ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

ASSESSMENTS OF INSURANCE FIRMS' PRODUCTIVITY: THE CASE OF ETHIOPIAN INSURANCE CORPORATION

BY

Hailemichael Seyoum

Advisor: Alem Hagos (PhD.)

A thesis submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Accounting and Finance

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Advisor	**Date and Signature**
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Statement of Declaration

I declared that this thesis of MSC degree in Accounting and Finance at Addis Ababa University, which was done independently with the advice and suggestions of my advisor, Dr. Alem Hagos, is my original work and had not been previously submitted for a degree at this or another university and that all reference materials contained therein have been duly acknowledged.

Name: Hailemichael Seyoum

Signature: _____

Advisor: Alem Hagos (PHD)

Signature _____

Abstract

The purpose of this study is to assess the productivity of insurance firms, the case of Ethiopian Insurance Corporation. Insurance is one of the major risks mitigating mechanism in modern economy. The existence and survival of financially strong Insurance Companies is therefore inevitable. For Insurers to be reliable and financially sound, their being productive and most importantly knowing what factors makes them productive is very crucial objective. Productivity is a summary measure of the quantity and quality of work performance with resource utilization considered. Regardless of the type of production, the basic concept is always the relationship between the quality and quantity of goods or service produced and the quantity of resource used to produce them. Ethiopian Insurance Corporation was chosen as main area of focus to explore factors influencing productivity so that it can be enhanced by managing these factors. To this end a mixed type of research method was applied to this study. Secondary data was obtained from financial statements. Primary data collection instrument that was employed was structured questionnaire. The questionnaires were distributed to 82 employees of EIC and only 60 were completed and returned. The subjects of the research were identified through sampling of 60 employees working in Ethiopian Insurance Corporation Head office by considering the organizations' size, availability of necessary information and their role in their respective sector. The study used regression analysis technique and used STATA SE V14.2 software. The study finding revealed that labor, capital and management practice are positively and significantly affecting productivity in EIC whereas ICT, competition and market positively but insignificantly related. Hence the organization needs to understand and develop mechanism in this regard to increase productivity in the company.

Key words: *Insurance, Labor, Capital, Technology, Management Practice, Competition, Market*

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LIST OF ACRONYMS/ ABBREVIATIONS

BPG	Breusch pagan Godfrey
CLRM	Classical Linear Regression Model
EIC	Ethiopian Insurance Corporation
E.U	European Union
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IT	Information Technology
OECD	Oil Exporter countries
OLS	Ordinary Least square
PMAC	Provisional Military Administration Council
R & D	Research and Development
RFID	Radio Frequency Identification
TFP	Total Factor Productivity
U.K	United Kingdom
U.S	United States
U.S.A	United States of America
U.S.D	United States Dollar
VIF	Variance Inflation Factor

Chapter One

INTRODUCTION

1. 1 Background of the Study

The primary function of insurance is to act as a risk transfer mechanism to provide peace of mind and protect against losses (Sabbir, 2002). Insurance schemes utilize the combination method by persuading a large number of individuals to pool their risks into a large group to minimize overall risk (Ali, 2000). In the developed world, insurance is part of society such that some forms of cover are required by law. In developing countries, the need for such a safety net is much greater, particularly at the poorest levels where vulnerability to risks is much greater and there are fewer opportunities available to recover from a large loss. Therefore, in the developing countries which are characterized as having low-income levels, and lacking access to social security systems, healthcare, and education, sanitation, and employment opportunities, the need for insurance as a risk transfer mechanism is even more imperative.

Insurance has several economic and social advantages. Primarily it covers the risk of financial loss of individuals by distributing fairly and equitably to the insured community. Insurance promotes investment by taking away the risk from the investor. Moreover, insurance is significant part of modern economy and it is huge source of employment .For example, in 1996 more than 2.4 million people were employed in the Insurance Industry in U.S.A.

While the worldwide insurance market, especially the life insurance market, has grown rapidly and the internationalization of the insurance business is becoming more widespread, these areas have not been greatly researched (Mark J. Browne and Kihong Kim., 1993).

Historians and researchers in social systems speak affirmatively the existence in history of the various forms of traditional social form of Institution based on family, region, tribal, national and other parochial lines in Africa continent meant to combat fortuitous types of accidents in a daily life. As there is no acceptable evidence as to where and when the service called "Insurance" begun the global history of human civilization, it is true for Ethiopia too. However, some scholars and researchers in social systems speak affirmatively the existence in history, in the various form of traditional institutions formed on family, religious, tribal, national and on other parochial lines in Africa content meant to combat fortuitous accidents in daily life. Among these

social welfare Institutions in Ethiopia were "IDIR and IKUB" having some similarities with modern Insurance service (Meseret Wondaferaw, 2003).

For instance, in the case of "Edir" people form an association where by each members contributes affixed sum, normally to a common fund from which predetermined compensation are paid to members up on occurrence of un foreseen events such as death of family members or relatives. The compensations are meant to cover expenses that a member would incur as the result of the incidents. The "Edir" also owns physical asset like tents, house hold goods like plates and drinking cups, chairs and others were used during the periods of mourning. The other insurance type of association is "EKUB' where member contribute affixed sum of money weekly, or monthly to a pool of fund and lots are cost where up on the winners receive the money so collided and uses for another member at a premium, if something happens to a member, who had already taken the money, that would not enable him to continue contributing to the fund, his guarantor will have to be held responsible or liable (Year book of EIC, 2001). Although, people have been using these and others mutual associations, Insurance in its modern form could hardly be traced beyond the 1920's the first Insurance business was transacted by the bank of Abyssinia (HABESH), which began operation in 1905 during the regime of Minilik II, as an agent to a foreign company, whereby, covers given were for fire and marine risks. Then after many foreign owned companies or in collaboration with other companies have exercised the service Insurance in Ethiopia.

According to some researches year 1951, marked the beginning of a new chapter in the history of Insurance industry in Ethiopia in that it witnessed the launching for the first time entirely owned by Ethiopians called "Imperial Insurance Company" formed by the initiatives taken by some enlighten Ethiopians and the expatriates, which brought significant development in financial sector of the economy lead to the coming in to existence some eighteen companies in 1954 operating in different parts of Ethiopia engage in offering coverage for life, marine, motor and fire or property Insurance services. Proclamation No. 281/70 which was the first Governmental act on the supervision of Insurance business in the country brought about a significant change, in that the government put the governmental control in place for it feel the promotion and protection of the public Interest was timely as the scope of Insurance business in the country expanded and Insurance registration license was setup under the Minster of trade and Industry tourism.

Consequently, January 1975, the PMAC, the Provisional Military Administration Council Monopolized the service of Insurance under the title "Ethiopian Insurance Corporation established by proclamation No. 26/1975 which brought the right for the government to confiscated the 13 private companies ownership and the control under it.

Insurance activity encourages the economic development through various channels: it reduces the costs of the necessary financing for firms, stimulates the investments and innovation by creating an economic environment that is more certain; insurers are strong partners in development of a social protection system of workers, in particular in the retirement and health coverage and as institutional investors, the insurers also contribute to the modernization of the financial markets and facilitate the accumulation of new capital by firms (Skipper, 1997; Dickinson, 2000; Skipper and Kwon, 2007; Njegomir and Stojić, 2010).

This sector, to play its role in the economy, it is expected to be productive. Thus, analyzing the level of productivity thereby identifying the major factors influencing insurance companies will be a paramount importance for designing and implementing reform packages to develop the sector.

This study focuses on assessment of insurance firms' productivity, the case of Ethiopian Insurance Corporation.

1.2 History of Ethiopian Insurance Corporation

The Ethiopian Insurance Corporation (EIC) is recognized as the most reliable and financially strong insurance institution in Ethiopia. The following article gives a brief historical overview of Ethiopian Insurance Corporation and its current status.

The emergence of modern insurance business in Ethiopia traced back to the establishment of the first bank which was called Bank of Abyssinia in 1905. After many years of dragging feet in the business, the first domestic insurance company, namely Imperial Insurance Company was established in 1951.

Following the overthrow of the Imperial regime in 1974, PMAC came into being with the new economic system called command economy. Consequently, in December 1975, being after the thirteen private Insurance Companies nationalized, the PMAC issued Proclamation No. 68/1975

to establish the Ethiopian Insurance Corporation (EIC). As per this proclamation, the asset, liabilities and capital of all nationalized insurance companies were transferred to EIC.

According to proclamation 68/1975 stated the purpose of Ethiopian Insurance Corporation is as follows:

- Engage in all classes of insurance business in Ethiopia
- Ensure that services reach the broad masses of the people
- Promote efficient utilization of both material and insurance resources.

With regard to the power and function, this proclamation states the following:
Manage, administer, supervise and direct all insurance business transaction, and negotiate, arrange, underwrite and contract reinsurance treaties and policies with foreign re-insurance companies.
According to the Proclamation, Ethiopian Insurance Corporation had to be organized to have an insurance Board, a general manager, and deputy general manager. The nationalized insurance Companies were brought under a centralized management at the head office level, and the eleven non-life insurance companies were organized to form six regional Main non-life Branches.
Accordingly, the nationalized Ethiopian Life insurance Company and the Ethiopian-American Life insurance companies were organized to be under the umbrella of the Life Main Branch. The branch organization is still functioning except that of Northern Branch
The Ethiopian Insurance Corporation had been a monopoly for 19 years from 1976 unto 1994.
In 1991, the Dergue regime collapsed and consequent to that the economic policy of the country changed to a market economy. Following this, the then Transitional Government of Ethiopia (TGE) issued proclamation number 86/1994 which sates establishment of private insurance companies. Accordingly, Ethiopian Insurance Corporation was re-established as public enterprise under the Council of ministers Regulation no.201/94 with a paid- up capital of Birr 61, 007,038 (USD10.25 million at the prevailing exchange rate of 5.95/USD).
Currently, there are 17 insurance companies operating in the Ethiopia and Ethiopian Insurance Corporation has 40% of the market share at the end of year 2014 in the Ethiopian insurance industry. The total asset and capital of the Corporation as it is registered as at June 2014 is Birr 2.3 billion and Birr 435.8 million , respectively. The gross written premium (General insurance),

reached 1.88 billion for the year ended 30 June 2014. The net income registered as at 30 June 2014 was 446.3 million. Over this period, Ethiopian Insurance Corporation has remarkably grown into a large company in the insurance services industry in the country. Today, it employs about 1,274 employees.

Ethiopian Insurance Corporation has diversified contacts with international insurers, associations of insurance, reinsurance pools, and reinsurance companies. In addition, it accepts inward insurance business coming from various international insurance companies and deals with Outward reinsurance business with the most renowned international re-insurers.

Additionally, Ethiopian Insurance Corporation is a member of national and international insurance and reinsurance organizations which include: the Ethiopian Insurance Association; Federation of Afro- Asian Insurers and Re-insurers; African Insurance Organization, and Organization of Eastern and Southern African Insurers. On top of this, EIC is a shareholder of African Reinsurance Corporation headquartered in Lagos, Nigeria and African Export-Import Bank, headquartered in Cairo, Egypt.

1.3 Statement of the Problem

Due to rapid economic growth, urbanization and popular education (Chan, 2002) the insurance industry expanded considerably in the 19th century, resulting in acute competitiveness and rivalry between companies (Chan, 2002; Lai, Chan, Ko&Boey, 2000).

The insurance industry in particular is part of immune and repair system of an economy and successful operation of the industry can set energy for other industries and development of an economy. To do so the insurance industry is expected to be productive and strong through being efficient in operation. Hence, not only measuring the productivity, but also clear insight about factors affecting productivity in the industry is then the problem to be investigated. Therefore, factors that affect insurance company's productivity have attracted the interest of academicians, practitioners and institutional supervisors.

The absence of empirical studies in Ethiopia concerning studies on insurance companies' productivity is then what motivated the researcher to put his own contribution on what factors affect the productivity of Insurance Companies, the case of Ethiopian Insurance Corporation. The reason for choosing EIC among the firms in the insurance industry is as follows. Above all EIC is the sole governmental insurance company in Ethiopia. Secondly it has a largest market

share than other insurance companies. It has huge capital again as compare to other insurance firms. Moreover EIC employs a larger number of employees. The researcher explored different studies (thesis, journals and articles) and found that many of the studies are made on profitability of insurance Companies especially in the context of our country, Ethiopia. The resercher found out few studies made using either a parametric approach (Production frontier) or non-parametric approach (Data Envelopment Analysis) that requires more understanding of the economics as well as the operation of software ready for this purposes. The other study made on productivity of foot wear and garment sectors by Feyera, 2012 initiated the researcher to assess the productivity of insurance companies based mainly on primary data and to complement it with secondary data. Wang and Gianakis (1999) have defined subjective productivity measure as an indicator used to assess individuals' aggregated perceptions, attitudes or assessments toward an organizations product or service. Subjective productivity data is usually collected using survey questionnaires.

While taking into consideration the absence of empirical inquiry into the factors affecting insurance companies' productivity, the researcher attempts to work on such untouched empirical evidence in the country. Hence, these are important issues to be investigated for the insurance managers, professionals, regulators and policy makers to support the sector in achieving the excellence so that required economic outcomes could be obtained from the help of the sector in Ethiopia by understanding the success and failure factors of productivity.

1.4 Objectives of the Study

The objectives of this study, will address one broad general objective and some more specific objectives just derived from the general objective and these are presented below.

1.4.1 General Objective

The main objective of the study is to identify the factors determining the productivity of Ethiopian Insurance Corporation.

1.4.2 Specific Objectives

Based on the above general objective, the following specific objectives can be derived.

1. To evaluate the contribution of IT on productivity in Ethiopian Insurance Corporation.
2. To examine the effect of labor turnover on productivity of EIC.
3. To assess the effect of capital employed on the productivity of EIC
4. To examine the effect of management practice/talent on productivity of EIC

5. To evaluate the impact of Competition on the productivity of EIC
6. To assess the effect of market on the productivity of EIC.

1.5 Significance of the Study

The study will have significance from various directions. First the study supplies some evidence whether factors identified by previous studies are the same as the ones found to be determinants of productivity in Ethiopian Insurance Corporation. This will help the company to review the study by its own. Second it enhances the stock of information we have about factors affecting productivity and the study will be used as a reference for other researchers in this area. Finally managers of insurance companies will use the result of the study to review their business productivity in line with the findings of the study.

1.6 Scope of the Study

The study focused mainly on the productivity of Ethiopian Insurance Corporation where the factors are grouped under internal (labor, capital, technology and management practice) and external drivers (competition and market) that affect productivity in Ethiopian Insurance Corporation. The study excluded other insurers believing the fact that more or less the views that employees have might be close enough to employees of EIC and the researcher didn't want to proceed to save his time. Other factors of productivity also are not included. In this assessment, covering all branches throughout the country is not feasible and economical; therefore, the geographical scope is limited to Head office in Addis Ababa for sourcing data. With respect to theoretical coverage, most theories of productivity concepts were considered.

1.7 Limitation of the Study

The reliability of the study may be affected due to the fact that the study mainly based on subjective productivity method and this has its own limitation on the result.

1.8 Organization of the Study

The study is organized in five chapters. The first chapter deals with introduction into the general topic. The second chapter contains review of research and related literature including theoretical and empirical review, justification about the research project and conceptual framework. The third chapter deals with the methodology study. In this chapter, Research Design, Sampling Design, Data Collection, Analysis and Evaluation of Data are covered. The fourth chapter contains Data Analysis and presentation, the fifth chapter Conclusion and related recommendation. Finally the following sections, Bibliography/References and appendix are included in this research

Chapter Two
Literature Review

2.1 Theoretical Literature

There are different productivity definitions in literature. Rolloos (1997) defined the productivity as, "productivity is that which people can produce with the least effort". Productivity is also defined by Sutermeister (1976) as, "output per employee hour, quality considered". Dorgan (1994) defines productivity as, "the increased functional and organizational performance, including quality". Productivity is a ratio to measure how well an organization (or individual, industry, country) converts input resources (labor, materials, machines etc.) into goods and services. In some case, the productivity is measured considering performance increase as when there is less absenteeism, fewer employee leaving early and less breaks; whereas increase in performance can be measured by the number of units produced per employee per hour.

Factor productivity is an important component of industrial growth and development. It comprises many aspects. Different economists have defined it in different ways. For instance, Solomon Fabricant (1959) defines it as "a measure of efficiency with which the nation's resources are transferred to the consumption, investment and other goods that satisfy individual or collective wants". According to Kendrick (1969) and OECD (2001), Productivity is commonly defined as the ratio of a volume of measure of output to a volume of measure of input use. While there is no disagreement to this general notion, a look at the productivity literature and its various applications reveals very quickly that there is neither a unique purpose, nor a single measure of productivity (OECD, 2001)

There` are many different productivity measures, the choice between them depends on the purpose of productivity measurement and, in many instances, on the availability of data. Broadly speaking, productivity measures can be classified as a single factor productivity measures (relating a measure of output to a single measure of inputs) or total factor productivity measures (relating to measure of output to a bundle of inputs). Another definition, of particular relevance at the industry or firm level is between productivity measures that relate some measures of gross output to one or several inputs and those which use a value added concept to capture movements of output (Ibid, 2001). However, the idea behind measuring productivity is how best the inputs

such as labor, capital, and raw material are utilized to produce certain levels of output or how efficiently these inputs are utilized over a period of time (Swamy and Padma, 2005). So, the preferred measure of productivity is total factor productivity (TFP). TFP is defined as the ratio of quantity index of gross output to quantity index of combined input (OECD, 2001; Bart, 2004; Susan et al., 2004; and Beyene, 2007). It is the best and robust measure of gains in productivity.

2.1.1 Concepts of Insurance

Insurance is the pooling of fortuitous losses by transfer of such risks to insures, who agree to indemnify insured for such losses, to provide other pecuniary benefits on their occurrence, or to render services connected with the risk E.Rejda (2008). According to the author concepts within the definitions are explained as follows. *Pooling* is the spread of losses incurred by the few over the entire group, so that in the process, average loss is substituted for actual loss, fortuitous loss is one that is unforeseen and unexpected and occurs as a result of chance. Risk transfer on the other hand means that the pure risk is transferred from the insured to the insurer, who typically is in a stronger financial position to pay the loss than the insured. The other characteristics of insurance are indemnification for loss which means that the insured is restored to his/her approximate financial position prior to the occurrence of the loss.

Insurance is a contract in which the insured transfers risk of potential loss to the insurer who promises to compensate the former upon suffering loss. The insured then pays an agreed fee called a *premium* in consideration for this promise. The *promisor* is called insurer and the *promisee*is called the insured (Lowe, 1999).Insurance premium is the monetary consideration paid by the insured to the insurer for the cover granted by the insurance policy. The Insurer takes on a number of clients (insured) who pay small premiums that form an aggregate fund called the Premium fund (Norman, 2000). The likelihood of an event or loss may be mathematically calculated or it may be based on the statistical results of past experience in order to determine the amount of premiums that would be required to accumulate a common fund or pool, to meet the losses upon their arising (Grose, 1992).As cited by (Mister, 2015) Insurance is a financial product that legally binds the insurance company to pay losses of the policyholder when a specific event occurs. The insurer accepts the risk that the event will occur in exchange for a fee, the premium. The insurer, in turn, may pass on some of that risk to other insurers or reinsurers. Insurance makes possible ventures that would otherwise be prohibitively expensive if one party

had to absorb all the risk. Insurance is an important and growing part of financial sector in virtually all developed and developing countries. A resilient and well regulated insurance industry can significantly contribute to economic growth through transfer of risk and mobilization of savings. In addition, it enhances financial system efficiency by reducing transaction cost, creating liquidity, and facilitating economies of scales in investment. The insurance industry is different from other financial services in that its main role is to spread financial loss. Policy- holders buy protection against the occurrence of defined events and insurers set reserves against the estimated total cost of claims. Insurance is founded on probability theory, where the price (insurance premium) is set before knowing the exact cost of the product (insurance contract, or policy). Ethiopia's financial sector includes banks, insurance companies, microfinance institutions and pension funds, with banks dominating the sector (African Economic Outlook, 2016). Insurance industry is also one of the financial institution sectors which provide a unique financial service by serving the societies in managing risk (Hanna, 2015). They offer financial protection to an individual or firm against the monetary losses which are suffered from unforeseen circumstances (Kihara, 2012). The indemnification and risk pooling properties of insurance facilitates commercial transactions and provisions of credit by mitigating losses and management of non-diversifiable risk to promote economic activities (Ndalu, 2017). Haiss and Sumegi (2008) noted that the availability of the insurance companies is highly essential in the financial services industry almost in developed and developing countries, since they are contributing to economic growth, efficient resource allocation, reduction of transaction costs, creation of liquidity, facilitation of economics of scale in investment, and spread of financial losses.

The insurance sector of any country can take major part in the economic growth and development (Brainard, 2008; Ward and Zurbruegg, 2000). They are providing the capital accumulation efficiently (Curack et.al. 2009). In context to the above, an overall understanding of insurance companies' productivity compared over time with a time serious analysis.

2.1.2 Role of Insurance in the Economy

As Banks and Security firms, insurance companies are financial intermediaries. It is therefore appropriate to view the insurance sector simply as pass-through mechanisms for diversifying risk, under which the unfortunate few who suffer losses are compensated from funds collected from many policy holders. Insurance is an essential element in the operation of sophisticated

national economies throughout the world today. Without insurance coverage, the private commercial sector would be unable to function (Peter R. Haiss and K.Sumegi, 2008).

Carmichael and Pomerleano (2002) identified several main contribution of insurance that for instance, insurance promotes financial stability among households and firms by transferring risks to an entity better equipped to withstand them; it encourages individuals and firms to specialize, create wealth and undertake beneficial projects they would not be otherwise prepared to consider. Hifza Malik (2011) insurance plays a crucial role in fostering commercial and infrastructural businesses. From the latter perspective, it promotes financial and social stability, mobilizes and channels savings, supports trade, commerce and entrepreneurial activity and improves the quality of the lives of individuals and the overall wellbeing in a country. Life insurance companies mobilize savings from the households sector and channel them to corporate and public sectors. The key difference between banks and insurance companies is that the maturity of bank liabilities is generally shorter than that of life insurance companies. This enables life insurers to play a large role in the long- term bond market. At the same time, life insurer's portfolios are typically more equipped than those of banks, which make them less prone to bank liquidity crises.

A strong insurance industry can relieve pressure on government budget to the extent that provide private insurance reduces the demands on government social security programs and life insurance can be an important part of personal retirement planning program.

Insurance supports trade, commerce and entrepreneurial activity in general. Many sectors are heavily reliant on insurance; for example, manufacturing, shipping, aviation, the medical, legal, and accounting professions and (increasingly) banking through credit risk transfer. Insurance may actually lower total risk the economy faces since insurers have incentives to measure and manage the risks to which they are exposed, as well as promote risk mitigation activities. A number of empirical studies show evidence that the development of financial intermediaries, including insurance, has a strong correlation with economic growth. Patrick (1966) suggests that financial sector can have either a supply- leading or demand following relationship with economic growth. In the supply-leading view, economic growth can be induced through supply of financial services, while in the demand following view; the demand for financial services can induce growth of financial institutions and their assets. The insurance sector can also contribute to the development of capital markets by making a pool of funds accessible to both borrowers

and issuers of securities. This is due to the fact that insurance companies have longer term liabilities than banks. Catalan, Impavido, and Musalem (2000) study the relationship between the development of contractual savings (assets of pension funds and life insurance companies) and capital markets. The insurance industry has traditionally been regarded as a relatively stable segment of the financial system. Considerably lower liquidity of liabilities has prevented contagions run on insurance companies that have been seen in the banking sector. Nevertheless, insurance companies are not necessarily immune to crises particularly when they assimilate banking-type activities and /or have close business relationship with banks, including cross shareholding, placement of deposits, and credit risk transfer. According to Balino, T, J and T.V, Sundararajan (1991) define financial crises in general as a situation in which a significant group of financial institutions have liabilities exceeding the market value of their assets, leading to runs and other portfolio shifts, collapse of some financial firms and government interventions.

2.1.3 Measuring Productivity

Measuring productivity seems like the color of diamond which has found to be differing when seen from different angles and similarly measuring productivity becomes different based on the materials included and excluded from measurement. In particular, there are two facets of productivity that have increasingly challenged clear-cut measurement of productivity (Misikir 2004). "The first set of issues regards the output measure" (Syverson 2011). Many businesses produce more than one output and as a result, these firms use revenue which is not the exact substitute and measure of what is produced from a given set of inputs to measure their productivity accurately. But this may be acceptable, and even desirable, if product quality differences are fully reflected in prices, it can be problematic whenever price variation instead embodies differences in market power across producers. In that case, producers' measured productivity levels may reflect less about how efficient they are and more about the state of their domestic output market. "The second set of measurement issues considers inputs" (Syverson 2011). For instance, to quantify labor input there is the choice of whether to use number of employees, employee-hours, or wages and some other quality adjusted labor measures (Syverson 2011).

2.1.4 Productivity in Insurance Companies

Definition: With respect to insurance industry, the amount of policies and contracts sold by each sales employee is called productivity. In general, productivity is a measure of performance or

output. The number of sales (of premium and contracts) generated per sales person is known as productivity. It is a measure of how effectively the sales targets are being met for an insurance, productivity is an overall measure of the ability to produce a good or service. More specifically, productivity is the measure of how specified resources are managed to accomplish timely objectives as stated in terms of quantity and quality.

Productivity describes various measures of the efficiency of production. A productivity measure is expressed as the ratio of output to inputs used in a production process, i.e. output per unit of input. Productivity is a crucial factor in production performance of firms and nations. Increasing national productivity can raise living standards because more real income improves people's ability to purchase goods and services, enjoy leisure, and improve housing and education..

2.2 Empirical Review

- **Studies on Competition and productivity**

Verhoogen, 2008; Bloom and Van Reenen, 2010) focus on the relationship between the intensity of competition and productivity.

Greater competition allows the best companies to gain larger market shares at the expense of less efficient firms, according to the so-called "Darwinian selection of the market". Moreover, competition creates greater opportunities for comparing performance, making it easier for owners to monitor managers (Lazear and Rosen, 1981; Nalebuff and Stiglitz, 1983). In addition, improvements in productivity may generate higher revenues and profits in a more competitive environment, where the price elasticity of demand tends to be higher, and because more competition is likely to raise the likelihood of bankruptcy at any given level of managerial effort, managers have to work harder to avoid this outcome (Aghion and Howitt, 1998). An additional effect of stronger competition on firms' productivity may stem from the increased incentive for workers, provided that product market rents are shared with workers in the form of higher wages or reduced effort (Haskel between the recalled macroeconomic factors and the economic growth of countries and regions and Sanchis, 1995). Another strand of studies focuses on the relationship between the intensity/ quality of market regulation and productivity. In this view, poor or inadequate regulations can create perverse incentives that reduce productivity (Bridgam et al., 2009). By contrast, largely positive effects can be associated with the implementation of an incentive program combining the gains of economic operators to obtain particular standards of

operational efficiency (Knittel, 2002), similar to those of the program of product market regulations in OECD countries (Nicoletti and Scarpetta, 2005, Arnold et al., 2008) or privatization programs in Eastern European countries (Brown et al., 2006).

The presence of spillovers and the degree of competition are singled out by Chanda and Dalgaard (2008) and Syverson (2011) as the main channels through which macroeconomic factors may impinge on the level of business productivity. In their interpretation, spillovers basically operate through incentive mechanisms: They encourage companies to innovate and to adopt new technologies (Nguyen et Jaramillo, 2014), to invest more in R&D (Griffith et al., 2007), to shorten the technology distance (Bloom et al., 2007), and to accelerate the process of convergence to the productivity levels of the leader in the domestic market (Bartelsman et al., 2008). Other related studies (Eslava et al., 2004, Bernard et al., 2006; Fernandes, 2007;

- **Studies on IT, R & D and productivity**

On the other hand, like spending on IT, investing in R&D also contributes not only to the enhancement of productivity but also to introduction of new product, new means of production, and also new technology itself. Study by Bee Yan Aw et al (2008) on the Taiwanese electronics exporters, elucidated the bidirectional causality between R&D and productivity. The study revealed that firms that select into exporting tend to be more productive than those who trade on domestic market but the decision to export is often accompanied by large R&D investments. These investments raise exporters' productivity levels further in turn, highlighting both selection and causal effects tying productivity to R&D. However, the timing of this R&D blitz is consistent with a world where the exporters are more willing to innovate on the margin because they can spread the potential gains of productivity growth across a larger market. Firms can also be innovative or non-innovative independently of their R&D effort. The main conclusion that is made by Pakes and Griliches (1984) is, however, that there is a strong and positive relationship between R&D and the number of patents at the firm level. More precisely, if the firm has made a success of its R&D investment by being more innovative, higher overall productivity should be expected. Consequently, the interaction of R&D and innovation is likely to have a positive effect on productivity. However, the concept of innovation does include activities that are not related to R&D efforts. A firm can invest in new equipment embodying technological innovations; it can buy software and new technology connected to technological innovations, e.g. patents, non-

patented inventions, licenses and consultant services in connection with the implementation of technological innovations. If the firm chooses a strategy to buy innovations for implementation in its own production, R&D and innovation services end up being substitutes. In that case, low R&D figures could be the result of a strategy of buying innovations instead of undertaking the risky R&D investments oneself. In general, it also possible for firms that the firms can benefit also without investing on R&D, which is one of the more remarkable components of firms' overall innovative efforts because many firms undertake both process and product innovation without formally reporting R&D spending in a sense that the firms can purchase new technologies without investing and spending on R&D.

Market characteristics such as the size of the market, economies of scale and market competition have an effect on productivity (Baily and Kirkegaard, 2004; Economic Department, 2015). Especially economies of scale, which refers to seeking cost and productivity advantages through larger production output, is argued to influence productivity (Economic Department, 2016). Therefore, in terms of productivity, it is more important to adapt the technology as a core function of the business. In the US, companies were more ready and flexible to take technology as part of the core functions (e.g. Amiti and Stiroh, 2007; Miller and Atkinson, 2014; Economic Department, 2016), whereas companies in the European Union were more hesitant to re-engineer their businesses to adapt technology into their supply chain and processes (Miller and Atkinson, 2014). European Investment Bank has estimated that the EU firms are almost EUR 90 billion per year behind in technological progress to the United States in terms of technology as part of the business process and innovation (Economic Department, 2016).

This is quite reasonable calculation about the US dominance in technological adaptation. For instance, Walmart and Apple are great examples of how companies adapted technology. Especially Walmart invested heavily in inventory tracking by using radio frequency identification (RFID) in order to improve the supply chain efficiency and therefore productivity (Lu, 2014). They also reengineered their supply chain to fit the new investments by using distribution centers, instead of only taking the technology (Lu, 2014). In other words, Walmart created a process, which was built with the technology in mind, rather than by using technology as an 'outside' tool.

As said, flexibility, re-engineering and full adaptation of ICT, was not as strong in Europe, since many of the companies did not understand the purpose or the benefits of ICT, and because of this, the US companies outperformed the European counterparts (Persson, 2010).FeyeraAbebe

Most of the time, investing in both information technology and R&D is seen as extra expense by some organizations. But in real context, if effectively and efficiently undergone the capital outlaid for both information technology and R&D have a positive effect on productivity and also profitability of an organizations. However, new technology's net productivity benefit to the adopter depends on the difference between the increased production that the new technology implemented facilitates and its acquisition cost. In support of this issue, specially the study by Faggio et al (2010) which environs on the capital intensity on information technology and the study by Ulrich Doraszelski and Jordi Jaumandreu (2009) and Bee Yan Aw et al (2008) that is about the consequence and causality of R&D expenditures on productivity. Faggio et al (2010) tried to show that industries that experienced the greatest growth in productivity dispersion also saw the largest increases in IT capital intensity which is yet more evidence tying IT to greater productivity variance by conducting study in United Kingdom on the dispersion of productivity within industry over the couple of decades comes across the conclusion that investing in IT also contributes for the advancements of productivity of an industry. In tie with increased investing to IT capital, Ulrich Doraszelski and Jordi Jaumandreu (2009) find that firm-level uncertainty in the outcome of R&D is considerably much more with respect to the return on physical capital investment. In fact, their estimates propose that engaging in R&D more or less twofold the degree of doubt in the evolution of a producer's productivity level.

- **Studies on labor and productivity**

Determining what constitutes 'high turnover' is a complex issue, because there is no simple linear relationship between turnover rates and the social and/or economic performance of companies. Issues ranging from poor job fit, lack of recognition or support from senior management, uncertainty about the organization's future and poor management communication are some of the reasons why people start looking for other opportunities. Reasons that can be attributed to high employee turnover in the insurance sector are:

• People join insurance companies as a part time job or a gap filler occupation and not as a long – term career. Very few competent people want to become agents owing to low social status attached to it.

• It is a high pressure job. It is expected from an agent to understand the customer's needs and sell the products accordingly. This process involves a high level of persuasion and a sustained effort for a long period of time. A lot of people succumb to such pressures.

• The expectation achievement gap adds to the turnover. Many people are lured to the profession with a high earning potential. However, to earn a decent income, agents require a lot of patience, perseverance, and persuasion in the field. During early phase, the earnings of the agents are low despite hard work. This expectation achievement gap leads many of them to break down in the initial period of joining the profession.

• Scarce skilled or experienced human resource in insurance market leads to wide – scale poaching and head – hunting amongst the competitors. The industry has yet to witness mature hr processes, like work force planning, training, motivation and retention. The lack of preplanned recruitment leads the firms to indulge in poaching human resources working in other insurance firms.

• With insurers having a high percentage of the workforce from multiple sectors (non-domain), the chances of losing employees to other fields, like Fast Moving Consumer Goods companies or other financial outfits, are high.

Employee Turnover is perhaps paid the least attention among various employees' issues. It is shrugged off as inevitable. Few companies take a proactive approach towards reducing employee turnover. It always includes substantial costs of replacing the key employee who fall into the category of high performers. Replacing includes the costs of recruitment advertisement, referral bonuses, selection testing, training costs, etc. Moreover, turnover results in loss of time and efforts, low productivity, loss of morale, loss of knowledge and so on.

Regulation that controls workforce turnover per se does not decrease productivity because lower turnover usually increases investing in human capital and therefore productivity (Gill et al., 2013).

- **Studies on capital and productivity**

Kellogg (2009) looks at oil and gas drilling in Texas to study how learning occurs when an upstream and downstream producer work together over time. He follows the efforts of pairs of producers and drillers. The former are companies actively involved in exploring for, extracting, and selling oil, while the latter firms specialize in boring out the wells that the producers hope will yield oil. Since producers typically work with multiple drillers and vice versa, and work in

different fields, Kellogg is able to separately measure the productivity impacts of the experience of producers alone (i.e., regardless of the drilling firms they work with), drillers alone, and the joint experience of producer-driller pairs. He finds that accumulated experience between a producer-driller pair increases productivity above and beyond that of each of the firms' overall experience levels. This relationship-specific experience is a type of capital that is lost if the firms split up, giving them incentives to preserve their contracting environment.

While considering capital, it is being wise to look at knowledge gained through experience.

- **Studies on management practice and productivity**

Product innovation's productivity effects have been studied in several recent papers. One of the mechanisms behind IT-based productivity growth that Bartel, Ichniowski, and Shaw (2007) point out is an improved ability to customize products. Other inputs mentioned above, like R&D and higher-quality employees, can also spur innovation.

Lentz and Mortensen (2008) use Danish firm-level data to estimate a model of firms' product innovation efforts in the vertical-quality-ladder style of Klette and Kortum (2004). They find that about 75 percent of aggregate productivity growth comes from reallocation of inputs (employment in their setup) to innovating firms. About one-third of this comes from entry and exit channels. The other two-thirds occur as inputs move toward growing firms (and hence innovating firms, as seen through the lens of their model) from firms that lose market share when they fall behind the quality frontier.

Bernard, Redding, and Schott (forthcoming) show that a firm's TFP is positively correlated with the number of products it produces. This holds both in the cross section and within firms over time. At the very least, these results indicate that productivity growth accompanies expansion of the variety of products a firm offers. It is less clear whether firm's revenue per unit input. If one thinks about productivity as units of quality delivered per unit input, product innovation can enhance productivity. This is captured in standard revenue based productivity measures since they reflect price variations across an industry's plants or firms. (Though as mentioned above and discussed further below, revenue productivity can also be misleading when price variation due to differences in market power across producers exist.)

Product innovation can be aimed at entering new markets, or at refocusing a firm's efforts toward growing demand segments, as documented in Acemoglu and Linn (2004). Product

innovation's productivity effects have been studied in several recent papers. As touched on above, one of the mechanisms behind IT-based productivity growth that Bartel,

Ichniowski, and Shaw (2007) point to is an improved ability to customize products. Other inputs mentioned above, like R&D and higher-quality employees, can also spur innovation. Lentz and Mortensen (2008) use Danish firm-level data to estimate a model of firms' product innovation efforts in the vertical-quality-ladder style of Klette and Kortum (2004). They find that about 75 percent of aggregate productivity growth comes from reallocation of inputs (employment in their setup) to innovating firms. About one-third of this comes from entry and exit channels. The other two-thirds occur as inputs move toward growing firms (and hence innovating firms, as seen through the lens of their model) from firms that lose market share when they fall behind the quality frontier.

Balasubramanian and Sivadasan (2009) link detailed and broad-based data on firms' patenting and production activities (they merge the NBER patent database with the U.S. Census Business Register) to see what happens when a firm patents. They find clear evidence that new patent grants are associated with increases in firm size (by any one of a number of measures), scope (the number of products it makes), and TFP (though the evidence is weaker here).

Whether these correlations reflect the causal effects of patents is not clear; patenting activity could be just one part of a firm's coordinated push into new markets. Bernard, Redding, and Schott (forthcoming) show that a firm's TFP is positively correlated with the number of products it produces. This holds both in the cross section and within firms over time. At the very least, these results indicate that productivity growth accompanies expansion of the variety of products a firm offers. Even in the absence of spillovers or selection, external factors can affect producers' incentives to raise their own productivity level. How can this be if theory says firms minimize costs? Well, the standard, static cost-minimizing firm model is an inadequate description of the technology adoption processes. A richer model like that in Holmes, Levine, and Schmitz (2008)—who build off Arrow's (1962) seminal work—points out additional channels through which a firm's market environment (and the competitive structure in particular) shifts producers' incentives to raise their productivity level. Holmes et al. suppose that adopting a productivity enhancing practice involves disruption costs: a temporary period where costs are actually *higher* than before any technological change was made. Disruption could be due to installation issues, fine-tuning new technology, retraining workers, and so on. With such adoption costs, producers

facing less competition have less incentive to adopt the new technology, because the higher per unit profits that monopoly power brings raise the opportunity cost of changing production practices. The reality of production is also much more complex than even in these augmented models. Most technologies, even if routinized, are intricate, multifaceted processes that require considerable coordination. They are constantly being buffeted by shocks to input costs and demand-driven shifts in capacity requirements. Cost-minimizing production practice is really therefore a moving target, a constantly shifting ideal combination of operations. Elements of a firm's market environment can affect the firm's incentives to chase that moving target.

- **Studies on Market and productivity**

Maksimovic and Phillips (2001) investigate the market for U.S. manufacturing plants themselves, as productive assets. They measure how a plant's productivity changes when it is sold by one firm to another. They find that, on average, a plant's productivity rises after the sale. That is reassuring: the market tends to allocate inputs in an efficient way, instead of as a response to ambitions of empire-building managers or other inefficient motives. Another of their findings that is consistent with this efficiency-enhancing role is that the plants that are sold tend to come from the selling firm's less productive business lines. In essence, the sellers are moving away from activities at which they are less proficient.

Hsieh and Klenow (2009) use the measured TFP dispersion across Chinese and Indian firms to infer the size of producer-level distortions that jointly depress aggregate productivity in those economies. Their methodology is conceptually similar to Petrin and Sivadasan's gap approach. Their model indicates that in the absence of distortions, plants' revenue-based TFP levels (TFP measured using revenues as an output measure rather than quantities) should be equal. This implies that observed deviations from this equality reflect the presence of distortions. (Note, however, that quantity-based TFP values are not equated even if there are no distortions.) Essentially, their framework implies that plants with relatively high (low) revenue TFP levels are too small (large) relative to an allocative efficient benchmark.

Poorly regulated markets can create perverse incentives that reduce productivity. Deregulating or reformatting to smarter forms of regulation can reverse this. Bridgman, Qi, and Schmitz (2009) show how regulations in place for decades in the U.S. sugar market destroyed incentives to raise productivity. The U.S. Sugar Act, passed in 1934 as part of the Depression-era restructuring of

agricultural law, funded a subsidy to sugar beet farmers with a tax on downstream sugar refining. Refiners were compensated for this tax by quota protection from imports and government-imposed limits on domestic competition (antitrust law was often thrown to the wind in the construction of New Deal programs). This transfer scheme led to the standard quantity distortions, but it also distorted incentives for efficient production. Farmers received a flat payment per ton of sugar contained in their beets, so their optimal response was to simply grow the largest beets possible. The problem is that larger beets have a lower sugar-to-pulp ratio, requiring more time and energy to refine a given amount of sugar from them. At the same time, given the restraints on competition in the refined sugar market, refiners had little incentive to improve sugar extraction on the margin. The combined result of these incentives is readily apparent in the data. When the Sugar Act was passed, a ton of beets yielded an average of 310 pounds of refined sugar, a figure that had been steadily rising from 215 pounds per ton in 1900. But this trend suddenly reversed after 1934. Yields dropped to 280 pounds per ton by 1950 and 240 pounds by 1974, the year the Act was repealed. Not surprisingly, yields began to climb again immediately after repeal, to about 295 pounds per ton by 2004. It is a sad testimony to the Act's productivity distortions that yields 70 years after the act were still lower than when it was passed. Knittel (2002) and Fabrizio, Rose, and Wolfram (2007) examine how power plant operations react to changes in the regulatory structure they operate under. Both studies involve moving plants away from a traditional cost-plus regulated monopoly structure into alternative forms. Knittel (2002) studies the implementation of "incentive regulation" programs, where regulators explicitly tie operators' earnings to the achievement of particular operating efficiencies. Fabrizioet al. look the effect of electricity market reforms that occurred in many regions in the U.S. during the 1990s. Both studies find that plants experienced efficiency gains after the shift in the regulatory environment. Fabrizio et al. also show that, in line with what one would expect, the productivity gains were largest among investor-owned utilities and smallest in municipally-operated utilities.

Beyond these case studies, recent work has also taken a broader look at how product market regulations impact productivity at the micro level. For example, Greenstone, List, and Syverson (2009) show how environmental regulations (the U.S. Clean Air Act Amendments specifically) reduce manufacturing plants' productivity levels. Nicoletti and Scarpetta (2005) and Arnold, Nicoletti, and Scarpetta (2008) discuss the productivity effects of product-market regulations in OECD economies. A related yet distinct relation between legal structure and productivity is how privatization affects formerly state owned firms. Brown, Earle, and Telegdy's (2006) study of formerly state owned enterprises in several Eastern European countries is one of the more comprehensive of such studies. They document broad-based productivity growth in plants after privatization, but they also find considerable variation in the size of the impacts across countries, with more than 15 percent average TFP growth in Romania, but a slightly negative impact in Russia.

2.2.1 Factors of Productivity

According to Maksimovic and Phillips (2002), there are factors (internal drivers) that directly impact productivity at the micro level by operating within the plant or firm. They are "levers" that management or others can potentially use to impact the productivity of their business. Producers have, at least in theory, some degree of control over these factors. On the other hand there are environmental factors (external drivers) that may not operate directly on productivity, but they can affect producers' incentives to apply the factors that directly determine productivity. Thus, the first step towards improving productivity is to identify problem area within these factor groups.

2.2.1.1 Internal Drivers

2.2.1.1.1. Higher-Quality General Labor input

Management is an unmeasured input in most production functions, and hence is embodied in the productivity measure. Similarly, the productive effects of inputs like (non-management) labor and capital can also enter productivity if there are input quality differences that standard input measures do not capture. (Van Reenen (1996); Abowd, Margolis, and Kramarz (1999)). Hence, more direct labor-quality measures are needed to definitively pin down labor quality's productivity contribution.

Labor as the factor of productivity is the main and major input that if excluded orchestration of other input and enhancing productivity is meaningless. Labor itself can also be affected by other factors such as experience, training, duration and extent of training and also type of training

whether it is on job or off job training. Attempts to capture labor quality differences in labor measures rather than productivity are the impulsion behind using the wage bill to measure labor inputs rather than the number of employees or employee-hours. The idea is that market wages reflect variations in workers' contributions to production. Firms with more productive workers will have a higher wage bill per employee. Of course, there are problems with this approach wage variation might reflect the realities of local labor markets, or causation could be in the other direction, if more productive producers earn rents that are shared with or captured by employees (Abowd, Francis Kramarz, and David N. Margolis 1999). Labor productivity shows the time profile of how productive labor is used to generate gross output. Labor productivity changes reflect the joint influence of changes in capital, intermediate inputs, as well as technical, organizational and efficiency change within and between firms, the influence of economies of scale, varying degrees of capacity utilization and measurement errors. Labor productivity only partially reflects the productivity of labor in terms of the personal capacities of workers or the intensity of their effort. The ratio between output and labor input depends to a large degree on the presence of other inputs. The other important point to be considered while exploring labor is turnover of employees.

The term 'turnover' refers to employee movements that create vacancies within an organizational unit (Beach, Brereton, and Cliff 2003, 62). These vacancies may be the result of resignations, transfers, retirements, dismissals, or the completion of fixed term contracts. Hale (1998) stated that employers cited recruitment costs of 50% to 60% of an employee's first year's salary and up to 100% for certain specialized, high-skill positions. Bowen and Shuster (1986) stated that while all constituting elements of an organization are important for its success, it is its enhanced ability to attract and retain the best quality talent that separates it from the others. Abbasi and Hollman (2000) sought to determine the impact of employee turnover on an organization and found that excessive employee turnover often engenders far reaching consequences and at the extreme may jeopardize efforts to attain the organizational objectives. Elangovan (2001) has argued that there is a reciprocal link between organizational commitment and turnover intention, i. e. lower commitment increases turnover intention, which lowers commitment further.

Employee's turnover can be very problematic for large, medium and small organizations. All organizations can expect some degree of employee's turnover. Indeed a certain degree of employees turnover may be desirable since it creates opportunities to the introduce competence,

new ideas and experience to the organization, as well providing career development opportunities for existing workers. Though employee's turnover is however, is costly both to individual organizations and the economy as a whole. It also affects moral, profitability, efficiency and productivity as well. Durbin (2000)

Meyer (2001) also said that employee's turnover may be due to a particular cause but they can also be an indication of more fundamental organizational problems. Establishing the cause and working out for a solution may, therefore, calls for re –examination of the organization policies and procedures. It may be difficult for those within the organizations to conduct this with the degree of rigour and objectives required, and therefore it is advisable to involve someone or a group of people outside the organizations to undertake this task.

2.2.1.1.2. Higher-Quality Capital Input

Capital can also vary in quality in ways not captured with standard measures. Capital, including both financial and physical capital plays a great role in enhancing productivity. Capital as one of the factor of productivity, shows the time profile of how productively combined inputs are used to generate value added. It is, however, an indicator of an industry's capacity to contribute to economy wide growth of income per unit of primary input. In practice, the measure reflects the combined effects of disembodied technical change, economies of scale, efficiency change, variations in capacity utilization and measurement errors. When the capital input measure is an aggregator of detailed types of assets, each weighted by their respective user cost, and based on capital goods prices that reflect quality change, the effects of embodied technical change are picked up by the capital input term, and only disembodied technical change affects total factor productivity (TFP). If capital typically differ from one another in how much technological progress they embody, how much labor to hire and in sum how many intermediate materials should be interwoven to support productivity. This all above argument is assured by Study result of Plutarchos Sakellaris and Daniel J. Wilson (2004). Their study result easily indicates that capital as factor productivity shows the time profile of how productively capital is used to generate value added. Capital productivity reflects the joint influence of labor, intermediate inputs, and technical change, and efficiency change, economies of scale, capacity utilization and also measurement errors. When capital input is measured in its theoretically preferred form, i.e. as a flow of services adjusted for changes in the quality of investment goods, the capital measure translates embodied technical change (rising or falling quality of capital goods) into a larger or

smaller flow of constant-quality capital services. Thus, rising quality of capital goods implies a larger amount of capital services. For the same rate of output growth, this implies a fall in capital productivity. The very act of operating can increase productivity. Experience allows producers to identify opportunities for process improvements. This productivity growth, often called learning-by-doing, Benkard (2000)

. Benkard estimates both the learning rate—how fast past production increases productivity (decreases unit labor requirements)—and the "forgetting" rate, which is how fast the knowledge stock built by learning depreciates. Forgetting is quantitatively important in this setting: Benkard estimates that almost 40 percent of the knowledge stock depreciates each year. This may not be literal forgetting, but could instead primarily reflect labor turnover. An additional factor in "forgetting" was the shift to a new variant. This new variant was different enough that the imperfect substitutability of the knowledge stock between the original and new variants led to a temporary but substantial increase in labor requirements.

There is some evidence; however, that learning happens faster for the later models: defect rates fall to their long-run level more quickly. An interesting contrast was seen when looking at what happened to defect rates when a new shift started producing a given model. In that case, re-learning was not necessary. The new shift began operating at defect rates at about the same level as the previous shift had achieved after it already had run down much of the learning curve.

2.2.1.1.3 Information Communication Technology (ICT)

An overview of IT capital's broad productivity impacts, particularly in driving the growth resurgence, can be found in Jorgenson, Ho, and Stiroh (2005, 2008) and Oliner, Sichel, and Stiroh (2007). These studies document that IT-related productivity gains—both spectacular productivity growth in IT-*producing* industries and more modest changes in IT-*using* industries—play an important role in explaining aggregate U.S. productivity growth over the past couple of decades.

There is a long literature linking R&D and productivity, and recent additions to it have focused on exploring the ties at the micro level. As with many input-based stories of productivity differences, the difficulty is in separating correlation from causation. There are many reasons why more productive firms might do more R&D, suggesting that some of the causation may go the other way.

Doraszelski and Jaumandreu (2009) model firm productivity growth as the consequence of R&D expenditures with uncertain outcomes. Estimating their model using a panel of Spanish firms, they find that R&D does appear to explain a substantial amount of productivity growth. However, and picking up the theme of increased variance tied to IT capital discussed above, they also find that firm-level uncertainty in the outcome of R&D is considerable, much more so than with respect to the return on physical capital investment. In fact, their estimates suggest that engaging in R&D roughly doubles the degree of uncertainty in the evolution of a producer's productivity level.

Aw, Roberts, and Xu (2009) highlight the bidirectional causality between R&D and productivity in their study of Taiwanese electronics exporters. They find that firms that select into exporting tend to already be more productive than their domestic counterparts (more on this in the trade section below), but the decision to export is often accompanied by large R&D investments. These investments raise exporters' productivity levels further in turn, highlighting both selection and causal effects tying productivity to R&D. The timing of this R&D blitz is consistent with a world where the exporters are more willing to innovate on the margin because they can spread the potential gains of productivity growth across a larger market.

Of course, R&D is simply one of the more observable components of firms' overall innovative efforts. Many firms undertake both process and product innovation without formally reporting R&D spending. This limits the literature's ability to give a comprehensive look into the relationships between productivity and innovation. Still, it is a very useful start, and the mechanisms the R&D literature highlights are likely to often overlap with the effects of unmeasured innovative spending

2.2.1.1.4. Managerial Practice/Talent

Walker (1887) posits that managerial ability is the source of differences in surplus across businesses: "The excess of produce which we are contemplating comes from directing force to its proper object by the simplest and shortest ways; from saving all unnecessary waste of materials and machinery; from boldly incurring the expense—the often large expense—of improved processes and appliances, while closely scrutinizing outgo and practicing a thousand petty economies in unessential matters; from meeting the demands of the market most aptly and instantly; and, lastly, from exercising a sound judgment as to the time of sale and the terms of payment. It is on account of the wide range among the employers of labor, in the matter of ability

to meet these exacting conditions of business success, that we have the phenomenon in every community and in every trade, in whatever state of the market, of some employers realizing no profits at all, while others are making fair profits; others, again, large profits; others, still, colossal profits

Researchers have long proposed that managers drive productivity differences whether sourced in the talents of the managers themselves or the quality of their practices, this is an appealing argument. Managers are conductors of an input orchestra. They coordinate the application of labor, capital, and intermediate inputs. Managers can take a number of key steps toward improving productivity. They should develop productivity measures for all operations. Measurement is the first step in managing and controlling an operation. They should develop methods for achieving productivity improvements, establish reasonable goals for improvement, considers incentives to reward workers for their contribution and measure improvements and publicize them. (Stevenson, 2008)

Managers should create the circumstances necessary for the relationship building needed for knowledge creation by providing time, space, attention, and opportunities. Management can provide physical space such as meeting rooms, cyberspace such as a computer network, or mental space such as common goals to foster interactions. Moreover, it was found that when organizations used their preserved knowledge through structured periodic activities, they intensified their knowledge (Katila and Ahuja, 2002). Managerial ability is the source of differences in surplus across businesses. More intense competition in the firm's market is positively correlated with best-practice management. Additionally, management practice scores are lower when the firm is family-owned and primogeniture determined the current CEO's succession i.e., he/she is the eldest son of the firm's founder. Interestingly, primogeniture's tie to productivity is not about family ownership. In fact, family ownership in isolation is positively correlated with good management (Bloom and Van Reenen (2007).

Innovations in product quality may not necessarily raise the quantity of output (measured in some physical unit) per unit input, but they can increase the product price and therefore the firm's revenue per unit input. If one thinks about productivity as units of quality delivered per unit input, product innovation can enhance productivity. This is captured in standard revenue based productivity measures since they reflect price variations across an industry's plants or

firms. Revenue productivity can also be misleading when price variation due to differences in market power across producers exist. Product innovation can be aimed at entering new markets, or at refocusing a firm's efforts toward growing demand segments, as documented in Acemoglu and Linn (2004).

2.2.1.2. External Drivers

These external drivers can impact both the so-called "within" and "between" components of aggregate productivity growth. The within component comes from individual producers becoming more efficient. The between component arises when more efficient producers grow faster than less efficient ones, or when more efficient entrants replace less efficient exiting businesses. Petrin and Levinsohn (2008).

2.1.1.2.1. Competition

Competition is argued by many academics to be a significant contributor to the lower level of productivity growth in Europe (e.g. Baily and Kirkegaard, 2004; World Bank, 2008; Economic Department, 2016). Also, the size of market seems to contribute to productivity through economies of scale and homogeneity of consumers.

Whatever the type of Competition it is, (market competition, price competition, product competition, quality competition or other type) competition exerts a pressure or it threatens the activity of other competitors and can affect productivity levels within that industry. According to Syverson (2011) competition impels productivity through two key mechanisms. First, competition moves market share by using more efficient ways of cost controlling methods and forcing the cost inefficient firms to be out of the game and also by, raising the quality horizon that any potential entrant must meet to successfully enter. The second mechanism acts through efficiency increases within plants or firms. As discussed above, heightened competition can induce firms to take costly productivity raising actions so as to control the market by heightening competition. Besides raising producers' own productivity levels, this effect of competition leads to aggregate productivity growth which is supported by the work of Xavier Vives (2007) that revealed out that heightened competition that can actually weaken a firm's incentives to make productivity enhancing outlays.

2.2.1.2.2. Flexible input market

If one thinks of competition as flexibility in product markets—in more competitive markets, it's easier for consumers to shift their purchases from one producer to another—it is logical to suppose that flexible *input* markets might also raise productivity levels.

Indeed, there are almost surely complementarities between product market and input market flexibility. If consumers want to reallocate their purchases across producers, firms that experience growth in demand for their products will need to hire additional inputs to meet that demand. The more easily inputs can move toward these firms, which will typically be higher productivity businesses due to the forces described above, the faster and more smoothly the reallocation mechanism works

2.3. Justification about the Research

Productivity has an important role in determining the economic well-being of the country in the long run (Miller and Atkinson, 2014) since it affects the economic growth (Baily and Kirkegaard, 2004). Especially in the modern world of scarce resources, high competition and aging population, productivity decisions become more important than they were 20th century (Miller and Atkinson, 2014). There have been several studies on productivity growth in the services sector, mostly at the industry and sect oral level. At the micro level, financial services industries such as banking and insurance have been studied quite extensively. For insurance, however, most of the latter studies have focused on measuring cost performance, with some attempting to estimate scale economies and some measure of technical progress (Cummins and Weiss, 2000). Very few studies have attempted to estimate productivity growth for the insurance industry. Therefore, the need for studying productivity is higher than ever therefore, the quest for finding ways to increase productivity is important for the future sustainability and economic well-being.

Also in empirical evidences, most literatures focus on factors affecting profitability of insurance companies rather than on productivity.

2.4 Conceptual Framework

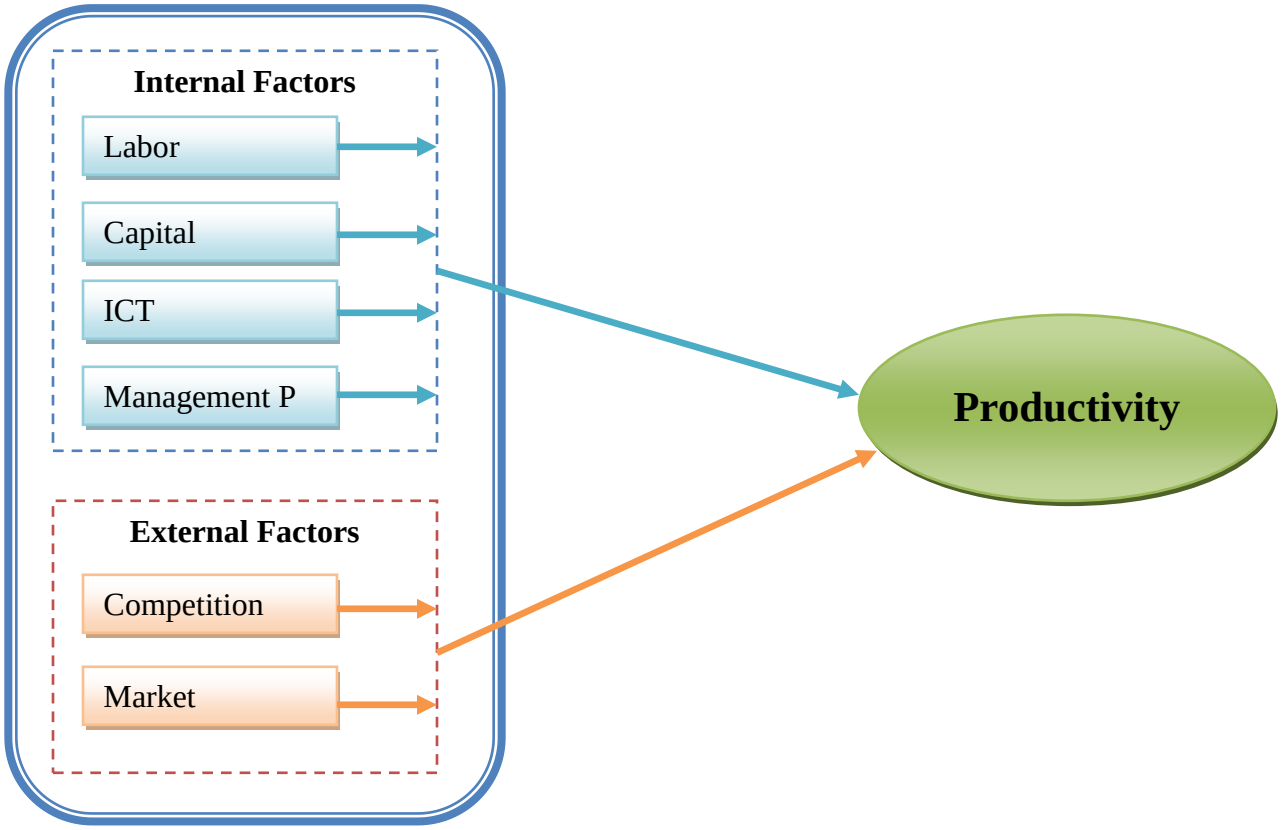


Figure 1: Conceptual frame work

Source: Developed by the researcher based on previous research made by Chad Syverson, (2010)

Chapter Three
Research Methodology, Design, and Method

3.1 Research Methodology

Although there are other distinctions in the research modes, the most common classification of research methods is into qualitative and quantitative.

3.1.1. Qualitative Research Methodology

Qualitative research, according to Van der Merwe (cited by Garbers, 1996) is a research approach aimed at the development of theories and understanding. Denzin and Lincoln (2005) define qualitative research as a situated activity which locates the observer in the world. It involves an interpretive, naturalistic approach to the world, i.e. qualitative researchers study phenomena in their natural settings, attempting to make sense of, or interpreting phenomena in terms of the meanings people bring to them. Qualitative research implies an emphasis on the qualities of entities and on processes and meanings that are not experimentally examined or measured (Denzin & Lincoln, 2005:10).

3.1.2. Quantitative Research Methodology

Quantitative research, according to Van der Merwe (1996), is a research approach aimed at testing theories, determining facts, demonstrating relationships between variables, and predicting outcomes. Quantitative research uses methods from the natural sciences that are designed to ensure objectivity, generalizability and reliability (Weinreich, 2009).

The techniques used in quantitative research include random selection of research participants from the study population in an unbiased manner, the standardized questionnaire or intervention they receive, and statistical methods used to test predetermined hypotheses regarding the relationship between specific variables. The researcher in quantitative research, unlike in the qualitative paradigm where he/she is regarded as a great research instrument due to his/her active participation in the research process, is considered as being external to the actual research, and results are expected to be replicable, no matter who conducts the research.

3.1.3. Mixed Methods Research Methodology

Kemper, Springfield and Teddlie (2003) define mixed methods design as a method that includes both qualitative and quantitative data collection and analysis in parallel form (concurrent mixed method design in which two types of data are collected and analyzed in sequential form). Bazely (2003) defines this method as the use of mixed data (numerical and text) and alternative tools (statistics and analysis), but apply the same method. It is a type of research in which a researcher uses the qualitative research paradigm for one phase of a study and a quantitative research paradigm for another phase of the study.

Burke and Onwuegbuzie (2005:1) indicate that mixed methods research is a natural complement to using either of the traditional qualitative or quantitative research methods in isolation. They view it as the class of research where the researcher combines or mixes qualitative and quantitative research techniques, methods, approaches, concepts or language in a single study. On the philosophical level, according to Burke et al. (2005), mixed methods research is a ―third wave, or third research movement that moves past paradigm wars by offering a logical and practical alternative.

Creswell, Fetters and Ivankova (2004:7) argue that mixed methods research is more than simply collecting both qualitative and quantitative data; it implies that data are integrated, related, or mixed at some stage of the research process. They further indicate that the underlying logic to mixing is that neither qualitative nor quantitative methods are sufficient in themselves to capture the trends and details of the situation…when used in combination, both qualitative and quantitative data yield a more complete analysis, and they complement each other. In pursuit of the same argument regarding the logic of mixed methods research, Johnson and Onwuegbuzi (2004:17) indicate that mixed methods research includes the use of induction which refers to the discovery of patterns, deduction which involves testing theories and hypotheses, and abduction which refers to uncovering and relying on the best set of explanations for understanding one's results.

Here, this study adopted a mixed methods research approach. The primary sources of data were gathered through questionnaires from Ethiopian Insurance Corporation (EIC) permanent employees. That is, subjective productivity measurement method is used. The measures of subjective methods are not based on quantitative operational information. Instead, they are based

on personnel's subjective assessments. Wang and Gianakis (1999) have defined subjective productivity measure as an indicator used to assess individuals' aggregated perceptions, attitudes or assessments toward an organizations product or service. Subjective productivity data is usually collected using survey questionnaires.

Secondary data refer to the data that is gathered through existing sources by someone than the researcher conducting the current study such as company record, publication, industry analysis offered by the media, web publications and so on (Sekaran, 2006). The advantage of using this type of data is the fact that the data is accurate and ready to be used. Besides that, it is less time consuming and cheap to obtain the secondary data as it is already prepared by other experts. For this study, the researcher gathered the secondary data obtained from the financial statements of insurance companies, financial publication of National bank of Ethiopia and data on number of premium by Insurance type from EIC internal report.

3.2. Research Design

Both descriptive and analytical research approach was adopted in this research. One approach to this study requires a wide collection of opinions on the subject matter and ways of achieving this is through administration of questionnaires. Each item on the standardized questionnaire shall be scored using a five-point Likert scale. The scale was ranked ranging from '1' (strongly disagreed) to '5' (strongly agreed). The first section consists of 6 questions regarding the demographic aspect of the respondents. The second part is testing questions for the respondents through the questionnaire either to proceed further or not. The third part of the questionnaire consists of 40 statements grouped under 7 sections. The analytical research approach explores secondary data using frequency distribution and line graphs.

3.3. Research Methods

3.3.1 Data Sources and Data Collection Method

Since the overall objective of the study is to identify and describe the productivity of insurance companies, the case of Ethiopian Insurance corporation, descriptive study particularly survey method of research is essentially used as a main method of research to accomplish this objective, primary data was secured through the use of questionnaires.

The questioner was designed in such a way that participants will have freedom to express their views in response to the question asked without any influence or clues from the researcher. The questionnaires were adopted from previous thesis made by Feyera, 2012 with slight adjustment

to best fit with the existing situation of the study. The type of questions that were raised in the questionnaire was consists closed- ended questions that were measured by a five-point Likert scale (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4= Agree and 5=Strongly Agree).

Before the distribution of questionnaires for collecting data first the validity of research instrument was checked by the advisor of the researcher and those persons who have enough knowledge in the area, then after, questionnaires were distributed to the participants of the study. After the questionnaires were carefully filled, the researcher personally collected and arranged the completed questionnaires and was arranged for data discussion and analysis. Finally, the collected data were inserted into data set and make ready for data analysis and discussion by using Stata 14V2. As a final point the result was summarized and interpreted appropriately and lastly conclusions and recommendations were also forwarded.

3.3.2 Sampling Design

3.3.2.1 Target Population

With this context the population of this study is professional employees and managers of Ethiopian Insurance Corporation who have experience of more than or equal to one year worked at head office, at Addis Ababa city Lagar area. According to EIC, there are about 1300 employees. Though, incorporating all employees' idea on the analysis would have been better for conclusion and generalization, economically and operationally it was very difficult to contact all employees in the research. Therefore, taking a representative sample of the population of the employees was found to be feasible.

3.3.2.2 Sampling Technique

The target population of the study was employees who are working at EIC. As far as sampling is concerned, the researcher used random sampling technique when distributing the questionnaires. The payroll list of the workers served as the sample frame and sample was taken using random sampling technique which cut across all levels of organizational hierarchy to include senior and junior staffs.

3.3.2.3 Sample Size

As per Glenn (1992) the sample size is very important in order to be representative of the population which ultimately enables to draw generalizable conclusions from selected sample members. The population size of employees working in EIC at head office, excluding guards, drivers and janitors was 125 permanent employees, according to head of Human resource

development team of EIC while the researcher submitted the letter of cooperation and explaining the researcher's interest for the purpose of making decision regarding number of copies of questionnaires to make ready for distribution and selecting those who can understand the concepts in the questionnaires. The sample size is determined using Solvin's formula which was formulated by Slovin in 1960 (Statistics Canada, 2010) as cited by (James, 2012) to determine the sample size at 95% confidence level, 100% -95% = 5% and therefore, level of precision/sampling error = 5%.

Where; n = number of samples,

N= total population

e= is the error term, which is 5% (i.e. at 95% confidence level)

$$n=N/1+Ne^2$$

$n= 125/1+125(0.05)^2$,=>n = 95were used as sample size for this study. There using the above formula the total sample size is calculated and found to be 95.

3.3.3 Data Analysis Method

The techniques for quantitative data analysis were the frequency distribution and line graphs. For qualitative data, the data collected by means of questionnaire was summarized and tabulated. For the purpose of simplifying and facilitating the analysis, the instrument used to analyze data productivity were measured using Likert's scale of 1 to 5, where strongly agreed scored '5' and strongly disagree scored '1'. However, Level '5' along with '4' and levels '2' along with '1' were combined as Agree and disagree, respectively. The collected data was summarized, organized, tabulated using Stata SE V14.2. Besides descriptive statistics, correlation, and multiple linear regression analysis data analysis method was employed. The correlation analysis was used to show relationship between the dependent variable productivity and independent variables (labor, capital, technology, management practice, competition and market). The multiple linear regression analysis was used to describe the variation in dependent variable as a result of variation in the independent variable in order to determine the main research objective of this study.

Before running the regression model, it is necessary to check the validity of the model properly. Hence, as necessary, tests for multicollinearity, normality and hetroskedasticity were made. A test for multicollinearity was showed using variance inflation factor (VIF). In other word, VIF

shows how multicollinearity has increased the instability of the coefficient estimates (Freund and Littell 2000: 98). Put differently, it tells you how "inflated" the variance of the coefficient is, compared to what it would be if the variable were uncorrelated with any other variable in the model (Allison 1999: 48-50)

According to Fritz Scholz (2007) tolerance statistics in regression is a pointer of how much of the variability of the stated independent is not described by the other independent variables in the model. Some argue that a tolerance value less than.1or VIF greater than 10 roughly indicates significant multicollinearity. In this vein, if VIF is greater than 1/ (1− R2) or a tolerance value is less than (1− R2), multicollinearity can be considered as statistically significant. None of the problem was depicted as indicated in table 4 below. Therefore, there is no multicollinearity problem on the data used for this study.

3.3.4 Reliability Test

To determine the reliability of questionnaire using Stata 14.2 software, the Cronbach's alpha coefficient has been calculated as shown below in table 1.

Table 1: Test for reliability

Test scale mean (unstandardized items)

Average inter item covariance:	0.09029
Number of items in the scale:	40
Scale reliability coefficient:	**0.79**

By using the most common measure of internal consistency, the researcher measured the reliability of data with Cronbach's alpha test. Reliability coefficients greater than 0.7 and closer to 1 are considered 'Acceptable' in most social science research institutes. As it can be shown in the above table 1, the Cronbach's alpha test for reliability was **0 .79** that reflects satisfactory and acceptable internal consistency reliability for all seven variables.

3.3.5 Validity of the Test

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform (Kothari, 2004). Content validity seeks to test precisely the eligibility or otherwise of the constructs in the questionnaire. In this study, the content validity was based on the already developed questionnaire, and on comments & opinions of the advisor

who has examined the items. Based on his comments additional items were included in to the original questionnaire before the survey. Therefore, the items hold content validity.

3.3.6 Test of Normality

Normality test of data is applied to determine whether a data is well-modeled by a normal distribution or not, and to compute how likely an underlying random variable is to be normally distributed. A normal distribution is not skewed and is defined to have a coefficient of kurtosis 3. According to Hair et.al, 2006, if the p value of skewness, when calculated in Stata, lies between -1 and 1 then the variables are normally distributed. Table 2 shows that skewness equals -0.27 which is nearest to zero and kurtosis equals 2.35 nearest to three and hence the variables are more or less normally distributed.

Table 2: Skewness and kurtosis

	Percentiles	Smallest		
1%	-.9612751	-.9612751		
5%	-.8515058	-.9280329		
10%	-.6022551	-.8679935	Obs	60
25%	-.3798432	-.8350182	Sum of Wgt.	60
50%	.1257465		Mean	1.73e-10
		Largest	Std. Dev.	.4566459
90%	.5395795	.6498264	Variance	.2085255
95%	.6300545	.718098	Skewness	-.2759861
99%	1.03319	1.03319	Kurtosis	2.346559

Source: Data obtained from Stata

3.3.7 Test of Multicollinearity

One obstacle that presents difficulty in performing analysis is the existence of multicollinearity. Multicollinearity refers to the situation in which the independent variables are highly correlated. When independent variables are multi collinear, there is overlap or sharing of predictive power. 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 Gujarati (2004). This is because when predictor variables are highly correlated with one another, they share essentially the same information. Thus, together, they may explain a great deal of the dependent variable.

Theoretically, if variance inflation factor (VIF) is equal to one, then there is no relationship among variables and if VIF is greater than 10, then, there will be a multicollinearity problem. Here in our case, as it can be seen from table 3, mean VIF lies between 1 and 10 and hence acceptable.

Table 3: Variance Inflation Factor

Variable	VIF	1/VIF
MKT	1.68	0.59578
COMP	1.53	0.655056
K	1.46	0.686165
MGP	1.2	0.829912
L	1.14	0.876929
ICT	1.07	0.93109
Mean VIF	1.35	

Source: Primary data as calculated by Stata.

3.3.8 Test of Heteroskedasticity

Another assumption of ordinary least square regression is that the variance of the residuals is homogeneous across levels of the predicted values, also known as homoscedasticity. If the variance of the residuals is not constant then the residual variance is said to be heteroscedastic. Heteroscedasticity is a systematic pattern in the errors where the variances of the errors are not constant (Gujarati, 2003). Heteroscedasticity makes ordinary least square estimators not efficient because the estimated variances and covariance of the coefficients are biased and inconsistent..Heteroscedasticity can also arise as a result of the presence of outliers (Gujarati, 2004). Outliers are extreme values as compared to the rest of the data and are defined by the size

of the residual in an OLS regression where all of the observations are used. Here in our case, as it can be seen in table 4, we only reject the homoscedasticity assumption of the constant variance if BPG is greater than the chi-square.

Table 4: Test for Hetroskedasticity

Breusch-pagan/Cook-Weisberg test for hetroscedasicity H0: constant variance	
Variables: fitted values of pdty	
chi2(1) =	0.74
Prob> chi2 =	0.3896

Source: Primary data as calculated by STATA

3.3.9. Measures of Dependent and Independent Variables

A concept which can take on different quantitative values is called a variable. If one variable depends upon or is a consequence of the other variable, it is termed as dependent variable and the variable that is antecedent to the dependent variable is termed as independent variable.Kothari, 1995. The independent variable also called the explained variable, the response variable, the predicted variable or the regressand. The dependent variable is also called the explanatory variable, control variable, the predictor variable or the regressor. J.M Wooldridge, 2009.

3.3.9.1 Dependent Variable

The researcher used 40 questionnaires in order to investigate productivity in the Corporation as a starting point and variables were tested for their reliability through (Cronbach's Alpha) for all items with STATA V14.2

Productivity- This variable was measured by four items (numbers 37, 38, 39, 40).

3.3.9.2. Independent variables

It should be noted that the data for the six independent variables were collected from employees. Therefore, the independent variables represent the perceptions of the staffs regarding these concepts.

Labor: This variable was measured by seven items (numbers 1, 2, 3 4, 5, 6, 7).

Capital: This variable was measured by four items (numbers 8, 9, 10, 11).

Information Communication Technology: This variable was measured by nine items (numbers, 12, 13,14,15,16, 17, 18, 19, 20).

Management practice: This variable was measured by eight items (numbers 21, 22, 23, 24, 25, 26, 27, and 28).

Competition: This variable was measured by four items (numbers 29, 30, 31 and 32).

Market: This variable was measured by four items (numbers 33, 34, 35 and 36).

Data was then analyzed on quantitative basis using Pearson's correlation, linear regression analysis and descriptive statistics. The researcher also undertook the diagnostic tests for the assumption of classical linear regression model (CLRM).

To summarize, this chapter deals the approach adopted to examine the factors affecting productivity, the type of data used and the techniques employed to collect the data, the sampling Mechanism including sample size, the methods utilized to manage and analyze the data, and the process of constructing empirical model with identification and measurement of its components, measurement and selection of variables, expected relations between the dependent and independent variables.

Chapter Four
Data Presentation, Analysis & Interpretation

This chapter deals with analysis and interpretation of the study based on the secondary data, that is, financial statements of the insurance industry, 2005 to 2017 from NBE and premium quantity & amount and insurance type gathered from the Ethiopian Insurance Corporation and the primary data gathered through questionnaire from employees of EIC. The findings have been stated as per the graphical analysis for quantitative data and descriptive statistics as per the result obtained from respondents for qualitative data. The major purpose of the research was to identify factors of productivity and to show which factors affects the Corporation.

4.1. Response Rate of the Participants

As it is shown in table five, 95 questionnaires were prepared and 82 were distributed to staffs members. The researcher attempted to get the rest 13 employees as they were not on their office. Two of them were at sick leave, one at mourning leave and the researcher got personal cell phone number of 5 employees from the remaining ten. Three of them told the researcher that they are busy for the time being because of some issues that is given as a priority. Two of them sent their e-mail address and there were no response for consecutive two weeks. Other respondents that are 60 employees (73.2 %) were kindly enough to fill and complete the questionnaire properly and return. The rest 22 (26.8%) were failed to return due to different reasons.

Table 5: Questionnaires administered

Organization	No of copies prepared	No of copies distributed	No. of response	No response	Response %age
EIC	**95**	**82**	**60**	**22**	**73.2**

Source: Primary data

4.2 Findings on Demographic Characteristics

In this section, a presentation of the demographic characteristics of the respondents is made. Such characteristics include; age, sex, level of education, types of education and duration of service.

Table 6: Demographic table

Particulars		Frequency	Percent
	Female	16	26.7
	Male	44	73.3
Gender	Total	**60**	
	18-24	6	10
	25-34	18	30
	35-44	15	25
	45-54	13	21.7
	55 and above	8	13.3
Age	Total	**60**	
	0-5	4	6.7
	6-10	20	33.3
	11-15	18	30
	16 and above	18	30
Year of Service	Total	**60**	
	Bachelors	39	65
	Masters	21	35
Educational Level	Total	**60**	
	Accounting	10	16.7
	Management	31	51.7
	Economics	9	15
	IT	4	6.7
	Law	6	10
Field of study	Total	**60**	

Source: Primary data

Table 6 above shows that 73.3% of the respondents were males while females constituted 26.7%. This indicates that more males participated in the research than the female respondents. This implies that females are also included as a respondent and no biasness regarding gender issue. In terms of age, about 10 % of the respondents were between 18 and 24 where as 30 % were between 25 and 34 years. The next largest number of respondents was between the ages of 35-44 representing 25% and they were 15 in number. The 4th group of respondents was fall under the age category of 45-54 years, which represent 21.7% or 13 employees from the total respondents. The remaining group 8 (13.3%) and were under the age categories of 55 and above.

From the table, it can be noted that more than 75 % of the respondents' age were between 25 and 54. In terms of experience, 93.3% of the workers have worked in their organization for more than five years .So, it can be concluded that most of the respondents have known well their organization. Table 8 also shows that 100 percent of the respondents were bachelor degree and above.. This indicates that respondents could easily understand the questionnaire. Regarding their field of study, 83.3 % of the respondents were from business and economics fields. So it can be assumed that the reliability of their response have a fundamental back ground about the subject matter in the questionnaire.

4.3 Findings on Objective of the Research

Table 7: Factor labor productivity

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
1	The corporation has enough number of employees	60	3.766667	1.110301	9	15	6	10.0	45	75
2	Workers get training when needed	60	3.916667	.8692811	5	8.3	7	11.7	48	80
3	Employees of the company are self-motivated.	60	3.083333	1.266139	27	45	3	5.0	30	50
4	In all sectors of the organization, workers have the necessary capacity to do their work.	60	3.616667	1.263459	18	30	0	0.0	42	70
5	There are enough experienced workers in the organization	60	4.066667	1.006195	6	10	1	1.70	53	88
6	I've job satisfaction in my organization	60	3.366667	1.040969	18	30	6	10.0	36	60
7	I felt that turnover of employees is very high.	60	2.983333	1.157022	24	40	8	13.3	28	46.7
	Labor	60	3.542857	.4446538						

Source: Primary data

Table 7 shows that 75 % of the respondents agreed as the Corporation has enough labor resource to facilitate its productivity whereas on the other hand 15 % of them disagreed. This means on some of the workers it may cause pressure and creates unbearable workload and therefore as a result productivity decreases. And 10 % of the respondents didn't want to take a stand on this matter.80 % of the respondents realized that they get training as needed. Though 50 % of the respondents agreed that they are self- motivated, it would not be wise to ignore those who are not motivated for the fact that they accounted for 45 %. As table 9 shows 70 % of the respondents

agreed that employees have the necessary capacity to do their work. In terms of job satisfaction, it can be seen that 60 % of the respondents agreed that they have job satisfaction regardless of all other points that they may be reserved. Regarding labor turnover 46.7 % of the employees agreed and the mean is also shown below 3. On other word, the majorities disagreed or abstain to this fact. Nevertheless 46.7% accounts large number and it cannot be ignored. There may be several reasons why employees leave their organization. One may guess that most of the time in underdeveloped countries, it is associated with pay.

Armstrong (2011) argues that the prospect of getting higher pay elsewhere is one of the most obvious contributions to turnover. This practice can be regularly observed at all levels of the economic ladder, from executives and generously paid professionals in high-stress positions to entry-level workers in relatively undemanding jobs.

Employees' turnover tends to be higher in environments where employees feel they are taken advantage of, where they feel undervalued or ignored, and where they feel helpless or unimportant. Clearly, if managers are impersonal, arbitrary and demanding, there is a greater risk of turnover (Hom and Griffeth, 2001).

Allen (2000) pointed out that employees turnover can be expensive, although the actual costs are difficult to estimate. To get indication, organizations can start adding up the most obvious expenses: those of advertising, recruitment and supervisory time.

In any ways this signals that employees are likely to seek employment elsewhere. This clearly shows that high caliber workers should be managed properly to save the organization from incurring un-budgeted hiring costs, which might arise from employees quitting the organization and there by productivity may be affected. In general even if the average mean for labor is shown as 3.54 which approaches to 4(agreed), and the small standard deviation shows that most people are clustered around the mean, it has an indication for the company as further work needed in this matter.

Table 8: Capital factor of Productivity

Item No	Variable	Obs	Mean	Std. Dev.	SD & D(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
8	There is sufficient budget allocation for capital items.	60	4.1	0.3025317	0	0	0	0	60	100
9	There is an efficient utilization of capital.	60	3.883333	0.975838	7	11.7	2	3.3	51	85
10	The Corporation has enough capital strength.	60	3.95	0.6027684	10	16.7	3	5	47	78.3
11	Experienced workers Contribute more to productivity than inexperienced one	60	3.55	1.227164	12	20	13	21.7	35	58.3
	capital	60	3.870833	1.213274						

Source: Primary data

The study also investigated the factor capital which is reported in table 8. As Syverson 2011 stated, not just only physical capital can have unobservable quality differences.

"Certain types of capital may be themselves invisible-that is, intangible capital. Such capital can include any of a number of concepts, like a firm's reputation, know-how, or its loyal customer base, just to name a few. Despite the difficulty in quantifying these types of capital, they can have very real output effects that, as such, will result in measured productivity differences" (Syverson 2011).

Accordingly, all respondents agreed that the corporation has sufficient budget allocated for capital items and 85 % of the respondents also agreed that it sufficiently utilized its capital. Moreover 78.3 % of the respondents agreed that the Corporation has sufficient capital strength, 16.7% disagreed which means the Company has shortage of capital. This implies that most workers agreed that the firm has enough capital but there is a problem of effectively utilizing it.

A study by Rebecca Achee Thornton and Peter Thompson (2001) investigate what types of experience matter in productivity growth from learning by doing. They have used multi design/multi yard nature of the data that lets them estimate the relative productivity contributions of four different measures of past production experience: (1) the yard's past production experience with a particular design, (2) the same yard's past production of other designs, (3) other yards' experience with the particular design, and (4) other yards' production of other

designs. Not surprisingly, they found out that, a yard's past production of a particular model matters most for productivity growth in that same model.

Hence, regarding experienced workers, the result obtained also revealed this for the fact that 58.3 % of the employees agreed. The mean for overall capital is also 3.87.

Table 9: ICT as a factor of productivity

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
12	The corporation uses latest office machines for all operations	60	2.883333	1.165779	22	36.7	18	30	20	33.3
13	The corporation avails internet access for all offices	60	2.6	0.9242496	35	58.3	15	25	10	16.7
14	Computers and laptops are properly used in the company	60	3.2	1.13197	15	25	15	25	30	50
15	The corporation uses latest software related to the work for all operations.	60	2.516667	1.157022	36	60	12	20	12	20
16	Inadequate resources are the cause of reducing productivity in my organization.	60	3.833333	0.8861776	6	10	4	6.7	50	83.3
17	There are enough information technology workers and other technical workers	60	2.65	1.070799	31	51.7	18	30	11	18.3
18	Management adopts latest technology in the company's processes.	60	2.583333	1.062323	29	48.3	19	31.7	12	20
19	The corporation recognizes the use of ICT.	60	2.8	1.350455	25	41.7	10	16.7	25	41.7
20	The Corporation involves itself in R & D activities	60	2.15	1.005493	45	75	5	8.3	10	16.7
	ICT	60	2.801852	0.4579363						

Source: Primary data

Many of the companies in the United States became to improve productivity through the higher use of information and communication technology in order to improve productivity growth (Marelli and Pastore, 2010). This was possible because the legislation allowed companies to

pursue heavily profit-maximizing solutions, even at the expense of laying off labor force (Marelli and Pastore, 2010).

Table 9 shows only 33.3 % of the respondents agreed that the corporation uses latest office machines for all operations. Regarding internet access being avails in all operation is questionable for the fact that it is only 16.7 % agreed (58.3% disagreed) in this area. And 50 % of the respondents agreed that available computers and laptops are properly used within the Corporation. Only 20 % of the respondents agreed as the Corporation use latest software related to the work for all operations. 83.3 % of the respondents agreed that inadequate resources are the cause for reducing productivity in their organization, although 10 % of them disagreed to this fact. Only 18.3 % of the respondents realized that there are enough information technology workers and other technical workers whereas the majority (51.7 %) was disagreed. Furthermore, it is only 20 % of the respondents agreed that Management adopts latest technology in the Company's processes. 41.7 % of the respondents agreed that the Corporation recognizes the use of ICT.

Jordi Jaumandreu (2009) found that firm-level uncertainty in the outcome of R&D is considerably much more with respect to the return on physical capital investment. In fact, their estimates propose that engaging in R&D more or less twofold the degree of doubt in the evolution of a producer's productivity level. Accordingly table 11 revealed that only 16.7 % of the respondents agreed that the corporation involves itself in R & D activities whereas the majority (83.3 %) either disagreed or abstain. This implies that the firm should not only see costs but also the benefits that can be derived from using technology.

Table 10: Management practice as a factor of productivity

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
21	Management developed productivity measures for all operations.	60	3.03333	1.007879	15	25	24	40	21	35
22	Management developed a method for achieving productivity improvement.	60	4.06667	0.6342396	3	5	1	1.7	56	93.3
23	Management established goals for productivity improvement.	60	3.43333	1.15519	16	26.7	0	0	44	73.3
24	Management considers incentive plans to reward workers for their contribution	60	4.35	0.4809947	0	0	0	0	60	100
25	Management measures productivity improvements and publicize them.	60	1.55	0.594466	57	95	3	5	0	0
26	Management supports in having conducive working environment	60	2.73333	1.376149	27	45	7	11.7	26	43.3
27	Management of the Corporation has a democratic style of leadership.	60	3.01667	1.157022	24	40	5	8.3	31	51.7
28	Product innovation enhances productivity in my company to meet the demands of its potential customers.	60	3.2	1.204511	17	28.3	8	13.3	35	58.4
	Management Practice	60	3.17292	0.4324568						

Source: Primary data

Table 10 shows that whether management developed productivity measure for all operation, majority of the worker (40%) didn't want to take a stand. On the other hand 35 % of the respondents agreed and 25 % of them disagreed. 93.3 % of the respondents agreed that management developed a method for achieving productivity improvement.73.3 % agreed that management established goal for productivity improvement. Without exception, all employees under sample agreed that Management considers incentive plans to reward workers for their contribution. On the variable whether management measures productivity improvements and publicize them, the result indicated that almost all (95%) disagreed. 43.3 % of the respondents agreed that management supports to have good working environment. Considerable percentage (45%) also disagreed to this fact might indicate the management to further investigate the case. More than half (51.7%) of the respondents also confirmed that management has democratic style of leadership.

In line with product innovation, the firm's productivity can be enhanced with patents that the innovation firms can gain as a result of new invention that can help the firm as intangible capital like that of experience, technological and know-how..

The work of Natarajan Balasubramanian and Jagadeesh Sivadasan (2011) supports this view in which they have found out clear evidence that new patent grants are associated with increases in firm size by any one of a number of measures such as scoping the number of products it makes, and TFP. Even if these correlations are reflecting the causal effect of patents is not as much clear, patenting activity could be just one part of a firm's coordinated push into new markets that can enhance marketability of the firm's product that in turn enhance the productivity of the firm.

Accordingly, from the table above, it can be seen that 58.4 % of the employees agreed that product innovation enhance the productivity of a company. This implies that the management should concentrate on product innovation, create a conducive environment and transparent in all aspects to its employees.

Table 11: Competition as a factor of productivity

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
29	Existence of competitors lowers productivity of my Company.	60	3.283333	1.136329	14	23.3	9	15	37	61.7
30	The Corporation uses efficient cost controlling method	60	4.15	.6593525	1	1.7	6	10	53	88.3
31	My Company gives quality services	60	3.05	1.14129	13	21.7	31	51.7	16	26.7
32	The corporation appropriately introduces its new design of its product.	60	3.433333	1.15519	17	28.3	3	5	40	66.7
	Competition	60	3.479167	.5624019						

Source: Primary data

Table 11: 61.7 % of the respondents agreed as the existence of competitors lowered the productivity of the Company. On the other hand 23.3 % of them disagreed. More than 80 % (88.3) of the respondent agreed that the company is efficient in controlling costs. Only 26.7 %

agreed that their company rendered good services whereas the majority (51.7 %) of the respondents didn't want to take stand. The reason for most of the respondents not to take a stand in this regard might be associated to different reasons. The possible reason could be there might be poor services or the service they render as compare to other insurance companies is under question. In addition, 66.6 % of the respondents agreed that the Corporation appropriately introduces its new design of its products.

Table 12: Flexible Input Market as a factor of productivity

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
33	The corporation has sufficient market demand for its Products.	60	4.2	0.4033756	0	0	0	0	60	100
34	The corporation has larger market share coverage amongst its competitors.	60	4.033333	0.5812513	1	1.7	6	10	53	88.3
35	The corporation appropriately promotes its products	60	3.833333	0.7402855	5	8.3	7	11.7	48	80
36	The rule and regulation of the government has an imposition on limiting the productivity of the company	60	2.633333	1.234623	38	63.3	4	6.7	18	30
	Competition	60	3.675	0.4251121						

Source: Primary data

Table 12: All respondents fully agreed that the Corporation has sufficient market demand and 88.3 % of the respondents agreed that the corporation has larger market share coverage amongst its competitors. 80 % of the respondents also realized that the Company appropriately promotes its products. 63.3 % of the respondents disagreed to the variable stated under item 36.

Table 13: Productivity as a dependent factor

Item No	Variable	Obs	Mean	Std. Dev.	DA(1 &2)		UD		A&SA(4 and 5)	
					No.	%	No.	%	No.	%
37	Management uses best combination of input resources.	60	3.616667	0.8252717	8	13.3	9	15	43	71.7
38	Management gives full attention to productivity	60	3.366667	1.104178	15	25	16	26.7	29	48.3
39	Management devised a modern system that enhances productivity.	60	3.15	0.8197767	10	16.7	34	56.7	16	26.7
40	Competition is a threat for our organization	60	2.983333	1.049482	21	35	19	31.7	20	33.3
	Productivity	60	3.279167	0.5601371						

Source: Primary data

Table 13: Four items were presented to the study respondents about the overall productivity. The respondents were required to indicate the extent to which they agreed with the statements. 71.7% agreed that management uses best combination of input resources and 48.3 % agreed that management gives full attention to productivity. Moreover it is only 26.7 % that supported as management devised a modern system to enhance productivity. And it is almost proportional among respondents whether competition is a threat for their organization or not.

4.4. Data presentation, analysis and finding of secondary data

As Paul Attewell,2009 put it

" The term productivity can take on several meanings. It can refer to the ratio of output (e.g., goods produced or total sales) to inputs (labor, capital, raw materials) for a firm or for an entire economic sector. This ratio is sometimes called throughput productivity, and it is measured in physical or monetary terms."

The financial data obtained from National Bank of Ethiopia (attached in Annex III) for 17 insurance companies from the year 2005 to 2017 served to calculate the productivity of the Insurance industry as a whole. As it can be seen in table 14, the productivity ranges from 1.8 to 2.74. High amount of productivity is achieved in 2014 and the minimum record is in 2005.

Table 14: Productivity of Ethiopian Insurance Industry

Productivity of Ethiopian insurance industry '000000'

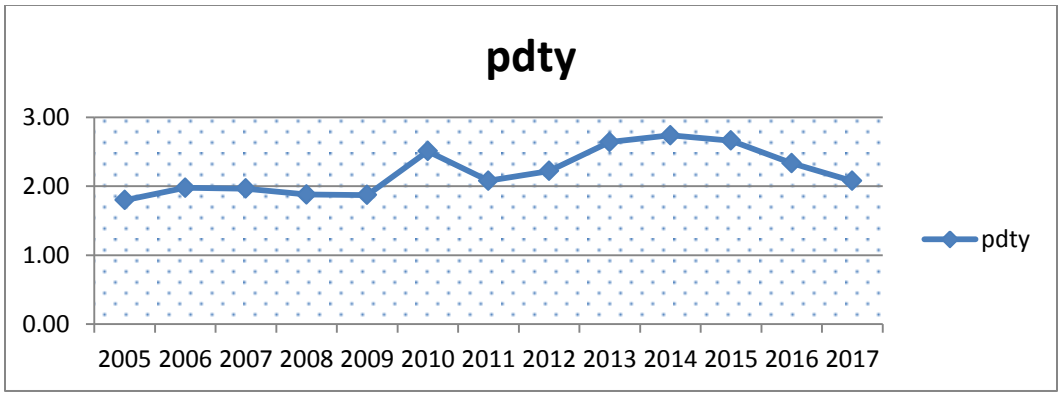
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Output	205.30	215.30	247.80	292.80	338.00	510.00	601.40	972.30	1262.70	1504.00	1796.50	1777.70	2839.80
Input	114.10	108.90	126.10	155.70	180.40	203.40	289.30	437.90	478.20	549.40	675.10	761.30	1367.80
Pdty	1.80	1.98	1.97	1.88	1.87	2.51	2.08	2.22	2.64	2.74	2.66	2.34	2.08

Source: Secondary data and own calculation

Note: figures in a table for outputs and inputs are in birr and in millions.

Moreover, it is possible to see the trend of productivity as shown in figure 2 below. Here, it is noted that productivity is calculated on monetary terms. Because of the nature of raw materials the industry uses cannot be easily quantified in any unit of measurement as a common denominator for all types, the costs the industry incurred as a process of converting the inputs into output are considered as a dominator in calculating productivity. Hence revenues from income statements are taken as outputs and the cost incurred as a result of obtaining these outputs are taken as inputs. The ratio of outputs to the inputs is then calculated to get productivity.

Figure 2: Trend of Insurance productivity in Ethiopia



Source: Secondary data as drawn by the researcher

With the same analogy, table 15 specifically shows that the productivity of Ethiopian Insurance Corporation ranges from 2.29 to 3.32. High amount of productivity is achieved in 2015 and the minimum record is in 2012.

Table 15: Productivity of EIC

Productivity of Ethiopian Insurance Corporation 000000'

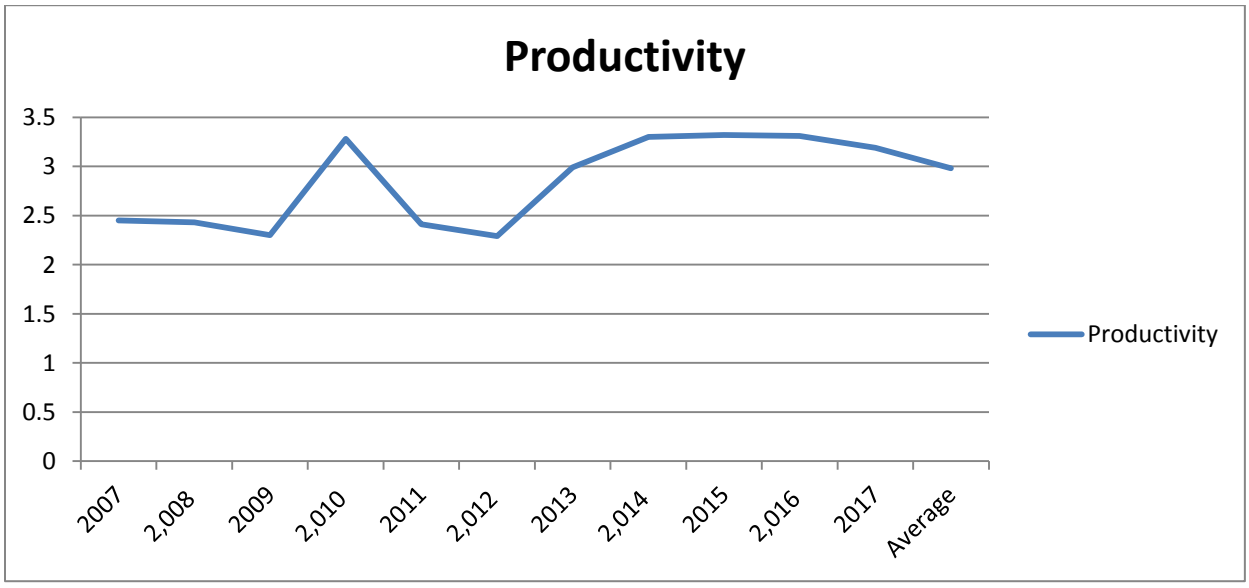
EIC	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Average
Outputs	1,015	744	669	632	517	433	246	211	147	133	116	4,863
inputs	318	225	202	192	173	189	102	64	64	55	48	1,631
Productivity	**3.19**	**3.31**	**3.32**	**3.30**	**2.99**	**2.29**	**2.41**	**3.28**	**2.30**	**2.43**	**2.45**	**2.98**
Year	**2007**	**2,008**	**2009**	**2,010**	**2011**	**2,012**	**2013**	**2,014**	**2015**	**2,016**	**2017**	**Average**
Productivity	**2.45**	**2.43**	**2.3**	**3.28**	**2.41**	**2.29**	**2.99**	**3.3**	**3.32**	**3.31**	**3.19**	**2.98**

Source: Calculated by the researcher based on secondary data

Trend of productivity of EIC is shown graphically in figure 3 below and one can observe that the industry pattern is governed by EIC as it is a giant Company as compared to those private owned insurance companies.

Figure 3: Trend of productivity of EIC

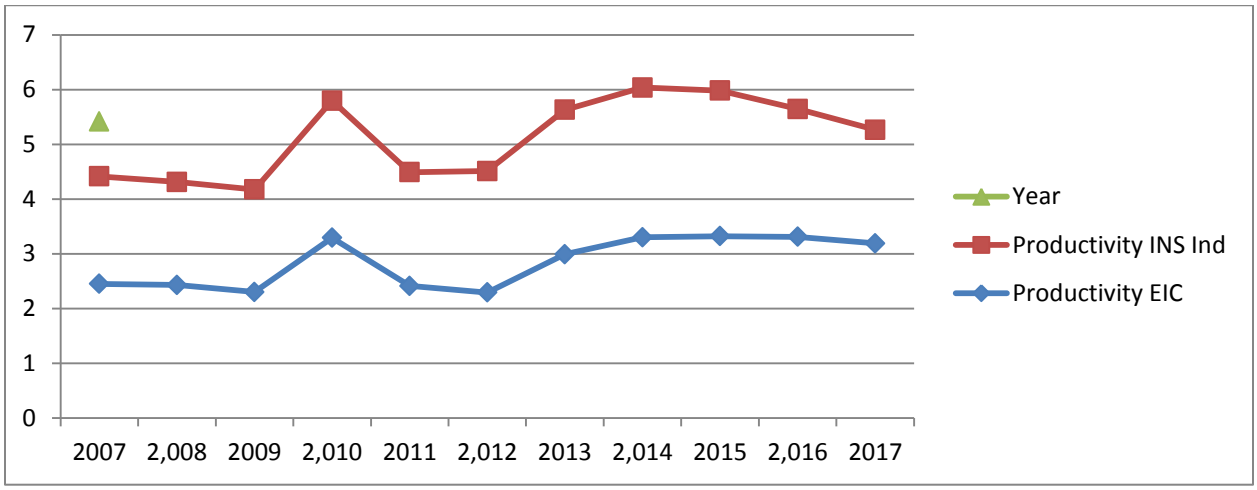
Productivity of EIC



Source: drawn by the researcher based on secondary data

The comparison of the industry and EIC's productivity for 11 years is shown graphically in figure 4.

Figure 4: Comparative graph of the Firm and the Industry'



Source: Drawn by the researcher based on secondary data

2005 and 2006 are excluded only to avoid complication while printing.

4.4.1 Correlation Analysis

Prior to regression result, it is important to check the correlation between different variables on which the analysis is built. Correlation is a way to index the degree to which two or more variables are associated with or related to each other. Correlation among the dependent variables leads to multicollinearity which produces unreliable estimates through large variance in the beta estimates (Wooldridge 2009). Brooks (2003) argues that one of the four possible ways of dealing with multicollinearity is to ignore it whiles Woodridge (2009) posits that most analysis should not consider it.

Table 16: Pearson's Correlation Coefficient of Variables

	Pdty	L	K	ICT	MGP	COMP	MKT
Pdty	1						
L	0.4846	1					
K	0.3251	0.2638	1				
ICT	0.1918	0.1052	0.1155	1			
MGP	0.274	0.2166	0.3391	0.1046	1		
COMP	0.392	0.2953	0.4232	0.1336	0.3047	1	
MKT	0.3207	0.2254	0.4907	0.2561	0.3253	0.5295	1

Source: Primary data and Stata

Table: 16 presents the result of the correlation analysis of Productivity in relation to labor, capital, technology, management practice, competition and market. The Pearson correlation coefficient, r, can take a range of values from +1 to -1. 0 indicates no linear relationship between variables. 1 implies a perfect positive linear relationship, -1 implies a perfect negative linear relationship, The extreme cases of positive or negative 1 rarely occur. Values of r closer to 1 or -1 indicate stronger linear relationships.

4.4.2 Model Specification

The equation used to investigate the relationship between factors of productivity and productivity is as follows.

$Y= \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3\ X3 + \beta 4\ X4+ \beta 5\ X5+ \beta 6\ X6+ Є$

$Pdty = \beta 0 + \beta 1\ (L) + \beta 2\ (K) + \beta 3\ (ICT) + \beta 4\ (Mgp) + \beta 5\ (Comp) + \beta 6\ (MKT) + Є$

Where:

Pdty = Productivity

L = labor

K = Capital

ICT= information Communication Technology

Mgp = management practice

Comp= Competition

MKT= Market

Where Y stands for the mean values of productivity whereas β0, X1, X2, X3, X4, X5, X6 and Є denote the intercept of the equation, mean values of labor, mean values of capital, mean value of ICT, mean values of management practice, mean values of competition, ,mean values of market and error term of the equation respectively. In addition, β1, β2 β3 β4 and β5 are the parameters of the equation.

Descriptive analyses were used to describe patterns of behavior or relevant aspects of phenomena and detailed information about each variable. Thus, it shows the average, and standard deviation of the different variables of interest in the study. Moreover, it also presents the minimum and maximum values of the variables which help in getting a picture about the maximum and minimum values a variable can achieve and processed using STATA SE V14.2. The study used multiple regression analysis and descriptive statistics to estimate the causal relationships between productivity and independent variables

4.4.3. Regression analysis

Table 17: Regression Table

Source	SS	df	MS	Number of obs =	60	
					F(6, 53) =	4.71
Model	8.36296843	6	1.39382807	Prob > F =	0.0007	
Residual	15.6984899	53	.296197923	R-squared =	0.3476	
					Adj R-squared =	0.2737
Total	24.0614583	59	.407821328	Root MSE =	0.54424	

Pdty	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
L	.4779245	0.1487242	3.21	**0.002**	.1796216	0.7762274
K	.144764	0.0700715	2.07	**0.044**	.0042183	0.2853097
ICT	-.0714305	0.0625616	-1.14	0.259	-.1969131	0.0540521
MGP	.3033875	0.102027	2.97	**0.004**	.0987473	0.5080278
COMP	.1567248	0.0888691	1.76	0.084	-.0215241	0.3349736
MKT	-.0332997	0.0953563	-0.35	0.728	-.2245603	0.1579609
_cons	-.0362609	0.8710584	-0.04	0.967	-1.783383	1.710861

Source: Primary source generated by STATA

Regression Coefficient Analysis of the model which signifies the magnitude, direction and significance shows that

- Labor has β1 = 0.478, T=3.21 and P=0.002, indicating having a positive and significant effect on productivity with 5% significance.
- Capital β2 = 0.145, T= 2.07 and P = 0.044, indicating to have a positive and significant effect on productivity with 5% significance.
- Information Communication technology β3=-0.0714, T=-1.14 and P=0.259, implying it has insignificant effect on productivity at 5% significance.
- Management practice with β4=0.3034, T=2.97 and P=0.004, indicates that it has a positive significant effect on productivity with 5% significance.

- Competition β5=0.1567, T=-1.76 and P=0.084, implying it has insignificant effect on productivity at 5% significance.
- Market β6=-0.0333, T=-0.35 and P=0.728, implying it has insignificant effect on productivity at 5% significance.

The p value for Labor, Capital and Management Practice shows below 0.05 and hence the study finding revealed that labor, capital and management practice are positively and significantly affecting productivity in EIC whereas ICT, competition and market positively but insignificantly related. Hence the organization needs to understand and develop mechanism in this regard to increase productivity in the company.

The regression summary model indicates adjusted R square value of 0.2737 signifying that independent variables of the study explain about 27.4 % of the variation in the level of dependent variable and the rest 72.6 % variation is explained by other variables not included in the model or is unexplained by the independent variables. Regarding labor, capital and management practice, the study is similar to Feyera, 2012, and inconsistent with other variables. The study was also consistent with the work of Demet Leblebici, 2012 regarding working environment.

Chapter Five
Summary of Findings, Conclusion, and Recommendations

5.1 Summary of Findings

. The findings showed that labor productivity is affected by the variable turnover of employees. This signals that employees are likely to seek employment elsewhere and clearly shows that high caliber workers should be managed properly to save the organization from incurring un-budgeted hiring costs, which might arise from employees quitting the organization and there by productivity may be affected.

Regarding ICT, one of the variables considered was availability of internet for all operations. This might be associated with deliberately not allowing the access due to the fact that employees might waste their time for something not useful for the organization.

Now days there are many possibilities to use a state of the art technology if one can afford to install and use software. But the study finding revealed that there are cases where this situation couldn't happen for some reason or for the other. Moreover ICT professionals are keys to such problems as they have the capacity to solve problems related to IT.

The other factor that created reservation and need to be investigated is the working environment where employees operate. Deena (2009) argues that some people are highly sensitive to the environment and also climate and recommends that the environment should be conducive for work; otherwise even good performers can also become poor performers. The study findings also confirmed that failures of an organization to manage factors that limit productivity might erode job productivity of the employees and thereby have an impact on the organizations bottom line.

Most of the respondents are reserved from revealing their agreements regarding quality of services. Overall concerning productivity most employees also have reserved from reveling their agreement. Besides, the competition the Corporation faces from similar companies in the insurance industry divides the employees in their outlook as to whether competition is a threat or an opportunity for the Corporation.

5.2 Conclusion

The study aims to answer what factors are affecting productivity in Ethiopian Insurance Corporation Based on the research results; the researcher concluded the following points.

Though the included independent variables in the study explained 27.4 % of the variations on dependent variable , all the independent variables have impact on the productivity of the firm.

The factors considered were labor, capital, and information communication technology, management practice/talents of the management, competition and market. Some respondents added additional factors such as organizational set up, organized systems and firm's structure as a factor of productivity that should be included in the list. The study finding revealed that labor, capital and management practice are positively and significantly affecting productivity in EIC whereas ICT, competition and market positively but insignificantly related.

Out of the studied independent variables, Labor is found to be the most determinant factor of productivity than the other five independent variables studied. It has positive significant effect on productivity as it has greater β value (0.478) than other five and p value of 0.002.

Hence the organization needs to understand and develop mechanism in this regard to increase productivity in the company.

5.3 Recommendations

On the basis of the findings and conclusions reached, in order for the Corporation to improve its productivity and reduce factors that limits productivity, the researcher recommends the following.

- The Corporation is required to improve Company's productivity to cope up with the prevailing competitive situation.
- The Corporation should focus not only on productivity but also on creating a Conducive working environment as a whole.
- Amount of work given to employees should be commensurate with their capability. Not having the required number or sufficient number of labor necessarily mean that the work is imposed on few members of the organization and this ultimately demotivate workers and as a result decrease productivity. Hence the corporation has to revise its structure and possibly distributes the work among employees because labor is attributed with different

characteristics such as labor quality, training, motivation, satisfaction, education and also experience the workers have with the work they were working..

- So, in order to increase the labor quality the government and higher education institutions should cooperate in opening, developing and including the courses regarding Insurance development so as to produce professionals of the required quality and thereby increase the motivation and satisfaction through inducements and other motivation mechanisms. Besides, high caliber workers need to be managed properly
- Enough resources should be provided for employees to accomplish their duty.
- The corporation should avail also professional It workers as required based on its organizational structure
- Productivity measures should be clearly disclosed to all workers.
- The Corporation should regularly conduct audit of its practices, policies, procedures and systems to ensure that productivity is always under progress.
- Thus responsible bodies of the EIC in particular and insurance business in general have to think and rethink on such issue to deal with government responsible body.

Lastly in this study the researcher suggests that such area needs to be researched and investigated more through other studies so that the sector's business productivity could have grown more than its present status and other researchers can also exploit such opportunities.

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Annexes

Annex I

Questionnaire

On

Assessments of Insurance Firms' productivity, the case of EIC.

Faculty of Business and Economics

Department of Accounting and Finance

Master of Accounting and Finance (MSC)

Dear Respondent, I am a post graduate student in Addis Ababa University, Faculty of Business and Economics. I am doing this research in partial fulfillment of the MSC Program. I am presently conducting a thesis entitled "ASSESSMENTS OF INSURANCE FIRMS' PRODUCTIVITY" the case of Ethiopian Insurance Corporation

I politely request you to complete the attached questionnaire. The information being solicited from you is purely for academic purpose. All information provided by you will be treated confidentially; hence, you need not reveal /write your name. Your genuine response for the questions is extremely important for the successful completion of this work.

I would like to thank you in advance for your cooperation and for your invaluable time.

Researcher's telephone No 091044555

N.B

EIC: Ethiopian Insurance Corporation

General Instructions

• There is no need of writing your name.

• In all cases where answer options are available please put "X" in the appropriate box.

- For questions that demands your opinion, please try to honestly describe as per the questions on the space provided.
- Your answer is required based on the last five years.

I. Demographic Information

1. Your age (Years)

A) Under 25 ☐ B) 25 – 34 ☐ C) 35 – 44 ☐ D) 45-54 ☐ 55 and above ☐

2. Gender; A) Male ☐ B) Female ☐

3. Number of years working in your current organization (in years):

0-5 ☐ 6-10 ☐ 11-15 ☐ 16 years or more ☐

4. Educational Qualification:

High school graduate ☐

Technical school graduate ☐

College Diploma ☐

BA/BSC Degree ☐

Master's Degree ☐

PhD ☐

Other (please state) _____

5. Please specify your field of study if you are a BA or BSC degree and above.

Field of study:_____

II General Questions

1. Have you come across with factors that affect productivity while you work in your organization?

Yes ☐ No ☐

If your answer is "No", please leave it to fill the questions below and return it to the data collector.

III Instruction

Please, put a tick mark (√) under each question which you think the most appropriate for you.

1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

Item No	**Factors**	1	2	3	4	5
I	**Labor**					
1	The corporation has enough number of employees.					
2	Workers get training when needed					
3	Employees of the company are self-motivated.					
4	In all sectors of the organization, workers have the necessary capacity to do their work.					
5	There are enough experienced workers in the organization					
6	I've job satisfaction in my organization					
7	I felt that turnover of employees is very high.					
II	**Capital**					
8	There is sufficient budget allocation for capital items.					
9	There is an efficient utilization of capital.					
10	The Corporation has enough capital strength.					
11	Experienced workers Contribute more to productivity than inexperienced one					
III	**ICT , R & D and Product Innovation**					
12	The corporation uses latest office machines for all operations.					
13	The corporation avails internet access for all offices					
14	Computers and laptops are properly used in the company.					
15	The corporation uses latest software related to the work for all operations.					
16	Inadequate resources are the cause of reducing productivity in my organization.					
17	There are enough information technology workers and other technical workers					
18	Management adopts latest technology in the company's processes.					
19	The corporation recognizes the use of ICT.					
20	The Corporation involves itself in R & D activities					

Item		1	2	3	4	5
IV	**Management Practice**					
21	Management developed productivity measures for all operations.					

22	Management developed a method for achieving productivity improvement.					
23	Management established goals for productivity improvement.					
24	Management considers incentive plans to reward workers for their contribution					
25	Management measures productivity improvements and publicize them.					
26	Management supports in having conducive working environment					
27	Management of the Corporation has a democratic style of leadership.					
28	Product innovation enhances productivity in my company to meet the demands of its potential customers.					
V	**Competition**					
29	Existence of competitors lowers productivity of my Company.					
30	The Corporation uses efficient cost controlling method					
31	My Company gives quality services					
32	The corporation appropriately introduces its new design of its product.					
VI	**Flexible input market, Deregulation or Proper regulation**					
33	The corporation has sufficient market demand for its Products.					
34	The corporation has larger market share coverage amongst its competitors.					
35	The corporation appropriately promotes its products					
36	The rule and regulation of the government has an imposition on limiting the productivity of the company					
VII	**Overall Productivity**					
37	Management uses best combination of input resources.					
38	Management gives full attention to productivity					
39	Management devised a modern system that enhances productivity.					
40	Competition is a threat for our organization					

1. Please if you want to add any other factors that affects productivity other than listed above:_____

   _____

2. Would you please put them the above factors in order of their influence?

Annex II

Data summary

Item No	**Labor**	SD & D	U	A & SA
1	The corporation has enough number of employees.	9	6	45
2	Workers get training when needed	5	7	48
3	Employees of the company are self-motivated.	27	3	30
4	In all sectors of the organization, workers have the necessary capacity to do their work	18	0	42
5	There are enough experienced workers in the organization	6	1	53
6	I've job satisfaction in my organization	18	6	36
7	I felt that turnover of employees is very high.	24	8	28
II	**Capital**			
8	There is sufficient budget allocation for capital items.	0	0	60
9	There is an efficient utilization of capital.	7	2	51
10	The Corporation has enough capital strength.	10	3	47
11	Experienced workers Contribute more to productivity than inexperienced one	12	13	35
III	**IT**			
12	The corporation uses latest office machines for all operations.	22	18	20

13	The corporation avails internet access for all offices	35	15	10
14	Computers and laptops are properly used in the company.	15	15	30
15	The corporation uses latest software related to the work for all operations.	36	12	12
16	Inadequate resources are the cause of reducing productivity in my organization.	6	4	50
17	There are enough information technology workers and other technical workers	31	18	11
18	. Management adopts latest technology in the company's processes.	29	19	12
19	The corporation recognizes the use of ICT	25	10	25
20	The Corporation involves itself in R & D activities	45	5	10
IV	**Management Practice**			
21	Management developed productivity measures for all operations.	15	24	21
22	Management developed a method for achieving productivity improvement.	3	1	56
23	Management established goals for productivity improvement.	16	0	44
24	Management considers incentive plans to reward workers for their contribution	0	0	60
25	Management measures productivity improvements and publicize them.	57	3	0
26	Management supports in having conducive working environment	27	7	26
27	Management of the Corporation has a democratic style of leadership.	24	5	31
28	Product innovation enhances productivity in my company to meet the demands of its potential customers.	17	8	35

V	**Competition**				
29	Existence of competitors lowers productivity of my Company.	14	9	37	
30	The Corporation uses efficient cost controlling method	1	6	53	
31	My Company gives quality services	13	31	16	
32	The corporation appropriately introduces its new design of its product.	17	3	40	
VI	**Flexible input Market**				
33	The corporation has sufficient market demand for its Products.	0	0	60	
34	The corporation has larger market share coverage amongst its competitors.	1	6	53	
35	The corporation appropriately promotes its products	5	7	48	
36	The rule and regulation of the government has an imposition on limiting the productivity of the company	38	4	18	
VII	**Overall Productivity**				
37	Management uses best combination of input resources	8	9	43	
38	Management gives full attention to productivity	15	16	29	
39	Management devised a modern system that enhances productivity	10	34	16	
40	Competition is a threat for our organization	21	19	20	
		Demographic data			
	Gender				
1	**Male**	44			
2	**Female**	16			
	Age				

1	**18- 24**	6
2	**25-34**	18
3	**35-44**	15
4	**45-54**	13
5	**≥ 55**	8
	In the current organization	
1	**0-5**	4
2	**6-10**	20
3	**11-15**	18
4	**16 and above**	18
	Edu. Qualification	
1	**High school complete**	0
2	**Technical school graduate**	0
3	**College diploma**	0
4	**BA/BSC degree**	21
5	**Master's degree**	39
6	**PHD**	0
	Field of study	
1	**Accounting**	20
2	**Management**	31
3	**Economics**	9
4	**IT**	4
5	**Law**	6

Annex III

List of insurance Companies in Ethiopia

No	Name of Insurance Company	Date of Establishment	Initial Capital	
			Subscribed	Paid up capital
1	EIC	1975	-	11,000,000.00
2	NICE	23/09/94	3,530,000.00	3,250,000.00
3	Awash	'01/10/94	8,481,000.00	7,382,820.00
4	United	'09/11/94	8,068,000.00	8,068,000.00
5	Africa	22/12/94	15,000,000.00	14,970,000.00
6	Nile	11/04/95	12,050,000.00	10,050,000.00
7	Nyala	27/06/95	25,000,000.00	7,000,000.00
8	Global	14/01/97	15,000,000.00	3,750,000.00
9	Nib	2/5/2002	50,000,000.00	13,788,500.00
10	Lion	10/7/2007	66,440,800.00	16,610,200.00
11	Ethio-Life & General	23/10/2008	4,758,000.00	4,284,000.00
12	Oromia	26/01/2009	85,084,000.00	25,998,000.00
13	Abay	26/07/2010	12,025,000.00	7,765,000.00
14	Berhan	24/02/2011	27,745,000.00	9,774,000.00
15	Tsehay	28/03/2012	45,125,000.00	11,385,000.00
16	Lucy	1/10/2012	8,035,000.00	8,035,000.00
17	Bunna	21/05/2013	11,293,000.00	6,715,000.00

Source: National Bank of Ethiopia