2002). As reviewed by Goddard et al. (2005), a second issue that took considerable attention is the examination of the time-series behavior of firm profitability using the so-called of persistence of profitability method. Accordingly, the central question is to what extent any divergence of a firm's profitability rate from the market average iscorrected through the presence of competitive forces.

In the case of developed countries, empirical evidence on the strength and duration of persistence of above the average profitability is presented by various papers including Godard *et al.* (2005) for four EU countries, Goddard *et al*. (2006) for the UK, and by and Gschwandtner (2005) for the USA. The overall findings of thisliterature suggest that there are differences between firms‟ long-run equilibrium profit rates and changing degrees of yearly persistence, possibly reflecting the influence of both industry-level and firm-level factors. The only research in this field that focused exclusively on developing country experiences are Glen et al. (2013) for a subset of emerging markets, Kambahampati and Mueller (2010) (ed) includes a collection ofarticles on persistence of profit analysis for USA, UK, Canada, Germany, France and Japan. Parikh (2003) or India, and Yurtoglu (2004) for Turkey. In particular, Glen et al. (2013) analyze the impact of competition in the product markets on firm profitability using the persistence of profitabilitymethodology in the case of Brazil, India, Jordan, Korea, Malaysia, Mexico and Zimbabwe. Similarly, Kambhampati and Parikh (2003) and Yurtoglu (2004) conduct a similar analysis in the case of India and Turkey using panels of manufacturing firm data.

Accordingly, the existing empirical evidence shows a declining trend in macroeconomic volatility in developed countries. McConnell and Perez-Quiros (2000), for instance, found a declining GDP volatility in the US since mid-1980s. Similar results are reported for developing countries although with higher variance. Montiel and Serven (2004), for example, reported adecline in the standard deviation of per capita GDP growth from 4 percent in the 1970s and

1980s to about 3 percent in the 1990s, which even then remained well above the 1.5 percent in developed countries. Also, they reported that the reduction in volatility was not uniform and onethird of 77 countries analyzed did actually see an increase in growth volatility in the 1990s relative to the 1980s. Among others, in Turkey the standard deviation of real GDP growth has steadily increased from 3.5 to 5.2 and 6.1 between 1980-89, 1990-1999, and 2000-2005respectively. Also, Kose, Prasad, and Terrones (2003) found an increase in consumption volatility in emerging markets during the 1990s.

In contrast, there has been a general increase in the uncertainty and volatility of key macro pricesas well as capital flows in developing countries in the post financial liberalization era that had a direct impact on firm profitability. The determinants of firm-level profit variation, based on the nature of product market competition, economies of scale, and outside competitive forces in the form of entry-exit barriers, have long been an active topic of research (Slater and Olson, 2002). In this field, a major issue for both developed and developing countries has been theexamination of time-series behavior of firm profitability using the persistence of profitability method, which suggest that there are differences between firms‟ long-run equilibrium profit rates and changing degrees of strength and duration of yearly above the average profits reflecting the influence of both industry and firm level factors (Parikh, 2003; Yurtoglu, 2004; Goddard, Tavakoli&Wilson, 2005).

2.5. Conceptual Framework

Past research has examined various determinants of firms‟ performance, including elements of environments, firm strategy and organizational characteristics. Financial performance variables include widely-used measures, embracing levels, growth and variability in profit, typically related to assets, investment or owner's equity (Capon, Farley and Hoenig, 1990). Based on these factors of performance a following conceptual frame was developed for the research.

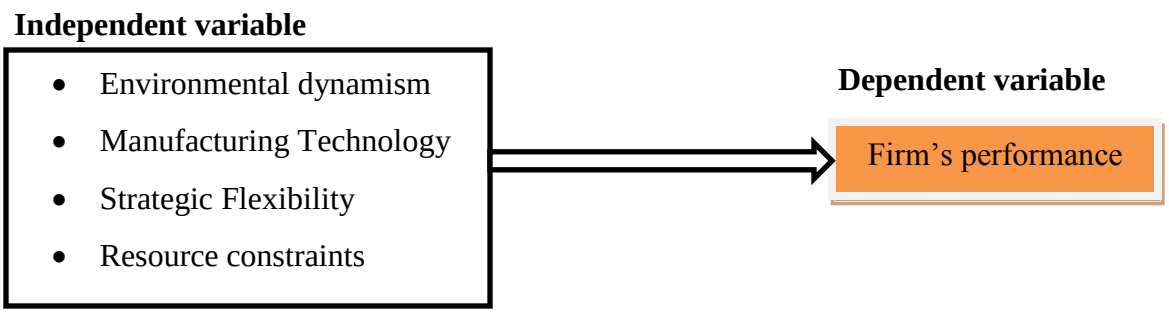

Figure: 2.1. Conceptual Model

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the research methodology which is used for this study were discussed. Topics of coverage in thischapter included research design, population and data type source, sampling design, and data collection method, data collection instruments, data analysis and presentation method, finally validity and reliability and ethical consideration are included.

3.2. Research Design

The type of research design undertaken in this study were descriptive study design. The nature of this study leads towards correlation research, investigating the relationship between independent variable and firm manufacturing. According to Kothari (1990) the major purpose of descriptive research is to describe the state of affairs as it exists at present. Descriptive research includes surveys and fact-finding enquiries of different kinds. Moreover, survey method is believed to be appropriate for this study since it is commonly applied to a research designed to collect data from a specific population, or a sample from that population, and typically utilizes a questionnaire and an interview as the survey instrument.

3.3 Research approach

In this a mixed research approach (both qualitative and quantitative) was used. Now a day's mixed method is considered as a tool to triangulate the result of single approach through multiple methods (Johnston, 2010). A quantitative method was used because it is viewed as an effective to gather large data and comprehensive issues at a specified period of time (Ngwenya, 2010). While the qualitative method was used based on the assumption that it enables the researcher generate meanings and phenomena within the real context of the research participants and to fill the gap left by the quantitative one (Kothari, 2004). Therefore, for this study mixed method was used in order to make the study more reliable through triangulation.

3.4. Data Types and Sources

The study wasused both primary and secondary data. The primary data was collectedfrom Oromia forest and wild life enterprise Jimma branch through dispatching the standard questionnaire. The source of primary data was employees' response from five districts of Oromia forest and wild life enterprise Jimma branch. Secondary data of the study was gathered from different sources like information center of the institution, internet, journal articles, thesis and dissertations which were relevant to prepare literature review.Those data was used to get better insight on the research topic, to establish the worthwhile platform for the theoretical framework constituting the bases of the research, and to design the sample frame for getting the primary data.

3.5. Study Population

The population of this study was all employees and management of Oromia forest and wildlife enterprise (human resource management industry, development, planning and sells and finance) in Jimma branch.

3.6. Sampling technique and sample size

There is no universally accepted single formula to determine sample size; different researchers used different formula to determine sample size based on their situation.

3.6.1. Sample size determination for Quantitative Data

The sample size of the study was determined by single population proportion formula assuming, 5% marginal error and confidence interval of 95%. Accordingly, the sample size is calculated from total professional employees of 385.

In order to determine the desired number of sample from the total population, the researcher used the following Tayro Yamen (1967) sample determination formula:

$$n = \frac{N}{1+N\,(e)^2}\frac{385}{1+385(0.05)^2} = 121$$

Where, n= sample size N= the total size of the study population

e= acceptable sampling error, 95% confidence.

The type of sampling techniques used by researcher is probability sampling technique. Probability samples are characterized by the fact that, the sampling units are selected by chance. In such case, each member of the population has a known, non-zero probability of being selected (Dr.sue Greener, 2008). Under the probability sampling techniques, the researcher used proportional stratified random sampling techniques in order to get information from five districts of in Oromia forest and wild life enterprise Jimma branch.

After the Proportional Stratified sampling method used to determine the number in each group, random sampling technique was used to select the final respondents which were given equal chance of being selected into sample .Accordingly, 121 respondents were selected from the total of 385 populationwho are employers depending on the following formula.

$$ni = \frac{Ni}{N} \times n$$

Where, ni = Number of sample units from each districts n = the desired sample size

Ni = the total number of units in the districtN = Total number of units in the population

Table 3.1: Proportional allocation of the desired sample size

	Districts (Strata)	**Total Study population**	**Sample proportion**
1	Warshaa komporsato Jimma	107	34
2	Babiya Folla	65	20
3	Belete Gera	75	23
4	Tiro Afeta	60	19
5	Boter Becho	78	25
Total		385	121

3.6.2 Sampling size determination for Qualitative Data

Sampling for qualitative data the researcher used none random sampling (Non-probability sampling) to select the study area, and higher officials for interview was chosen purposively by

the researcher. Therefore, the researcher selected one managerfrom each districts with a total of five managers for interview.

3.7. Data Collection Method

Primary data can be obtained by using qualitative data collection tools (Interview guide) and quantitative data collection tools (questionnaires). Structured questionnaires were used in research study to collect primary data. The questionnaires comprised of close ended in order to enable the respondent to express their opinion in relation to the objectives of the study. Kothari (2004) argues that the use of a questionnaire is a cheap method to obtaining information particularly from a large group of respondents and it also permits for anonymity.

In relation to this, Cohen *et al.* (2008), argue that questionnaires encourage the respondents to be honest since they are answered anonymously. Moreover, it has the ability to solicit information from several respondents within short period oftime (Johnson & Christensen, 2008). It has an advantage for respondent the scaled items, according to (McMillan and Schumacher, 2010), allow the respondents to choose.

3.8. Method of Data Analysis

This is the further transformation of the process data to look for the nature of the data and relationship between and among data groups by using descriptive and inferential statistics. The statistical package for social science (SPSS version 23) was used to analyze the data obtained from primary sources. Specially, descriptive statistics mean and standard deviation and charts. Descriptive analysis is used to reduce the data in to summary format by tabulation. The data arranged in table format and measure of central tendency (mean and standard deviation). Multiple linear regressions were used to answer the research questions stated in this study regarding the performance of firms in relation to each of the independent variables of the study.

3.9 Model specification

Within this study multiple linear regression model were used to achieve research objectives. The basic objective of using multiple linear regression analysis is to make the research more effective in analyzing impacts of independent variables on the dependent variable. Additionally, according to Grigoroudis (2010); “Multiple linear regression method is used to study the relation between the independent variables and dependent variable defines a regression function as follows:

$$Y= \beta_0 + \beta_1 X_1 + \beta_2 X_2 + + \beta_3 X_3 + \beta_4 X_4 + \epsilon_i$$

Where: Y = Firm manufacturing performance

X_1 = Environmental dynamism X_2 = Manufacturing Technology

X_3= Strategic Flexibility X_4= Resource constraint

ϵ_i= error term

β_0 is the intercept term- it gives the mean or average effect on Y of all the variables excluded from the equation, although its mechanical interpretation is the average value of Y when the stated independent variables are set equal to zero.

3.10 Validity Test

According to Creswell (2003) validity is the extent to which results acquired from process of analysis of the data actually embodies the phenomenon under study. There are two types of validity: content validity and face validity. Face validity refers to probability that a question is misinterpreted or misunderstood. According to Cooper and Schindler (2006) pre-testing is a proper way to increase the possibility of face validity. On the other hand, content validity, also referred to as logical validity, refers to the degree to which a measure depicts all facets of a given social construct. In this study, the content validity was improved by seeking the opinions of experts in the field of study, particularly the supervisors. Also, the face validity of the research instrument was improved by carrying out a pilot test and changing any unclear and ambiguous question.

3. 11 Reliability Test

Measurement or questionnaire adopted from several journals was used to ensure higher validity. The questionnaire adopted for this research undertaking, is known as the Workforce diversity survey. The decision to utilize the particular measuring instrument is because its psychometric properties were evident, and the questionnaire had been used in a number of empirical studies Cooper & Schindler (2003). The questions consisted of 5 point Likert scale where the respondent expected to strongly agree, agree, neutral, disagree and strongly disagree with carefully constructed that ranged from very positive to very negative toward an attitudinal phenomenon.

The questionnaire was tested by Pilot teste using Cronbach reliability coefficient testing. Cronbach's Alpha can be interpreted as percentage of variance where the observed scale would explain in hypothetical true scale composed of all possible items in the universe. According to Zikmund *et. al.,* (2010) scales with coefficient alpha score of 0.6 and 0.7 indicate fair reliability, a Cronbach's alpha score of .70 or higher and considered as adequate to determine reliability. An alpha coefficient of 0.7 was obtained. Thus, the data generation was reliable and free of random error.

Table 3.2Reliability Statistics

Variables		No. of item	Cronbach's alpha
Dependent variable	Firm performance	8	.712
Independent variables	Environmental dynamism	5	.801
	Manufacturing Technology	10	.769
	Resource constraint	6	.778
	Strategic flexibility	12	.714

Thus, as shown in table 3.1 the reliability of the scores was evident by strong Cronbach's alpha coefficients for all variables, which used as independent and dependent variables of the study. The Cronbach's alpha ranged from 0.712 to 0.801 indicating that items are highly reliable to measure the variables they are expected to measure.

3.12. Ethical consideration

An ethical consideration of confidentiality and privacy were addressed. A concerted and conscious effort was made at all times to uphold the promise. A guarantee were given to the Oromia forest and wildlife enterprise Jimma branch respondents that their names were not exposed in the research report.

All the research participants included in this study were appropriately informed about the purpose of the research and their willingness and consent was secured before the commencement of distributing questionnaires. The right to privacy of the respondents, the study maintained the

confidentiality of the identity of each participant. In all cases, names are kept confidential thus collective names like "respondents "were used.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1. Introduction

This section discusses the results of the study based on the research tools presented in preceding sections of the report. The purpose of this study is to asses' factors that affect the performance of firm manufacturing industries operation in Oromia forest and wild life enterprise Jimma branch of Oromia Region. The data was collected through survey questionnaire. The survey questionnaires were distributed to a randomly selected 121 respondents. Four respondents could not be returned and a total of returned 3 responses were excluded from analysis due to irrelevant information and not correctly filling the questionnaires. Thus, the study analysed the data on only 114 responses of employees from Oromia forest and wild life enterprise Jimma branch, which resulted a sufficient percentage (94.2%) response rate. Hence, the data gathered were organized and analysed in a manner that enables to answer the basic research questions raised at the beginning of the study by SPSS version23.

4.2. Respondents' Demographic Profiles

Table 4.1: Demographic profile of the respondents'

Variables	**Category**	**Frequency**	**Percept**
Gender	Male	90	78.95
	Female	24	21.05
	Total	114	100
Educational level	Technical school (TVET)	12	10.52
	College Diploma	17	14.91
	BA/BSc Degree	64	56.15

	MA and above	21	18.42
	Total	114	100
Years of service	0-5	14	14.2
	6-10	34	43.5
	11-15	30	29
	Above 15	36	13.05
	Total	114	100

Source: *data from the survey, 2020*

The demographic profiles of the respondents are shown in Table 4.1. The employee respondents consisted of 90 (78.95%) men and 24(21.05%) of women. This reveals that in most of the employees in firm manufacturing industries were carried out by male employees. Thus, balancing this gap and improving the participation of women in manufacturing industries requires serious attention since they have indispensable roles in bringing the overall political, social and development of society. The difference between male and female managers may be created by the cultural and social influence of the society.

Regarding to educational level majority 56.15% of the respondents had a bachelor's degree and above.As King and McGrath, (2002)founds, education is one of the factors that has positive effect on growth of manufacturing industries and business with larger stocks of humancapital, education and vocational training are better placed to adapt their enterprises to constantly changing business environment.

Therefore, this help the manufacturing industries owners to deal with plants that can lead to business growth keeping proper books of records, prepares business plan, taking advocacy issues to support their business & to look for more training program to improve their business. So, most of the respondent can understand the questionnaires to give reliable answer.

In addition, since more than 43.5% of the respondents have six and more than six years of experience of manufacturingindustries operation they have full information to answer the questionnaires developed bythe researcher.

4.3 Descriptive analysis of responses of the questionnaire

Table 4.2 Mean and Standard deviation of environmental dynamism

No.	Item	N	Mean	Std.
1	Our firm rarely changes its marketing practices to keep up with competitors	114	**3.81**	.587
2	There is a high obsolescence rate for our products	114	3.53	.979
3	Our competitors action are easily predicted	114	3.37	1.05
4	Our customers demand are easily forecast	114	3.73	.549
5	The rate of process technology innovation in our industry is high	114	**2.85**	.985
Grand Mean			**3.458**	**0.241**

Source: *data from the survey, 2020*

Among the environmental dynamism factors, changes its marketing practices to keep up with competitors and related to customers demand scores the highest mean as 3.81 and 3.73 with standard deviation of 0.587 and 0.549, respectively. The second highest that affects the performance of firm manufacturing is high obsolescence rate for the products, with mean score 3.53. The mean score for the rate of process technology innovation in the industry is 2.85 with standard deviation of 0.985.Regarding the interviews with managers, they replied that Oromia forest and wild life enterprise give incentives for employers like bonus transportation services, medical service are given. Regarding to the benefits the organization give for the community all the managers replied Oromia forest and wild life enterprise are given for the community benefits like road construction, fuel wood , job opportunity on industry processing.When an employee obtain some benefit from the organization the company benefited with a better way to serving its customer (improved service excellence) by adopting new way of doing things employee improve efficiency and also teamwork among others.

Table 4.3 Mean and Standard deviation of manufacturing Technology

No.	Item	N	Mean	Std.
1	We use local area network for factory in our firm	114	3.43	.995
2	We use computers for control on factory floor in our firm	114	3.30	.913

3	We use local area network for technical data in our firm	114	**3.89**	.756
4	We use computers for production scheduling in our firm	114	3.69	1.06
5	We use material requirement planning (MRP) & manufacturing resource planning system in our firm	114	3.16	1.13
6	We use computer aided quality control performed on final products in our firm	114	3.75	.936
7	We use computer aided inspection performed on in-coming or in process material in our firm	114	3.72	1.03
8	We use manufacturing automation protocol in our firm	114	3.62	1.01
9	We use numerical control/ computerized numerical control machine in our firm	114	**2.44**	1.04
10	We use flexible manufacturing system (FMs) in our firm	114	3.27	.943
Grand Mean			**3.427**	**0.102**

Source: *data from the survey, 2020*

The mean value of all questions is in the range of 2.44-3.89 and the standard deviation is 0.756-1.13. The highest mean score from items was 3.66 for the statement "local area network for technical data in the firm" and the item "computerized numerical control machine in their firm" has the lowest mean score of 2.44. Regarding standard deviation 1.13 was the highest standard deviation for item "material requirement planning (MRP) & manufacturing resource planning system in our firm" while 0.756 is the lowest standard deviation for item "local area network for technical data in the firm". The highest standard deviation 1.13 among all the questions reveals that the respondents had a wide difference of opinion about items related to manufacturing technology.The ground mean is 3.47with standard deviation of 0.102; this result indicates most of the respondents agreed on manufacturing technology related items without huge variation.

Table 4.4 Mean and Standard deviation of strategic flexibility

No.	Item	N	Mean	Std.
1	Our firm can quickly & easily respond to changes in customer demand	114	3.25	.948
2	Our firm can quickly & easily expand into new regional or international market	114	3.34	**1.09**
3	Our firm can quickly & easily introduce new pricing schedules in response to changes in competitors prices	114	3.24	.815
4	Our firm can quickly & easily react to new product launches by competitors	114	2.93	1.08
5	Our firm can quickly & easily adopt to new technologies to produce better products	114	2.97	.972

6	Our firm can quickly & easily adopt new technologies to produce faster process	114	2.85	.822
7	Our firm can quickly & easily adopt new technologies to produce cheaper products	114	**2.80**	.774
8	Our firm can quickly & easily switch to new supplies to avail of lower costs better quality or improved delivery time	114	3.09	.819
9	Our major suppliers can quickly & easily respond to changing production variety	114	3.22	.752
10	Our firm can quickly and easily introduce new products to customer	114	3.43	.850
11	Our firm can quickly and easily reduce the variety of products available for sale	114	3.42	**.727**
12	Our firm can quickly and easily add the variety of products available for sale	114	**3.66**	.783
Grand Mean			**3.18**	**0.123**

Source: *data from the survey, 2020*

The mean value of all questions is in the range of 2.80-3.66 and the standard deviation is 0.727-1.09. The highest mean score from items was 3.66 for the statement "firm can quickly and easily add the variety of products available for sale" and the item "firm can quickly & easily adopt new technologies to produce cheaper products" has the lowest mean score of 2.80. Regarding standard deviation 1.09 was the highest standard deviation for item "firm can quickly & easily expand into new regional or international market" while 0.727 is the lowest standard deviation for item "firm can quickly and easily reduce the variety of products available for sale". The highest standard deviation 1.13 among all the questions reveals that the respondents had a wide difference of opinion about items related to strategic flexibility.The ground mean is 3.18 with standard deviation of 0.123; this result indicates most of the respondents said neutral on strategic flexibility related items without huge variation.

Table 4.5 Mean and Standard deviation of resource constraint

No.	Item	N	Mean	Std.
1	There is strong personnel that enhances quality of services in the organization	114	3.76	1.12
2	There is adequate financial resources to acquire large market share in the firm manufacturing	114	**2.91**	.969
3	There is enough machinery resources to promotes efficient production in firm manufacturing	114	3.52	1.02

4	Customers frequently share current and future demand information with marketing department	114	3.83	1.04
5	The quality of hardwood can increase the performance of firm manufacturing	114	3.78	1.05
6	Products are classified into groups with similar processing requirement	114	**3.95**	.650
Grand Mean			**3.625**	**0.166**

Source: *data from the survey, 2020*

Among the resource constraint variable, classification of products in to group with similar processing requirement scores the highest mean as 3.95 with standard deviation of 0.650. In general the mean value of all questions is in the range of 2.91-3.95 and the standard deviation is 0.650- 1.12. The standard deviation 1.12 was the highest standard deviation for item "strong personnel that enhances quality of services in the organization" while 0.650 is the lowest standard deviation for item "Products are classified into groups with similar processing requirement". The highest standard deviation 1.12 among all the questions reveals that the respondents had a wide difference of opinion about items related to resource constraint. The ground mean is 3.625with standard deviation of 0.166; this result indicates most of the respondents agreed on resource constraint related items without huge variation.Regarding to the interview response all the five district managers replied that Oromia forest and wild life enterprise the most problem rose from the manufacturers in performing their business activities like old machines, shortage of electric power,installing modern wood factory, lack of human power,lack of logistic and others are the most problem for the manufacturing sectors on Oromia forest and wild life enterprise.

Table 4.6 Mean and Standard deviation of firm manufacturing performance

No.	Item	N	Mean	Std.
1	There is an increase in profit in the enterprise	114	3.58	.659
2	Return on assets is increasing through time	114	3.79	.593
3	Sales revenues high in the enterprise	114	3.26	.638
4	There is an increasing Net Cash flow in the enterprise	114	3.92	.590
5	Operating income is very high in the enterprise	114	3.01	.644
6	There is market share in the enterprise	114	3.11	1.03
7	Number of new product launched is high	114	**3.98**	.892
8	Time –to- market launches is going very high	114	**2.69**	.639

Grand Mean	**3.417**	**0.154**

Source: *data from the survey, 2020*

Among the firm manufacturing performance item, number of new product launched scores the highest mean as 3.98 with standard deviation of 0.892. In general the mean value of all questions is in the range of 2.69-3.98 and the standard deviation is 0.590- 1.03. The standard deviation 1.03 was the highest standard deviation for item "market share" while 1.03 is the lowest standard deviation for item "net cash flow". The highest standard deviation 1.03 among all the questions reveals that the respondents had a wide difference of opinion about items related to firm performance.The ground mean is 3.417 with standard deviation of 0.154; this result indicates most of the respondents agreed on firm manufacturing performance related items without huge variation.

4.4 Correlations analysis

As for the examination of correlations, since we had many variables in the analysis, the matrix would be appropriately expanded to include all the variables. Each cell in the matrix contains the Pearson correlation coefficient, the 2-tail significance level, which shows all and the number of cases in the analysis. Notice that the cells in the upper right to lower left diagonal show coefficients of 1.00. This is because they show the relationship of each variable correlated with it. This is consistent with (Tenenhaus *et al*., 2005) findings that says, the square root of the average variance extracted was higher than the correlation among the constructs, suggesting that the indicators are more intensely related to their respective constructs than any other construct considered in the model.

According to Wajahat (2010), before the start of regression analysis it is important to check the correlation test between dependent variable and independent variables. The Pearson correlation scale ranges from -1 to 1, any value greater than zero indicate a positive direct relationship between the two variables, which implies that every increase in the independent variable will lead to increase the dependent variable, while any value less than zero indicate a negative indirect relationship between two variables, this means that every increase in the independent variable will lead to the decrease on the dependent variable (Hafiz, 2007). Different authors suggest different interpretations; However, (Saunders *et.al*, 2009) suggests about strength of relationship as: r = 0 to 0.39 0r 0 to -0.39 small(weak) relationship, r = 0.4 to 0.69 or -0.40 to -

0.69 medium (moderate) relationship and 0.70 to 1 or -0.70 to -1 large (strong) relationship. The following table shows the relationship between each variable.

Table 4.7 Correlations Matrix

		Environmental dynamism	Manufacturing Technology	Resource constraint	Strategic Flexibility	Manufacturing Performance
Environmental dynamism	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	114				
Manufacturing Technology	Pearson Correlation	-.017	1			
	Sig. (2-tailed)	.855				
	N	114	114			
Resource constraint	Pearson Correlation	.087	.361**	1		
	Sig. (2-tailed)	.357	.000			
	N	114	114	114		
Strategic Flexibility	Pearson Correlation	.402**	.109	-.015	1	.634**
	Sig. (2-tailed)	.000	.249	.875		.000
	N	114	114	114	114	114
Firm Performance	**Pearson Correlation**	**.479****	**.076**	**-.258****	**.634****	**1**
	Sig. (2-tailed)	**.000**	**.019**	**.006**	**.000**	
	N	**114**	**114**	**114**	**114**	**114**

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

Source: *data from the survey*

The table 4.7above explains the relationship between the independent variable and firm performance. Based on the output of the correlation matrix; environmental dynamism(r=0.479, p<0.05) and Strategic flexibility (r=0.634, p<0.05) have a moderate positive relationship with firm performance. Resource constraint (r=-258, p<0.05) has a weak negative relationship with firm performance. Manufacturing technology (r=0.076, p<0.05), has weak positive relationship with firm performance. In general this result show, manufacturing technology and environmental dynamismhave a moderate positive effect on firm performance and resource constraint has a weak negative effect on firm performance. Manufacturing technology had very weak relationship with the firm manufacturing performance in Oromia forest and wild life enterprise Jimma branch of Oromia Region.

4.5 Multiple linear regression assumptions

Testing assumption of multiple linear regression analysis models is very important before running regression analysis. So each assumption results were discussed in the following sub topics. In the previous section of this paper the descriptive and correlation analysis was carried out separately with the existence of association between the dependent and independent variables with the intension of investigate the factors that affect the performance of firm manufacturing in Oromia forest and wild life enterprise Jimma branch.However, identification of these factors is not enough for meaningful conclusion. Therefore, the effect of each independent variable must be assessed and identified sequentially. The researcher used multiple linear regression models assumptions as follow.

4.5.1 Normality of the distribution

This assumption formally applies to the distribution of the errors (or, equivalently, the conditional distribution of the response variable) for any given combination of values on the predictor variables, Matt *et al*. (2013). One way of measuringthe normality of distribution is through checking the level of skewness and kurtosis. Usually the value of skewness and kurtosis for normal distribution is varied from 1 to -1.From table 4.8 we found that the skewness and kurtosis of environmental dynamism, manufacturing performance, strategic flexibility, lumber production and firm manufacturing performance for the sample is within therange for normality (-1.0 to +1.0). Further, to test the normality assumption the histogram of residuals was used to check the extent to which the residuals are normally distributed. If the residuals are normally distributed about its mean of zero, the shape of histogram should be a bell-shaped and regression standardized residual plotted between -3.3 and 3.3. The residuals histogram in figure 4.1, Appendix C, shows us fairly normal distribution for the variable. Thus, based on these results, the normality of residuals assumption is satisfied for the dependent variable firm performance.

Table 4.8 Skewness and kurtosis

Variables	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Environmental dynamism	.159	.226	.221	.449
Manufacturing Technology	-.182	.226	-.178	.449
Resource constraint	-.051	.226	-.766	.449
Strategic Flexibility	-.342	.226	-.689	.449
Manufacturing Performance	-.574	.226	-.488	.449

4.5.2. Linear relationship

The model that relates the response Y to the predictors X_1, X_2, X_3 and $X_4$is assumed to be linear in the regression parameters (Chatterjee&Hadi, 2012). This means that the response variable is assumed to be a linear function of the parameters *(ß1,ß2,ß3 and ß4*) but not necessarily a linear function of the predictor variables X_1, X_2, X_3...X_4, *a*s cited by, Matt N, Carlos A, and Deson (2013).To check the linearity assumption in multiple linear regressions the normal P-P plot was used, the plot shows all observed values somewhat spread along the straight diagonal line. Figure 4.2 in appendix C, shows us most of the observed values are spread very close to the straight line; there is high likelihood that the data are normally distributed and linear.

4.5.3 Homoscedasticity

The model errors are generally assumed to have an unknown but finite variance that is constant across all levels of the predictor variables. This assumption is also known as the homogeneity of variance assumption. (Weisberg, 2005), as cited by, Matt N, Carlos A, and Deson (2013).It means simply that, the variance of Y for each value of X is constant in the population.This assumption can be checked by visual examination of a plot of the standardized residuals (the errors) by the regressions standardized predicted value. The scatter plot in the appendix was obtained from the average results of the dependent variable firm'sperformance and the independent variables to see whetherhomoscedasticity is really a pressing problem of this particular study. Heteroscedasticity problem exist when scatter plot is greater than 3.3 and less than -3.3. Therefore, as it was indicated in figure 4.3 in appendix C, did not violate heteroscedasticity assumption and instead it was homoscedastic.

4.5.4 Multicollinearity

According to Gujrati (2003) Multicollinearity tests helps identify the high correlation between explanatory variables and to avoid double effect of independent variable from the model. When independent variables are multicollinearity there is overlap or sharing of predictive power. Predictor variable should be strongly related to dependent variable but not strongly related to each other. This may lead to the paradoxical effect, whereby the regression model fits the data well but, none of the explanatory variables (individually has a significant impact in predicting the dependent variable. For this purpose, variance inflation factor (VIF) and tolerance test were used to check Multicollinearity for variables if the value of VIF is less than 10 there is no Multicollinearity and on the other hand if VIF greater than or equal to 10 there is a serious Multicollinearity problem. To avoid serious problem of multicollinearity omitting the variable with 10 and more from the analysis, in addition tolerance is an indicator how much of the variability of independent variable is not explained by the other independent variable in the model and is calculated using the formula 1- R^2 for each variable. If the value is very small (less 0.1), it shows the multiple correlation with other variable is high. Thus, in this study table 4.9 shows the tolerances ofindependent variables range from .815 to 0.850 and its VIF ranges 1.176 to 1.227. Theseshows, none of the coefficients are not greater than the specified ranges. So we assumemulticollinearity is not a problem.

Table 4.9 Multicollinearity test

Variables	Tolerance	VIF
(Constant)		
Environmental dynamism	.819	1.221
Manufacturing Technology	.846	1.183
Resource constraint	.850	1.176
Strategic Flexibility	.815	1.227

4.6 The effect of independent variables on firm manufacturing performance

After the model assumption was checked presentation and interpretation of the analysis output is mandatory. The prediction or estimation of the value one variable (the dependent or the predicted variable; called as Y from one or more independent or predictor variables (called as X) (Keith, 2006).

Table 4.10 Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.746[a]	.556	.540	.30882

From table 4.10 it can be seen that R value is 0.741. Consequently, R value designates that there is a strong positive relationship between independent and dependent variable. The adjusted R squared of 0.54 indicates that 54% of the variances in the performance of firm manufacturing can be explained by the independent variables. The remaining variances on the dependent variable could be explained by other explanatory variables not included in this study.

Table 4.11 ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.024	4	3.256	34.142	.000[b]
Residual	10.395	109	.095		
Total	23.420	113			

From table 4.11, it is apparent that the regression model was significant using 'between the independent variable and firm manufacturing performance. An F statistic of 34.142 and a probability value of 0.000 clearly indicate that the model was significant or good fit. This shows there is a significant relationship between the independent variables and the dependent variable.

Table: 4.12 Factor analyses of performance/ coefficients

	Unstandardized Coefficients		Standardized Coefficients			95.0% CI for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.479	.287		5.149	.000	.909	2.048
Environmental dynamism (X_1)	.267	.060	.315	4.465	.000	.149	.386
Manufacturing technology (X_2)	.125	.058	.149	2.145	.034	.009	.240
Resource Constraints (X_3)	-.299	.062	-.332	-4.797	.000	-.423	-.176
Strategic Flexibility (X_4)	.379	.055	.486	6.879	.000	.270	.489

*indicates significance at 5% level of significance

In this study, four explanatory variables were identifying to determine a significant difference on firm manufacturing performance at 5% level of significance.

The estimated regression model was

Firm manufacturing performance = $1.479+0.267X_1 + 0.125X_2-0.299X_{3+}0.379X_4 +\varepsilon$

Hence, the coefficient explains the average amount of change in dependent variable that is caused by a unit of change in the independent variable. Accordingly, the unstandardized beta coefficients (β) tell us the unique contribution of each factor to the model. A small p value (<0.05) indicate the predictor variable has made a statistically significance contribution to the model. On the other hand, a high p value (p >0.05) indicate the predictor variable has no significant contribution to the model (George and Mallery, 2003).Table 4.12 shows all the p-value for independent variables is less than 0.05 and all the β values are positive, that shows all independent variables have a positive effect on firm performance.

The largest beta coefficient was 0.379, which was for strategic flexibility. This means that this variable makes the strongest unique contribution of 37.9% to explain the dependent variable, when the variance explained by all other variables in the model was controlled. The Beta value for environmental dynamism and manufacturing technologywas resulted in beta coefficient of 0.267 and 0.125, indicating that independently they made the second and the third higher contribution to dependent variable to explain it with 26.7% and 12.5%, respectively, keeping other variables constant for each. Resource constraint has negative effect on the performance of firm manufacturing, which contribute 29.9% on the firm manufacturing.

4.7 Discussion

In this study the main factors that affect the performance of firm manufacturing*in Oromia Forest and Wild Life Enterprise; the case of Jimma Branch.* The researcher was focused on factors such as environmental dynamism, manufacturing performance, strategic flexibility and resource constraints.

4.7.1 The Effect of Environmental Dynamism on Firm's Performance

The result of this study shows that there is a significant association between environmental dynamism and the firm manufacturing performance. The p-value of the Multiple Linear Regression is 0.000 which is lower than .05 and the correlation coefficient of 0.267 bringing the positive relationship with the performance of firm manufacturing. This implies as environmental dynamism increasefirms‟ performance increases, and we would expect that for every one unit increase inenvironmental dynamism, there would be a 0.267 unit increase in performance. Thisfinding is consistent with the study done by Tesfaye (2015), he showed that there were significant relationship between environmental dynamism and firms‟ performance ($r=0.118$, $p<0.000$).

This is also supported by Gilley (2000), points that there are a variety of relationships between environmental dynamismand firm manufacturing performancein the literature by cases studying. Homburg *et al*. (2009) found that top management in organization tends to have a lower impact on performance in dynamic rather than stable environments. In fact, many authors have found empirical support arguing that turbulent and unpredictable environments effected firm's performance (Nadkarni & Narayanan, 2007). Akgün *et al.* (2008) confirms that changes in the external environment enhance firm performance. Gül (2011) found that environmental dynamism has an effect on firm performance.

4.7.2. The Effect of Manufacturing Technology on Firm's Performance

The result of this study shows that there is a significant association between manufacturing technology and the firm manufacturing performance. The p-value of the Multiple Linear Regression is 0.034 which is less than 0.05 and the correlation coefficient of 0.125; this indicates manufacturing technology has a positiverelationship with the performance of firmmanufacturing.This implies as manufacturing technology increase firms‟ performance increases, and we would expect that for every one unit increase in manufacturing technology, there would be a 0.125 unit increase in performance. Evidence from Ural, and Acaravcı (2006) study result showed that there was a significant positive and relationship between manufacturing technology and firm performance, which carried correlation coefficient value of 0.217 and p-value of 0.000 which was significant at the alpha value 0.01.

Over the last decade, flexibility became the mark ofnew technology called Advanced Manufacturing Technologies (AMT). To know the effects of manufacturing technology on firm's performance the researcheruse the classification of AMTs of Kotha, (1991). He groups the various manufacturingtechnologies into four groups on the basis of the imbedded information processingcapabilities. Such as Product design technologies, Process technologies, Logisticsplanning technologies and Information exchange technologies. The result shows the performance of manufacturing firms is directly affected bythe practice of technology they employed in their industries. To solve and to improve themanufacturing practices in their firm the enterprise with supportive institution have tosearch different technology that may help to increase their production capacity.

4.7.3. The Effect of Strategic Flexibility on Firm's Performance

The result of this study shows that there is a significant association between strategic flexibility and the firm manufacturing performance. The p-value of the Multiple Linear Regression is 0.000 which is less than 0.05 and the correlation coefficient of 0.379; this indicates strategic flexibility have a positive relationship with the performance of firm manufacturing.This implies as strategic flexibility increase firms‟ performance increases, and we would expect that for every one unit decrease in strategic flexibility, there would be a 0.379 unit increase in the performance firm manufacturing.This supports the finding of Dreyer and Grønhaug (2004) strategic flexibilityis inversely related to the performance of firm manufacturing.

Further study done byNerkar & Roberts, (2004) showed thatstrategic flexibility to be positively related to firm performance. To know the effect of strategic flexibility on the firm's performance a researcher includesthe firm's ability to react to customer's demand, new market development, response tochange in price of competitors, trends in changing in production variety in thequestionnaires.So, Strategic Flexibility is predictor but it is a negative significant predictor of firm's performance.

4.7.4. The Effect of Resource constraints on Firm's Performance

Based on the results, there is a negative relationship (-0.258) between resource constraint and their firm performance. The value of correlation coefficient (-0.258) falls in the range of 0 to 0.39 which is interpreted as "weak negative association". The p-value of the Multiple Linear Regression is 0.000 which is less than 0.05 and the correlation coefficient of -.299; this indicates

resource constraint has a negative relationship with the performance of firm manufacturing.This implies as resource constraint increases firms‟ performance decreases, and we would expect that for every one unit increase in resource constraint, there would be a 29.9%decrease in the performance of firm manufacturing.Jennifer and Allan (2017) had also reported a negative significant relationship of resource constraint on firm performance. Accordingly, the increase in profit comes from the reduction of costs, which improves business performance of the company. So,this implies that resource constraint is a significant predictor of firm's performance.

As the study shows the performance of manufacturing industry is affected by the resource constraint. Since firm manufacturing is capital incentivetechnology to use and practice in the company, it only needs the owner and hismanagement commitment, resource and willingness to implement this modern idea of business into their manufacturing firms.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSSION ANDRECOMMENDATIONS

In this chapter summary of findings, conclusion and recommendations are presented.Based on the purpose of the study and findings conclusion and recommendations are made. The recommendations are mainly related with Oromia forest and wild life enterprise in Jimma branch.

5.1. Summary of the Finding

The main objective of the study was to analyses the factors that affect the performance of firm manufacturing in Jimma branch operations. In line with this, the study has identified the following findings.

- The employee respondents consisted of 90 (78.95%) men and the rest 24(21.05%) of the respondents were women. This reveals that in most of the employees in firm manufacturing industries were carried out by maleemployees. More than 43.5% of the respondents have six and more than six years of experience of manufacturing industries operation they have full information to answer the questionnaires developed by the researcher.
- Among environmental dynamism factors, therarely changes marketing practices to keep up with competitors, as scored the highest mean of 3.81 with standard deviation 0.587. Analysis indicates that majority of the respondents in the sample are of the opinion that local area network for technical data in the firm as it scored mean of 3.66. The highest standard deviation 1.13 among all the questions reveals that the respondents had a wide difference of opinion about items related.
- For every one unit increase in strategic flexibility there would be a 0.379 unit increase in firm's performance. It has a 37.9% positively contributeto explain the firm performance, when the variance explained by all other variables in the model was controlled. This shows strategic flexibility has a positive effect on the performance of firm manufacturing.

- For every one unit increase in environmental dynamism there would be a 0.267 unit increase in firm's performance. It has strongest contribution of 26.7% to explain the firm performance, when the variance explained by all other variables in the model was controlled. This shows environmental dynamism has a positive effect on the performance of firm manufacturing.
- For every one unit increase in manufacturing tecnology there would be a 0.125 unit increase in firm's performance. It has strongest contribution of 12.5% to explain the firm performance, when the variance explained by all other variables in the model was controlled. This shows manufacturing performance has a positive effect on the performance of firm manufacturing.
- For every one unit increase in resource constraint there would be a -0.299 unit decrease in firm's performance. It has a 29.9% negatively contribute to explain the firm performance, when the variance explained by all other variables in the model was controlled. This shows resource has a negative effect on the performance of firm manufacturing.

5.2. Conclusions

This study was carried in Oromia forest and wild life enterprise Jimma branch firm manufacturing with the purpose of assessing the factors that affect the performance of firm manufacturing industry operation in Jimma branch. The study has tried to see the demographic of the respondents such as gender, education level, work experience and factors that affects the manufacturing industries performance that are strategic flexibility, manufacturing technology, environmental dynamism and resource constraint.

As the sample reveals that the involvement of male managers in manufacturing industries activities is more than female managers, and balancing this gap and improving the participants of women would have indispensable roles in benefiting women, bringing

political, social and economic development of the society. Most of the managers in the study area have degree and above educational levels which enables manufacturing industries in keeping proper books of records, business plan, taking advocacy issues and to look for more training program.

Among the deterring factors: resource constraint, environmental dynamism, manufacturing technology and strategic flexibility are the major and first rankedimpeding factors that affects not to fully performing manufacturing firms.In addition, poor infrastructure facilities such as continuous power interruption, and poor transportation facility near the working site are the problems. Finally, the study has identified the extent of the influence of variables which highly affects the manufacturing firm's performance. Factors related to resource constraint, manufacturing technology, strategic flexibility and environmental dynamism were found to the most impeding factors that affects the manufacturing industries performance. Among these variables manufacturing technology, strategic flexibility and environmental dynamism have a positive effect on the performance of firm manufacturing, but resource constraint has a negative effect on the performance of firm manufacturing inOromia Forest and WildLife Enterprise; The case of Jimma Branch.

5.3. Recommendations

Taking measure to alleviate the challenges faced Oromia forest and wild life enterprise firm's manufacturing industries performance is crucial. Thus in line with finding and conclusions of the study obtained from the samples,the recommendations are forwarded as follows.

- Problems related to strategic flexibility should be done by the full involvement of Oromia forest and wild life enterprise in Jimma zone administration officials and Oromia forest and wild life enterprise Jimma branch with collaboration with the town and woreda Electric Power office, Municipality, and sewerage office.
- Environmental dynamism is a significant predictor of firm manufacturing performance and plays an important role. So the management and the owner of the company as well as supportive institution have to develop some mechanisms to maximize the effect of the environment. Such mechanisms may include providing training to cope with different situations, improving the communication flow, or even changing the organization's decision-making structure.

- In regard to manufacturing technology, the study found that the manufacturing technology has a positive effect on firm manufacturing. Therefore the study recommends that firm manufacturing industry in Jimma branch should integrate manufacturing technology. This will assist in advertisement where the firm is able to make the public aware of the existence of their products and also enhance online promotions for their goods hence improving the performance of the firm.
- Concerning resource constraints, the study found that strong personnel enhance quality of services of the manufacturing firms. The study therefore recommends that the firms should be encouraged to recruit the qualified workers both academically and professionally since experienced will enhance the performance of the firm.
- Making intensive research work based on whole area coverage of the Oromia forest and wild life enterprise on different branches and the enterprise is crucial to obtain the right information and identifying the factors which affects the firm's manufacturing industries operation, and which enables to give broaden recommendations. The focus area for this study was on some selected district of the branch. Hence, it is the researcher's view that future research would focus on the other branch helps to come up with specific findings which will contribute a lot in firm manufacturing operation over all development in general and alleviating immediate problems in particular.

5.4. Limitation of the study

- This research has encountered certain limitation during the course of conducting this study. One of the difficulties encountered was some respondents were unwilling to spare their time to fill the necessary data, and due to disclosing information may lead to negative effect on their performance. This limitation was, however, resolved in dealing with and developing friendly relationship with and gaining trust from respondents. It must be noted that the research only has covered the five selected Oromia forest and wild life enterprise district of the Branch namely Babiya fola,Belete Gera, Warshaa komporsato Jimma, Botore Bacho and Tiro Abelti.
- Hence, care should be taken to generalize the findings of this study to firm‘s manufacturing industries operation in Jimma Branch.

Reference

A. Bergek, F. Tell, C. Berggren, and J. Watson, (2008) "*Technological capabilities and late shakeouts: Industrial dynamics in the advanced gas turbine industry*, 1987-2002," Industrial and Corporate Change, vol. 17, pp. 335-392,.

Akgün, A. E., Keskin, H., & Byrne, J. (2008). The moderating role of environmental dynamism between firm emotional capability and performance. *Journal of Organizational Change Management*, *21*(2), 230-252.

Aldrich, H.E. (1979). *Organizations and Environments.* Prentice-Hall, Englewood Cliffs, NJ.

Alkali, M. (2012). Assessing the Influence of External Environmental factors, on the Performance of Small Business Manufacturing Enterprises in Bauchi State, Nigeria, *Interdisciplinary Journal of Contemporary Research in Business*, 4 (7), 621-628

Amato, L., Wilder, R.P. (1985). "The Effects of Firm Size on Profit Rates in U.S. Manufacturing", *Southern Economic Journal*, 52,

Amoako-Gyampah, K., Acquaah, M. (2008). "Manufacturing strategy, competitive Strategy and firm performance: An empirical study in a developing Economy Environment", *International Journal of Production Economics*, 111, 2: 575-592.

Ansoff, H. (1979). *Strategic Management*. London: The McMillan Press Ltd.

B. Yu, S. Hao, D. Ahlstrom, S. Si, and D. Liang, "Entrepreneurial firms' network competence, technological capability, and new product development performance," *Asia Pacific Journal Management, vol. 31, pp. 687-704, 2014.*

Barney, J.B. 2002, *Gaining and Sustaining Competitive Advantage*. 2nd ed. Upper Saddle River, New Jersey, Pearson Education

Beard, D.W., Dess, G.G. (1981). "Corporate-Level Strategy, Business-Level Strategy and Firm Performance", *Academy of Management Journal*, (24), 4: 663-668.

Bicheno, J. (2007). The New Lean Toolbox**.** Piscie, London. 2007.

Boston. Roberts, N. and Stockport, G.J. (2009), Defining strategic flexibility. *Global Journal of Flexible Systems Management,* Vol. 10, No. 1, pp. 27-32.

Capon, N. Farley, J.U., Hoeing, S. (1990). "Determinants of financial performance: a meta-analysis", *Management Science, (36), 10: 1143-1159.*

Carton, R.B. and C.W.Hofer, 2006.*Measuring Organizational Performance Metric for Entrepreneurship and Strategic Management Research*. Edward Elgar, Northampton, MA, USA

Cohen, J. (1977). *Statistical Power Analysis for the Behavioral Sciences*(revised edition). New York: Academic Press.

D. chepkemboi Limo,(*2016)* "Technology orientation and performance of small enterprises: evidence from Kenya," *African Business and Management Research Journal ISSN: 2518-0312, vol. 2*,.

D. X. Peng, R. G. Schroeder, and R. Shah,(2008) "Linking routines to operations capabilities: *a new perspective," Journal of Operations Management,* vol. 26, pp. 730-748,.

Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, *29*, 52-73. http://dx.doi.org/10.2307/2393080

Duncan, R.B. 1972. Characteristics of Organizational Environments and Perceived Environmental Uncertainty. *Administrative Science Quarterly*, 17, 313-327.

Emiliani, M.L (2006). Linking Leader"s Beliefs to their Behaviors and Competencies. *Management Decision*, Vol.41 No. 9, pp.2-6

F. Khan and A. Haleem, (2008) "Role of technological and people capabilities in India: An empirical study," *Global Journal of Flexible Systems Management*, vol. 9, pp. 31-40,.

Folan, P. and J., Browne, 2005. A review of Performance Measurement: Towards Performance Management. *Computers in Industry, 5*6, 663-680.

Fornell, C., & Larker, D. (1981). Evaluating Structural Equation Models with Unobservable variables and measurement error. *Journal of Marketing Research,* 18(1), 39-50.

G. Dutrénit,(2004) "Building technological capabilities in latecomer firms: *a review essay," Science* Technology & Society, vol. 9, pp. 209-241,.

G. Guifu and M. Hongjia,(2009). "*Technological capabilities and firm upgrading: an empirical study of high-tech firms," in International Conference on Information Management*, Innovation Management and Industrial Engineering, Los Alamitos, USA,, pp. 452-456.

Galbraith, J. (1977), *Organizational Design*, Reading, MA: Addison- Wesley.

Gathuiya, F. (2011).Achieving Sustainable competitive Advantage through innovation strategies in commercial Banks. Unpublished MBA project, University of Nairobi

George D, Mallery P (2003),''SPSS for windows step by step :(4th ed) a simple guide and reference 11.0 update.

Gibson, C. B. and Birkinshaw, J. (2004), The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, Vol. 47, pp. 209-226.

Giunipero, L., Handfield, R. & Eltantawy, R. (2006).Supply management's evolution: Key skill sets for the supply manager of the future, Journal of Operations & Production Management, 26 (7). 822-844.

H. Hajihoseini, A. N. Akhavan, and F. Abbasi,(2009) "Indigenous technological capability and its impact on technological development process: The case of Iranian industrial firms," *International Journal of Technology Management and Sustainable Development*, vol. 8, pp. 145-168,.

H. Panda and K. Ramanathan,(1996) "Technological capability assessment of a firm in the electricity sector," Technovation, vol. 16, pp. 561-588,.

Hana S. (2014) The rise and rise of Ethiopia. Tigrai Online.

Hansen, G.S. and Wernerfelt, B. (1989), "Determinants of firm performance: the relative importance of economic and organizational factors", *Strategic Management Journal*, Vol.10, pp.399-411.

Hawawini G, Subramanian V, Verdin P. (2003). Is Performance Driven by Industry- or Firm-Specific Factors? A New Look at the Evidence. *Strategic Management Journal24 (1),* 1-16

Hill, W.L.C. and Jones, G.R. (2008), *Strategic Management: An Integrated Approach*, Eighth Edition, Houghton Mifflin Company,

Hitt, M. A., Ireland, R. D.& Hoskisson, R. E. (2007) Strategic Management: Concepts of competitiveness and Globalization 11th Edition. Strategic Management Journal, 22, 479–491.

Hitt, M., Keats, B., and De Marie, S. (1998), "Navigating in the new competitive landscape Building strategic flexibility and competitive advantage in the 21st century*", Academy of Management Executive, 12(4), pp.22–43*.

Hitt, M.A. (2007), *Strategic Management: Competitiveness and Globalization*, 7th Edition, Thompson, United States

Hitt, M.A. et al., (1998), navigating in the new competitive landscape: Building strategic flexibility and competitive advantage in the 21st century. *Academy of Management*, Vol. 12, No. 4, pp. 22-42.

Hitt, M.A., Hoskisson, R.E., Kim, H. (1997). "International diversification: effects on Innovation and firm performance in product-diversified firms", *Academy of Management Journal*, (40), 4: 767-798.

IMF (International Monetary Fund) (2019) The federal democratic republic of Ethiopia, selected issue paper. IMF Country Report no. 14/304.

J. Prasnikar, M. Lisjak, A. R. Buhovac, and M. Stembergar,(2008) "*Identifying and exploiting the inter relationship between technological and marketing capabilities*," Long Range Planning, vol. 41, pp. 530-554,.

J. Shan and D. R. Jolly,(2010) "Accumulation of technological innovation capability and competitive performance: a quantitative study in Chinese electronic information industry," *International Journal of Innovation and Technology Management, vol. 9,*.

Jennifer N. and Allan K. (2017). Factors Affecting Performance of Manufacturing Firms in Kenya: A Case of Harmaceutical Firms in Nairobi County, Business And Charge Management Vol. 4, Iss. 2 (46), pp 817 – 836

Jones, G.R. and J.M. George, (2009). *Contemporary Management.* 6th International ed, McGraw-Hill, New York, USA

Jossey-BassKeats, B.W. and Hitt, M.A. (1988), “A causal model of linkages among environmental Dimensions, macro-organizational characteristics and performance”, *Academy of Management Journal*, Vol. 31, pp. 570-98.

K. Z. Zhou and F. Wu, (2010)"Technological capability, strategic flexibility, and product innovation," *Strategic Management Journal*, vol. 31, pp. 547-561,.

Kates, A., Galbraith, J. (2007), *Designing Your Organization: Using the STAR Model to Solve 5 Critical Design Challenges*

L. Kim,(1980) "*Stages of development of industrial technology in a developing country*: A model," Research Policy, vol. 9, pp. 254-277,.

Lee J., Giorgis, B.H. (2004). “Empirical Approach to the Sequential Relationship Between Firm Strategy, Export Activity, and Performance in U.S. Manufacturing Firms”, *International Business Review*, (13), 1: 101-129.

Li, M., & Simerly, R. L. (1998). The moderating effect of environmental dynamism on the ownership and performance relationship. *Strategic Management Journal, 19*, 169-179.

Lin, Z., Yang, H. And Demirkan, I. (2007), The performance consequences of ambidexterity in strategic alliance formations: empirical investigation and computational theorizing. *Management Science*, Vol. 53, pp. 1645-1658.

M. Renko, A. Carsrud, and M. Brännback, (2009)"The effect of a market orientation, entrepreneurial orientation, and technological capability on innovativeness: A study of young biotechnology ventures in the United States and in Scandinavia," *Journal of Small Business Management*, vol. 47, pp. 331-369.

M.-H. Hsieh and K.-H. Tsai, (2007) "Technological capability, social capital and the launch strategy for innovative products," *Industrial Marketing Management*, vol. 36, pp. 493-502.

MacEachron A.E, (1982) ““‘ *Basic Statistics in the Human Services*: an Applied Approach‘““, page 132.

Maddison, A. (2001). *The World Economy*. A Millennial Perspective, Paris: OECD.

Maddison, A. (2007a). *Contours of the World Economy***.** Oxford: Oxford University Press.50

Majchrzak, A., (1988). *The Human Side of Factory Automation*. Jossey-Bass, San

Miles and Snow"s strategic types", *Academy of Management Journal*, Vol. 26, pp,697-707.49

Mintzberg, H. (1994). "*Fall and rise of strategic planning*", *Harvard Business Review*, 72(1), pp.107- 114..

N. Tzokas, Y. A. Kim, H. Akbar, and H. Al-Dajani,(2015) "Absorptive capacity and performance: The role of customer relationship and technological capabilities in high-tech SMEs," *Industrial Marketing Management*, vol. 47, pp. 134-142,

Nadkarni, S. and Nakarayanan, V.K. (2007), Strategic schemas, strategic flexibility, and firm performance: The moderating role of industry clock speed. *Strategic Management Journal*, Vol. 28, pp. 243-270.

Nzioka, P.K. (2013). The Relationship between Firm Size and Financial Performance of Commercial Banks in Kenya. M.A.Thesis.University of Nairobi.

Ohno, T. (2008). *Workplace Management*, productivity press, Portland, OR, 2008a, pp.xiii

Opler T. C., Titman S. (1994). Financial Distress and Corporate Performance. *TheJournalof Finance49 (3),* 1015-1040

Owuoth, R. (2010). Critical success factors in the pharmaceutical industry: a survey of multi-national pharmaceutical companies in Kenya. M.B.A. Thesis. University of Nairobi.

R. Kotha, Y. Zheng, and G. George,(2011) "Entry into new niches: The effects of firm age and the expansion of technological capabilities on innovative output and impact," *Strategic Management Journal*, vol. 32,.

Roca-Puig V., Beltrdn-Martin I., Escrig-Tena A. B. and Bou-Llusar J. C. (2005), Strategic flexibility as a moderator of the relationship between Commitments to Employees and performance in service firms, *Int. J. of Human Resource Management*,16(11), pp.2075-2093.

S. M. M. Husseini and C. O'Brien, (2004)"Strategic implications of manufacturing performance comparisons for newly industrializing countries," *International Journal of Operations & Production Management*, vol. 24, pp. 1126-1148,.

Sanchez, R. (1995), Strategic flexibility in product competition. *Strategic Management Journal*, Vol. 16, pp. 135-159.

Sanchez, R. (1997), Preparing for an uncertain future: Managing organization for strategic flexibility. *International Studies of Management& Organization,* Vol. 27, No. 2, pp. 71-94

Saunders, M., Lewis, P., & Thorn hill, A. (2009).5th Ed, *Research Methods for Business Students*. England: Prentice Hall.

Saunders, M., Lewis, P., & Thorn hill. (2000). *Research Methods for Business Students* (3rdEd.). Go sport: Person Education li

Seid N (2019) Prospects and challenges of structural transformation in Ethiopia. Ethiopian Economics Association, Ethiopian Economic Policy Research Institute, Addis Ababa, Ethiopia

Shingo, S. (1996). *O sistema Toyota de Produção: do ponto de vista da Engenharia da Produção.* Porto Alegre: Editora Bookman.

Slack N. (1983), "Flexibility as a Manufacturing Objective", *International Journal of Operations & Production Management*3 (3), pp.4-13.

Stephen, E., O., and Wasiu, A., B. (2013). The contribution of Small Scale Industries to The National Economy. *Standard Research Journal of Business Management*, 1(2), 60-71.

Swamidass, P.M., (1988).*Manufacturing flexibility.* Monograph no.2, O.M.A.Waco, TX.

T. G. Gunn,(1987)*Manufacturing for competitive advantage: Becoming a world class manufacturer*. United States of America: Ballinger Publishing Company,.

T. Isobe, S. Makino, and D. B. Montgomery, (2008)"Technological capabilities and firm performance: The case of small manufacturing in Japan," *Asia Pacific Journal of Management,* vol. 25, pp. 413-428,.

T. O. Oyebisi, O. O. Olamade, and A. A. Agboola, (2004)"An assessment of the level of availability of technological capabilities in the Nigerian telecommunication industry," *International Journal of Information Management*, vol. 24, pp. 423-432,

Tenenhaus, M., Vinzi, V. E., Chatelin, Y., &Lauro, C. (2005). PLS - *Path Modeling. Computational Statistics & Data Analysis*, 48, 159-205.

Ural, T., Acaravcı, S.K. (2006). The Effects of Firm's Strategic Factors on Export and Firm Performance:A Comparison of Permanent and Sporadic Exporters", *Problems & Perspectives in Management*, 4: 42-62.

Verdu-Jover, A. J., Llorens-Montes, F. J., & Garcia-Morales, V. J. (2006). Environment-flexibility Co alignment and Performance: An Analysis in Large versus Small Firms. *Journal of Small Business Management*, *44*(3), 334

Waterman, R., Peters, T., Phillips, J.R. (1980), "Structure is not Organization", *BusinessHorizons*,23(3),pp.14-26

Wijbenga, F. H., & Van, Witteloostuijn, A. (2007). Entrepreneurial locus of control and competitive strategies: The moderating effect of environmental dynamism. *Journal of Economic Psychology*, *28*, 566-589

Y. Wang, H.-P. Lo, Q. Zhang, and Y. Xue, "How technological capability influences business performance: An integrated framework based on the contingency approach," *Journal of Technology Management*, vol. 1, pp. 27-52, 2006.

Z. Rahmani and E. Keshavarz, (2015)"Prioritisation of technological capabilities to maximize the financial performance by fuzzy AHP," *International Journal of Operational Research*, vol. 22, pp. 263-286,.

Z. Su, J. Peng, H. Shen, and T. Xiao, (2013)"Technological capability, marketing capability, and *firm performance in turbulent conditions," Management and Organizati*on Review, vol. 9, pp. 115–137,.

Zahra, S. A., & Pearce, I. A. (1990). Research evidence on the Miles-Snow typology. *Journal of Management*, *16*, 751-768

APPENDIX A

Questionnaire for Oromia forest and wild life enterprise Jimma branch on factors affecting the performance of manufacturing Firm.

Dear respondent,

The aim of this questionnaire is to collect information on factors affecting the performance of manufacturing firm industries that are registered as an investment project in Oromia Forest and Wild Life Enterprise Jimma Branch. Your participation in this survey and your willingness to complete this questionnaire are very much appreciated. Completing this questionnaire will take approximately 15 minutes and can be done at your convenience. Individual responses will be held in the strictest confidence and information provided by you remains confidential and will be used only for the research purpose.

General Instructions:

Depending on the nature of the question:

- Make „√“ or „X“ mark in appropriate box or,
- Encircle the best option or,
- Fill in the space provided.

Thank you for your co-operation and for taking your time to respond to this questionnaire.

Part – 1: Personal Information

1. Your sex ☐ 1. Male, ☐ 2. Female

2. What is your educational back ground?

1. TVET 2. Diploma 3. BA/ BSc 4. MA and above 5.other

3. What is your job position in the industry?

1. Senior manager 2.Middle manager 3. Junior manager 4 other

4. How long have you been in the manufacturing industry?

1.1- 5 years 2. 6- 10years 3. 11- 15 4. More than 15years

Part 2: Environmental factors

The following questions are designed to assess environmental factors that surround your firms operation. Please encircle the appropriate answer that best describes your firm's operating environment.

Environmental dynamism

		Strongly disagree	Disagree	Neutral	agree	Strongly agree
1.	Our firm rarely changes its marketingpractices to keep up with competitors					
2.	There is a high obsolescence rate for ourproducts					
3	Our competitors action are easilypredicted					
4	Our customers demand areeasilyforecast					
5	The rate of process					

	technologyinnovation in our industry is high					

Part 3: Manufacturing Technology

These questions are designed to gauge of lumber manufacturing technology in your firm. Please circle the answer that indicates the level of implementation for the following technology in your plant.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	We use local area network for factory in our firm					
2	We use computers for control on factory floor in our firm					
3	We use local area network for technical data in our firm					
4	We use computers for production scheduling in our firm					
5	We use material requirement planning (MRP) & manufacturing resource planning system in our firm					
6	We use computer aided quality control performed on final products in our firm					
7	We use computer aided inspection performed on in-coming or in process material in our firm					
8	We use manufacturing automation protocol in our firm					
9	We use numerical control/ computerized numerical control machine in our firm					

10	We use flexible manufacturing system (FMs) in our firm					

Part 3: Strategic Flexibility

These questions are designed to measure the level of strategic flexibility in your firm.

Please circle the answer that indicates the level of flexibility for the items in your plant

		Strongly Disagree	Disagree	Neural	agree	Strongly agree
1	Our firm can quickly & easily respond to changes in customer demand					
2	Our firm can quickly & easily expand into new regional or international market					
3	Our firm can quickly & easily introduce new pricing schedules in response to changes in competitors prices					
4	Our firm can quickly & easily react to new product launches by competitors					
5	Our firm can quickly & easily adopt to new technologies to produce better products					
6	Our firm can quickly & easily adopt new technologies to produce faster process					
7	Our firm can quickly & easily adopt new technologies to produce cheaper products					
8	Our firm can quickly & easily switch to new supplies to avail of lower costs					

	better quality or improved delivery time					
9	Our major suppliers can quickly & easily respond to changing production variety					
10	Our firm can quickly and easily introduce new products to customer					
11	Our firm can quickly and easily reduce the variety of products available for sale					
12	Our firm can quickly and easily add the variety of products available for sale					

Part 4: Resource constraints

No		**Strongly Disagree**	**Disagree**	**Neural**	**agree**	**Strongly Agree**
1	There is strong personnel that enhances quality of services in the organization					
2	There is adequate financial resources to acquire large market share in the firm manufacturing					
3	There is enough machinery resources to promotes efficient production in firm manufacturing					
4	Customers frequently share current and future demand information with					

	marketing department					
5	The quality of hardwood can increase the performance of firm manufacturing					
6	Products are classified into groups with similar processing requirement					

Part 5: Manufacturing Performance

The following questions are meant to measure your firm's performance. Please circle the answer that indicates your plant performance compared to your competitors in your industry on local or global basis.

		Strongly Disagree	**Disagree**	**Neural**	**agree**	**Strongly agree**
1	There is an increase in profit in the enterprise					
2	Return on assets is increasing through time					
3	Sales revenues high in the enterprise					
4	There is an increasing Net Cash flow in the enterprise					
5	Operating income is very high in the enterprise					
6	There is market share in the enterprise					
7	Number of new product launched is high					
8	Time –to- market launches is					

	going very high					

APPENDIX B

Interview questions for manufacturing firm

1. What is the name of your branch enterprise?
2. What is your position in the organization?
3. What types of incentives are given by Oromia Forest and Wildlife Enterprise Jimma Branch for manufacturing industries?
4. What benefits does the organization give for the community?
5. What are the most problems raised from the manufacturers in performing their business activities?
6. Based on your comment, please rank problems that you mentioned above in terms of their level of importance in manufacturing operation?
7. What possible solutions would you recommend to solve the problems?

APPENDIX C

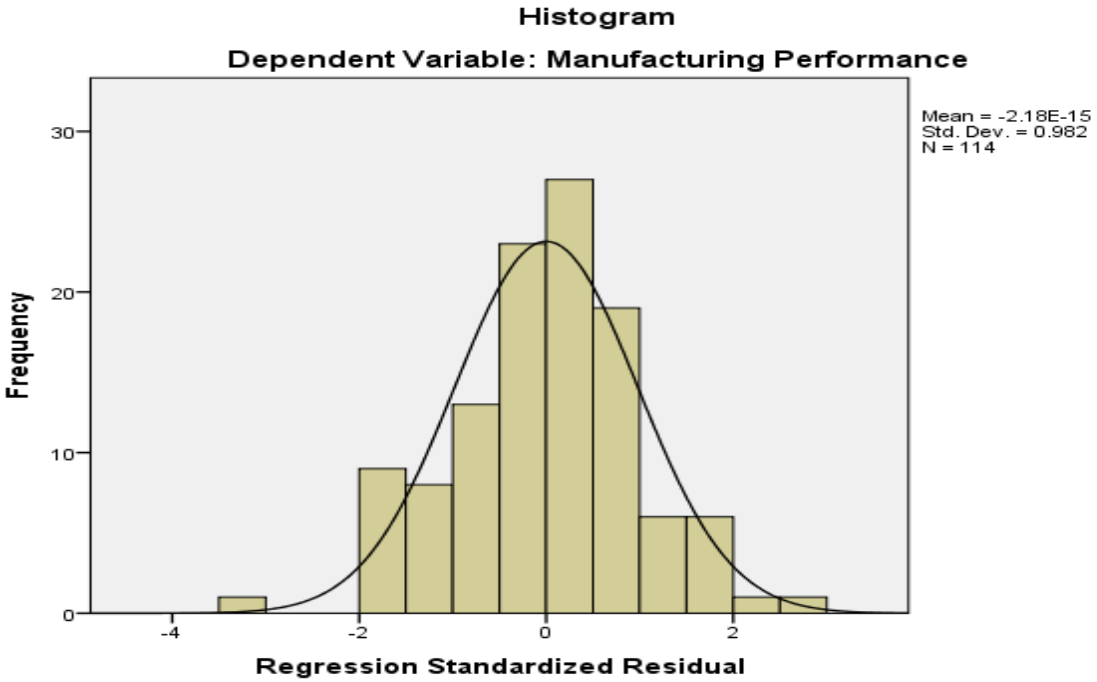

Figure 4.1 Normality test

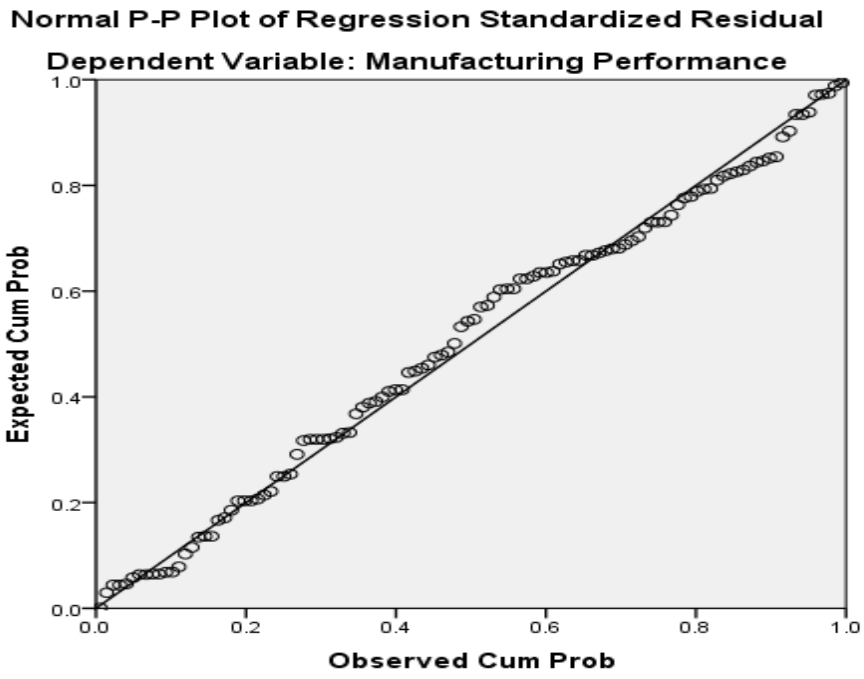

Figure 4.2: Linearity test

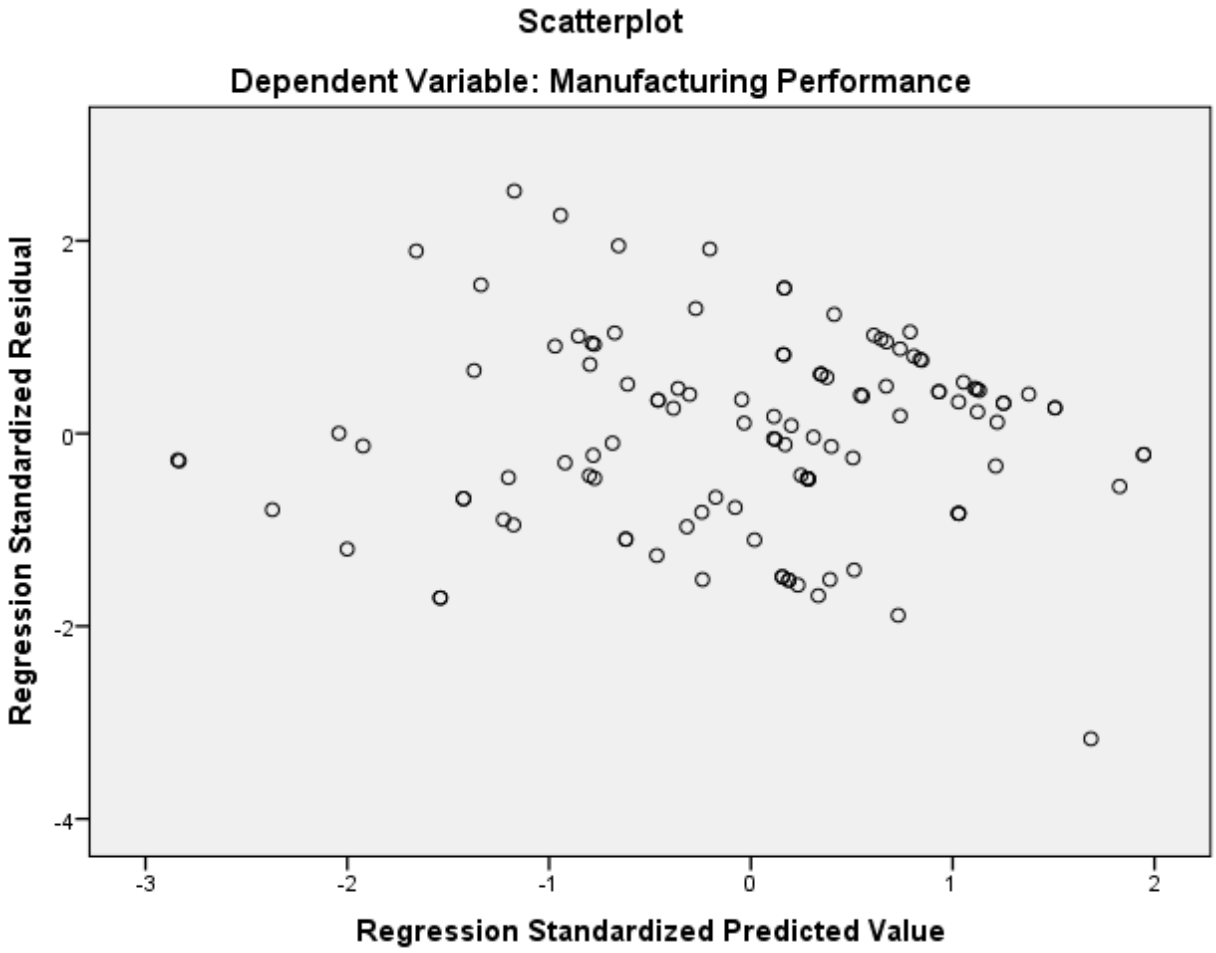

Figure 4.3 Hetroscadesity test