

A Multi-Level Analysis of Performance of the Ethiopian Insurance Industry

By

MEZGEBE MIHRETU WOLDEGEBRIEL

Student No. 78891760

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Supervisor: Dr AJ SMIT
Professor of International Business

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DECLARATION

Name: Mezgebe Mihretu WOLDEGEBRIEL

Student number: 78891760

Degree: **Doctor of Business Leadership (DBL)**

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I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

MM Woldegebriel

SIGNATURE

29 February 2024

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Abstract

The literature confirms that economic growth enhances the performance of an industry. However, that was not the case for the Ethiopian insurance industry. Thus, the research question is why does the Ethiopian insurance industry persistently underperform despite the high economic growth? The literature identifies the complex nature of industry performance and the factors that influence it. This creates a research gap that necessitates an analysis of the impact of the factors and the complex nature of the interaction among them on the underperformance of the Ethiopian insurance industry.

The research employed a convergent mixed-methods approach, utilizing both quantitative and qualitative research designs. The study used secondary quantitative and primary quantitative and qualitative data to conduct the analysis. Further the research triangulates the results to explore a comprehensive understanding how the multiple factors interplay and impact performance of the industry.

The results indicate disconnect between economic growth and industry performance, stemming from the industry's limited presence and limited affordability for the larger part of the economy to stimulate demand. The results also illuminate on how multitude of factors including economic growth, market structure, innovation, and value chain governance, interplay and contribute to the underperformance of the industry.

The study offers valuable insights to policymakers, professionals, and researchers, enabling them to understand the complex nature and interactions of the factors and take actions to leverage opportunities for improving industry performance.

KEY TERMS: long-run relationship, time series analysis, correlation, performance of insurance industry, economic growth, market structure, innovation, value Chain governance Structure, regulatory framework, innovative and institutional capabilities, knowledge, triangulation.

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Abbreviations

ADB	African Development Bank
ADF	Augmented Dickey Fuller (ADF)
AIC	Akaike information criterion
AEI	Association of Ethiopian Insurers
AKI	Association of Kenya Insurers
ANOVA.	Analysis of Variance
BP	Bias proportion
CEO	Chief Executive Officer
CR4	Market structure Concentration Ratio of four firms in an industry
CR8	Market structure Concentration Ratio of eight firms in an industry
CSA	Central Statistics Agency, Ethiopia
DF	Degree of freedom
DF	Dickey and Fuller: stationarity test, 1979
DF-GLS	Dickey-Fuller generalized least squares
EC	Error Correction
ECM	Error Correction Method
ECT	Error Correction Term
EFS	Efficient Structure
EIC	Ethiopian Insurance Corporation
EPRDF	Ethiopian People Revolutionary Democratic Front
EU	European Union
FDRE	Federal Democratic Republic of Ethiopia
FEM	Fixed Effect Model
FPE	Final Prediction Error
GDP	Gross Domestic Product
gdppc	GDP per capita
Gdppcluc	GDP per capita local unit constant
GFDD	Global Financial Development Database of the World Bank
GLS	General Least Square
GP	Underwriting Gross Premium
GTP	Growth and Transformation Plan
HHI	Herindahl Hirschmann Index
HQIC	Hannan-Quinn information criterion
IAIS	International Association of Insurance Supervisors
ins_density	Insurance Density
IMF	International Monetary Fund
Ins--density	Insurance density
IO	Industrial Organization
IP	Insurance Performance
IRA	Insurance Regulatory Authority of Kenya
JVS	Jewish Vocational Service in Boston, Massachusetts
LL	Log-Likelihood ratio
LR	Likelihood Ratio test (sequential modified LR test statistics)
MAE	Mean Absolute Error (MAE),
MarSt	Market Structure
MFIs	microfinance institutions
MoFEDET	Ministry of Finance and Economic Development of Ethiopia
NAIC	National Association of Insurance Commissioners
NBE	National Bank of Ethiopia (Central Bank)

NPCET	National Planning Commission of Ethiopia
NIM	Net Interest Margins
OECD	The Organisation for Economic Co-operation and Development
OLS	Ordinary Least Square
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PP	Phillips and Perron: Stationarity test
R&D	Research and Development
RMSE	Root Mean Square Error
ROA	Return on Asset
ROE	Return on Equity
Rt	Restricted trend
SCP	Structure-Conduct-Performance
SBIC	Schwarz Bayesian information criterion
SBL	School of Business Leadership, UNISA
SCP	Structure-Conduct-Performance
SDPRP	Sustainable Development and Poverty Reduction Program
TGE	Transitional Government of Ethiopia
UK	United Kingdom
UNCTAD	United Nation Conference on Trade and Development
UNISA	University of South Africa
WDI	World Development Indicators
WB	World Bank
VCG	Value Chain Governance
VAR	Vector Autoregression
VCGST	Value Chain Governance Structure Types
VECM	Vector Error Correction Model
X2	Chi-square

Quantitative Data Analysis Model Symbols

α	Alpha
β	Beta
δ	Delta
Γ	Gamma
λ	Lambda
Σ	Sigma
Φ	Coefficient of the error term Zet_1 the speed at which the system restores back to the long-run cointegrating relationship between the variables
Δ	Increment or change
$\neq$	Not equal to
ε	White noise disturbance term
Σ	Summation
D	Differenced or sign of numbers of integrated order "d"
E	Error term
R^2	The coefficient of determination (R-squared)
R	Rank of the co-integration equation
r^2	R-squared, Pearson's Correlation coefficient
S_i	market share of the company i of the total companies' in the market of the industry
t-test	t-test
U	Noise term
U	White Noise term
χ^2	Chi-Square
Z-test	Z-test,
Zet_1	Error Correction term

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CHAPTER ONE: ORIENTATION

1.1 Introduction

The financial sector plays a crucial role in the overall economy by facilitating economic activities, mobilising capital, and promoting investment, industrialisation, and economic growth (WB, 2016, 2017 and 2019; Kwon & Wolfrom, 2016; Ubom *et al.*, 2016). Within the sector, the insurance industry is an important component that contributes to economic growth through the mobilisation of savings, efficient resource allocation, promotion of innovation, and macroeconomic stability through risk indemnification (Hafeman, 2020; WB, 2016; Haiss & Sumegi, 2008; UNCTAD, 2007; Levine, 2005; Ward & Zurbruegg, 2000). The performance of the insurance industry is intricately linked to economic growth (Guochen & Wei, 2012; Sibindi & Godi, 2014). To effectively function, a financial system needs to align with macro-level and industry-level factors, such as policies, market structure, industry governance and enforcement norms, industry infrastructure, and technology (Levine, 2005).

Since 2005 Ethiopia has been one of the fastest-growing economies globally (Clapham, 2015; WB, 2015 & 2019; ADB, 2020). Despite this impressive economic growth, the Ethiopian insurance industry has shown poor performance, according to various reports (UNCTAD, 2007; WB, 2019, Meko *et al.*, 2019). Hence, the researcher aimed to investigate the reasons behind the underperformance of the Ethiopian insurance industry.

This chapter provides an overview of the research, beginning with a brief background and the context of the study. It then identifies the research problem and research objectives that guided the investigation. The subsequent sections outline the research questions, significance, and scope of the research. Finally, a summary of the methodology and research ethics to be discussed in the subsequent chapters are provided.

1.2 Background of Study

The concept of insurance serves as a mechanism to distribute losses by pooling funds from various risks (Outreville, 1998; United Nations Conference on Trade and Development, UNCTAD, 2007; WB, 2019). It provides security against financial

losses and has been a fundamental need for individuals and institutions throughout history (Chandel and Kumar, 2016; Njegomir, Marovic & Puric, 2014). The emergence of the insurance industry is attributed to the growth of commerce and specialisation in trade (Chandel & Kumar, 2016; Njegomir *et al.*, 2014).

From a value chain governance perspective, the insurance industry involves four major stakeholders: the policyholder (insured), primary insurer, reinsurer, and regulatory body (UNCTAD, 1980 and 2007; Outreville, 2007). Additionally, there are other stakeholders such as brokers, actuaries, commission agents, commercial banks, auditors, and more (UNCTAD, 1980 and 2007; Outreville, 2007; WB, 2020; Hafeman, 2020).

Insurance penetration and insurance density (insurance per capita) are highlighted as standard measures of the insurance industry's performance (WB, 2020; Ismail, Ishak, Manaf & Husin, 2018; Din *et al.*, 2017; Hui & Xin, 2017; Outreville, 1996 and 2013). Insurance penetration is measured by annual insurance gross premium as a percentage of GDP, while insurance density is measured by annual insurance gross premium divided by the population of a country (Han, Moshirian & Tian, 2010; Petrova, 2015). These measures assess the industry's performance relative to the size of the economy and the citizen expenditure per capita on insurance (Outreville, 2013).

Economic growth, typically represented by GDP growth rate and per capita GDP, are considered crucial in explaining a country's economic performance (Chandel & Kumar, 2016; Din *et al.*, 2017; Ward & Zurbruegg, 2000). According to Binder and Mubhoff (2017), the global total insurance premium has been growing at a stable rate. Reports also indicate that various levels of insurance penetration and density for developed, emerging, and developing countries remained stable over the period 2005 to 2017.

This study focused on the underperformance of the Ethiopian insurance industry. Reports by UNCTAD and the World Bank (WB) (WB, 2019) show low insurance penetration and density in Ethiopia compared to developed and emerging economies. The data suggested that the Ethiopian insurance industry has the lowest penetration rate and insurance density among selected African countries, thereby

indicating its underperformance. Table 1– 1 presents the insurance penetration and insurance density of developed, emerging, developing, and other selected African countries based on several reports.

According to the data from the Global Financial Development Database (GFDD) compiled by the World Bank in 2019, the ten-year average (2008 to 2017) insurance penetration and insurance density of the Ethiopian insurance industry were reported as 0.4% and USD7 respectively. These figures were significantly lower than the average performance of the developed, emerging, developing and other selected African countries, including Egypt, Kenya, and Rwanda. In comparison to Ethiopia, Egypt, Kenya, and Rwanda demonstrated far higher insurance penetration and insurance density. This comparison was made to explore whether population size plays a role in the performance of the insurance industry. Based on the World Bank dataset (WB, 2019b), Egypt, Kenya, and Rwanda exhibited higher average insurance penetration rates than Ethiopia (0.48%) for the period 2010 to 2015. Egypt had an average insurance penetration of 0.7%, Kenya 2.2%, and Rwanda 1.6%. Similarly, the average insurance density for the same period was USD73 for Egypt, USD79 for Kenya, USD29 for Rwanda, and only USD7.2 for Ethiopia.

This suggests that the Ethiopian industry is underperforming in terms of insurance penetration and insurance density. Reports from Africa Re (2015 and 2015b) and UNCTAD (2007) further confirm that Ethiopia had the lowest insurance penetration rate and insurance density among Sub-Saharan African countries.

Table 1- 1: Insurance performance of Ethiopia compared

Countries	Population Size in 2016	Penetration (%)		Density (in Real USD)	
		2010-2015	2008-2017	2010-2015	2008-2017
Developed*		6.23		3,505	
Emerging *		3.2		149	
Developing*		2.4		135	
Selected A. Countries **					
- Egypt	95,688,681	0.7	0.72	73.0	76.0
- Ethiopia	102,403,196	0.48	0.42	7.2	7.0
- Kenya	48,461,567	2.2	2.2	79.0	77.0
- Rwanda	11,917,508	1.6	1.6	29.0	30.0
Average			1.235		47.5

Source: * Sigma Swiss Re Report, 2017

** WB, 2019b, Global Financial Development Database (GFDD), 2019.

Figure 1-1 shows the performance of the Ethiopian insurance industry compared with selected African countries in terms of penetration for the period 2000 to 2017. The performance of the Ethiopian insurance industry in terms of penetration is by far the lowest compared to the penetration of the selected African countries, Egypt, Kenya, and Rwanda.

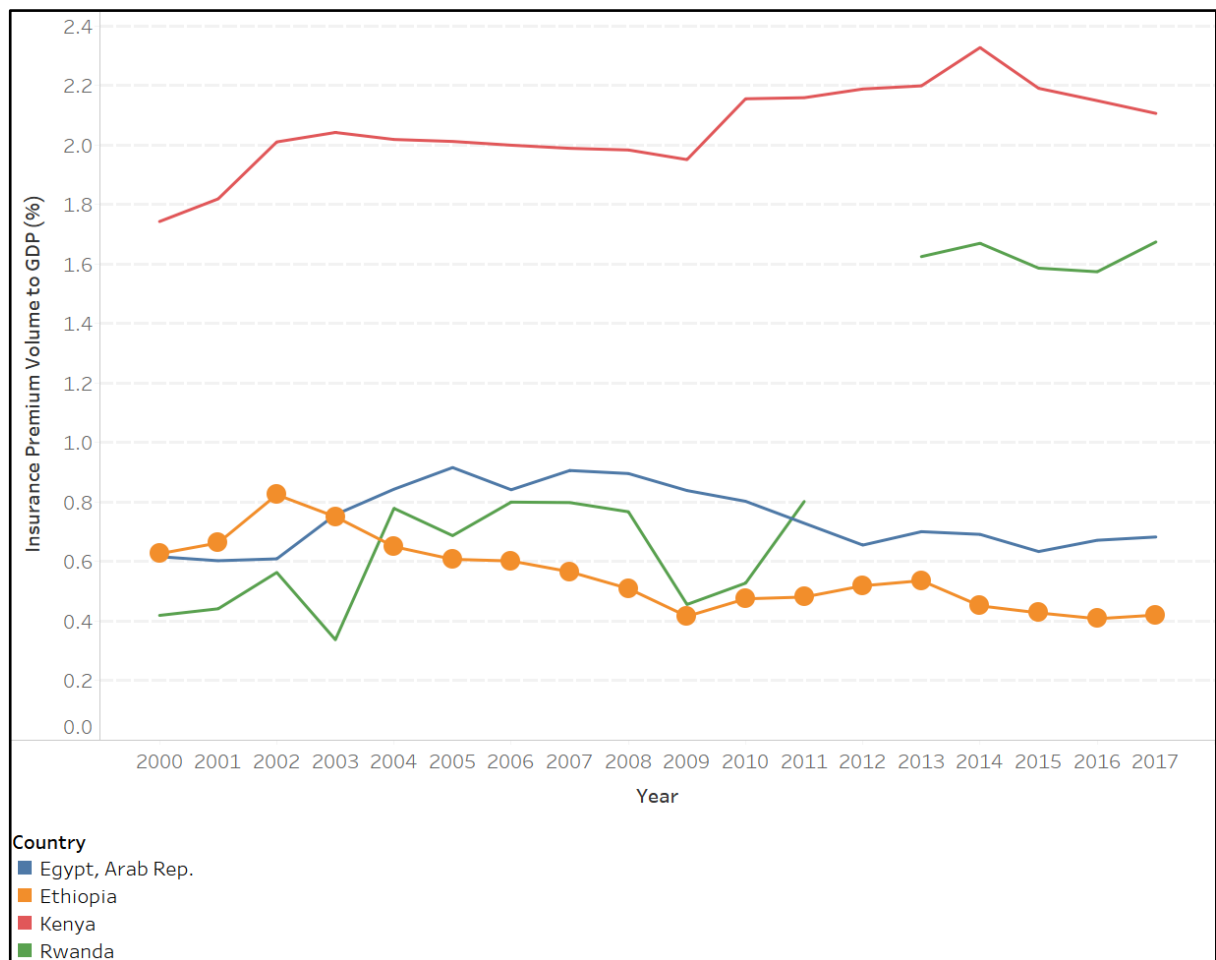


Figure 1- 1: Insurance penetration comparison: selected African countries 2000 - 2017

Source: World Bank: Global Financial Development Database (WB, 2019b).

Similarly, Figure 1–2 shows the performance of the Ethiopian insurance industry compared with selected African countries in terms of insurance density for the period 2000 to 2017. Likewise, the performance of the Ethiopian insurance industry in terms of insurance density is far below the insurance density of the selected African countries, Egypt, Kenya, and Rwanda.

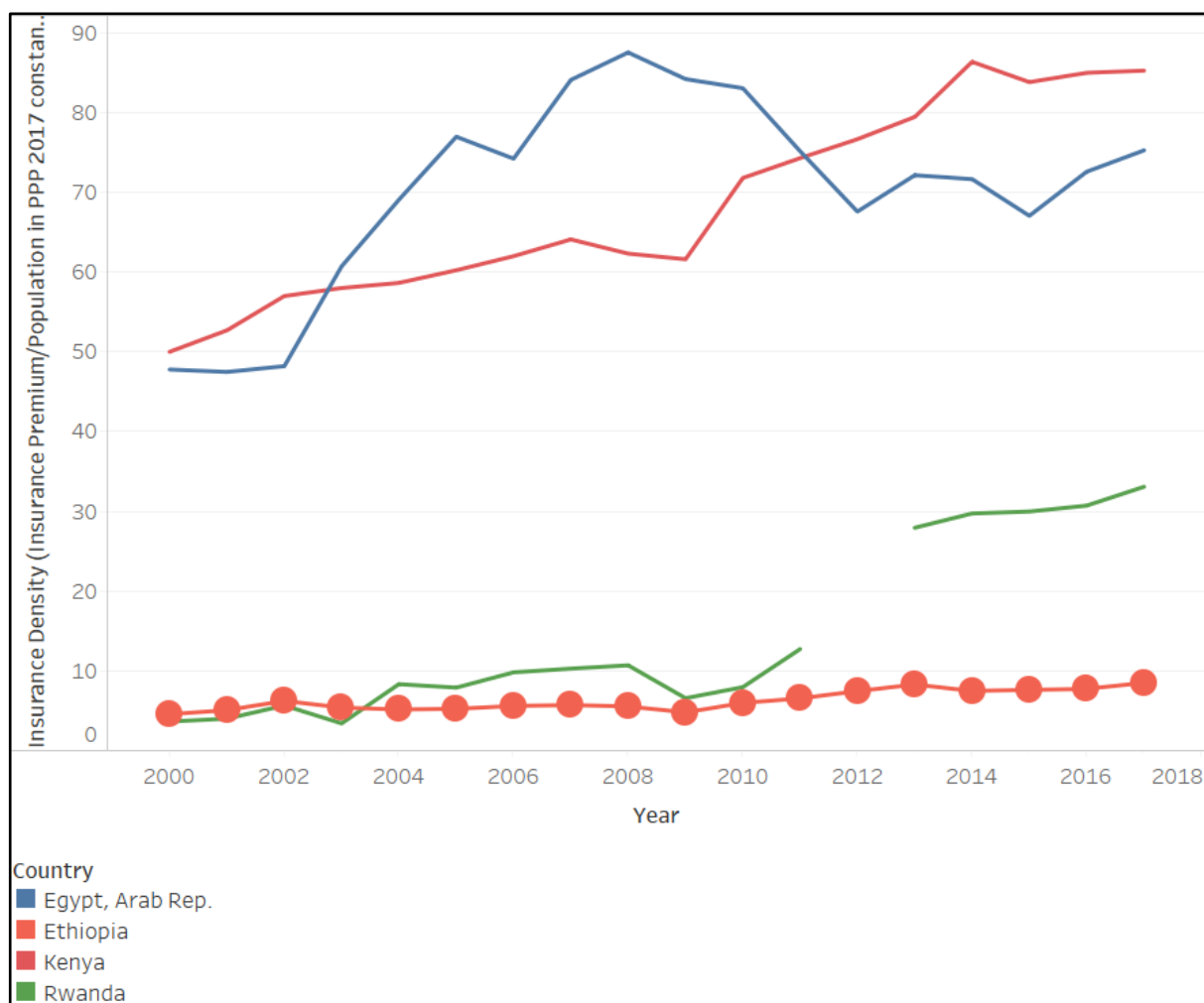


Figure 1- 2: Insurance density comparison: selected African countries 2000 - 2017

Source: Global Financial Development Database, WB, 2019b

The evidence presented above raises the question of why the Ethiopian insurance industry was underperforming while the country was experiencing an average of 10% economic growth for the period 2005 to 2017.

1.3 Research Problem

The dynamic and complex business environment, influenced by factors such as globalisation, deregulation, technology, and management advancements, necessitates comprehensive measures of industry performance (Michael & Tobi, 2014). Different perspectives exist regarding the relationship between economic growth and the performance of the insurance industry, with some arguing for the supply-leading school of thought (Pradhan *et al.*, 2017) where industry performance contributes to economic growth. Others support the demand-leading school of thought (Patrick, 1966; Outreville, 2013; Dash *et al.*, 2018) where economic growth

leads to better industry performance. There is also evidence of a bidirectional argument supporting both the supply-leading and demand-leading schools of thought or no relationship between economic growth and insurance industry performance (Dash *et al.*, 2018; Pradhan *et al.*, 2017). Despite Ethiopia's sustained fast economic growth over the period 2005 to 2017, the performance of its insurance industry remains poor. The long-run causal relationship between insurance industry performance and economic growth in Ethiopia is yet to be explored.

Market structure is another crucial factor that influences industry performance, as highlighted by the industrial organisation theory (Yang *et al.*, 2017). Previous studies have consistently demonstrated the profound impact of market structure on competition consequently affecting industry performance (Li *et al.* 2017; Viira *et al.*, 2015; Van Berkum, 2009; Sathye, 2005; Yang, 2017). Surprisingly, the long-run relationship between market structure concentration and the performance of the insurance industry in Ethiopia has remained unknown.

Innovation is recognised as another major factor influencing industry performance (Srivastava & Ray, 2013). Studies indicate a strong relationship between innovations and financial sector performance (Pradhan *et al.*, 2018; Gorodnichenko *et al.*, 2010; Chang *et al.*, 2013; Chen *et al.*, 2013). However, there is a lack of empirical research explaining the relationship between innovation and the performance of the Ethiopian insurance industry.

Value chain governance structure and regulatory frameworks also play significant roles in industry performance (Dan, 2008; OECD, 2016; Luo & Xu, 2018; Liu, 2021). A comprehensive analysis of how all the factors above contribute to the underperformance of the Ethiopian insurance industry is the focus of the research under review.

1.4 Aim and Objectives of the Study

Based on the literature review, the conceptual framework (section 3.7) sheds light on the complex nature of industry performance and the multitude of factors that could influence it. In line with this understanding, the overarching goal of this study was to analyse the integrated influence of factors that contributed to the

underperformance of the Ethiopian insurance industry. To achieve this aim, some specific objectives were formulated and explored throughout the research process.

The first objective of this study was to analyse the relationship of economic growth, market structure, and innovation with the performance of the Ethiopian insurance industry using time series analysis. By examining the relationship between these factors and industry performance, the aim was to gain insights into the link gaps in the influence on the performance of the industry.

The second objective focused on investigating the contributing role of the value chain governance structure on the performance of the Ethiopian insurance industry using survey data. The aim was to uncover how this factor shaped industry performance and to identify any potential areas for improvement.

The third objective of this study was to triangulate the results obtained from the objectives one and two above, to gain a comprehensive understanding of how the various factors interrelated and impacted the performance of the Ethiopian insurance industry. Examining the integrated influence of the multiple factors resulted in a more holistic view of industry performance, allows the researcher to identify potential synergies or conflicts between the factors and their combined effect on the industry performance.

1.5 Research Questions

The main research question for this study under review was: What are the factors that contribute to the underperformance of the Ethiopian insurance industry? The literature discussed in Chapter Three section 3.2 confirms that economic growth can lead to better performance of the insurance industry. Given the high economic growth in Ethiopia for more than a decade, the long-run causal relationship between the Ethiopian insurance industry and the economic growth needed to be examined, resulting in the following question.

Q1: Is there a long-run causal relationship between economic growth and industry performance?

The impact of market structure on industry performance is highlighted in the industrial organisation theory discussed in Chapter Three (section 3.3). Hence, the

research question about market concentration and its influence on the underperformance of the Ethiopian insurance industry was the following:

Q2: Is the underperformance of the Ethiopian insurance industry attributed to high market structure concentration of the industry?

Innovation is recognised as a significant factor influencing industry performance in the literature (section 3.4). Thus, the research question regarding innovation in the insurance industry was:

Q3: Is the underperformance of the insurance industry due to a lack of innovation in the industry?

Chapter Three (section 3.5) further emphasises the importance of value chain governance structure in determining industry performance. Consequently, the research question concerning the value chain governance structure in the Ethiopian insurance industry was:

Q4: Is the value chain governance structure in the industry a contributing factor to the underperformance of the insurance industry?

To address this question the research first addresses the following sub-research questions:

- i. Which type of value chain structure is predominantly utilised in business transactions between insurers and cross-border reinsurers?
- ii. Which type of value chain governance structure is predominantly utilised in business transactions between insurers and policyholders?
- iii. Does the regulatory directive for the reinsurance business contribute to maintaining a balanced power in the business relationship between insurers and reinsurers?
- iv. Does the regulatory directive for the insurance business contribute to maintaining a balanced power in the business relationship between insurers and policyholders?
- v. What are the weaknesses in the regulatory framework governing the reinsurance business?
- vi. Describe whether the insurance companies have strategic plans for innovation?

By addressing these research questions, this study aimed to provide valuable insights into the factors contributing to the underperformance of the Ethiopian insurance industry.

1.6 Significance and Scope of the Study

The importance and scope of the study are as follows:

Significance of the topic: The underperformance of the insurance industry during a period of double digit rapid economic growth (2005 - 2017) – as opposed to a declining growth from 6.1% to 5.3% during 2020 - 2022 (WB, 2024) raises crucial questions about the factors and dynamics contributing to the discrepancy. Grasping these factors can offer valuable insights to policymakers, industry professionals, and researchers with an interest in the Ethiopian insurance industry.

Research gap: The observation that Ethiopia witnessed notable economic growth (2005 - 2017) while the insurance industry underperformed during the same period suggests a disconnect between economic growth and industry performance. This apparent inconsistency creates a research gap that necessitates exploration to pinpoint the factors and specific causes behind the underperformance and to propose potential solutions.

Policy implications: Examining the underperformance of the Ethiopian insurance industry during a period of economic growth can have direct policy implications. Research findings can inform policymakers of the challenges and barriers confronting the insurance sector, leading to targeted policy interventions to address those issues and promote the industry's growth.

Industry development: Understanding the underperformance of the insurance industry can contribute to its development in Ethiopia. Identifying the specific challenges faced by the industry during this phase can assist stakeholders in formulating strategies to enhance competitiveness, expand market reach, and stimulate innovation within the industry.

1.7 Methodology

The methodology in this study follows the pragmatism paradigm. Single-paradigm research philosophies like positivism, interpretivism, and critical theory were not appropriate for the study. Pragmatism acknowledges multiple realities open to empirical investigation and the social construction of knowledge. It recognises subjective and objective views of reality, emphasis context in actions and consequences, and acknowledges socially shared worldviews.

Pragmatism is the most effective methodology for this research problem, favouring a mixed method approach—combining quantitative, qualitative, and mixed research methods. The quantitative research of the study involves measurable techniques to test hypotheses and relationships between variables. The qualitative research of this study, on the other hand, focuses on inductive analysis and examining contextual influences. The mixed research design integrates both quantitative and qualitative methods to gain a comprehensive understanding of the research problem.

The study, aligned with pragmatism, utilised a convergent mixed research method, where quantitative and qualitative data were collected simultaneously and integrated during the analysis. The data collection involved secondary quantitative data and primary quantitative and qualitative data sourced from the surveys conducted with the management of insurance companies. This approach allowed for a comprehensive examination of the insurance industry's performance from multitude perspectives.

1.8 Structure of the Study

The outline of the rest of the thesis is as follows. Chapter Two presents a brief background of the Ethiopian insurance industry, including actors of the value chain, the institutional infrastructure and the industry's value chain. Chapter Three reviews relevant literature. It explores theories and provides evidence regarding the measurement of industry performance, offering a foundational understanding of the research. Chapter Four focuses on the methodology, paradigms, describes the research design, data collection methods, and analytical techniques employed to investigate the research questions. Chapter Five presents the results derived from the data analysis. It offers a detailed account of the empirical and qualitative results

based on the research questions. Chapter Six discusses the results, in line with the conceptual framework developed in Chapter Three. It provides conclusions and contributions of the results. It also presents recommendations on how to address the performance of the Ethiopian insurance industry and suggestions for further research in the field. Overall, this study aims to shed light on the reasons for the underperformance of the Ethiopian insurance industry and provide insight into potential solutions to enhance its performance.

CHAPTER TWO: ETHIOPIAN INSURANCE INDUSTRY

2.1 Introduction

Srivastava and Ray (2013) categorise insurance business broadly into three sectors: life insurance, non-life insurance, and reinsurance business. Non-life or general insurance encompasses motor, marine, aviation, fire and property, engineering, and bonds and loan guaranteeing contracts activities (UNCTAD, 1980 and 2007; Outreville, 2007). Life insurance businesses cover loss of life, health insurance, pension funds, and worker's compensation (Beck & Webb, 2003). Beck and Webb (2003) highlight its primary role as a source of finance, offering compensation and long-run capital mobilisation. Reinsurance business requires an important level of sophistication in terms of professional and technical knowledge (UNCTAD, 2007). Outreville (2002:59) defines reinsurance as "the transfer of liability from the primary insurer, the company that issued the insurance contract, to another insurer, the reinsurer".

The following sections present a brief historical overview, key industry stakeholders, industry strategies, policies, and the regulatory and institutional frameworks of the Ethiopian insurance industry.

2.2 Brief Historical Overview

The insurance business in Ethiopia began as an agent for a foreign insurance company in 1905. The first domestic insurance company was founded in 1951 with capital of USD 1 million. By the 1960s, there were 13 private insurance companies (Zelege, 2007). However, there was no institutional or regulatory framework for the insurance business until 1970 (Zelege, 2007). The first insurance Proclamation No. 281/1970 and Legal Notice No. 393/1971 were implemented in 1970 and 1971, respectively (Zelege, 2007). Following the removal of the imperial regime by the military junta in 1974, Proclamation No. 99/1976 was issued, replacing the former regulations. This gave the supervision and regulation of the financial sector to the National Bank of Ethiopia (NBE), serves as the Central Bank. Subsequently, the 13 private insurance companies were nationalised, forming a state-owned insurance firm named the Ethiopian Insurance Corporation (EIC) (Tulu, 2001; Zelege, 2007). The EIC maintained a monopoly in the insurance industry for nearly two decades, with insurance business limited to two classes: motor and marine (Zelege, 2007).

Following the collapse of the military regime in 1991 and the Ethiopian People's Democratic Front (EPRDF) assuming power, the economic policy shifted to a market economy (Zelege, 2007). In 1994, the EPRDF-led Transitional Government of Ethiopia (TGE) issued the Licensing and Supervision of Insurance Business Proclamation No. 86/1994, opening the insurance industry to private companies (Zelege, 2007; Mihretu, 2014). Ethiopia further revised the insurance proclamation in August 2012, implementing the Insurance Business Proclamation No. 746/2012, which included provisions related to minimum capital requirements for insurance companies. The supervising authority also issued new directives, including those governing reinsurance business (Mihretu, 2014 and 2015).

The Directive for Insurance Business (SBI/44/2016) issued by the regulator required companies to register capital in local currency approximately equivalent to USD 2.2 million for non-life, USD 0.54 million for life, and USD 2.7 million for total insurance businesses, at an exchange rate of USD 1 = birr 27.80. In June 30, 2018, there were 17 insurance companies and one reinsurance company with a combined capital of USD 102,683,000 million. The reinsurance company became operational for the first time in 2017. In terms of market share, the majority remained with the publicly owned insurance company, holding 45% in 2013 and 37% in 2017 of the gross premiums. The remaining market share was distributed among 16 insurance companies. The market was primarily limited to domestic companies, except for reinsurance, which had been mostly left to cross-border reinsurance firms (Association of Ethiopian Insurers, 2020).

In terms of performance, the Ethiopian insurance industry (combining general and life insurance) constituted only 0.2% of GDP. Compared with other African countries, this was the lowest (Sulaiman, Migiro; & Yeshihareg; 2015). Life insurance accounted for only 6% of the total premium, and its contribution to Ethiopia's GDP was underdeveloped, unlike other African countries (Sulaiman *et al.*, 2015). For instance, in South Africa, life insurance contributed 15.2% to GDP, while in Botswana, it was 3.9%, Kenya 2.5%, Uganda 0.6%, Egypt 0.9%, and Nigeria 0.6% (Smith & Chamberlain, 2010). Meko, Lemie, and Worku (2019) noted that Ethiopia's life insurance industry, like the non-life insurance industry, lagged in

several performance metrics, including in terms of insurance penetration, insurance density, and market share. Non-life (general) insurance products accounted for 95% of the annual gross premium, with the remaining 5% going to life (long-term) insurance. According to Lee *et al.* (2018), life insurance played a more critical role than non-life insurance in the economic growth of African countries. Their findings confirmed that life insurance served as a source of long-term investment, increased financial stability, and eased liquidity stress during economic shocks (section 3.2.2).

The insurance industry in Ethiopia primarily focused on specific insurance business lines, including motor vehicles, financial transactions, freight and transport, logistics, and export/import businesses. Of the total gross premium of the non-life insurance, 54% was derived from motor vehicle insurance, with the remaining 46% distributed among 44 other insurance product lines (Atsebaha, 2018). Similarly, according to Sulaiman *et al.* (2015), 43% of the premium in the insurance industry came from motor insurance products. Key sectors of the economy, such as agriculture, livestock, real estate, and mining, which constitute a sizeable portion of the economy, remained largely underserved by the insurance industry.

In terms of technology and innovation, unlike Kenya, Ethiopia's insurance products remained unchanged and as old as the oldest insurance company in the country (Atsebaha, 2018). In contrast, Kenya introduced 21 new insurance product packages into the market annually (AKI, 2016).

2.3 Value Chain Actors in the Ethiopian Insurance Industry

The value chain of an industry comprises primary actors (buyers and sellers in markets), support actors, and institutions, including infrastructure, logistics management, and the legal and regulatory framework (Porter, 1985; Miller, 1988). Primary actors are directly involved in the core business transactions of the industry, while support actors facilitate the functions of primary actors (Porter, 1985; Miller, 1988). In value chain governance, actors can be generically classified into upstream and downstream actors (Porter, 1985). Actors can also be categorised based on their relationship with the internal or external environment of the value chain, as adopted from Porter (Porter, 1985). The value chain actors in the Ethiopian insurance industry are outlined in Table 2- 1.

Table 2- 1: Summary of Value Chain Actors in the Ethiopian Insurance Industry

Actors	Description/Content
i. Primary actors	
• Policyholder	An insured individual or entity holding an insurance policy
• Insurer	A share company that underwrites insurance risks, determines monetary values for stated sums insured, and issues policies in exchange for underwriting premiums. It assesses and rates risks, determines premiums, and compensates policyholders in case of covered events.
• Reinsurer	A company that assumes risks from insurers, requires a high level of professionalism and capital. Reinsurers reimburse insurers for insurance policies within the limits of reinsurance contracts.
• Retrocessionaire	A company that assumes risks from reinsurer, specialised in professional risk management and capital investment, closely following reinsurers.
• Insurance policy	A contractual agreement between the policyholder and insurer or reinsurer, quantify a specified risk (sum-insured). The insurer or reinsurer agrees to compensate the policyholder or insurer in the event of a covered risk within the maximum sum-insured/assured for a specified period. There can be up to 100 types of policies offered by an insurance company.
• Regulatory (NBE)	The National Bank of Ethiopia (NBE) serves as the regulatory and supervisory authority for the finance sector, including insurance companies, commercial banks, and micro-finance institutions. NBE ensures compliance with regulations and develops policies for the finance sector.
ii. Support Actors	
• Insurance broker	An agent soliciting or negotiating insurance for compensation.
• Association of Ethiopian Insurers (AEI)	The AEI represents the interests of member insurance companies and influences industry policies, albeit with limited resources.
• Justice institutes	Investigates and provides technical support for accidents.
• Local police	Investigates and provides technical support for accidents.
• Assessors	Independent legal entities or companies licensed by the regulator to assess and estimate monetary losses.
• Health institution	Issues diagnostic reports on causality and provides medical care services to accident victims.
• Garage	Offers property repair and indemnification services.
• Commercial banks	Insurance companies provide risk management services, including loan guarantees, merchandise loan guarantees, and Letters of Credit (L/C).

Source: compiled by author from discussions with insurance companies

Figure 2- 1 illustrates the network of actors in the value chain of the Ethiopian insurance industry. The arrows in the figure represent the flow of information, service transactions, instructions, supervision, monitoring, and reporting. Primary actors in

the value chain are depicted by bold boxes and connected by bold and thick arrows, while support actors are connected by dotted arrows.

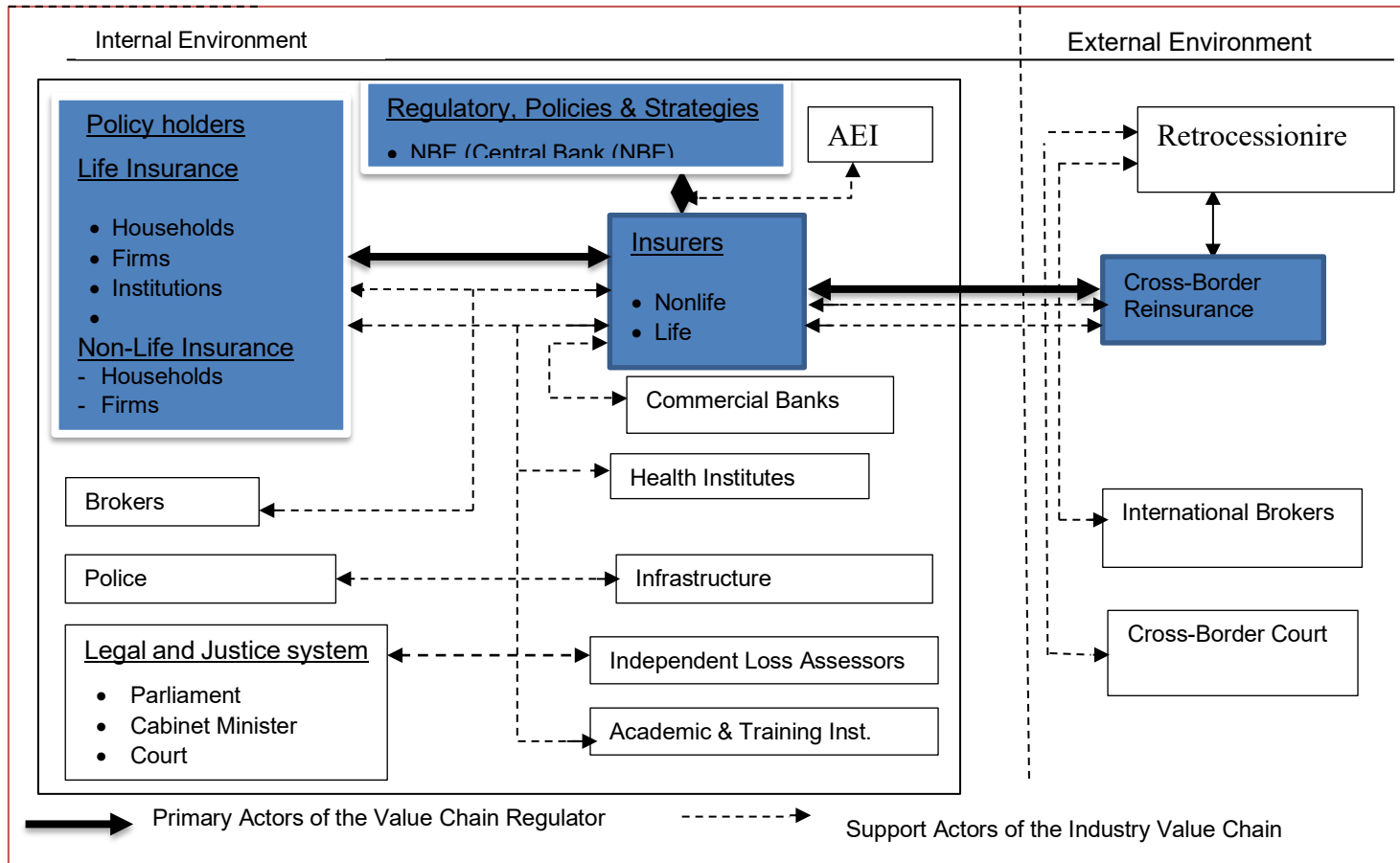


Figure 2- 1: Value Chain Governance Structure of the Ethiopian insurance industry, imagined.

It is essential to note that the regulatory framework governing the insurance industry primarily addresses the domestic business environment, with limited provisions for transactions involving foreign companies.

2.4 Strategy and Policy Environment

Ethiopia has adopted various economic strategies and policies over the past four decades. During the military regime, the economy adhered to socialist ideology, with major economic activities under public monopoly for two decades (1974 – 1991). The private sector was largely excluded from most economic activities, including insurance (Zelege, 2007; Amha, Peck, Berhane, Assefa & Kidanu, 2013). Consequently, the economy experienced volatile growth rates, lacked dynamism, and lagged in technological advancements. Following the transition to a market-

oriented economy after the EPRDF assumed power in 1991, successive national strategies, long-term plans, and policies aimed to reform and enhance economic development and improve living standards (Ohno, 2009; Haile, 2015).

The Agricultural Development Led Industrialization (ADLI) strategy, introduced in 1994, was designed to drive rapid economic growth and promote social and technological development (Haile, 2015; Todaro & Smith, 2006). The ADLI also aimed to increase agricultural productivity and establish strong links between agriculture and industry through agricultural commercialisation, export promotion, improved workforce efficiency, and import substitution (Zewdie, 2015). In 2002, the Ethiopian government formulated an Industry Development Strategy, marking the first attempt to outline industrial growth plans (MoFEDET, 2005). A three-year action plan (2002/03 – 2004/05) known as the Sustainable Development and Poverty Reduction Programme (SDPRP) was also developed, focusing on increasing agricultural productivity, maintaining macroeconomic stability, and involving the private sector in economic development activities (MoFEDET, 2002). Subsequently, a five-year action plan for 2005/06 – 2009/10 called the Accelerated and Sustained Development to End Poverty (PASDEP) was launched (MoFEDET, 2006). The plan aimed at accelerated, sustainable development to eradicate poverty. Further plans, including the Growth and Transformation Plan I (GTP I) (2010/11-2014/15) and Growth and Transformation Plan II (GTP II) (2015/16-2019/20), emphasised poverty eradication through broad-based rapid economic growth and equitable, sustainable strategies, with a focus on industrialisation (MoFEDET, 2010; NPCET, 2016; 2018).

Despite significant economic growth, a substantial portion of Ethiopia's economy remained agriculture-based, contributing 37% to GDP in 2016, primarily driven by smallholder farmers engaged in traditional crop cultivation and livestock rearing (Yalew, Hirte, Lotze-Campen & Tscharaktschiew, 2017). Agriculture, comprising 42% of GDP, and livestock (15%), collectively supporting 70 to 85 % of the Ethiopian population's livelihood, had minimal access to insurance services (Amha *et al.*, 2013). Moreover, much of the agriculture relied on rain-fed practices, and farmers were dispersed in rural areas (Yalew *et al.*, 2017; Filho *et al.*, 2018). A study by Greatrex *et al.* (2015) identified poor agricultural management, weak infrastructure, and inadequate public agriculture policies as critical obstacles to introducing and

promoting the demand for insurance services in the agriculture and livestock sector. These factors collectively increased transaction costs, making insurance premiums unaffordable and diminishing demand. Insurers were also less inclined to provide coverage (Greatrex *et al.*, 2015; Yalew *et al.*, 2017; Filho *et al.*, 2018).

The role of the Ethiopian insurance industry was largely neglected in strategic planning documents. As a result, the public sector continued to dominate the finance sector market. Furthermore, infrastructure in Ethiopia, including training institutions, lagged, ranking among the lowest in Sub-Saharan Africa despite, the critical role of infrastructure in industrial development (WB, 2017). For instance, the contribution of the transport and communication sector to GDP was only 0.7% in 2006, 0.7% in 2016, and 0.3% in 2018, according to the National Planning Commission of Ethiopia (National Planning Commission, 2018). The Ethiopian insurance industry, like other industries in the country, lacked specialised training institutions focused on professional specialisation at various levels (NBE, 2017; Association of Ethiopian Insurers, 2020).

2.5 Regulatory and Institutional Capabilities

Effective legal and regulatory and institutional frameworks are crucial for ensuring the stability and solvency of the insurance industry and reinsurance market (Wang, 2003). A lack of clear and comprehensive directives could adversely affect emerging and developing countries' market economies and exacerbate issues within the insurance industry (UNCTAD, 1980 and 2007; Irukwu, 1987; Wang, 2003). In the case of Ethiopia, the Licensing and Supervision of Insurance Business Proclamations, including Proclamation No. 746/2012 (article No. 54), postponed directives related to reinsurance business transactions, despite active cross-border business in the industry (Zafu, 2006; Alamirew, 2006). The Reinsurance Company Establishment Directive No. SRB/1/201 also deferred conditions for domestic companies seeking foreign reinsurers, omitting provisions concerning reinsurance-related disputes, dispute resolution, and premium settlement.

According to Wang (2003) and Irukwu (1987), the primary objectives of insurance business regulations, regulatory and institutional frameworks are to incentivise industries to invest in technology, R&D, infrastructure and build the capacity of

industries, to make competitive with the required industry knowledge and intuitional capability. Chavez (2012) in empirical study revealed the critical role of institutional framework in enhancing technological developments, innovation, capabilities and collective action for industry performance. Further, study (Abomeh & Peace, 2015; Alomari, 2017) highlighted the significant role of training institutions in the performance of Nigerian insurance industry and in the performance of Banking industry in Dubai, United Arab Emirates respectively. Their findings emphasized the importance of the training institutions in building employee skills to enhance productivity and equipping leadership with the necessary knowledge and capabilities for innovation and technology in the industry.

In line of this, considering reports from the insurance industry of the neighbouring country, Kenya, the industry is overseen by the Insurance Regulatory Authority (IRA), as mandated by an Act of the Kenyan Parliament. The IRA is instrumental in regulating and supervising the industry, establishes and enforces standards aiming at maintaining industry standards and professional conducts that help to foster its development (IRA, 2019). IRA is governed by a Board of Directors (in which the private sector is inclusive) led by Commissioner, CEO, Department managers and professional management teams. The industry gets also robust support from the Association of Kenya Insurers (AKI), led by a chairman and composed of various departments and professionals (AKI, 2017). AKI's responsibilities encompass safeguarding the common interests of its members, facilitating reconciliation in case of differences, and offering support to industry companies through information dissemination, knowledge sharing, updates on industry developments, and collaborative efforts in research and marketing (AKI, 2017).

Both the IRA and AKI utilize diverse platforms to issue periodic reports covering a broad spectrum of topics. These reports include comprehensive descriptive analyses focused on the industry's performance in comparison with others, insights into the business environment of the insurance industry, global economic reviews and outlooks, trends in the global industry in relation to the African economy, insurance penetration trends in Africa and Sub-Saharan Africa, economic overviews, insurance market trends (AKI, 2017; IRA, 2019).

The insurance industry in Ethiopia is supervised by a directorate under the National Bank of Ethiopia (NBE, 2017). NBE oversees the finance sector including commercial banks, insurance and micro-institutions in the country. The directorate responsible for regulating the insurance industry comprises not more than five experts led by a director. The regulatory framework for the insurance industry primarily focuses on licensing and annual financial reporting requirements (Ethiopian House of Representatives. 2012). The framework lacks comprehensive policies and provisions that can encourage and incentivise companies to invest in technology, R&D and institutional capacity-building program (Ethiopian House of Representatives. 2012).

The regulator (NBE) produces three key reports: an annual report, a quarterly bulletin, and a quarterly magazine. The reports primarily focus on the commercial banks, with limited information about the insurance industry. As assessed by the author, the reports by the regulator regarding the insurance industry are too short, not more than two sentences, a table, and a bar graph (NBE, 2017). These reports show data related to the number of insurance companies categorizing into private and public, branches operated by each company, locations (categorized into numbers in Addis Ababa and regions), capital of the companies segregated into public and private sectors (NBE, 2017).

Notably, in contrast to the literature, these reports do not provide information on the industry's performance in the economy, and in the finance sector, its evolution over time. None of the reports show comparisons of performances with other industries in the region and globally. The industry has an association of insurers called Association of Ethiopian Insurers (AEI), managed by a team of three individuals: a chairperson, secretary, and finance and administration staff. The association has no formal reporting mechanisms.

Thus, considering the literature, the Ethiopian insurance industry lacks a sound regulatory landscape, institutional setup, and size to uphold the necessary institutional and professional expertise, conduct, and competency for the industry to innovate and remain competitive in the insurance business and contribute to the national economy.

2.6 Chapter Summary

The Ethiopian insurance industry evolved over time, transitioning from a state monopoly to allowing private players. However, challenges persist, including low contributions to GDP and gaps in the regulatory frameworks. The industry faces growth opportunities, particularly in life insurance, but requires comprehensive policies and infrastructure development to reach its full potential.

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

This chapter presents the literature review of factors that influence and measure the performance of an industry. In a rapidly changing and complex business environment a single performance measure is not sufficient to obtain a complete picture of industry performance (Michael & Tobi 2014). According to the literature (Tangen, 2004; Neely, 1999; Bititci, Garengo, Dorfler, and Nudurupati, 2012; Ossovski, Lima, and Costa, 2014; International Association of Insurance Supervisors, IAIS, 2018), the factors that influence and measure the performance of an industry are complex and include economic growth, market structure concentration, innovation, and value chain governance structure. The next sections present relevant theoretical and empirical literature on these factors as measures of performance.

3.2 Insurance Industry Performance and Economic Growth

Early literature by Goldsmith (1969); McKinnon (1973); Shaw (1973) underline the indispensable importance of the relationship between financial performance and economic growth. Outreville (1990) claims a strong causal relationship between economic growth and financial performance. The financial sector includes central banks, commercial banks, savings institutions, mortgage, insurance, pension, and micro-finance institutions (IMF, 2005; Zaman, Izhar, Khan & Ahmad, 2012; UNCTAD, 1980 and 2007). The financial sector offers five key pillars that are critical for a well-functioning economy of services, namely (i) savings facilities (ii) credit allocation and monitoring, (iii) payment, (iv) risk mitigation, and (v) liquidity (WB and IMF, 2005).

Empirical research shows that countries with better-developed financial sectors have higher productivity and enjoy faster and more sustainable long-term economic growth. Insurance share in the financial sector also grows over the years (Beck & Webb, 2003; Merton, 1995; Solow, 1956; Ubom, Michael & Essien, 2016; WB, 2017). Levine (1997); NCTAD (2007); Outreville (2013); Gochoco-Bautista, Sotocinal & Wang (2014); Deltuvaite and Sineviciene (2014) describe insurance as a key component in the financial sector. It serves as an intermediation and as a source of long-term capital for long-term investments. Life insurance (long-term

insurance) is the main source of long-term savings and investments and better than non-life or general (short-term) insurance for public and private sector investments (Beck & Webb, 2003). The theoretical interaction between the financial sector and economic growth is provided in Figure 3-1.

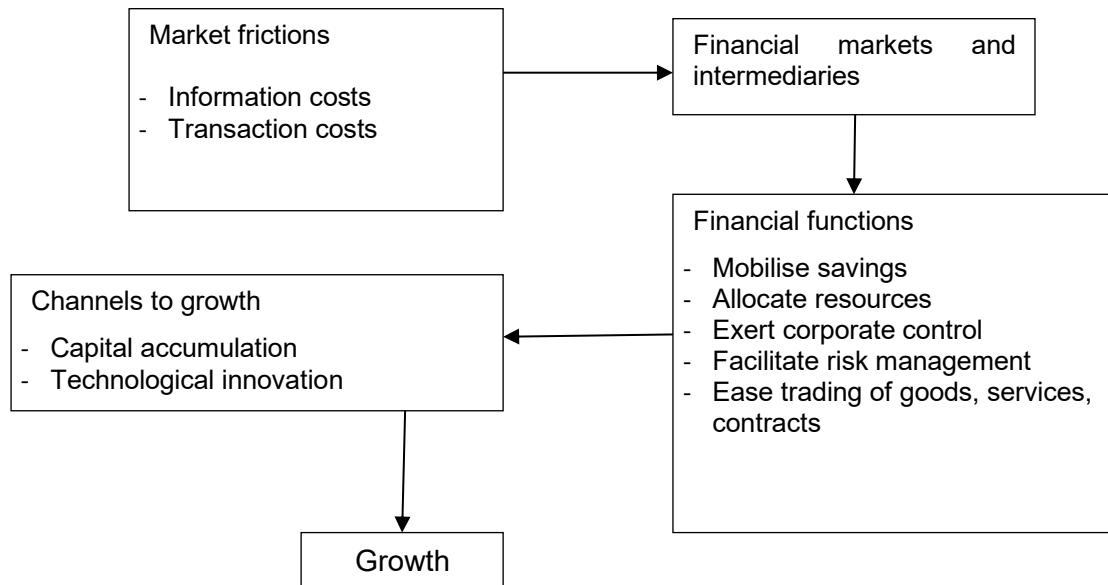


Figure 3-1: Theoretical approach to the interaction between finance and economic growth

Source: Levine, R. 1997, Journal of Economic Literature, p.691

The next subsections discuss the theoretical review and empirical evidence of the relationship between insurance industry performance and economic growth.

3.2.1 Theoretical Basis: Insurance Industry Performance and Economic Growth

Based on the literature there are two schools of thought that explain the relationship between industry performance and economic growth, namely supply leading and demand leading schools (Patrick, 1966; Haiss & Sumegi, 2008; Chang, Lee, and Chang, 2014). Kugler and Ofoghi (2005); Webb, Grace and Skipper (2005); Haiss and Sumegi (2008); Adams, Andersson, Andersson and Lindmark (2009) suggest a causal relationship running from insurance performance to economic growth. This is referred to as the supply-leading school of thought. Beenstock, Dickinson and Khajuria (1986); Catalan, Impavido and Musalem (2000), Ward and Zurbruegg (2000), and Guochen and Wei (2012) claim causality running from economic growth

to industry performance. This is referred to as the demand-leading school of thought.

In the examination of the causal relationship between economic growth and the performance of the insurance industry, the literature presents various additional potential outcomes. These outcomes include bidirectional (mutual causality) relationships or independent (neutrality) relationships (Beck & Webb, 2003; Lucas, 1988). Within this context, Beck and Webb (2003) and Kugler and Ofoghi (2005) argue for bidirectional causality, suggesting a mutual and reinforced relationship between insurance performance and economic growth. They contend that insurance performance is essential for economic growth, and conversely, economic growth is equally vital for the performance of the insurance industry. On the other hand, Lucas (1988) posits an independent or neutral relationship between insurance performance and economic growth. According to this perspective, neither the performance of the insurance industry nor economic growth significantly influences the other. The implications of the two schools of thoughts in the relationship between insurance performance and economic growth are briefly described below.

i. Supply Leading school of Thought

According to the proponents of this school of thought, causality runs from insurance performance to economic growth (Webb *et al.*, 2005; Haiss & Sumegi, 2008). In this context, the insurance industry provides economic growth by way of mobilisation of savings, efficient management of risks as an intermediary, provider of risk transfer and mitigation of losses, efficient allocation of capital and ultimately inducing financial stability and economic growth (Kugler & Ofoghi, 2005; Webb *et al.*, 2005; Adams *et al.*, 2009). Insurance plays important roles in the economy ensuring liquidity and contributing to capital allocation, lowering of cost of capital initiating investment and influencing economic growth (Haiss & Sumegi, 2008).

ii. Demand Leading school of Thought

Proponents of the Demand Leading school of thought claim that economic growth leads to insurance performance (Beenstock *et al.*, 1986; Catalan, *et al.*, 2000; Ward & Zurbruegg, 2000). According to the proponents of this school, the role of insurance industry performance in economic growth is minimal. Instead, performance of the

insurance industry is merely the result of economic growth. In this context, when the economy grows, additional demand for insurance coverage emerges and the performance of the insurance business increases (Beenstock *et al.*, 1986; Catalan, *et al.*, 2000; Guochen & Wei, 2012).

3.2.2 Empirical Evidence: Insurance Industry Performance and Economic Growth

Din, Bakar and Regupathi (2017) examined the relationship between economic growth and insurance performance in 20 countries drawn from developed, emerging, and developing economies. They used 10 years of insurance premium and GDP data for the period ranging from 2006 to 2015. Insurance performance was measured by the variables: insurance penetration and insurance density in relation to economic growth in terms of per capita GDP. The research adopted a fixed effect model for the analysis. It revealed a significant positive relationship between insurance performance and economic growth, in which causality ran from insurance performance to economic growth for developing, emerging, and developed countries. They advised policymakers to introduce financial regulations and legislation that can enhance insurance as a source of finance a substitute for banking and the stock markets (Din *et al.*, 2017).

Adetunji, Nwude and Udeh (2018) examined the relationship between insurance industry performance and economic growth in Nigeria using 20 years' time series insurance premium and GDP data for the period 1996 to 2015, where insurance performance was measured by insurance penetration and economic growth in terms of per capita GDP. They applied an ordinary least square (OLS) regression model for the analysis. They found a significant positive relationship between economic growth and performance of insurance in which causality ran from performance of insurance industry to economic growth. According to Adetunji *et al.* (2018), insurance industry performance provoked the economy of Nigeria to grow. Based on the findings, Adetunji *et al.* (2018) recommended that the government of Nigeria to introduce and implement economic policies that encourage investment in the insurance business. They further suggested that the regulator to undertake policy measures that can strengthen the industry through merger and acquisition strategies (Adetunji *et al.*, 2018).

Petrova (2015) examined the relationship between economic growth and the insurance industry in 80 countries from 2001 to 2012 using panel data sourced from the World Development Indicators database. The author found positive co-integration between insurance and economic growth. The author identified a unidirectional causality running from insurance performance to economic growth, with a unit change in insurance performance causing a 0.17 change in economic growth. Life insurance was more significant for developed countries, while non-life insurance was crucial for developing countries. The author also revealed that a 1% change in total insurance and non-life insurance resulted in an average 0.17% and 0.12% increase in real GDP growth, respectively. They recommended policymakers of the respective countries undertake policy measures to enhance insurance performance thereby promoting economic growth in their countries (Petrova, 2015).

In 2012, Guochen and Wei examined the relationship between the performance of China's insurance industry and its economic growth. They used data from 31 provinces, categorised into three income groups, measuring economic growth by real GDP per capita while assessing insurance performance through insurance penetration rates. Data related to insurance performance were sourced from the China Insurance Regulatory Commission (CIRC) website, and real per capita GDP data were obtained from the China Economic Information Network.

Causality analysis was explored using bootstrap panel Granger causality methods, leading to mix findings: (i) In high-income provinces, causality was observed running from economic growth to insurance performance for both life and non-life insurance, indicating a demand-led relationship. (ii) In most middle-income provinces, causality ran from insurance industry performance (life and non-life) to economic growth, signifying a supply-led relationship. (iii) In low-income provinces, causality was identified from insurance performance, particularly non-life insurance, to economic growth. (iv) For certain high-income provinces, a neutral relationship was observed between insurance industry performance (both life and non-life) and economic growth. Guochen and Wei's (2012) also provided valuable insights into the intricate dynamics in the relationship between China's insurance sector and economic growth.

Pradhan, Dash, Maradana, Jayakumar & Gaurav (2017) examined the causal relationship between insurance industry performance and economic growth in 19 Eurozone countries using 34 years of time series data (1980 to 2014). They used insurance density and GDP per capita as proxy measures of insurance performance and economic growth respectively. They applied co-integration tests, VECM, and Granger causality to analyse the relationship between these variables. They found: (i) Life insurance performance, was moderately higher than the performance of non-life insurance in most of the countries studied. (ii) Causality ran from insurance industry performance to economic growth in seven Eurozone countries: Belgium, Cyprus, Estonia, France, Luxembourg, Portugal, and Slovenia. (iii) Causality ran from economic growth to insurance industry performance in four Eurozone countries: Germany, Greece, Malta, and Spain, (iv) Bidirectional causality (interdependency) existed between insurance industry performance and economic growth in seven Eurozone countries: Finland, Ireland, Italy, Latvia, Lithuania, Netherlands, and Slovakia. (v) There was no relationship between insurance industry performance and economic growth in Austria.

Based on the findings, they made the following recommendations for the respective countries: (a) Countries with a supply-leading insurance industry should undertake policy measures to promote resource allocation efficiency, expand insurance outreach to various sectors of the economy, and introduce innovative products and services. (b) Countries with a demand-leading insurance industry should introduce expansionary economic policies to promote investments and capital-raising for investments (Pradhan *et al.*, 2017). Malta has been one of the developing countries experiencing rapid economic growth according to the World Development database indicators of the World Bank (WB, 2018)

Dash, Pradhan, Maradana, Gaurav, Zaki, and Jayakumar (2018) investigated the connection between insurance industry performance and economic growth across 19 Eurozone countries using 34 years of time series data spanning from 1980 to 2014. They employed variables: insurance penetration and per capita GDP to gauge performance of the insurance industry. The research conducted tests for the non-stationarity and employed VECM to assess long-run relationship (co-integration) and VAR models in cases where co-integration was absent. Granger Causality test

was used to determine the direction of causality between insurance industry performance and economic growth. They unveiled mixed evidences regarding the relationship between the variables including: (i) co-integration between insurance performance and economic growth in some of the countries. (ii) absence of co-integration in other countries. (iii) causality ran from insurance industry performance to economic growth in Austria, Belgium, Estonia, Ireland, Italy, Lithuania, Luxembourg, and the Netherlands (Eurozone countries). (iv) causality ran from economic growth to insurance industry performance in Germany, Greece, and Portugal. (v) bidirectional (interdependency) relationships between insurance industry performance and economic growth in France, Slovenia, and the EZP. (vi) neutrality or independence between insurance industry performance and economic growth in some cases.

Based on the findings, they proposed the following recommendations: (a) Countries with supply-leading insurance industries should develop policies aimed at enhancing insurance performance, allocate financial resources efficiently, foster competitiveness through innovative insurance products and services, bolster financial systems supporting insurance markets, expanded insurance outreach across various economic sectors, and streamline regulatory frameworks. (b) Countries with demand-leading insurance industries should adopt policies to promote economic growth, including increased investment. (c) Countries with bidirectional relationships between insurance industry performance and economic growth should formulate policies that integrate economic activities and insurance performance (Dash *et al.*, 2018)..

Peleckien, Peleckis, Dudzeviciute, and Peleckis (2019) investigated the relationship between insurance and economic growth across 27 European Union countries, analysing 12 years of time series data from 2004 to 2015. They employed variables: insurance density, insurance penetration, and per capita GDP. Descriptive statistics were utilized to explore the dynamics of the relationship, while regression analysis was applied to ascertain causal connections between the insurance industry and economic growth. They found varied relationship findings for different countries, including: (i) positive significant relationship between the variables economic growth and insurance performance in the Luxembourg,

Denmark, The Netherlands and Finland that as economy grows the insurance penetration increases, (ii) negative significant relationship between economic growth and insurance performance in some of the eurozone countries: Austria, Belgium, Malta, Estonia and Slovakia, (iii) insignificant relationship between the variables in other eurozone countries, (iv) unidirectional causality ran from GDP to insurance in Luxembourg and Finland supporting the demand-leading school and emphasizing the substantial role of economic growth in shaping the insurance industry's performance.

These findings suggested that policymakers should concentrate on aspects of economic growth to influence insurance performance. (v) unidirectional causality ran from insurance to GDP, in the Netherlands, Malta, and Estonia, aligning with the supply-leading school. (vi) Bidirectional causality was observed in Australia, signifying that insurance performance depended on economic growth, and vice versa. (vii) absence of causality occurred between the variables in Slovakia, a country with the lowest insurance density and penetration compared to the countries in the eurozone (Peleckien *et al.*, 2019).

Lee, Yong, and Lim (2018) examined the relationship between insurance performance and economic growth across 123 countries including Asia, North America, South America, Europe, and Africa. They used a dataset spanning 48 years, from 1967 to 2014. They employed per capita GDP as a proxy measure for economic growth and insurance penetration and density as proxies for insurance industry performance. Additionally, they incorporated seven independent variables into their analysis: export trade as a percentage of GDP, the ratio of tertiary education enrolment to the ratio of the population, real interest rates, total stock trade value as a percentage of GDP, inflation rates, domestic credit to the private sector by banks as a percentage of GDP, and foreign direct investment as a percentage of GDP. The researchers utilized static and dynamic panel models to explore the causal relationships among these variables.

They yielded several key findings: (i) It identified a significant causal relationship between insurance performance and economic growth. (ii) A significant causal relationship was observed between non-life insurance performance, measured in terms of penetration, and economic growth. (iii) Insurance industry performance

significantly contributed to the economic growth of African and Asian countries, highlighting untapped economic performance prospects. (iv) Life insurance had a substantial and positive long-run causal impact on the economic growth of African countries. They suggested that life insurance premiums collected from households were channelled into long-term savings and investments, fostering economic growth. (v) Interestingly, North America did not exhibit a significant causal relationship between economic growth and insurance performance. (vi) In South American countries, economic instability negatively impacted both economic growth and the performance of the insurance industry, leading to reduced demand for insurance. (vii) Education and state-run financial literacy programs played vital roles in enhancing insurance demand, consequently promoting the performance and economic growth of countries such as Thailand and the Philippines. According to Lee *et al.* (2018), the relationship between economic growth and the performance of the insurance industry could be affected by the interconnectedness of other factors. Accordingly, they recommended that policymakers in the respective countries to (i) thoroughly understand the features influencing the link and the influence of the factors on the performance of the industry and (ii) implement policies tailored to address the factors that contribute positively to the causal relationship between insurance performance and economic growth (Lee *et al.*, 2018).

Yinusa and Akinlo (2013) analysed the long-run relationship between insurance performance and economic growth in Nigeria. They utilized a 25-year time series dataset spanning from 1986 to 2010, sourced from the Statistical Annual Bulletin of the Central Bank of Nigeria (CBN). They incorporated variables, including real GDP, physical capital, interest rates, inflation, human capital, and the total premium of life and non-life insurance. The researchers employed the error correction model (ECM) and various regression tests to explore the properties of the time series. The results of their regression analyses unveiled several findings. (i) they found the presence of co-integration between insurance performance and economic growth, indicating a long-run relationship between real GDP and insurance performance. (ii) the result revealed a significant and positive contribution of physical capital and interest rates to the country's economic growth. (iii) There was a significant negative impact of physical capital and inflation on the long-run relationship with economic growth. (iv) The results evidenced a statistically significant negative impact of human capital on

economic growth, possibly due to high illiteracy rates and low productivity of workers in Nigeria. (v) The result showed a statistically significant contribution of insurance to economic growth, which was consistent with prior studies in Nigeria conducted over different time periods.

Based on the findings, the researchers offered recommendations for the Nigerian government to: (a) consider the insurance industry as a source for long-term fund mobilization for investment and risk mitigation, especially for infrastructure expansion in areas like roads, electricity, health facilities, and ICT. (b) implement policies and legislation that encourage the insurance industry to adopt software solutions to enhance its capabilities and competencies. (c) promote marketing initiatives and enact regulations and policies to make insurance compulsory for the public. (d) educate insurance users about the importance of purchasing insurance products and address issues related to suspicious claims that hinder insurance growth.

Further, for the findings of positive contribution of physical capital to economic growth, they advised the government of Nigeria to implement policies that divert capital stocks from consumption towards infrastructure development, particularly in areas such as health and education to subsequently accelerate the performance of the insurance industry. In addition, for the findings indicating a negative impact of human capital on economic growth, they suggested the Nigerian government to introduce policies facilitating substantial investments in human capital, including vocational and technical education, to enhance creativity, efficiency, and productivity and promote sustainable strategic human resource development to reverse the current situation (Yinusa & Akinlo, 2013).

In summary, the empirical literature reviewed has yielded varied results regarding the relationship between insurance industry performance and economic growth. These findings aligned with the schools of thought regarding the connection between insurance industry performance and economic growth. Some studies identified causality running from insurance performance to economic growth, consistent with the supply leading school of thought (Din *et al.*, 2017; Adetunji *et al.*, 2018; Peleckien *et al.*, 2019). In contrast, other studies revealed causality running

from economic growth to insurance industry performance, consistent with demand leading school of thought (Pradhan *et al.*, 2017; Dash *et al.*, 2018; Peleckien *et al.*, 2019). Certain studies suggested the existence of a bidirectional relationship between insurance industry performance and economic growth (Guochen & Wei, 2012), while studies (Pradhan *et al.*, 2017; Peleckien *et al.*, 2019) revealed neutrality or a lack of dependency between the two variables.

However, the literature also highlighted the limitations of using economic growth as a sole measurement to capture the intricate features of business dynamics of an industry. Consequently, it recommends that future studies incorporate additional factors that can influence the performance of the industry, including market structure concentration, innovation, value chain governance (Michael & Tobi, 2014; Dan, 2008; Krishnamurthy, Mony, Jhaveri, Bakhshi, Bhat, Dixit, and Maheshwari, 2005).

3.3 Industry Performance and Market Structure

Market structure refers to the number, size and level and form of competition of firms in an industry (Scherer & Ross, 1990; Amir, 2003; Martin, 2012; Wang & Li, 2012; Chen, 2013; Shih, 2013; Ellickson, 2015). Market structure is an important factor in industry performance because it explains the level of competition, technological advancement, and innovation in an industry (Yang, Zhang & Wang, 2017; Martin, 2012; House, 1973; Miller, 1969; Bello & Isola, 2014). Maduka and Onwuka (2013) underline convincing evidence of the relationship between market structure and industry performance. Bain (1959) underscores the critical role of technology and strategies in shaping the market structure of an industry. According to Bain (1959), strategies and technology determine the market structure of an industry, and the market structure, in turn, influences the market behaviour of firms within the industry.

In the industrial organization (IO) theory literature, there are various market structures corresponding to levels of competition or market power. Understanding these structures helps to analyse market behaviour of an industry and develop appropriate policies when necessary for the industry performance (Caves & Porter, 1977; Bain, 1954; Sawyer, 1985; Andreosso & Jacobson, 1996; Sathye & Sathye, 2004; Sathye, 2005; Ellickson, 2015; Yang *et al.*, 2017). Some of these market structures include:

- i. Perfect competition is characterised by many firms (buyers and sellers) that are price-takers, with perfect information where prices are determined by demand and supply. The Herfindahl-Hirschman Index (HHI) for perfect competition would be very low, close to zero. However, perfect competition is rare in the imperfect world, thus, in the real world the IO theory uses Monopolistic Competition.
- ii. Monopolistic competition is a market structure in which many firms competing, but each firm produces a differentiated product – while these products are similar but not identical, and firms have some control over the price they charge. Monopolistic competition combines elements of both competition and monopoly. The HHI for monopolistic competition would typically be low to moderate, reflecting some degree of product differentiation without extreme market concentration. Thus, it is important to bring monopolistic competition into the market structure analysis.
- iii. Oligopoly implies several large firms have major control over the market and prices. In an oligopoly, a small number of firms dominate the market, and each firm offers differentiated products. These firms have significant market power and can influence prices. The HHI here would be on the high side.
- iv. Oligopsony or monopsony involves a small number of buyers and numerous sellers. Just as in oligopoly, the limited number of buyers can result in market power, allowing them to dictate terms to suppliers. In a monopsony or oligopsony, the HHI would be moderate to high, reflecting the concentration of buying power in the hands of a few firms.
- v. Duopoly is a subset of oligopoly where there are only two dominant firms in the market. These two firms often closely watch each other's actions and strategies, leading to intense competition or collusion, depending on their incentives. The HHI would be moderate to high, depending on the market shares of the two firms.
- vi. Monopoly is a market structure where one supplier provides goods or services to many buyers, giving the supplier considerable control over the market and prices. The HHI for a monopoly would be the highest possible value, indicating 100% market share. It is important to consider monopolistic competition in real-world market analysis.

Market concentration is the most widely used measure of market structure of an industry (Andreosso & Jacobson, 1996). Market concentration is measured by the concentration ratio (CR) and the HHI (Ellickson, 2015; Molyneux, Altunhas &

Gardner, 1996). According to Ellickson (2015), the market concentration ratio is expressed in terms of the percentage market share of the largest four to eight firms (CR4 to CR8) in an industry. The concentration ratio is calculated by dividing any of the following: annual turnover (sales), production, return on assets (ROA), return on equity (ROE) or equity to assets of the top four or eight firms by the total equivalent in the industry (Yang *et al.*, 2017, Chen, 2013). Where ROA is calculated by dividing the profit by the average assets of the company, ROE is calculated as net income by the average equity. According to Sathye (2005), low concentration ranges from 0 to 50% (perfect competition to monopolistic competition), medium concentration ranges from 50 to 80% (oligopoly), and high concentration ranges from 80 to 100% (tight oligopoly to monopoly).

HHI measures the degree of competitiveness in an industry which, unlike the simple concentration ratio, considers the total number, size and dispersion of firms in the market (Molyneux *et al.*, 1996). According to Robert (2012); Alhassan, Addisson & Asamoah (2015) HHI is calculated by the sum of squares of market share of each firm competing in a market of an industry in terms of annual turnover, and assets reflecting the degree of monopoly level. The result of an equation ranges from close to zero up to 10 000.

$$HHI = \sum_{i=1}^n S_i^2$$

where S_i is the market share of the i^{th} company in the industry, n presents the number of companies in the industry (Sahile *et al.*, 2015; Alhassan *et al.*, 2015).

An increase in HHI indicates a rise in market power (monopolistic power) within an industry, while a decrease in HHI signifies a decline in monopolistic power and an increase in competition. An HHI value below 1000 is indicative of lower market concentration and a competitive market. An HHI ranging from 1000 to 1600 reflects moderate concentration and limited competition. An HHI between 1600 and 1800 suggests a high concentration, resembling an oligopoly where several large firms exert control over the industry. An HHI exceeding 1800 signifies a highly concentrated market with monopolistic power (Basturk, 2012; Bello & Isola, 2014)

According to Ellickson (2015); Athanasoglou, Brissimis and Delis (2008), the relationship between market concentration and industry performance is explained

by two competing industrial market structure performance analysis hypotheses, called the Structure-Conduct-Performance (SCP) and the Efficient Structure (EFS). The next subsections discuss the theoretical foundations and empirical evidence of the relationship between market structure and industry performance explained by the two hypotheses.

3.3.1 Theoretical Basics: Industry Performance and Market Structure

i. Structure-Conduct-Performance (SCP)

SCP is referred to as the traditional or oldest hypothesis explaining the effect of market structure on industry performance (Gilbert, 1984; Hannan, 1991; Bain, 1951). SCP as defined by Bain (1956) states that market concentration of an industry determines conduct of a firm in an industry and performance of an industry (Tan, 2013). Conduct of firms refers to goals of the firms, price-setting norms and attitudes, oligopolistic features, and collusive behaviour. The conduct of firms is influenced by the concentration of an industry (Lipczynski, Goddard & Wilson, 2005; Van Berkum, 2009; Viira, Omel, Varnik, Luik, Massing & Poldaru, 2015).

The central claim of the SCP hypothesis is that high concentration leads to lower competition among firms in an industry, and thus, lower industry performance (Mason, 1939; Bain, 1956; Ellickson, 2015). According to the SCP hypothesis, there is an inverse relationship between market concentration and industry performance which implies a monopolistic or an oligopolistic market structure where a few firms dominate the market. This implies a loss of welfare that leads to the underperformance of an industry (Sathye, 2005; Yoon, 2004; Stigler, 1964; Bain, 1951). The links between structure to conduct to performance is shown in Figure 3-2 (adopted from Lipczynski *et al.*, 2005).

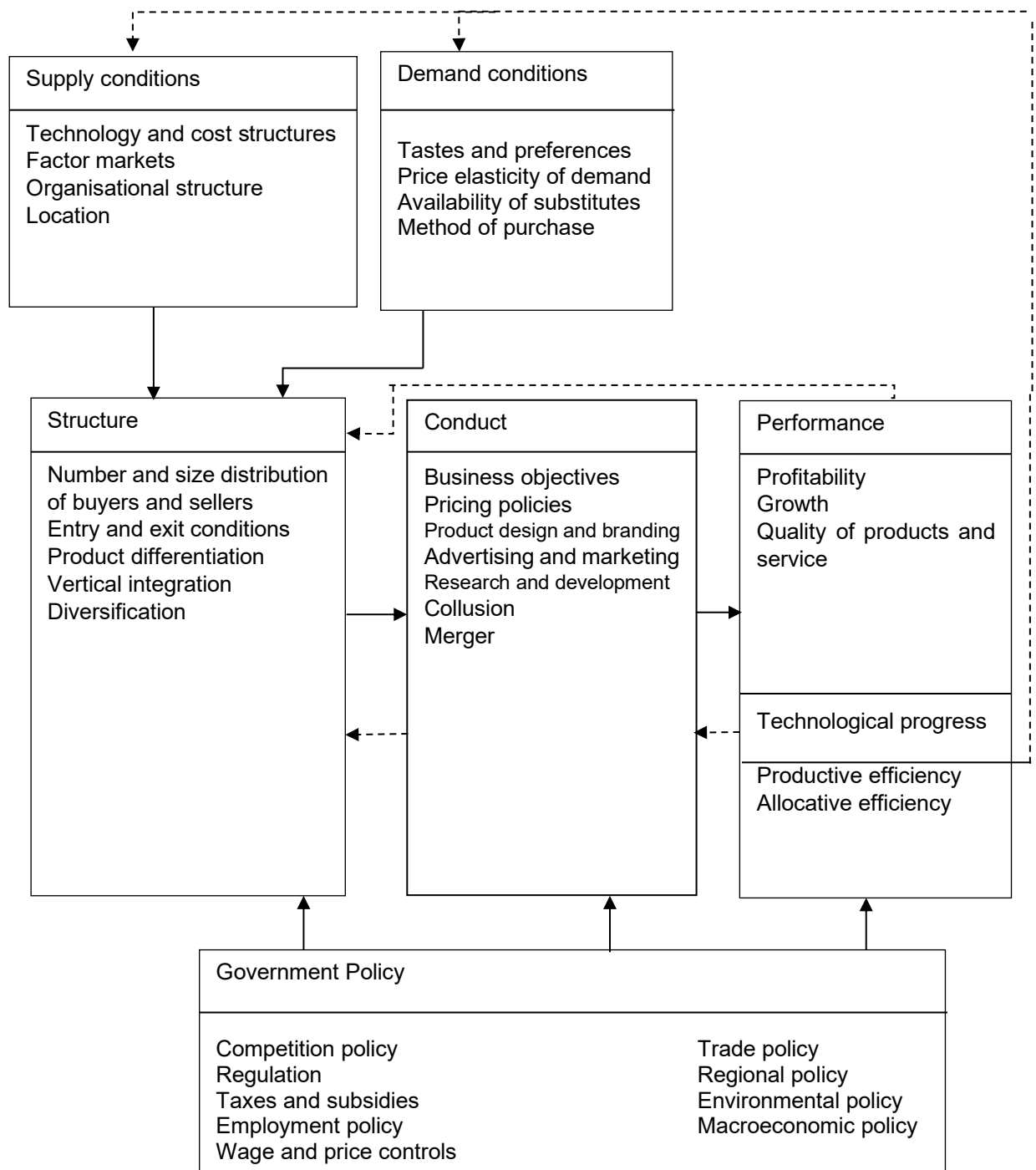


Figure 3- 2: Structure-Conduct-Performance (SCP) paradigm

Source: Lipczynski, et al., 2005 p. 7

ii. Efficient Structure (EFS)

The efficient structure (EFS) hypothesis maintains that there is a positive relationship between market concentration, greater market share and industry performance (Demsetz, 1973, 1974). According to the EFS hypothesis higher profits are achieved, not because of collusive behaviour but due to the superior efficiency

of firms in an industry (Van Leuvensteijn, Sorenson, Bikker & Van Rixtel., 2013; Sathye, 2005). Unlike SCP, EFS emphasises superior efficiency (lower costs) as a pre-condition for superior profitability (Van Leuvensteijn *et al.*, 2013). The EFS Hypothesis posits that market forces tend to drive industries toward their most efficient market structure over time, ultimately benefitting consumers, promoting economic well-being, and increasing industry performance (Van Leuvensteijn *et al.*, 2013). According to Swinnen, Deconinck, Vandemoortele and Vandeplass (2015), high-market concentration results in economies of scale, efficiency and an increase in industry performance.

Thus, the central difference between the SCP and EFS hypotheses is how they explain the relationship between market concentration and industry performance. In summary, the SCP hypothesis claims that high-market concentration erodes competition, which results in a welfare loss and eventually poor industry performance (Mason, 1939; Bain, 1956; Ellickson, 2015). The EFS hypothesis argues that higher market concentration results in superior efficiency of firms in an industry that capitalises on opportunities to increase profits and expand their market share, this ultimately leads to enhanced industry performance.

3.3.2 Empirical Evidence: Industry Performance and Market Concentration

A large body of literature endorses the theoretical foundation of the relationship between market structure concentration and industry performance in support of both SCP and EFS hypotheses. This section presents the empirical evidence of the relationship between market concentration and industry performance.

Bello and Isola (2014) investigated the relationship between market structure concentration and performance of Nigeria's banking industry. They employed the SCP and EFS hypotheses to clarify this relationship. Panel data was used encompassing return on assets (ROA), assets, deposits, and loans from 12 Nigerian commercial banks, covering the period 2004 to 2013. The authors employed independent variables of concentration ratios: CR4 and CR8, and HHI representing market share in terms of assets, deposits, and loans. The dependent variables were return on assets (ROA), serving as proxy measures of industry performance. The analysis involved descriptive statistics and fixed-effect panel regression. Findings of

the empirical study included: (i) Descriptive analysis indicated moderate market concentration, with HHI values ranging between 1,000 and 1,600, highlighting the presence of moderate market concentration in the industry. (iii) The panel regression analysis revealed a negative relationship between market concentration and ROA, which contradicted the EFS hypothesis. Based on these findings, they recommended that regulatory authorities and the Central Bank of Nigeria implement policy measures to encourage investments in infrastructure development and vibrant ownership structures, broaden the capital base to promote competition within the industry (Bello & Isola, 2014).

Capraru and Moise (2015) conducted a study to explore the relationship between the market concentration of the insurance market and the performance of the insurance industry in Romania. They used six years of insurance financial data spanning from 2007 to 2012. The data were collected from the regulatory authority overseeing the insurance industry and encompassed information from 41 to 46 insurance companies. They utilised gross premium as a proxy for gauging the insurance industry's performance and the HHI as a proxy for market concentration. They revealed a significant relationship between low market concentration and the performance of the insurance industry, thus confirming the SCP hypothesis. In the light of these findings, they recommended the implementation of policy measures designed to minimise entry barriers aimed to encourage new entrants to participate in the insurance market, fostering increased competition and potentially enhancing industry performance (Capraru & Moise, 2015).

Li, Nie, Zhao and Li (2017) investigated the relationship between market structure concentration, efficiency, and industry performance in China's solar cell industry, using the SCP and EFS hypotheses. They used panel data from 2008 to 2014, focusing on return on assets (ROA), market share and efficiency data from annual financial statements of the nine solar cell companies. They employed dependent variable, return on asset (ROA) as proxy measure of performance of the industry, and independent variables: market concentration measured by concentration ratio CR4 and HHI, market share and efficiency. Their findings revealed that despite high market concentration, there was a negative relationship between market concentration and industry performance, supporting the SCP hypothesis. They

recommended that enterprises should improve value chain governance, invest in technology and research, and expand their scale for enhanced efficiency and performance. Additionally, the government should encourage market share improvements, attract foreign capital, and implement regulatory measures to balance market concentration and industry efficiency (Li *et al.*, 2017).

Sahile, Tarus, and Cheruiyot (2015) investigated the impact of market structure concentration in the Kenyan banking industry on its performance, considering the SCP and EFS hypotheses. They analysed ten years of secondary financial data (2000 to 2009) obtained from banks of all sizes. They employed various performance measures, including return on assets (ROA), return on equity (ROE), and net interest margins (NIM), while market concentration was assessed using concentration ratio CR4 and HHI. Descriptive analysis of the data revealed that the Kenyan banking industry had a medium level of market concentration, with concentration CR4 range of 50-80%, and the HHI measured around 752 to 1018. Findings of the regression analysis showed that more efficient firms tended to perform better, which had a positive influence on the overall performance of the banking industry in Kenya, consistent with the EFS hypothesis. Their study concluded that high profits in the industry were primarily a result of efficiency rather than collusion, aligning with the EFS hypothesis and corroborating prior research findings (Sahile *et al.*, 2015).

Cole and McCullough (2015) investigated the connection between market structure concentration and the performance of health insurance in the US from 2002 to 2010, considering the SCP and EFS hypotheses. They used financial and operational data from the National Association of Insurance Commissioners (NAIC) database, with net premium as a proxy for industry performance and the concentration ratio HHI as a measure of market concentration. The key findings were as follows: (i) Descriptive analysis revealed that as market concentration decreased, the number of insurers increased, while premium per insurer rose.

(ii) Regression analysis showed a statistically significant positive relationship between market concentration and industry performance in terms of premium profits, aligning with the EFS hypothesis. (iii) However, the authors noted that the positive link between market concentration and profitability could be attributed to

various factors, making it unclear if the results fully supported the SCP or EFS hypothesis. Based on these findings, they suggested that policymakers consider implementing measures to explore other influencing factors. These measures included encouraging firms to expand market share, introduce cost-effective technology, increase investments in the industry, and re-evaluate regulations to enhance the efficiency of the health insurance value chain and reduce costs, ultimately attracting more customers to the insurance market and promote the industry performance (Cole and McCullough, 2015).

In summary, the findings from empirical studies investigating the relationship between market structure concentration and industry performance, as explained by the SCP and EFS hypotheses, revealed the significant role of market concentration in influencing the performance of industries. The findings aligned with both theoretical basis and empirical evidence. However, the studies collectively left the question of which hypothesis consistently explains the influence of market structure on industry performance unanswered. Some studies (Capraru & Moise, 2015) found a strong relationship between low market concentration and industry performance, while Li et al. (2017) revealed a negative relationship between high market concentration and industry performance, in which in both cases support the SCP hypothesis.

In contrast, other studies found a positive and significant relationship between high market concentration and improved industry performance, confirming the EFS hypothesis (Sahile *et al.*, 2015). There were also instances where a positive relationship was observed between market concentration and better industry performance, but the studies failed to firmly confirm either the EFS or SCP hypothesis (Cole and McCullough, 2015). Further, some literature suggested that other factors including economic growth, innovation and technology, and value chain governance play significant roles in influencing the relationship between these variables.

3.4 Industry Performance and Innovation

There is ongoing debate among scholars about how to precisely define innovation (Boring, 1950; Ruttan, 1959; Fagerberg, Mowery & Nelson, 2004, 2013). Some

describe it as the transformation of new ideas into action, involving the development of new products, market expansion, and organisational changes (McDaniel, 2002; Tiwari, 2008; Ramadani and Gerguri, 2011; Neely 1998). In the context of the value chain, innovation is a result of continuous interactions and collaboration among stakeholders, including suppliers, customers, and institutions, influenced by legal frameworks and industry norms (Fagerberg, 2002; Fagerberg, *et al.*, 2004, 2013; Zhou, Shalley, & Hitt, 2015). Customers understand innovations as access to better products and services, while employees see it as the opportunity for skill development and higher compensation. Businesses perceive innovation to ensure sustainability in profitability and growth, while industries benefit from increased productivity (Ramadani & Gerguri, 2011, 2011b).

Literature suggests various methods for measuring innovation performance. Some approaches involve counting patents, assessing market share, and monitoring R&D expenditures (Cankar and Petkovsek, 2013; Pro Inno Europe, 2011; Hall & Bagchi-Sen, 2002). R&D expenditure is widely accepted as a method for measuring innovation often expressed as a percentage of GDP, sales or capital of a firm or an industry (Hashi & Stojcic, 2013; Pro Inno Europe, 2011; Koorens & Drakopoulos, 2009; Fagerberg & Srholec, 2008). According to Fagerberg (1987) and Audretsch (2004) innovation performance is measured by R&D expenditure including investment in technology and IT, as percentage of sales, capital or GDP of the relevant entity albeit a firm, industry, or country. Sales are accounted as a percentage of economic growth (GDP) serving as proxy measure for industry performance. While R&D spending (expressed as a ratio of GDP per capita or as a percentage GDP) serves as a proxy for innovation performance in the same industry. Empirical studies (Loury, 1979; Archibugi & Coco, 2005; Neely, 1998; Clark & Guy, 1998; Eggink, 2012, 2012b; Guloglu & Tekin, 2012; Calabrese, Campisi, Capece, Costa & Pillo, 2013; Brasil, Abreu, Filho, & Leocadio, 2016) have highlighted R&D as a reliable and standardised measure and confirmed strong positive relationships between innovation and industry performance. The next subsections discuss innovation based on the theoretical and empirical evidence of the relationship between innovation and industry performance.

3.4.1 Theoretical Basics: Industry Performance and Innovation

Innovations are the drivers of performance in industries (Gerybadze, 2010; Bozkurt, 2015). While innovation is regarded as a source of competitive advantage and efficiency in firms, it also leads to better industry performance and eventually to higher economic growth (Ramadani & Gerguri, 2011a and 2011b; Carlyle, 1840). Literature (Chen, 2017) on innovation identifies three perspectives regarding the impact of innovation on the performance of firms in an industry: the direct effect, the moderating effect, and the mediating effect. The first perspective suggests a direct and decisive impact economic growth on the relationship between innovation and industry performance, characterised by positive, negative, or neutral effects (Naqbi, Alshurideh, AlHamad & Kurdid, 2020; Chen, 2017; Cho & Pucik, 2005). The second perspective proposes an indirect (moderating) influence of innovation-related internal and external environment factors in the relationship between innovation and industry performance (Garg, Walters & Priem, 2003). The third perspective posits a mediating impact of strategies and policies on the relationship between innovation and industry performance (Neely, Filippini, Forza, Vinelli, & Hii, 2001).

Literature (Carayannis & Provan, 2007; Carayannis & Alexander, 2002) also propose a causal relationship between performance measurement variables of an industry and innovation performance measurement variables. The next section discusses evidence of studies on the relationship between innovation and industry performance.

3.4.2 Empirical Evidence: Industry Performance and Innovation

Calabrese *et al.* (2013) examined the relationships between innovation and its impact on firms' performance in the Italian biotech and aerospace industries in the Lazio region of Italy. They used data from a sample of 47 companies of which 20 operated in the aerospace sector and 27 in biotechnology. It applied a survey questionnaire tool, employing the Likert scale with scores from 1 to 5. It employed explanatory variables serving as proxy measures of industry performance, including technological knowledge, skilled workforce, R&D, organisational culture, a climate for creativity, an innovation index as a proxy measure of innovation and dependent variables consisting of revenue, market share, efficiency, and productivity.

They used a correlation method for analysis. Calabrese *et al.* (2013) revealed correlation between the variables and a significant influence of innovation on the performance of the industries. They recommended that policymakers in Lazio region to introduce incentive schemes aimed expansion investments in technology and encourage public-private R&D partnerships to promote innovation in both the enterprise and economic sectors which through to enhance economic growth for the region (Calabrese *et al.*, 2013).

Pradhan, Arvin and Bahmani (2018) examined the causal relationships between innovation, financial performance, and economic growth in 49 European countries. They used 54 years of time series data covering the period from 1961 to 2014. The data were obtained from a financial statistics bulletin published by the World Development Indicators (WDI), compiled by the World Bank (WB) and the International Monetary Fund (IMF). They employed variables including real per capita GDP, innovation measures (patents and R&D expenditure as a percentage of real GDP), and financial development indices. To analyse the relationships among the variables, they utilised multi-regression models, including Vector Error Correction Models (VECM) and Ordinary Least Squares (OLS) regression. These models helped determine co-integration and used Granger causality to identify the presence of a long-run relationship and the direction of causality among the three variables.

They found (i) cointegration and a long-run causative relationship between financial performance, innovation, and per capita economic growth and (ii) a strong positive causality running from innovation to financial performance. Based on these findings, they recommended that the respective countries and their finance sectors to (a) introduce policies that encourage innovation to enhance the performance of the finance sector, (b) initiate reforms to advance innovation and technological capabilities to promote efficiency, and (c) focus on building knowledge-based economies with special attention to specific technologies that could make a significant difference (Pradhan, *et al.*, 2018).

Sujit and Kumar (2016) examined the impact of advertising and R&D in the performance of the manufacturing industry in India during recession. They used

non-financial and financial data including advertisement and R&D expenditures, sales revenue, profit after tax and assets of firms, drawn from a sample of 3 439 firms of the 22 000 firms of cross-sections of 26 industries in India over the period 2000 to 2012 (recession period based on negative GDP). They applied independent variables including R&D and advertisement expenditure as a percentage of sales revenue and dependent variables including financial leverage (ratio of debt to assets) and profitability measured by profit after tax as a percentage of sales revenue of the firms. They adopted both descriptive and regression OLS methods for the analysis. The findings of the analysis showed the positive and strong influence of R&D on the performance of the manufacturing industry and the impact of R&D was more significant than the influence of advertising on the performance of the industry (Sujit & Kumar, 2016).

Bozkurt (2015) examined the relationship between R&D expenditure and economic growth in Turkey using 16 years (from 1998 to 2013) data, including gross domestic expenditure on R&D and GDP of Turkey, drawn from the World Development Indicators (WDI) of World Bank and Turkish Statistical Institute. They applied variables: R&D expenditures measured as a percentage of per capita GDP and per capita GDP as a measure of economic growth. They employed regression models of VECM and VAR and Granger Causality for the analysis. They found a statistically significant long-run relationship between variables of R&D and economic growth. Further, they found Granger Causality ran from GDP to R&D, indicating that R&D was more sensitive to changes in GDP while there was no evidence of Granger Causality ran from R&D to GDP (Bozkurt, 2015).

Crespi, Ortiz, Tacsir, Vargas and Zuniga (2014) examined the innovation features of manufacturing firms in Latin America and the Caribbean countries. They used R&D expenditures of firms as a proxy measure of innovation and productivity, and the level of involvement of the firms in international markets as measure of industry performance. The data were obtained from Enterprise Surveys of 2010 conducted through interview questionnaires from a sample of 1,200 to 1,800 firms, covering a broad range of business environments, including medium-sized and smaller economies. They defined innovation as the share or proportion of firms invested in

new products and processes, and it measured the proportion of firms invested in R&D. The survey adopted a descriptive method of analysis.

They found that (i) firms that spent more on R&D had a stronger presence in international markets and had a substantial impact on productivity and economic growth, (ii) innovations were strongly correlated with firm size, and smaller and medium-sized firms faced challenges in becoming involved in innovation due to financial limitations, and (iii) Latin American firms faced challenges in getting involved in innovation due to limited access to finance and support, often due to the lack of appropriate public policies in their respective countries. They recommended that firms in the industry should urge public policymakers to implement incentive policies to encourage investments in innovation and R&D activities (Crespi *et al.*, 2014).

Rajapathirana and Hui (2018) explored the connection between innovation capability, innovation, and financial performance, specifically their relevance to addressing the mounting competitive challenges in Sri Lanka's insurance sector. They employed a conceptual framework encompassing four dimensions: insurance product, process, marketing, and organisational factors to assess innovation in the insurance industry. Primary data were collected through a five-month survey employing a five-point Likert scale instrument. Before the survey, a pilot test was conducted with senior managers from insurance companies to validate the variables' impact on industry performance. The data were collected from 393 respondents out of 550, selected based on the size of their organizations and the number of employees. The researcher utilised the SPSS statistical software package to validate the constructs.

The findings indicated that the significant and positive influence of technology, innovation capability and knowledge on the causal relationship between innovation and finance sector performances. Moreover, they unveiled positive and significant relationships between innovation, financial and marketing performance in the industry. Consequently, they suggested that insurance companies should develop an organizational culture and managerial capability and competence that fosters innovative behaviour. According to the study (Rajapathirana and Hui, 2018) this

involves empowering of individuals within companies in the industry to foster an innovative mindset and utilizing technology and knowledge to strengthen innovation capabilities. These measures contribute to enhancing the overall performance of the finance sector, including the insurance industry.

In summary, the findings of the studies (Pradhan *et al.*, 2018; Rajapathirana and Hui, 2018; Sujit and Kumar, 2016; Crespi *et al.*, 2014) aligned with the theory of strong connection between innovation and industry performance. The findings revealed a positive significant impact of innovation on industry performance, with causality running from innovation (R&D) to industry performance. It highlighted the significance of technology, knowledge, innovation capabilities and competency in driving innovation, and reinforcing the causal relationship between innovation and performance of the industry (Pradhan *et al.*, 2018; Rajapathirana and Hui, 2018; Sujit and Kumar, 2016; Crespi *et al.*, 2014).

3.5 Industry Performance and Value Chain Governance Structure

Competition takes place between value chains, not entities (Heizer & Render, 2007). Changes, transformations, growth, and development strategies of countries are rooted in how industries are organised, integrated and governed across a value chain structure (Gereffi, 2005 & Humphrey, 2014). A value chain represents “the full range of activities that a firm performs to bring a product from a point of its conception to a point of end use and beyond” (Gereffi & Fernandez-Stark, 2011:4). According to these authors, a value chain includes functions and activities such as design, inputs supply, production, marketing, logistics, final consumer, and governance structure (Gereffi, 1995, 1999; Gereffi & Fernandez-Stark, 2011). The value chain involves direct and indirect hierarchal and non-hierarchal linkages between firms of an industry (Gereffi & Fernandez-Stark, 2011, 2016). The analysis comprises six dimensions of relationships namely (i) input-output structure (processes of transforming products), (ii) geographic (global structure) (iii) governance structure (set of principle and procedures that governs interactions of actors in a value chain), (iv) upgrading dimension (dynamic of movements within the value chain, (v) institutional context (economic and social values), and (vi) industry stakeholders’ dimension (Gereffi & Fernandez-Stark 20016; Humphrey & Schmidz, 2002).

Value chain governance structure refers to how actors in general and lead firms in particular shape the distribution of profits between the actors in the value chain (Gereffi, Humphrey & Sturgeon, 2005). Value chain governance structure has evolved as a subject of study to understand the dynamics of business, the interactions and relationships between the actors, the value chain of an industry, and the governance types as a driving factor for economic performance, career-building and industry performance (Golini, De Marchi, Boffelli, & Kalchschmidt, 2018). According to Gereffi and Fernandez-Stark (2011), value chain governance structure analysis benefits policymakers, researchers and value chain actors in having in-depth insights regarding global influences, industry realities and emerging drivers of value chains and dynamics of market structures.

The literature offers two key bases of business governance typologies: market-based governance structure and non-market-based governance relations. Non-market governance refers to public legal and regulatory frameworks while market governance refers to the supply and demand-based governance relationships among actors of a value chain (Gereffi, *et al.*, 2005). Gereffi, *et al.* (2005); Frederick and Gereffi (2009) identify three key factors (variables) that determine value chain governance structure types. These determining factors (variables) include:

- the level of complexity of information and the knowledge required by the actors in the chain to sustain a particular transaction,
- the easiness or extent to which transactions and knowledge can be codified and transmitted into organised systems of standards, principles and laws shared between the parties in the chain, and
- the capabilities and competency of the actors to perform and deliver all specifications of transactions at the required standards in terms of quality and safety.

These can be changed or shifted from a pattern of being supply-driven (powerful role of supplier) to being demand-driven (powerful role of a buyer or the other way around, identified in five degrees of hierarchical levels). Further, these variables can be influenced by the concurrent changes in the global supply chain, technological advancement, competition, degree of explicit coordination and power asymmetry

(Gereffi & Fernandez-Stark, 2011). These factors can also be influenced by deregulation, trade liberalisation, globalisation, vertical disintegration, innovation, marketing strategies, market competitions, industry performance and market structures (Humphrey & Schmitz, 2001; Gereffi, Lee & Christian; 2009). Based on the factors, Gereffi *et al.* (2005) and Gereffi and Fernandez-Stark (2011) propose five types of value chain governance structures comprising markets and modular, relational, captive and hierarchical structures, ranging from a low to high degree of explicit coordination and power asymmetry. These governance structure types are described below.

The market value chain governance type is characterised by traditional arms-length relationships that involve minimal or no formal cooperation. Customers respond to supplier specifications, and the central determining factor is the price of the transaction. Information exchange on products and processes is simple, requiring low knowledge to manage and codify transactions into a standard system. The level of capability and competency needed to manage transactions is also low, resulting in a low cost of switching for both producers and buyers (Gereffi *et al.* 2005; Frederick & Gereffi 2009; Gereffi & Fernandez-Stark, 2011).

In contrast, the modular value chain governance structure type requires technical standards and simplification of interactions by integrating components and processes to offer a comprehensive package of products to buyers. Suppliers become more competent, producing products to customer specifications and offering turn-key services. They take full responsibility for process technology, using generic machinery and investments. Transaction relationships involve substantial information flow between actors, relying heavily on information, technology, and standards. Unlike classic markets, information complexity remains uncoded, with minimal coordination. Power asymmetry favours the supplier, and the cost of switching to new partners remains relatively low (Gereffi *et al.* 2005; Frederick & Gereffi, 2009; Gereffi & Fernandez-Stark, 2011).

Relational value chain governance structure type is characterised by high interaction between buyers and suppliers, involving shared competencies, collaborative communication, problem-solving, joint planning, and interdependence. This

governance type is based on long-run relationships, simplifying complexity through information codification about product specifications and architecture. Transactions rely on codified information, requiring mutual dependency, regulated through values, reputation, social ties, and credible commitments. The power balance between buyers and sellers is more symmetrical, as both contribute key competencies. Producers in relational chains are more likely to supply differentiated products. Building relational linkages takes time, resulting in high costs and difficulties when switching to new partners (Gereffi et al. 2005; Frederick & Gereffi 2009; Gereffi & Fernandez-Stark, 2011).

Captive value chain governance involves the ability to codify complex product information but limited supplier capability to influence complex product specifications. This governance type requires the intervention and control of lead firms (buyers). Captive suppliers depend on various value chain activities, including design, logistics, and technology provided by buyers. They operate under conditions set by lead firms, facing strong ties and high switching costs, making them captive. Power asymmetry benefits lead firms, like control over subsidiaries or affiliates (Gereffi *et al.* 2005; Frederick & Gereffi 2009; Gereffi & Fernandez-Stark, 2011).

Hierarchy value chain governance is characterised by vertical integration, where lead firms have full managerial control over design, manufacturing, distribution, and competency exchange within the value chain. In hierarchy governance, products are complex and suppliers have limited autonomy. It represents an integrated institutional power and decision structure (Gereffi et al. 2005; Frederick & Gereffi 2009; Gereffi & Fernandez-Stark, 2011).

Figure 3- 3, as adapted, shows the five-value chain governance structure types, classified and arranged horizontally from left to right from low to high degree of explicit coordination and power asymmetry.

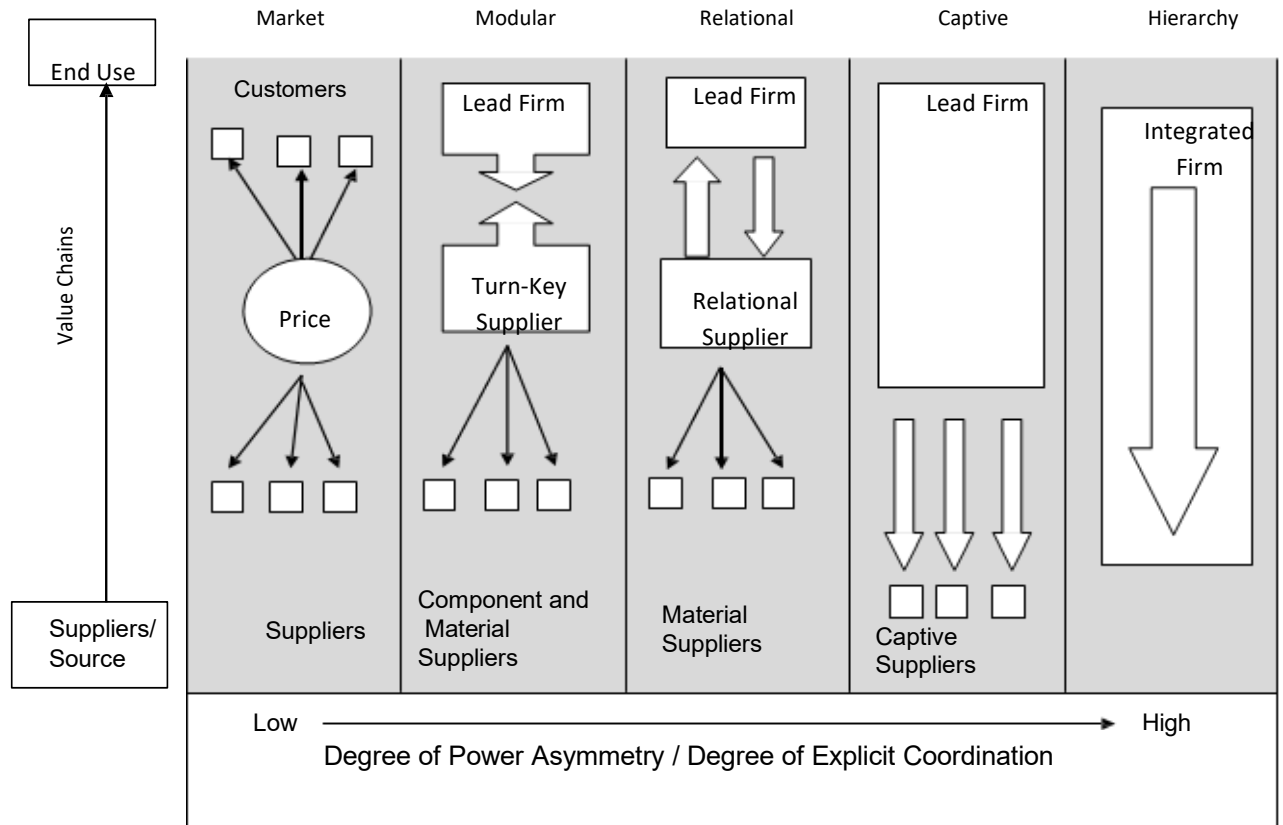


Figure 3- 3: Value chain governance structure types

Source: Gereffi & Fernandez-Stark, 2011. Global Value Chain Analysis: A Primer

3.5.1 Theoretical Basics: Industry Performance and Value Chain Governance

The literature highlights the critical role of value chain governance in industry performance. The influencing role of value chain governance depends on the capability and competency of the governance to manage complex transactions, codify transactions to standards, and deliver specifications to the required quality and safety (Gereffi, 2011; Gereffi, *et al.*, 2005). Literature (Williamson, 1996, 1995 & 1975; Gereffi *et al.*, 2005) further asserts the superior role of relational value chain governance in industry performance, while Whipple, Frankel, and Anselmi (1999) argue in favour of both relational and captive value chain governance structures. In light of this, as proposed by Whipple *et al.* (1999), relational and captive value chain governance structures serve as the foundation for driving innovation, conducting R&D, and enhancing competitiveness and performance within a value chain.

Literature (Porter, 1991; Wang 2003; WB & IMF, 2005; OECD, 2007; Dixit, 2009; Termeer, Dewulf & Lieshout, 2010; Mohan, 2014; Blommestein, 2015) emphasises the critical role of the regulatory and institutional frameworks in maintaining a balance of power among actors in the value chain governance and its role in facilitating to enhance industry performance.

Well-established institutional infrastructures significantly enhance industry performance by reducing costs and improving market access (Garayannis & Sag, 2002; WB, 2017; Luo & Xu, 2018). Infrastructures encompass various elements, including institutional structures, roads, utilities, communication networks, policies, norms, values, and regulatory systems (Garayannis & Sag, 2002; Draskovic & Lojpur, 2013; OECD, 2016; WB, 2017; Luo & Xu, 2018). Graduate training programmes, such as MBA or MAS, play a pivotal role in developing managerial and leadership skills and elevating human capital (Blommestein, 2015; Zhang & Nesbit, 2018; Gloet & Samson, 2018). Leaders require knowledge, skills, and educational qualifications to leverage their country's industry strategies and infrastructure (Mumford, Todd, Higgs, & McIntosh, 2017; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Mumford & Van Doorn, 2001). Specialised training institutions are instrumental in shaping skills, motivating employees, and contributing to industry effectiveness (Chandan, 2017; WB, 2017). Further, according to Szczepanska-Woszczyzna and Dacko-Pikiewicz, (2014); a strong correlation exists between innovation and human capital, with competencies of managers and employees being crucial for successful innovation.

3.5.2 Empirical Evidence: Industry Performance and Value Chain Governance

Gyau and Spiller (2008) examined the relationship between the performance of the Ghanaian fresh produce export industry and the value chain governance measured by the value chain governance types. They gathered export data from Ghana's fresh produce industry, compiled by the Ghana Export Promotion Council. The data was collected through a questionnaire, where exporters described their preferred value chain governance modalities on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). They applied dependent variables: cost reduction, profitability, behavioural relationships, overall satisfaction, expectations, and

commitment, to assess the performance of the industry. For independent variables, they considered market, modular, relational, captive, and hierarchical value chain governance structures.

They employed descriptive statistics and one-way ANOVA methods to analyse the impact of governance structure on industry performance. The results indicated that differences in firm performance were significantly linked to the type of value chain governance structure they employed. Firms using hierarchical value chain governance structures exhibited higher performance. The findings were aligned with the value chain governance proposition by Whipple *et al.* (1999), suggesting that firms with high power asymmetry and explicit coordination, such as captive and hierarchical value chain governance structures, tend to perform better. Based on the findings, Gyau and Spiller (2008) recommended that the industry foster more coordinated relationships among its members and European counterparts to enhance efficiency and performance. They also encouraged future research to consider the impact of additional factors, including innovation, when studying industry performance before proposing specific value chain governance structures (Gyau & Spiller, 2008).

Golini *et al.* (2018) investigated the influence of value chain governance on innovations, human capital development, and industry performance of the assembly industries in various countries across the globe. They considered: market, modular, relational, captive, and hierarchical value chain governance types as proxy measures of governance structure and industry performance measured by economic progress, environmental factors, and social development within the industries of the respective countries. In their study, Golini *et al.* (2018) employed a quantitative method to analyse the data. The data were accessed from a dataset of the international manufacturing strategy survey, conducted in 619 firms across 22 countries in Asia, Europe, North America, and South America. Further, to measure economic performance, they relied on indicators such as the introduction of new products, product quality, and product customisation. In assessing innovations related to process improvement, they considered unit-manufacturing cost reduction, manufacturing lead time reduction, and ordering cost reductions. Environmental upgrading was measured through reductions in water, material, and energy

consumption, as well as decreases in pollution emissions and waste. Additionally, they used indicators like motivational factors, and health and safety conditions to evaluate human capital development.

A consortium of universities surveyed in countries where companies were randomly selected. The targeted respondents held positions such as operations or manufacturing directors, or equivalent roles. Participants were asked to evaluate their respective company's value chain governance structure in relation to interactions with downstream and upstream actors, using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

They suggested that relational and captive value chain structures were more effective than market and modular structures in influencing innovations, R&D, knowledge development, and enhancing competitiveness within the industry. Companies employing relational and captive value chain governance structures were better positioned to initiate and drive innovations, such as introducing new products and improving process efficiency. They also played a significant role in fostering employee career development within their industries. The research further revealed that the relational governance structure was particularly effective from the customer's perspective, influencing innovations and various industry performance metrics. On the other hand, the captive value chain governance structure excelled from the supplier's side, driving innovations and other industry performance measures (Golini *et al.*, 2018). These findings align with the hypotheses proposed by Gereffi *et al.* (2005) and Whipple *et al.* (1999) regarding the roles of the value chain governance structures. Based on their study, Golini *et al.* (2018) recommended policies and planning initiatives aimed at encouraging industry firms to enhance their operational innovation capabilities, promote employee career development, and foster collaboration with global firms throughout the value chain.

Luo and Xu (2018) conducted a literature survey to examine the connection between infrastructure investment, economic growth, and the impact of infrastructure on value chain governance of industries in developing countries. The literature review yielded the following findings: (i) Infrastructure was found to be a critical instrument for economic growth and industry performance, (ii) investment in

infrastructure and economic growth were found to reinforce each other to accelerate industry performance, (iii) inadequate (undeveloped) infrastructure imposed obstacles to the industries of the less developed countries as (a) they could not integrate with the global chain structure and upgrade themselves to be efficient in the value chain governance, and as (b) they lost the opportunity to take forceful initiatives to capture premium earnings from the value chain, (iv) Industries in most African countries were suffering from facing high costs of operations, uncertainties of logistics due to inadequate (poor) infrastructure, including lack of efficient transport systems, lack of adequate ICT, lack of access to energy, burdensome border procedures, and unskilled workforce and little managerial skills.

Azolibé and Okonkwo (2020) conducted a study to assess the impact of infrastructure on industry performance in Sub-Saharan Africa, using data from 17 countries spanning from 2003 to 2018. They examined various infrastructure components, including ICT, transport, power, and water and sewerage systems. They employed a least squares regression analysis to explore the relationship between infrastructure development and industry performance, investigating whether earlier performance influenced later performance. They found that: (i) Industry performance was significantly influenced by the quantity and quality of a country's infrastructure. (ii) The relatively low performance of industries in Sub-Saharan African countries was largely attributed to poor infrastructure conditions, particularly in electricity, ICT, and water supply systems. (iii) Regarding ICT, transport, power, and water and sewerage systems, where the accessibility ranged from 56% to 25%. Ethiopia ranked among the bottom ten poorest performers in Sub-Saharan Africa. (iv) Developed countries with well-established infrastructure experienced a positive impact on industry performance. Furthermore, their findings align with the 2018 Africa Infrastructure Development Index report by the African Development Bank (ADB, 2018), which suggests that a well-established and adequate infrastructure is a crucial factor in fostering high industrialised economies and positively influencing industry performance.

Liu (2021) conducted a study to assess the role of public policies in the animation industries of the UK and China. The research aimed to investigate whether various public policies, including subsidies like tax relief programmes, standardisation, and

regulatory measures for copyright protection, could incentivise these industries to invest in technology, research and development (R&D), and knowledge-building to enhance their overall performance. The research employed a comprehensive approach to examine macro-systems and subsector innovation systems, which highlighted interactions among three subsystems: Closed Innovation Systems (CIS), Open Innovation Systems (OIS), and Social Innovation Systems (SIS). Large firms often led R&D activities and the delivery of new products and services to the market. Data collection primarily involved a literature review and the analysis of secondary documents, including industry reports and government policy documents. The thematic content analysis method was applied to examine the collected data.

The findings included that: (i) Public policies play a vital role in enhancing the innovation dynamics of Small and Medium-sized Enterprises (SMEs) within the animation industry. (ii) Government policies focusing on the supply side, such as tax policies and cluster support for training and education, can effectively promote SME innovation in the industry. (iii) In industries where innovation resources are limited, government policies can have a significant impact. (iv) Macro-level public innovation policies can be implemented across the entire value chain of the industry, leading to different features in the innovation patterns of the described subsystems. (v) Government policies are pivotal in encouraging knowledge and idea exchanges across the value chain, contributing to capability and competency building. (vi) Government policies can guide industry directions through standardisation, fostering the development of essential capabilities and competencies across the value chain, ultimately enhancing competitiveness and industry performance. The findings emphasised the critical role of public policies in influencing the interactions between macro-level and industry-level factors, including innovation, value chain governance, and industry performance.

To conclude, the literature underscores the pivotal role of value chain governance structures in driving innovation and enhancing industry performance. Gereffi *et al.* (2005) advocate the relational value chain governance structure for fostering shared commitment and decision-making between buyers and suppliers, which leads to improved industry performance. Meanwhile, Whipple *et al.* (1999) propose

that both relational and captive governance structures outperform market and modular structures in advancing technology, innovation, R&D, and gaining a competitive edge to boost industry performance. Whipple *et al.* (1999) note that value chain governance structures characterized by low explicit coordination and power imbalances, such as market and modular governance types, have a limited impact on, technology, R&D, efficiency enhancement, and industry performance.

The findings of Golini *et al.* (2018) and Gyau and Spiller (2008) further support the superiority of relational and captive value chain governance structures over market and modular types in driving technology, innovation, R&D, developing human resources, and enhancing competitiveness within a value chain, ultimately improving industry performance. Additionally, the literature highlights the interplay between industry performance and value chain governance structures, considering other factors such as economic growth, innovation, and market structure (Gyau & Spiller, 2008; Golini *et al.*, 2018).

3.6 Summary of Empirical Literature

Empirical literature reviewed showed mix findings, some aligning with the schools of thought, hypotheses, and suggestions while others in contrast. Table 3-1 provides a summary of selected empirical studies and their respective findings.

Table 3- 1: Summary of important empirical studies

Author (s)	Data	Variables employed	Methodology	Results
i. Economic growth and insurance industry performance				
Din <i>et al.</i> (2017)	Insurance premium and GDP 20 developed, merging and developing countries ten years 2006 to 2015	Insurance density/penetration vs economic growth in terms of per capita GDP	Regression: Fixed effect model and Granger causality	Unidirectional causality running from insurance to economic growth in all countries
Adetunji <i>et al.</i> (2018)	Insurance premium and GDP in Nigeria Time series 20 years 1996 to 2015	Insurance penetration and per capita GDP	Regression: OLS model and Granger causality	Unidirectional causality running from insurance to economic growth
Pradhan <i>et al.</i> (2017)	Insurance premium of life, non-life and total and economic growth, in 19 Eurozone countries, 34 years time series 1980 to 2014	Insurance density and per capita GDP	VECM was used to test existence of co-integration, VAR and Granger causality	i) Causality running from insurance to economic growth in some countries ii) Causality running from economic growth to insurance in other countries iii) Bidirectional causality in other countries iv) Independence or no-relationship in others

Author (s)	Data	Variables	Methodology	i) Results
Dash <i>et al.</i> (2018)	Insurance premium and GDP in 19 Eurozone countries, 35 years time series 1980 to 2014	Insurance penetration and per capita GDP	VECM to test existence of co-integration, VAR and Granger causality	ii) Causality running from insurance to economic growth in some countries iii) Causality running from economic growth to insurance in other countries iv) Bidirectional causality in other countries v) Independence or no-relationship in others
ii. Market concentration and industry performance explained by SCP and EFS				
Bello & Isola (2014)	ROA, assets, deposit, and loan of 12 commercial banks in Nigeria, ten years 2004 to 2013	ROA and CR4 and HHI of the market share on assets, deposits, and loans	Descriptive statistics and fixed effect regression model	Descriptive statistics findings Showed moderate to high market concentration. Regression analysis showed negative relationship between HHI and performance contrasting EFS (consistent with SCP).
Li <i>et al.</i> (2017)	ROA and market share extracted from financial statements of the 9 solar cell companies, seven years, 2008 to 2014.	ROA and Concentration ratio: CR4 and HHI of the ROA	Descriptive, fixed effect and random effect models	Negative relationship between market concentration and industry performance confirming presence of SCP hypothesis in the industry
Sahile <i>et al.</i> (2015)	Financial data of commercial banks in Kenya, ten years 2000 to 2009	ROA, ROE, NIM and independent: CR4 and HHI (of market share assets, deposits, loan)	Descriptive statistics and GLS regression	CR4 ratio and HHI (both low market concentration) negatively related with bank performance measures, inconsistent with SCP hypothesis, and positive and statistically significant relationship between market concentration and bank performance consistent with EFS theory
Cole & McCullough (2015)	Health premiums and cost of health insurance in the US between 2002 and 2010	Net premiums and HHI	Descriptive statistics and OLS regression	Descriptive, found decrease in market concentration and increase in number of firms, premium per insurer rose. Regression analysis found positive relationship between market concentration and profitability but the authors failed to claim whether the result was consistent with EFS, suggesting for consideration of other additional factors into the analysis
iii. Innovation and industry performance				
Pradhan <i>et al.</i> (2018)	Real capita GDP, measures of innovation (patent by residents per million population, R&D as percentage of real GDP and financial development indices, 1961 to 2014	Real per capita GDP, various financial performance indices and innovations: (patents, R&D expenditure as a percentage of real GDP)	Multi regression models (VECM and OLS) and Granger causality	Positive causality running from innovation to financial sector performance. Long-run causative relationship between financial performance indices innovations, and economic per capita.
Sujit & Kumar (2016)	Non-financial and financial data: advertisement and R&D expenditures, sales revenue, profit after tax and assets of firms, over the period 2000 to 2012	Ratio of debt to assets and profitability as a percentage of sales of firms and independent: R&D and advertisement as a percentage of sales	Descriptive and regression OLS methods	Positive and strong influence of R&D on the performance of the manufacturing industry

Author (s)	Data	Variables	Methodology	Results
Crespi <i>et al.</i> (2014)	R&D expenditures by firms, productivity, and involvement in international market surveys 2010.	Productivity and level of involvement of the firms in international markets and independent: R&D expenditure as percentage of sales	Descriptive method of analysis	Firms spending more on R&D have stronger presence in the international markets Investment on R&D correlated with the size of firms
iv. Value chain governance and industry performance				
Gyau & Spiller (2008)	Ghana fresh produce industry export and exporters governance relationship opinion, Ghana fresh produce industry Directory 2006.	Reduction in cost, financial success (profit), behavioural relationship, overall satisfaction, expectation, and commitment Independent: five value chain governance structure types Industry performance and value chain governance types	Descriptive and one-way ANOVA statistics	Differences of performances of the firms to a large extent depend on the attributes of the type of the value chain governance structure. Findings affirmed that firms with hierarchal governance structure type showed better performance.
Golini <i>et al.</i> (2018)	Industry performance indicators and value chain governance measurement Likert-scale based data		Quantitative descriptive analysis	Relational and captive value chain structures were more effective than market and modular structures in influencing innovations and industry performance.

Source: compiled by author

3. 7 Framework of the Study

Literature (Grant & Osanloo, 2014; Adom, Hussein & Agyem, 2018; Yamauchi, Ponte, Ratcliffe & Traynor, 2017; Chowdhury, 2019) offers two concepts of frameworks for the field of research: theoretical and conceptual frameworks. The literature explains theory as an explanation of a phenomenon established through profoundly based empirical research, while literature explains conceptual framework as a tool developed to address a particular study with specific research objectives or questions. A theoretical framework, as described by Grant and Osanloo (2014), forms the foundation of research, guiding all aspects of the process, from literature review to method selection and analysis. It's firmly grounded in established knowledge. In contrast, a conceptual framework, also discussed by Grant & Osanloo (2014), is adaptable and tailored to address specific research objectives, guiding method selection and the analysis of how different concepts relate within the context of the research problem. It may not necessarily rely entirely on existing theories.

Considering the above, this research is grounded in both theoretical and conceptual frameworks. The research applied theoretical frameworks (theories and hypotheses) to analyse the performance of the insurance industry measured in relation to economic growth, market structure, innovation, and value chain governance. Simultaneously, a conceptual framework is used to assess and identify the quality level of managerial practices that the industry has been exercising. Specific data collection techniques and analysis procedures are employed for the analysis.

Further, for a comprehensive perspective, the research uses the conceptual framework to triangulate results, to find out how several factors collectively can impact the performance of the insurance industry. Considering this, the study intends to utilise the framework depicted in Figure 3-4. Thus, the conceptual framework comprises macro-level factor (economic growth) and industry level factors (market structure, innovations, and value chain governance) of the industry.

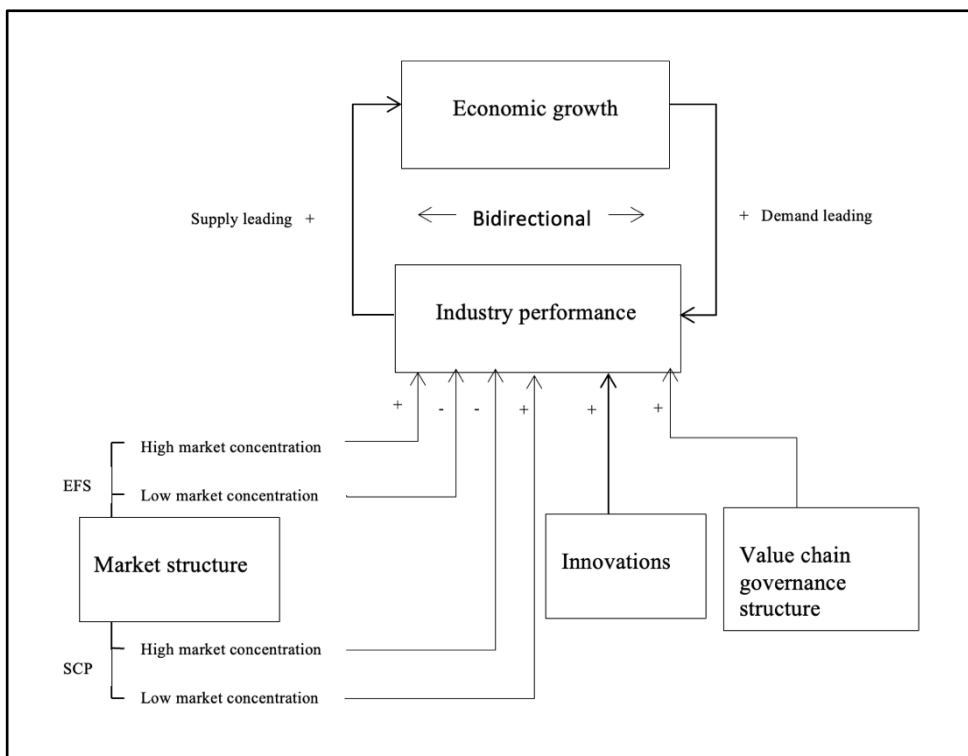


Figure 3- 4: Multi-level performance measurement conceptual framework

Note: Concepts are shown in boxes and the arrows indicate detection of influences.

Signs: (+) and (-) indicates positive and negative influences respectively and

EFS=efficient structure, SCP=structure-conduct-performance

Source: adopted and configured from literature reviewed, by author

The content of Figure 3-4 is described as follows:

The upper part of the figure illustrates the relationship between economic growth and the performance of an insurance industry, explained by the supply leading and demand leading schools of thought. The lower part depicts the impact of market concentration, explained by structure-conduct-performance (SCP) and efficient structure (EFS), innovation and value chain governance structure. The next chapter discusses research and data analysis methods.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter presents the philosophy and methods of research, organised as follows. Section two presents the research objectives. Sections two to four discuss the research philosophy, research paradigms; and research methods, leading to the choice of the appropriate research methods. Sections five and six describe the data collection and data analysis methods. Sections seven and eight deal with reliability and validity, and ethical considerations. Section nine presents a summary of the chapter.

4.2 Research Philosophy

Research encompasses a set of philosophical paradigms, plans, and procedures that extend from the research approach (design) to detailed methods, including data collection, investigations, and interpretations (Creswell, 2014; Tashakkori & Teddlie, 2003). Research philosophy refers to the human constructions of beliefs and principles, the researcher's philosophical orientation used in the research process, and the choice of methodology and methods (Denzin & Lincoln, 2000). Research philosophy consists of four components: ontology, epistemology, axiology, methodology, and research strategy (Lincoln & Guba, 1985; Mkansi & Acheampong, 2012; Gray, 2014).

Ontology is concerned with beliefs about being and becoming, the nature of the existence of reality, and whether there is a single verifiable reality or socially constructed multiple realities and relations between things. It serves as the foundation for researchers to contemplate nature, understand how things are, take a position on perceiving how things work and relate, and establish the research problem and its significance (Scotland, 2012; Scott & Usher, 2004; Richards, 2003; Patton, 2002 and 2015; Crotty, 1998).

Epistemology deals with the nature of knowledge, understanding the truth (reality) of nature, and how it can be created, acquired, broadened, deepened, comprehended, and communicated to others in the context of research. It forms the basis for researchers to position themselves in the sphere of research, to investigate and understand the unknown, given the known. Within the realm of epistemology,

the researcher draws knowledge from four sources: intuitive, authoritative, logical (rational), and empirical sources. The emphasis on empirical knowledge is derived from demonstrable experience and objective facts (Cooksey and McDonald, 2011; Schwandt, 1997; Kivunja & Kuyini, 2017).

Axiology refers to ethical and moral values required during research engagement, as explained by the principles of privacy, accuracy, property, and accessibility (Finnis, 1980; Slote, 1985).

Methodology deals with the strategy, action plan, and choice of methods, including research design, procedures, and instruments for data collection and analysis. It guides the logical flow of the process, assumptions, and limitations in undertaking a research project and obtaining the data necessary to address the research problem and explore knowledge (Keeves, 1997). Methodology guides the researcher in exploring the way and data required for a study of a phenomenon and the tools most appropriate for the study (Grix, 2004). The choice of methodology makes its base on the research philosophy paradigms, research strategy, and the attitude and inclinations of the researcher towards the phenomena (Zait & Zait, 2009).

The research strategy serves as the conceptual path (blueprint) for the research in the process of the study, linking the research philosophy, paradigms, research objectives, choices of methods, and strategy to the point of data collection and analysis (Saunders et al., 2012). According to Saunders et al. (2012), the research strategy is the plan that guides how the research should proceed to address the study questions, the methods of data collection, and the analysis of data. The establishment of a research strategy has no standardised pattern. It is influenced by the combination of the research problem, the state of situations, the context of circumstances, logical flow, and the research paradigms considered by the researcher (Zait & Zait, 2009; Buchanan & Bryman, 2007; Gray, 2014). The methodological paradigm proposes inferring cause (consequence and effect), deductive (derivation of consequence from what is assumed, guaranteeing the truth of the conclusion based on true suppositions), and inductive (inferring results of observations based on empirical evidence) (Zait & Zait, 2009).

Methods refer to how the research is designed and implemented, how research questions are developed, and how resources, including data accessibility, collection, treatment, and analysis, are framed (Cohen, Manion & Morrison, 2007). The choice of methods largely depends on the design of the research project and the researcher's theoretical mindset (Rehman & Alharthi, 2016). Methods design is based on the context of historical, political, economic, and social factors inherent to the subject under interrogation (Mertens, 2008).

Thus, ontology, epistemology, and axiology paradigms combined are the founding pillars for any research upon which researchers establish research problems, questions, set choices of methodology, methods and strategy to collect and analyse data, either quantitative or qualitative or both (Scotland, 2012).

4.3 Research Paradigms

Research methods can be built upon research paradigms. The level of knowledge and understanding that researchers have about these paradigms can vary, leading to differences in research approaches when studying the same subject matter (Grix, 2004). Described by Abbott (2004) as conceptual and practical tools used to solve specific research problems, research paradigms play a crucial role in shaping the structure and outlines of the research agenda and addressing problems related to a phenomenon (Creswell, 2009; Abbott, 2004). The literature offers research paradigms, including positivism, interpretivism (constructivism), critical theory (transformative), and pragmatism, among others (Abbott, 2004). This study considers paradigms as the best choice and appropriate for the study, whereas others deemed inappropriate for the study due to the criticisms encountered.

Positivism has faced criticism for its reliance on experimentation, quantifiable (observable data), and statistical analysis. Its application is limited to the natural sciences and may not be appropriate for qualitative data studies (Gage, 2007; Grix, 2004; Gall, Gall, J. & Borg, 2003; Richards, 2003).

Interpretivists paradigm is criticized for its lack of objectivity and inability to develop theories that can be generalized to populations (Flick, 2004; Grix, 2004). Thus, this paradigm is inappropriate for this study due to its limitation regarding objectivity and its inability of using inferential statistics.

Critical theory or (realism) paradigm has limitations. It does not allow researchers to participate in the decision-making process of the study (Cohen, Manion & Morrison, 2011; Riyami, 2015). Thus, this paradigm was inappropriate for this study due to its limitations in involving researchers in the process.

Pragmatism Paradigm

Pragmatism claims the shortfall of paradigms advocated by the mono-paradigm research philosophies, including positivism, interpretivism, and critical theory in studying a phenomenon. It recognizes the existence of a single or multiple realities that are open to empirical investigation and knowledge being socially constructed (Biesta, 2010). Pragmatists argue against mono-paradigms and emphasize the shortcomings of these paradigms. They contend that generating truths about the real world is not achievable solely through the application of a single method, as suggested by positivists, nor is it possible to explore social reality as constructed under the assumptions of interpretivists (Alise & Teddlie, 2010; Biesta, 2010).

Ontologically, pragmatists believe researchers recognize both the existence of subjective (social science) and objective views of reality and multiple interpretations of reality in the context of socially shared worldviews (Lohse, 2017). Unlike other paradigms, pragmatism establishes three widely shared ideas about the nature of reality, namely that:

- i. Actions take place within the situations and contexts in which they occur, meaning that the world is unique to each human experience (not universally true).
- ii. Actions are related to consequences, and if the situations or actions are changed, then the consequences would also change. This implies that there would not be the same experience or situation for the second time, warranting that the possible outcomes are also provisional.
- iii. Actions depend on socially shared worldviews, and hence two people cannot have the same experience, and their worldviews cannot be identical.

Epistemologically, pragmatism recognizes both observable and unobservable sources of knowledge (double-faced knowledge), in which the former refers to observable measurable knowledge and the latter to social science values, such as

feelings, beliefs, attitudes, and intentions, which are not measurable in the same way as objects in natural science are (Maarouf, 2019). Further, pragmatism adopts an axiological stance in that researchers can only be biased to the degree necessary to help the research attain its objectives (Maarouf, 2019).

Pragmatism insists on making use of the methodology that works best for a research problem, offering a multiple or pluralistic research approach that is more practical and comprehensive (Tashakkori & Teddlie, 1998). Pragmatism proposes an integrated or mixed method (quantitative and qualitative) research method as the preferred choice in the field of social science to better understand the context of phenomena and address the research questions (Morgan, 2007). According to Morgan (2007), pragmatism continues to have a significant influence on researchers' methodological choices, as its proposition encompasses the beliefs of the philosophies of ontology, epistemology, and axiology that guide the methodology of a given study (Maarouf, 2019). Researchers consider pragmatism as the preferred choice for a research paradigm that justifies mixed research methods for the study of a phenomenon (Maarouf, 2019). Thus, the study considered pragmatism as the best choice as it:

- i. Views the research problem in the broader context of ontology, epistemology, and axiology research philosophies, and
- ii. Adopts a methodological approach that appreciates the role of concurrent mixed research methods as the best choice for the research problem under study.

4.4 Methods of Study

The literature offers three research methods: quantitative, qualitative, and mixed methods (Creswell, 2014; Saunders, Lewis, & Thornhill, 2012; Leedy and Ormrod, 2005). The quantitative method refers to an objective approach to analysis, with interpretations and predictions using testable and measurable techniques and instruments (Zait & Zait, 2009). It involves analysing the relationship of variables using descriptive and inferential statistics to address research objectives and statements of problems (Bryman, 1988; 2006 & 2007; Hopkins, 2000 & 2007; Creswell & Clark, 2011). The quantitative method develops hypotheses and uses statistical tools to evaluate theories and hypotheses deductively, ensuring validity

and protection against bias. It further utilises statistical tools to analyse, interpret, generalise, and replicate findings (Creswell, 2014). According to Neuman (2006), the quantitative method relies on the logic of standards, codification of knowledge, explicit rules, formal and standard procedures, and techniques.

The qualitative research method refers to inductive analysis characterised by

- i. structured or unstructured questionnaires, open-ended questions, observations, group discussions, field notes, reflections of respondents, various texts, such as reflexive journals, pictures, and analysis of documents and literature.
- ii. a thorough understanding of research participants' psychological feelings or views.
- iii. examining the influence of specific contexts in which the individuals and activities studied are situated.
- iv. explaining the processes by which meanings and contexts lead to specific features or outcomes; and
- v. explicitly incorporating the subjectivity of the research (Maxwell & Reybold, 2015).

Mixed research design refers to the use of research methods that combine and integrate both quantitative and qualitative techniques (Doyle, Brady & Byrne, 2009; Creswell & Clark, 2011). The mixed research method applies in the process of collecting, interpreting and analysing data in a single or series of studies to understand the research problem(s) under study (Doyle, *et al*, 2009; Creswell & Clark, 2011). The mixed research method is defined as a type of research that constitutes elements of quantitative and qualitative concepts of designs, including data collection analysis, and inference techniques for breadth and depth understanding and corroboration of the phenomenon under study (Johnson, Onwuegbuzie & Turner, 2007; Harrison, 2013).

Business scholars also promote the benefits of combining quantitative and qualitative methods (mixed method) (Currall & Towler, 2003; Edmondson & McManus, 2007; Woodside, 2004 & 2010). According to Bryman (2006), mixed method design provides the research with initiation, expansion, triangulation, and

complementarity advantages. Mixed method research and design consist of explanatory sequential, exploratory sequential and convergent parallel mixed methods (Creswell, 2014; Harrison, 2013).

An explanatory sequential mixed method refers to a research method that first conducts quantitative research, analyses the results, and then builds on the results with more detail with findings explored using qualitative research (Creswell, 2003; Creswell & Clark, 2007). This method refers to research and design that primarily conducts qualitative research, analyses the findings, and then builds in a quantitative phase (Creswell, 2013). A convergent parallel or non-sequence concurrent method applies quantitative and qualitative data simultaneously (paralleled) in undertaking a study that the researcher intends to provide a comprehensive analysis to address the research problem (Creswell, 2014).

In the convergent mixed method design, a researcher collects both forms of data at the same time and then integrates the information in the interpretation and analysis of the overall results (Creswell & Clark, 2007). According to Harrison (2013), concurrent mixed method design is said to be superior as the researcher processes both quantitative and qualitative methods, including data collecting, investigating, and analysing parallelly (simultaneously) to address the research problems of a phenomenon.

The choice of the appropriate research design, including the strategy and procedure of the convergent mixed methods, is largely influenced by various attributes or factors in the research method and research process. This includes the time sequence of quantitative and qualitative data collection, the level of analysis, the level at which strategy and procedural activities occurred, and stages of questionnaire formulation, data collection, data sourcing, analysis, and data interpretation (Creswell, 2003; Tashakkori & Teddlie, 1998). Thus, based on the research problem and research questions described in Chapter One the study made use of the concurrent (convergent mixed) research method as an appropriate method for the study.

4.5 Data Collection

The research utilises both quantitative time series and primary data. The types and sources of each data are discussed below.

4.5.1 Quantitative Time series Data

Economic growth, measured by GDP, insurance premium, and innovation expenditure time series data, are utilized to investigate the relationships between insurance industry performance and economic performance, insurance industry performance and market structure, as well as insurance industry performance and innovation expenditure. The time range and sources of each time series dataset are discussed below.

4.5.1.1 Performance of Insurance Industry and Economic Growth

Studies (Din *et al.*, 2017; Adetunji *et al.*, 2018; Peleckien *et al.*, 2019) employed data of gross premium (GP) and GDP at constant as proxies for industry performance and economic growth, respectively. These data were sourced from Global Financial Development Database (GFDD) of the World Bank (WB) and the insurance industry regulatory and statistical annual bulletin of the respective countries.

This study uses time series data comprising insurance density and per capita GDP at constant as proxy measures of insurance industry performance and economic growth respectively. The data covered 31 years ranging from 1986 to 2016. The data were sourced from the Global Financial Development Database (GFDD) of the World Bank (WB, 2017b).

4.5.1.2 Performance of Insurance Industry and Market Concentration

Empirical literature (Bello and Isola, 2014; Capraru & Moise, 2015; Li *et al.*, 2017) used time series financial data with return on assets (ROA) as proxy measure of industry performance and deposits, loans, and gross premium (gross sales) as proxy measure of market structure concentration.

The data were collected from commercial banks of Nigeria (Bello & Isola, 2014), regulator of the insurance industry in Romania (Capraru & Moise, 2015), and China's Statistical Yearbook (Li, *et al.*, 2017).

The research utilizes 21 years of time series data (1996 to 2017), including insurance premium presented by market structure concentration (in terms of HHI and CR4) and insurance density as a proxy for insurance industry performance. The insurance premium data compiled by the companies were obtained from the central bank (National Bank of Ethiopia, NBE), while the insurance density data were sourced from the Global Financial Development Database (GFDD) of the World Bank (WB, 2017b).

4.5.1.3 Performance of Insurance Industry and Innovation

Studies (Pradhan *et al.*, 2018; Sujit & Kumar, 2016; Bozkurt, 2015; Rajapathirana & Hui, 2018; Crespi *et al.*, 2014) utilised financial data on R&D, IT, and advertising (as a percentage of sales) as proxy measure of innovation, and sales revenue, per capita GDP, debt to asset, profitability, and presence of firms in the international market serving as gauge for industry performance. The data were collected from World Development Indicators of the World Bank (Pradhan *et al.*, 2018; Bozkurt, 2015), India Statistics Institute (Sujit & Kumar, 2016), Turkish Statistical Institute (Bozkurt, 2015), survey data by insurance sector of Sri Lanka (Rajapathirana and Hui, 2018), and enterprises surveys of Latin American and Caribbean countries (Crespi *et al.*, 2014).

This research utilizes a 12-year time series dataset spanning from 2006 to 2016, consisting of innovation expenditure and insurance penetration to analyse the correlation between performance of the insurance industry and its innovation performance. The innovation data include expenditures on R&D, IT, advertising, and marketing expressed as a percentage of premium. The innovation expenditure data were collected from 16 of the 17 insurance companies using a pre-designed questionnaire template provided in Annexure C. The insurance data was obtained from the Global Financial Development Database (GFDD) of the World Bank (WB, 2017b).

4.5.2 Primary Data

The study utilises both quantitative and qualitative survey data to determine whether the value chain governance structure of the insurance industry contributes to its underperformance. The research aims to examine the perceptions of the management about the value chain governance of the insurance companies of the

industry. It seeks to identify: (i) the type of value chain governance structure in use in the business relationship between insurers and reinsurers and between insurers and policyholders, (ii) the role of legal and regulatory frameworks in the interaction between the insurers and policyholders, and insurers and reinsurers, (iii) weaknesses of the regulatory framework in maintaining a balance of power in business interactions with reinsurers, and (iv) whether firms in the industry implement strategic plans for innovation (Questionnaire in Annexure D-II). The data and its source are discussed in the subsequent sections.

4.5.2.1 Primary Quantitative Data

The management's perceptions or attitudes towards the governance structure type and regulatory framework type exercised by the insurance companies were assessed using five-point Likert-scale questions, coded with options ranging from strongly disagree to strongly agree. Management was asked to rate the predominant value chain governance structure type (market, modular, relational, or captive) used in the industry's business relationships. Additionally, they were asked to rate the extent to which the directive for reinsurance business contributed to maintaining a balance of power between insurers and reinsurers, and if the directive for insurance business contributed to maintaining a balance of power between insurers and policyholders within the value chain governance structure.

4.5.2.2 Qualitative Data

Literature (Tashakkori and Teddlie, 1998) suggests studies employing qualitative data to strengthen and deepen analysis, to elicit insights of views and to triangulate the results with quantitative data. Qualitative data (Vaughn, 1992) helps study to fill gaps in the process of quantitative data analysis.

This study uses qualitative data to substantiate and further broaden the analysis of the value chain governance structure while examining how value chain governance contributes to the underperformance of the insurance industry. The qualitative data is collected from the population of the management of the insurance companies (at the head offices of the companies in the industry. The data pertains to the qualitative research questions (Annexure D-II):

4.5.2.3 Population Survey

The target population comprises senior and middle management drawn from 16 out of the 17 insurance companies, in which the management of a company ranges from 15 to 26 members. Senior management comprises CEOs (Chief Executive Officers), Deputy CEOs, Managing Directors, Deputy Managing Directors, General Managers, Deputy General Managers, and Department Heads. Middle management includes division heads, section heads, senior officers, senior supervisors, and senior experts in R&D, ICT, marketing, and training departments at the head offices.

Management positions with minor roles in the policy processes of a company such as middle management in charge of human resources and general service divisions, were not included in the survey. The staff composition and size in the managerial hierarchy of an insurance company depend on the company's size in terms of capital and branches, as well as the size of the commercial bank associated with the insurance company. In Ethiopia, most insurance companies collaboratively work with a respective commercial bank associated with the company. For example, Ethiopian Insurance Corporation collaborates with the Commercial Bank of Ethiopia, whereas Awash Insurance Share Company collaborates with Awash Bank Share Company. Literature (Diamantopoulos and Schlegelmilch, 2000) advises researchers to understand the character and nature of the population, the time required, and the finances necessary for an effective study.

In the process of the survey, the following steps were taken. The researcher accessed the list of insurance companies from the Insurance Supervision Directorate under the National Bank of Ethiopia (central Bank) and from the office of the Association of Ethiopian Insurers (AEI). Subsequently, the researcher visited the head office of each insurance company. All the head offices are located in Addis Ababa, within an average radius not exceeding 1.6 km (one mile from each other). The researcher gathered the names of the management and their respective positions from each company. The total number of managements identified in the insurance companies based on the inclusion criteria was 357.

4.5.2.4 Data Instrument

The primary data were collected through a questionnaire survey, which contained both close-ended and open-ended questions. A cooperation request letter was attached to each insurance company on a UNISA letterhead. Additionally, a cooperation request letter was also included from the researcher's employer.

The request outlined the study's purpose and objectives, the estimated time needed for questionnaire completion, and the researcher's commitment to maintaining confidentiality and anonymity throughout and after the study. The researcher conducted both group and one-on-one discussions with the management of the companies, explaining the purpose and providing context for each item in the questionnaire. The researcher explained the purpose and content of the questionnaire to the management during working hours. According to Saunders *et al.* (2012) such helps to maintain a positive impact on response rates of the survey. Below is the context of the questionnaire. The introduction to the questionnaire is also shown in Annexure D-I. The context of the questionnaire is presented below.

a. Close-ended research questions:

The questionnaire included items designed to assess participants' perceptions of the types of value chain governance structures being used in their respective insurance companies. Likert-scale questions, coded with options ranging from strongly disagree to strongly agree, were employed to assess respondents' perceptions or attitudes towards specific questions. The resulting data were on an ordinal scale (Diamantopoulos & Schlegelmilch, 2000; Subedi, 2016).

For the multiple-choice format questions, management was asked to identify which market value chain governance typology was most prevalent in their respective companies. The close-ended questions include:

- (i) Which type of value chain structure is predominantly used in business transactions between insurers and cross-border reinsurers?
- (ii) Which type of value chain governance structure is predominantly used in business transactions between insurers and policyholders?

- (iii) Does the regulatory directive for the reinsurance business contribute to maintaining a balanced power in the business relationship between insurers and reinsurers?
- (iv) Does the regulatory directive for the insurance business contribute to maintaining a balanced power in the business relationship between insurers and policyholders?

b. Open-ended research questions:

The researcher used open-ended questions in the same questionnaire to obtain the opinions of the participants regarding (i) gaps in the regulatory framework in the reinsurance business framework and (ii) whether the industry had a strategic plan related to innovation. The questions were;

- (v) What are the weaknesses in the regulatory framework governing the reinsurance business?
- (vi) Describe whether the insurance companies have strategic plans for innovation?

According to the literature (Erickson & Kaplan, 2000; Miles & Huberman, 1994; Pothas, Andries & Dewet, 2001; Tashakkori & Teddlie, 2003), open-ended questions provide the advantage of eliciting alternative insights and explanations from respondents, helps researchers comprehend the diversity in responses. The open-ended questions were carefully designed to align with the Likert-scale questions of the study.

4.5.2.5 Administration: Questionnaire distribution and data collection

The researcher managed the survey data collection as follows. He first discussed the survey questionnaire with the CEO/ Deputy CEO of each company to create awareness about the purpose of the study and data confidentiality issues before the questionnaire was distributed to the respondents. Subsequently, the companies appointed contact persons, often the executive secretary to the CEO or deputy CEO, to assist the researcher. These contact persons played a crucial role in assisting the researcher by (i) facilitating access to set up schedules for meetings with respondents in groups or one-on-one to explain the study's purpose and ensure confidentiality during and after the study, (ii) distributing the questionnaire, and (iii)

aiding in visits to participants who faced difficulties in understanding the content of the questionnaire.

Respondents were expected to answer the questions within a timeframe of 20 to 30 minutes. To incentivise the completion and timely collection of questionnaire responses, the researcher assured respondents that he would present the study results in conferences or workshops organized in collaboration with the companies, the association, the regulator, or jointly. In conclusion, the researcher collected the envelope-sealed responses directly from the respondents of the insurance companies. Of the 357 questionnaire distributed only 318 were returned.

4.5.2.6 Pilot test

According to the literature (Totten, Panacek & Price, 1999; Saunders et al., 2012) researchers conduct a mock pilot data collection before administering the primary data questionnaire to ensure the research tool could effectively collect the necessary data and that the questionnaire design was appropriate.

A pilot test was conducted to enhance the research instrument, ensuring clarity of the problems, and maximizing content validity. The pilot questionnaire involved 15 participants from five insurance companies, representing various positions and departments within those companies.

Upon providing their responses, participants were invited to share comments on the clarity, flow of statements, and overall understandability of the questions and the estimated time required to complete the questionnaire. Their feedback provided crucial inputs to the primary questionnaire before distribution. The participants in the pilot study were excluded from the main survey.

4.6 Data Analysis

The study applied quantitative analysis, incorporating inferential statistics, descriptive methods, and qualitative data analyses to investigate whether the measured factors contributed to the underperformance of the insurance industry. The researcher triangulated the results to assess whether these factors, when

combined, contributed to the industry's underperformance. Details regarding the factors, data type, and their respective sources are summarized in Table 4-1.

Table 4- 1: Variables required for analysis of performance of insurance industry

Factors		Data type	Sources
i	Analysis of the relationship between economic growth and performance of insurance industry	Secondary, quantitative	GFDD (WB,2017b)
ii	Analysis of relationship between market structure concentration and performance of insurance industry	Secondary, quantitative	NBE and GFDD (WB, 2017b)
iii	Analysis of relationship between innovation and performance of insurance industry	Secondary, quantitative	Insurance companies compiled by author and GFDD (WB, 2017b)
iv	Value chain governance and performance of the insurance industry	Primary, quantitative, and qualitative	Insurance firms, survey data

Key: NBE= National Bank of Ethiopia. GFDD = Global Financial Development Database

4.6.1 Secondary Quantitative Data Analysis

The study employed two primary analytical approaches: (i) inferential statistics to analyse the long-run causal relationship between the performance of the insurance industry and economic growth and market structure and insurance industry performance (ii) correlation analysis to examine the correlation between the performance of the insurance industry and innovation to determine whether these factors contributed to the industry's underperformance.

Vector Error Correction Model (VECM) regression analysis was applied to determine the presence of a long-run and causal relationship between the variables, contingent on the results of co-integration tests. As highlighted by Amin (2011); Kiran & Guris (2009); Pedroni (2004); Granger (1969), regression analysis tools aid in ascertaining the potential number of equations derivable from time series data and the existence of long-run relationships between variables. The outcomes of co-integration tests rely on hypothesis tests for non-stationarity of time series data and pre- and post-analyses (Amin, 2011; Asari, Baharuddin, Jusoh, Mohamad, Shamsudin & Jusoff, 2011; Keele, 2004).

As presented in the Appendixes A-II to A-V, the absence of co-integration suggests a lack of long-run relationships between variables, while the presence of co-integration indicates a long-run relationship and prompts the use of VECM for analysing long-run causal relationships. Granger causality analysis (Appendixes A-

II) is then employed to determine the direction of causality in the presence of long-run relationships. All statistical tests were conducted at a 5% level of significance, as explained in Appendix A-I. It's important to note that the theoretical underpinnings of the econometric regression models that may be used in this study (VAR, VECM, and co-integration) are described in detail in Appendixes A.

4.6.1.1 Performance of Insurance and Economic Growth

The study employs the variables of per capita GDP and insurance density at constant for analysis of the causal relationship between economic growth and the performance of the insurance industry. It employs a cointegration test to examine the long-run relationship between economic growth and the performance of the insurance industry. The research question and the research hypothesis for analysis of the causal relationship are provided below.

Research Question:

Q1: Is there a long-run causal relationship between economic growth and industry performance?

Research Hypothesis

H0-1(a): There is no long-run causal relationship between economic growth and performance of the insurance industry.

H1-1(a): There is a long-run causal relationship between economic growth and the performance of the insurance industry.

For the analysis of the long-run causal relationship the study adopted a bivariate regression equation VECM based on the cointegration test result (Zhang and Cheng, 2009). The two-vector regression equation model of the causal relationship is given below.

$$IP_t = \alpha_0 + \sum_{j=1}^J \beta_j IP_{t-j} + \sum_{k=1}^K \gamma_k GDP_{t-k} + \varepsilon_t \text{ (GDP growth as explanatory variable)}$$

$$GDP_t = \alpha_1 + \sum_{k=1}^K \gamma_k GDP_{t-k} + \sum_{j=1}^J \beta_j IP_{t-j} + \varepsilon_t \text{ (Insurance density as explanatory variable)}$$

Where IP denotes the performance of the insurance industry measured in annual total insurance in terms of insurance density. GDP denotes the per capita GDP. t is a time subscript. J and K are the periods where j and k are the lag length periods (j=1, ..., J, k=1...K), t is a ti pt. β and γ are slopes (parameters) of the vectors.

To determine the long-run causal relationship (VECM) between the variables the study first conducted a test of stationarity (unit root) of the time series as explained in Appendix A-VI) and an analysis of co-integration as described in Appendix A-V. Further, the study conducted the post-estimation diagnostic tests including model data fit test, test of correlation, a normality (Annexure A) to affirm that the data and the models used fit the assumptions underlying the models to confirm that the regression specification is robust and that the estimated equations are stable over the study period and fit the data.

4.6.1.2 Performance of insurance and Market Structure Concentration

The study employs HHI (Herfindahl-Hirschman Index) and insurance density per capita at constant as proxy measures of market structure concentration and insurance industry performance respectively. The study uses CR4 and HHI to explore the market structure concentration of the insurance industry, while applies HHI and insurance density to analyse the long-run causal relationship between market concentration and insurance industry performance. HHI is calculated as the sum of the squares of individual ratios of premiums for each company within the insurance industry (as shown in Appendix A-IX), using the formula:

$$HHI = \sum_{i=1}^n S_i^2$$

HHI: measures market concentration, Si: turnover share of an individual firm in a year, n: number of firms in an industry

The study uses Structure-Conduct-Performance (SCP) and the Efficient Structure (EFS) to explain the long-run relationship between the performance of the insurance industry and the market structure concentration of the industry. As discussed in chapter Three, SCP claims an inverse relationship between high-market concentration and industry performance, while EFS claims high-market concentration as a source of superior efficiency by firms and high-industry performance (Literature Review under section 3.3). The study uses the following research question and research hypothesis for the analysis.

Research Question

Q2: Is the underperformance of the Ethiopian insurance industry attributed to high market structure concentration of the industry?

Research Hypothesis of Regression Analysis

The study uses the following hypothesis for the VECM regression analysis to establish the causal long-run relationship between market concentration and the performance of the insurance industry based on the result of the cointegration test.

H0-2(a): There is no long-run causal relationship between performance and market structure concentration of the insurance industry.

H1-2(b): There is a long-run causal relationship between performance and market structure concentration of the insurance industry.

The regression model specification is given below. Market structure concentration as measured by HHI is the independent variable represented by MarSt and performance of the insurance industry measured by insurance density at constant price (IP) is the dependent variable.

$$IP_t = \alpha_0 + \sum_{j=1}^J \beta_j IP_{t-j} + \sum_{k=1}^K \gamma_k MarSt_{t-k} + \epsilon_t \text{ (market concentration as explanatory variable)}$$

Where IP denotes the performance of the insurance industry measured in annual total insurance in terms of insurance density. MarSt denotes the market concentration in terms of concentration measure HHI. J and K are the time span where j and k are the lag length periods (j=1, ...J, k=1, ... K), t is a time subscript. β and γ are slope coefficients.

To determine the long-run causal relationship (VECM) between the variables the study first applied a test of stationarity (unit root) of the time series, and analysis of co-integration as explained in Appendix A-VI and Appendix A-V respectively.

4.6.1.3 Performance of Insurance and Innovations in the Industry

The variables insurance penetration and innovation expenditure (as a ratio of gross premium) are used as proxy measures for the industry performance and innovations of the insurance industry, respectively. Pearson's correlation coefficient (discussed in Appendix A-III) is applied to analyse the relationship between the performance of the insurance industry and innovation. The study uses the following research question and research hypothesis for the analysis of the relationship.

Research question:

Q3: Is the underperformance of the insurance industry due to a lack of innovation in the industry?

Research hypothesis:

H0-3: There is no correlation between industry performance and innovation in the industry.

H1-3: There is a correlation between industry performance and innovation in the industry.

4.6.2 Quantitative Data Analysis Based on Primary Data

The research employs both primary quantitative and qualitative data analysis methods to investigate whether the industry's value chain governance structure is a contributing factor to the underperformance of the industry. The primary quantitative data analysis aims to capture the perceptions of management concerning (i) the type of value chain governance structure employed by the industry in its interactions with reinsurers and policyholders and (ii) the roles of the regulatory framework in maintaining a balance of power among actors in the value chain. Therefore, the research question for the analysis is as follows.

Q4. Is the value chain governance structure in the industry a contributing factor to the underperformance of the insurance industry?

4.6.2.1 Performance of Insurance and Value Chain Governance Structure

Gereffi (2011) recommends a relational type of value chain governance structure for achieving successful industry performance, emphasizing its characteristics such as shared goals and visions, problem-solving, and joint planning among actors within the value chain. In contrast, Whipple et al. (1999) propose a value chain governance structure characterized by a high degree of coordination and power asymmetry, including both relational and captive types, to enhance industry performance.

In this context, the research employs descriptive statistics to analyse and identify the predominant type of value chain governance structure (either market, modular, relational, or captive) in use and assess whether this structure contributes to the underperformance of the insurance industry. The sub questions used to address the research question include (i) Which type of value chain structure predominantly characterizes business transactions between insurers and cross-border reinsurers? (ii) Which type of value chain governance structure is predominantly utilized in business transactions between insurers and policyholders?

The study employs mean scores for the analysis to determine the predominant value chain governance structure in business relationships, both between insurers and reinsurers and between insurers and policyholders. The mean score calculation involved multiplying each Likert scale rating by its frequency and then dividing the sum of these values by the total number of respondents for each question. To simplify the analysis, the five-point Likert scale were merged into a three-point scale, combining 'strongly disagree' and 'disagree' into 'disagree' and merging 'strongly agree' and 'agree' into 'agree'.

The analysis identifies the predominant types of value chain governance structures in the business relationship between insurers and reinsurers. Mean scores are then used to analyse management perceptions, providing a quantitative measure of the overall perception of the management of the industry. Then the results are presented in a line graph that allows for effective comparisons and the identification of prevailing patterns or tendencies in the data to compare the structure types.

4.6.2.2 Role of regulatory framework in value chain governance structure

The literature emphasises the crucial role of the regulatory framework in maintaining a balance of power and fostering a conducive environment in the business relationships within an industry's value chain (as discussed in section 3.5). In line with this perspective, the study employed descriptive statistics to analyse the management perceptions about the legal and regulatory frameworks in the insurance industry. The goal was to determine whether these framework has been a contributing factor for maintaining a balance of power and fostering a conducive business environment among the actors.

The sub questions for the analyses are outlined as follows: (iii) Does the regulatory directive for reinsurance business contribute to maintaining a balance of power in the business relationship between insurers and reinsurers? (iv) Does the regulatory directive for the insurance business contribute to maintaining a balance of power in the business relationship between insurers and policyholders?

Management perceptions were assessed using a five-point Likert scale (as discussed in section 4.6.2.1). For ease of description and explanation, the data from the Likert scale are condensed into three scales. 'Strongly disagree' and 'disagree' were merged, while 'strongly agree' and 'agree' were merged, respectively. The

results are presented in bar graphs to facilitate visualization and comparison between the structure types.

4.6.3 Qualitative Data: Value Chain Governance

The qualitative data analysis method was applied to assess the role of the regulatory framework in the value chain governance and investigate whether it contributed to the underperformance of the insurance industry. The open-ended research sub-questions, in support of the main question, include: (v) What are the weaknesses in the regulatory framework governing the reinsurance business? and (vi) describe whether the insurance companies have strategic plans for innovation.

Both quantitative and qualitative analysis employ various techniques (Eisenhardt, 1989; Pratt, 2000). Qualitative data analysis followed the steps depicted in Figure 4-1.

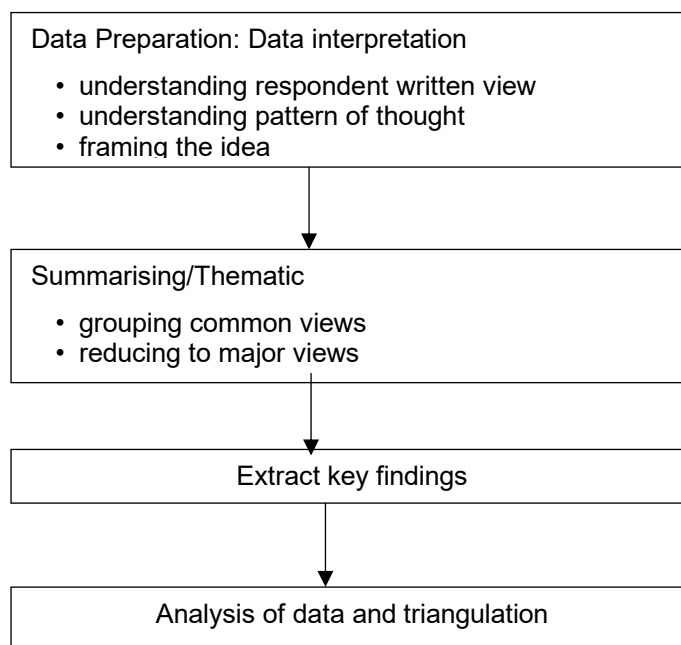


Figure 4- 1: Qualitative data analysis process steps

4.6.3.1 Data Preparation

In qualitative analysis, the initial step after data collection is to gain in-depth insights into the self-written ideas, views, and thoughts of the interviewees. According to Dey (1993), qualitative data is concerned with the meanings of words and phrases and the approach to uncovering meaningful insights. According to Elo, Kaariainen,

Kanste, Polkki, Utriainen & Kyngas (2014) a researcher needs to have a basic understanding of the subject matter of the research, the intention behind the research questions, the meanings, and relationships of respondents' words, as well as the context. Elo *et al.* (2014) highlight the concepts of consistency and the contradictions in the views of the respondents. In consideration of this, the researcher organized the data under the following headings.

Question V. What are the weaknesses in the regulatory framework governing the reinsurance business?

The views and opinions of the management were reviewed in line with research objective, and in the context of the purpose of the question, in a way that can give insights about the weaknesses of the regulatory. Once the fundamental opinions of the management regarding the subject were identified, the ideas were thoroughly reviewed to identify consistencies and contradictions. Subsequently, the ideas were organized into themes, aimed at deriving key findings about the weaknesses of the regulatory framework in the reinsurance business.

Question VI: Describe whether the insurance companies have strategic plans for innovation?

The study aimed to determine whether insurance companies had innovative strategies. The opinions of the management regarding the strategic plans of the insurance companies to foster innovation were identified. Consistency as well as contradictions of the ideas were reviewed in line with the research question. Subsequently, the opinions were organized into themes within the context of the research question. These themes were then framed with insights to derive key findings for the research question. The key findings were utilized to analyse and triangulate against other results related to the performance of the insurance industry.

4.6.3.2 Thematic Data Analysis

Thematic analysis was used to organize qualitative data from respondents, grouping similar ideas to form cohesive thoughts and interpreting these ideas into meaningful narratives. The research leverages responses from the questionnaire to collect, identify, and code categories of ideas or concepts obtained from open-ended question responses, grouping them into themes through inductive analysis.

Literature highlights that thematic analysis is recognised for its systematic approach in organising and developing in-depth and meaningful concepts from qualitative findings (Overcash, 2003; Bradley, Curry & Devers, 2007; Polit & Beck, 2004; Elo & Kyngas, 2007). This involves the identification and analysis of qualitative data based on categories (codes) (Overcash, 2003; Vaismoradi, Jones, Turunen & Snelgrove, 2016; Anderson, 2007). Literature (Bhatia, 2018; Braun & Clarke, 2006; Javadi & Zarea, 2016) thematic data analysis transforms raw data into meaningful concepts.

In this context, the opinion from the management is categorised into generalised groups based on the uniqueness and similarity of opinions, aligning with the study's intention and objectives. Then, the researcher trimmed the opinions of the management in line with the questions' intent and themes, employing a thematic method of qualitative data analysis. Similar opinions on a question were systematically coded to form specific concepts or themes, followed by an interpretation of these themes and triangulation of the results with other relevant analyses, theories, and concepts. The steps involved in this process are outlined below.

Step one: Be familiar with the data

The researcher tries to thoroughly understand the intention of the questions and objectives of the study (O'Connor and Gibson, 2003). In this regard, he took time to understand the questions and repeatedly read the responses to familiarise himself with them.

Step two: Alignment of data (opinions) with research objectives

Once a researcher is familiar with the words, the words are aligned with the research questions (O'Connor and Gibson, 2003). In the study under review, the written opinions of the respondents were organised and aligned with the research questions and research objectives.

Step three: Categorising words (opinions and concepts) into codes

The researcher summarized common views by grouping them under major concepts, highlighting emerging patterns, and coding them. In qualitative analysis, codes refer to keywords or text used to interpret textual data, providing a concise representation

of opinions or questionnaire responses. The researcher categorises the views of the management systematically and organize responses that have similar patterns in addressing a question. Categories serve as subthemes of concepts, where a theme refers to a more implicit and abstract level of the text, and a category pertains to the explicit content of the text.

The researcher interpreted the data in a way to reflect the management views, focusing on key ideas and phrases. Additionally, framing broad concepts involved extracting key concepts or ideas into content that could illuminate key findings, either supporting or refuting those reported in previous literature findings and the results of the quantitative data analysed in the study.

Step four: Framing (building) themes

Once the basic opinions and concepts are identified, categorized, and coded, the researcher proceeded to identify the themes. Building themes is a method of categorizing and organizing concepts into a category of concepts to uncover deeper meanings and insights about the issue. Thematic analysis, as highlighted by Braun and Clarke (2006) and Javadi and Zarea (2016), is the most applied qualitative data analysis method. The steps to thematically analyse the views of the respondents for all the open-ended questions are shown in Figure 4-2.

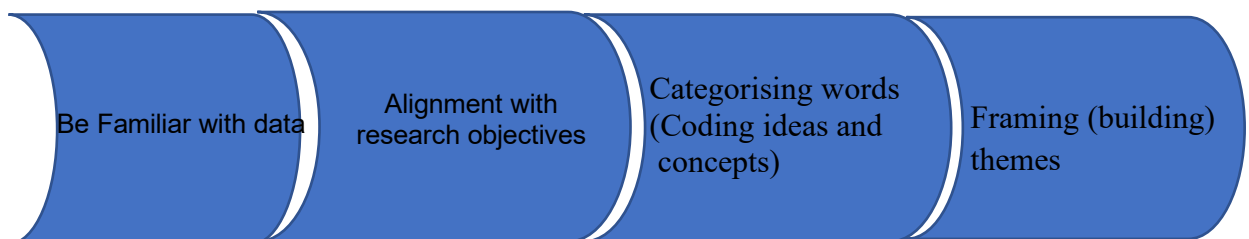


Figure 4- 2: Open-ended questions qualitative data preparation steps

Source: Bhatia, 2018.

4.6.3.3 Trustworthiness of Qualitative Data Analysis

The qualitative data analysis principles and procedures were adhered to ensure trustworthiness throughout all processes, spanning from data collection and preparation to analysis. These include principles of credibility, dependability, transferability, and confirmability, as outlined by Lincoln and Guba (1985). In this

context, to maintain trustworthiness, the study employed a single questionnaire, has explained each question to ensure a shared understanding of the research purpose and the intent behind each question. Consistency was maintained across the entire process, from distributing the questionnaire to gathering responses and analysing the data.

Credibility:

From a credibility standpoint, the study analysed the original views of the management of the firms in the insurance industry. Therefore, the results represented the respondents' genuine perceptions about the issue in question.

Dependability

The researcher has thoroughly gone through the respondents' interpretation of the context and their recommendations. In this regard, a systematic approach was employed to organize their perceptions into themes based on the uniqueness and similarity of opinions before conducting the analysis. From the dependability perspective, the trustworthiness of the qualitative research involved a comprehensive process of organizing and scrutinizing the data based on uniqueness and similar opinions before the analysis took place.

Transferability

The data represented the description of the reality and the context of the situation in the insurance industry regarding governance as the respondents were the employees of their respective companies.

Confirmability

The findings of the study believed, would reflect the management believes and perceptions regarding their respective companies. Further, the researcher believes that the findings would serve as a reference sources for future studies.

4.6.4 Triangulation of Results

The performance of the insurance industry was measured by insurance penetration and insurance density. Both are macroeconomic variables as discussed in Chapter One. In a complex business environment, a single performance measure on its own

is not sufficient to entirely capture the performance of an industry (Michael and Tobi, 2014; Shabaninejad, Mirsalehian & Mehralian, 2014; Buckley, Pass & Prescott, 1988). Triangulation relates to the combination of different measurement results with mixed data sources to explain why the industry has been underperforming (Bazeley, 2012; Olsen, 2003 & 2004).

In this respect, the study employed a multi-level analysis using multi-factors consisting of economic growth, market structure, innovations, and value chain governance structure. The triangulation of the results is presented in Chapter 6.

4.7 Reliability and Validity

The study assessed the relevancy of the quantitative data analysis instruments (tools) used in the study and whether these instruments effectively measured what they aimed to measure in addressing the research objectives. According to the literature reliability and validity measurements for a study include internal validity, reliability, and generalisability (Bollen, 1989; Creswell, 2005; Joppe, 2000).

Internal validity:

From the perspective of internal validity, the data analysis tools used were believed to be valid in terms of both construct and content validity within the context of the study objectives. In terms of construct validity, Likert scale was applied to address the survey's objectives and to serve the purpose of interpreting the collected data.

In the context of content validity, the items used in the questionnaire were representative and appropriate for addressing the value chain governance of the industry. To make the items appropriate and representative, pre-test discussions were held with the management of the companies before the survey was conducted. As a result, the combination of the processes used, and the results obtained from the instruments (questions) provided a comprehensive and validated description of the industry. Thus, the results were valid to assess the performance of the insurance industry and to unpack persistent underperforming. According to Bollen (1989), Guion (1980), and Creswell (2005), measures of construct and content validity provide evidence that the tools used represent the entire universe.

Reliability:

Regarding data reliability, the researcher used a designed and pre-tested questionnaire for interviewing management. The data collection process was conducted in the stipulated timeframe, ensuring consistency. In the process, the researcher tried to create clarity in terms of the content and aim of the questions, to prevent ambiguity caused by lacking vocabulary and misunderstood concepts.

This measure is universally applicable under similar conditions and methodologies. For example, should other leaders be substituted for top and middle management roles, regardless of demographic or gender factors, and a five-point Likert scale is used, the results are expected to be similar. Reliability, as described by Bravo and Potvin (1991), ensures that an instrument yields consistent results across multiple sets of items when used under the same methodological conditions.

Generalisability (external validity):

In the context of the generalisability, the findings of the value chain analysis of the Ethiopian insurance industry can be applied to other institutions in situations with similar circumstances and time horizons.

According to Cook and Campbell (1979), generalisability refers to the extent to which findings can be applied to other people, settings, and times beyond the specific research context.

4.8 Ethical Considerations

The study committed to adhering to the norms and principles of ethics and standards and procedures of SBL/UNISA (University of South Africa, 2016). Furthermore, the research respected the professional code of ethics as a practical guideline for the study (Denzin & Lincoln, 1994). Thus, during secondary and primary data collection, the consent of respondents was sought before interviewing them. The ethical considerations required in conducting the research were adhered to. They are discussed below.

Permission to conduct study

Permission to conduct the study was obtained from the SBL Research Ethics Review Committee (GSBL CRERC) of UNISA, Ref #: 2017_SBL_DBL_008_FA. Letters of support for the project and the participation of the 16 companies and supervising agencies were received. The companies and the supervising agency were provided with letters of request for UNISA's collaboration from the research institute where the researcher works. The letters of request clearly stated that information from respondents would be treated with extreme care, confidentiality and anonymity.

Informed Consent

This study involved only those companies and personnel who participated voluntarily in the research. The researcher explained the purpose of the study to the participants, as well as the concepts and technical statements in the questionnaire before it was distributed. All insurance firms involved in the study and the supervising agency were requested in writing for their consent.

Protection from Harm

The research did not involve direct human participation. It involved participants regarding their views of their practices and experiences in the insurance industry. The institutions and companies received letters of request for collaboration from UNISA. All respondents were assured of confidentiality and anonymity. Hence, there was little probability of anticipated harm or inconvenience in the research. If any, that would not have been greater than that experienced in daily life.

Right to Privacy

The literature advises that the names of participants and their responses be withheld and results of the study be well-documented and protected. The study considered anonymity. Thus, the anonymity and confidentiality of the respondents were maintained in the questionnaire responses and recording of the results, with respondents not being required to write their names on the forms they completed. The questionnaire was designed to be generic, and no privacy-related issues were included. The study assured respondents that the names of those who participated in the study would not be revealed in the document or elsewhere to ensure

anonymity. Confidentiality was also maintained, with only the researcher and statistician having access to the primary data results.

Professional Codes of Conduct

Given the above, the research conducted was confidential. The researcher was confident that there were adequate ethical controls and commitment to ensure adherence to the ethical codes and principles. The principle of informed consent prevailed. The researcher explained the purpose of the study, and the concepts and technical statements in the questionnaire to the respondents before the questionnaire was distributed. Responding to the questionnaire was voluntary.

4.9 Chapter Summary

The chapter presented the research philosophy and methods, data collection methods, including population-based data management and data analysis, and discussed reliability and validity issues and ethical considerations. The study used the concurrent mixed method of data analysis.

CHAPTER FIVE: RESULTS

5.1 Introduction

This chapter presents the results of the study based on the methodology explained in the previous chapter. Section two presents the results of the quantitative analysis based on secondary data, focusing on macro-level industry performance measures: economic growth and market structure concentration, and a micro-level measure: innovation. Sections three and four provide the results of the quantitative and qualitative analyses based on the secondary and survey data. Section five provides a summary of the chapter.

5.2 Quantitative Analysis Based on Secondary Data

The study employed secondary time series data analysis to examine the potential causal relationship between the performance of the insurance industry and the factors of economic growth, market structure concentration and innovation.

5.2.1 Economic Growth and Performance of Insurance Industry

This section presents the findings regarding the relationship between economic growth and the performance of the insurance industry. The analysis was conducted using a time series dataset spanning 31 years, from 1986 to 2016. Per capita GDP and insurance density were utilised as proxies for measuring economic growth and performance of insurance industry respectively. The research question and research hypothesis are as follows.

The research Question:

Q1: Is there a long-run causal relationship between economic growth and industry performance?

The research hypothesis:

H0: There is no long-run causal relationship between economic growth and the performance of the insurance industry.

H1: There is a long-run causal relationship between economic growth and the performance of the insurance industry.

Augmented Dickey-Fuller (ADF) and co-integration tests were conducted to assess the stationarity of the time series data (as explained in Appendixes A) and to confirm the existence of a long-run relationship between the variables. The results in Table

5-1 indicate that both time series were non-stationary at a 5% level of significance, with p-values of 0.99 and 0.258 respectively, which both are greater than 0.5.

Table 5- 1: Result of ADF test: Per Capita GDP and Insurance Density

Augmented Dickey-Fuller test for a unit root. Number of observations: 32, Year: 1985-2016						
Time series data on	ADF Test Statistics	Critical Values			p-value for Z(t)	Result decision of H0:
		1%	5%	10%		
Per capita GDP	0.299	-4.316	-3.572	-3.223	0.9963	Fail to reject H0:
Ins. Density	-2.648	-4.334	-3.580	-3.228	0.2584	Fail to reject: H0:

ADF: Augmented Dickey-Fuller, Ins. density: insurance density (annual gross premium divided by population)

To address the non-stationarity of the time series, the first differences of the variables were employed. The transformed results are presented in Table 5- 2. At a 5% level of significance. Both per capita GDP and insurance density were found to be stationary after the first difference with p-values of 0.00 and 0.0375, respectively, which are less than the 5% level of significance.

Table 5- 2: Result of ADF test at difference one: Per capita GDP and Insurance Density

Augmented Dickey-Fuller test for unit root. Number of observations: 29, Year: 1985-2016						
Time series data	ADF test Statistics	Critical Values			p-value Z(t)	Result of decision of H0:
		1%	5%	10%		
Per capita GDP	-5.343	-4.316	-3.572	-3.223	0.0000	Reject H0, in favour of stationarity
Ins. density	-3.518	-4.343	-3.584	-3.230	0.0375	Reject H0, in favour of stationarity

ADF: Augmented Dickey-Fuller, Ins. density: insurance density (annual gross premium divided by population)

The co-integration test was employed to determine the presence of a long-run relationship between economic growth (per capita GDP) and industry performance in terms of insurance density. To conduct the co-integration test, the lag length of the time series needed to be determined, following the approach proposed by Gonzalo and Pitarakis (1998). The distinction between long-run and short-run relationships between the variables is briefly discussed in the Appendix A-VI of the study.

To determine the lag length, several lag length selection criteria, including the Log Likelihood ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion

(AIC), and Hannan-Quinn Information Criterion (HQIC) were used. Test reports of the lag length selection criteria is determined to be two lags as suggested by most of the criteria and shown by “*” as presented in Table 5- 3.

Table 5- 3: Lag length selection criteria: Per Capita GDP and Insurance Density

Selection order criteria: varsoc, Number of observations: 29, Year: 1988-2016									
Lag	LL	LR	df	P	FPE	AIC	HQIC	SBIC	
0	-465.753				3.5e+11	32.2588	32.2883	32.3531	
1	-392.714	146.08	4	0.000	3.0e+09	27.4975	27.5861	27.7804*	
2	-386.572	12.285*	4	0.015	2.6e+09*	27.3498*	27.4974*	27.8213	
3	-383.207	6.7291	4	0.151	2.8e+09	27.3936	27.6003	28.0537	

Key: *, indicates the lag length size suggested by the lag length selection criterion of time series at 5% of significance.

LL: Log-Likelihood ratio, LR: likelihood ratio test (sequential modified LR test statistics), FPE: Final prediction error, df: Degree of freedom, P: Critical Value of significance, AIC: Akaike information criterion, HQIC: Hannan-Quinn information criterion, SBIC: Schwarz Bayesian information criterion

The Johansen rank test for co-integration was performed using a lag length of two to examine the presence of a long-run relationship between per capita GDP and insurance density. The hypothesis for the test of co-integration was as follows.

H0: There is no co-integration between the performance of the insurance industry and economic growth.

H1: There is a co-integration between the performance of the insurance industry and economic growth.

Table 5- 4 presents the results of the co-integration test. The trace statistic at $r=0$ is 23.7487 which is below the 5% critical value (p-value 25.32). Similarly, the trace statistic at $r=1$ is 7.2904 which is below its corresponding 5% critical value of 12.25. Therefore, the null hypothesis of no co-integration at both ($r=0$) and ($r=1$) cannot be rejected.

Table 5- 4: Johansen tests for co-integration / rank test: Per capita GDP and Insurance Density

Rank test: vecrank, with Lags two and Trend (rt). Number of observations: 30, Year: 1987-2016,						
Maximum rank (r)	Parms*	LL*	eigenvalue	Trace Statistics	5% Critical value	p-value
0	6	-409.43758		23.7487*	25.32	
1	10	-401.2084	0.42225	7.2904	12.25	
2	12	-397.56322	0.21574			

Key: This table reports possible values of the rank (r) including Parms (parameters), LL: Log Likelihood ration, eigenvalue:

The absence of co-integration between the variables means that there is no long-run causal relationship between economic growth and the performance of the insurance industry (Juselius, 2006). According to Juselius (2006) absence of co-integration indicates the absence of a steady-state long-run relationship between the variables (explained in the Appendix A-III to A-V). Thus, the null hypothesis suggesting no long-run relationship between the performance of the insurance industry and economic growth, cannot be rejected. Therefore, the result indicating the absence of a long-run relationship between the variables implies that it does not support either the demand-leading or supply-leading school.

Study (Din *et al.* 2017) demonstrated causality ran from insurance performance to economic growth for developing, emerging, and developed countries. A study (Adetunji *et al.* 2018) also found that causality ran from the performance of the insurance industry to economic growth in Nigeria. Studies (Pradhan *et al.*, 2017; Dash *et al.*, 2018; Peleckien *et al.*, 2019) revealed that causality ran from the performance of the insurance to economic growth for some countries supporting supply leading school. In the same studies it was demonstrated causality ran from economic growth to the performance of insurance for other countries in the study, supporting demand leading school (Pradhan *et al.*, 2017; Dash *et al.*, 2018; Peleckien *et al.*, 2019). This included countries such as Malta, a developing country experiencing rapid economic growth (Pradhan *et al.*, 2017). However, the same study (Peleckien *et al.*, 2019) revealed the absence of a causal relationship between economic growth and insurance performance, such as Slovakia, where insurance was less developed (section 3.2.2).

No long-run relationship between economic growth and insurance performance in Ethiopia is an indication that the industry is underdeveloped and lacks connectivity with the economic growth, in line with the findings of empirical literature. This raises questions about the role of other factors and dynamics contributing to this disparity, which need to be explored.

5.2.2 Market Concentration and Performance of Insurance Industry

Market concentration is a valuable tool for measuring and assessing the degree of competition and technological advancement (efficiency) within an industry. It also

helps identify appropriate economic policies and regulatory systems. Two competing hypotheses, namely the Structure-Conduct-Performance (SCP) and the Efficiency-Structure (EFS) hypotheses, explain the relationship between market structure concentration and industry performance (Bain, 1954; Sawyer, 1985; Ellickson, 2015) (see section 3.3).

According to the SCP hypothesis, a high level of market concentration indicates that a few firms in an industry control a significant share of the market. The concentration can lead to collusive practices and reduced competition among firms, ultimately resulting in lower industry performance (Mason, 1939; Bain, 1956; Ellickson, 2015). The EFS hypothesis, again, suggests that high market concentration arises not solely due to increased market share and collusive behaviour, but rather due to technological advancements, high levels of innovation, and efficiency of firms. These factors contribute to improved industry performance (Van Leuvensteijn *et al.*, 2013; Sathye, 2005) (see section 3.3).

As discussed in section 3.3, industry market structure concentration can be measured using two methods: (i) the percentage of market share held by the largest four to eight firms (CR4 to CR8) in the industry, and/ or (ii) the Herfindahl Hirschman Index, commonly used (HHI) (Ellickson, 2015; Molyneux *et al.*, 1996; Yang *et al.*, 2017; Chen, 2013). The formula for calculating market concentration using HHI is provided as:

$$HHI = \sum_{i=1}^n S_i^2$$

where S_i is the annual market share of the i^{th} company in the industry, and n presents the number of companies in the industry in that year (Sahile, *et al.*, 2015; Alhassan *et al.*, 2015).

As discussed in section 3.3 market concentration measured by the Herfindahl Hirschman Index (HHI) is described in different indices ranging from close to zero up to 10 000. A market concentration with HHI 1 000 is less concentrated (high competition). HHI between 1 600 and 1 800 implies a concentrated market. HHI above 1 800 is a high concentration (Ellickson, 2015 & Molyneux *et al.*, 1996). Additionally, market structure measured by the percentage of market share held by the largest four (CR4) in the industry is described in different indices. Indices ranging

from 0 to 50% indicate a low level of concentration, 50 to 80% indicate a concentrated market (oligopoly), and above 80% indicate a high concentration (a monopoly market) (Sathye, 2005).

With this background, the market concentration of the Ethiopian insurance industry, measured both by the CR4 (four largest firms) and the HHI, had been consistently high over the preceding ten years (provided in Table 5-5). The CR4 ranged from 57% to 69%, indicating high market concentration. Similarly, the HHI ranged from 1660 to 2200, which also indicated a high market concentration, implying an oligopoly to monopoly market structure of the industry.

Table 5- 5: Market Structure Concentration Measures of Ethiopian insurance industry

Year	Comp.	CR4 (%) [*]	HHI ^{**}	Year	Comp.	CR4 (%) [*]	HHI ^{**}
1996	7	92	5834	2007	9	72	2246
1997	8	68	4454	2008	10	69	2223
1998	8	82	3572	2009	10	69	2252
1999	8	83	3416	2010	11	69	2220
2000	8	80	2682	2011	12	68	2073
2001	8	80	2692	2012	14	67	1992
2002	8	82	3240	2013	16	67	2354
2003	9	78	2744	2014	17	61	1938
2004	9	78	2737	2015	17	59	1747
2005	9	77	2660	2016	17	57	1629
2006	9	73	2360	2017	17	57	1664

^{*}CRn = Concentration ratio of highest performer 'n' companies from the total turnover of the industry.

^{**} HHI = Herfindahl-Hirschman Index (HHI): the sum of the squared market shares of companies in an industry in terms of annual turnover. Data sourced from the National Bank of Ethiopia.

The rest of this section presents the empirical results of the relationship between market structure concentration and the performance of the insurance industry. The aim was to explore whether the high market concentration observed in the industry could explain its underperformance. For the analysis the research uses the following research question and the research hypothesis.

The Research question:

Q2: Is the underperformance of the Ethiopian insurance industry attributed to high market structure concentration of the industry?

The research hypothesis:

H0: There is no long-run causal relationship between performance and market structure concentration of the insurance industry.

H1: There is a long-run causal relationship between performance and market structure concentration of the insurance industry.

Time series data analysis was used to examine the presence of a long-run causal relationship between the performance and market structure concentration of the industry. Before the analysis, stationarity tests were done to check whether the data exhibited stable and consistent statistical properties over time. A co-integration test was also done to determine the existence of a long-run relationship between the variables. The theoretical details of the tests are provided in Appendixes A-V and A-VI.

An Augmented Dickey-Fuller (ADF) test was utilised to test for stationarity of the variables at a 5% level of significance. Table 5- 6 presents the results of the ADF test results of the variables. The results indicate that insurance density was non-stationary with a p-value of 0.28, which is greater than the significance level of 0.05. On the other hand, market structure was found to be stationary with a p-value of 0.0, which is less than the 5% level of significance. The non-stationarity of insurance density at level one implies that the data cannot be used to estimate the coefficients of the variables as explained in Appendix AVI.

Table 5- 6: Result of the ADF test: Market Structure Concentration (HHI) and Insurance Density

Augmented Dickey-Fuller test for unit root. Number of observations: 19, Year: 1998-2016,						
Time series data on	Test Statistics	Critical Values			P-value	H0: HHI and insurance density- non-stationary H1: HHI and insurance density- stationary
		1%	5%	10%		
Ins_density	-2.593	-4.380	-3.600	-3.240	0.2830	Fail to reject H0: 0.28>0.05
Marst (HHI)	-4.768	-4.380	-3.600	-3.240	0.0005	Reject: H0: 0.00<0.05

ADF: Augmented Dickey-Fuller, Ins. density: insurance density (annual gross premium divided by population) and HHI: Market structure measure: concentration ratio.

Table 5- 7 presents the results of the ADF tests conducted on insurance density at difference one. This indicates that insurance density became stationary at the first difference (integrated of order 1) with a p-value of 0.014, which is less than the significance level of 0.05. These findings suggested that the variables were

stationarity at different levels: market concentration at level one (I (0)) and insurance density at first difference (I(1)). When variables exhibit stationarity at different levels, it implies the absence of co-integration between the variables and that the data cannot be used to estimate the coefficient of the equation (A-VI).

Table 5- 7: Result of ADF test at difference I(I) or at integrated of order one 1(1)

Augmented Dickey-Fuller test for time series integrated of order 1					
Time-Granger causality series data on	Test Statistics	Critical Values			P-value
		1%	5%	10%	
Ins. Density	-3.837	-4.380	-3.600	-3.240	0.0148
					Reject: H0: 0.014<0.05

ADF: Augmented Dickey Fuller, Ins.density: insurance density

With no co-integration between the variables implies that there is no long-run causal relationship between market structure concentration and insurance density. Thus, the null hypothesis that there is no long-run relationship between the performance of the insurance industry and market concentration cannot be rejected. High-market concentration cannot explain the underperformance of the insurance industry implying that the result does not support the Structure-Conduct-Performance (SCP) nor the Efficient Structure (EFS) hypotheses.

Study (Li *et al.*, 2017) revealed a negative relationship between market concentration and industry performance, supporting the SCP hypothesis. Another study (Sahile et al., 2015) found a strong causal relationship between high market concentration and high industry performance. It demonstrated that more efficient firms performed better and had a positive influence on the overall performance of the banking industry in Kenya, consistent with the EFS hypothesis (Sahile et al., 2015). On the other hand, the background review of the industry in chapters one and two of this study consistently showed the poor performance of the insurance industry in Ethiopia, a sign of prevalence of collusive behaviour which aligned with the SCP hypothesis.

Thus, the result showing no relationship between high market concentration and insurance performance in the case of Ethiopia, considering the literature discussed, indicates the relevancy of potential other factors contributing to the absence of a link between the two variables that need to be addressed.

5.2.3 Performance of Insurance Industry and Innovations in the Industry

The descriptive data analysis (Figure 5-1) reveals fluctuations and an absence of a consistent trend in the relationship between the variables: innovation and industry performance during the period 2006 to 2016. Furthermore, the analysis indicates a consistent decline in industry performance, despite a steady increase in innovation during the period 2011 to 2016.

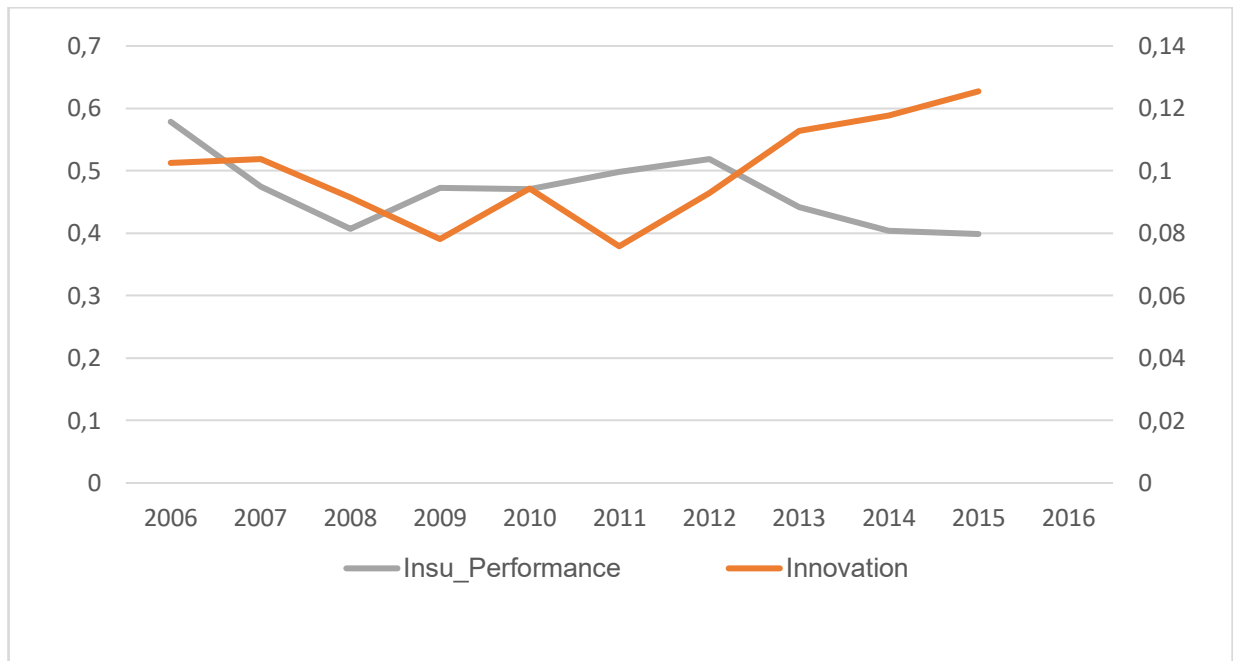


Figure 5- 1: Insurance penetration and Innovation as percentage of premium

Data source: GFDD of the World Bank (WB, 2017b) and insurance companies, compiled by author

However, from the figure it is difficult to determine whether there is an absence of a relationship between the variables. Thus, the study aimed to investigate whether there was a correlation between innovations by the industry and the performance of the industry and to determine whether the increased trend of innovation had an impact on the performance of the insurance industry.

The study employed correlation analysis between the variables innovation measured by innovation expenditure as a percentage of gross premium and performance of the insurance industry measured by insurance penetration. The research uses the following research question and research hypothesis.

The Research Question:

Q3: Is the underperformance of the insurance industry due to a lack of innovation in the industry?

Q3: Is the underperformance of the insurance industry due to a lack of innovation in the industry?

The research hypothesis :

H0-3: There is no correlation between the performance of the insurance industry and innovation in the industry.

H1-3: There is a correlation between the performance of the insurance industry and innovation in the industry

Pearson's correlation coefficient (r^2) was used to assess the correlation between innovation in the industry and industry performance, as shown in Table 5- 8. The value of the Pearson's correlation coefficient, $r^2 = -0.0234$, is lower than the p-value associated with a two-tailed test (p-value = 0.946 at a 5% level of significance). The result indicates that there was no statistically significant correlation between innovation in the industry and its performance, hence, the research results failed to reject the null hypothesis.

Table 5- 8: Correlation result: Ins-penetration and innovation of the industry

Variables	Variables	
	Innovation investment (Inn/GP	Performance of insurance industry
Performance of insurance industry • Pearson correlation • Significance 5% • N	-0.0234 0.9457 12	1 12
Innovation investment (Inn/GP) • Pearson correlation • Significance 5% • N	1 12	-0.0234 0.9457 12

As adopted from StataCorp result

This implies that the innovation in the industry has no connection with the performance of the insurance industry.

The literature underscores the pivotal role of innovation in driving performance of an industry (Gerybadze, 2010; Bozkurt, 2015). Study (Pradhan *et al.*, 2018) asserted a strong causal relationship between innovation and finance sector performance and the driving role of innovation on industry performance. The study (Rajapathirana and

Hui, 2018) demonstrated the role of technology, innovative capabilities, and knowledge drive performance of the finance industry in Sri Lanka.

The descriptive analysis of the relationship (Figure 5-1) showed a downward trend in the performance of the insurance industry over time, in contrast with the steady increase in costs of innovation as percentage of gross premium (section 5.2.3). This observation aligns with the result of the correlation analysis. The result implies that the investment of the insurance industry in innovation does not lead to an improvement in the performance of the industry. Thus, considering the evidence from the literature review absence of correlation between the performance and innovations despite the increase in the innovation costs makes clear the industry lacks critical factors essential to drive innovations in favour of performance of the industry.

The next section delves into research question four, aiming to explore other factors that contribute to the poor performance of the Ethiopian insurance industry.

5.3 Quantitative Analysis based on Primary Data

The conceptual framework in section 3.8 of the study highlights the value chain governance structure as a critical factor for industry performance. This study presents results of the analysis conducted to examine the role of the value chain governance structure in explaining the underperformance of the Ethiopian insurance industry.

The study uses the primary data and descriptive statistics to examine the value chain governance structure (discussed in sections 4.5.2 and 4.6.2). The data were collected through the survey from the management of the insurance firms who knew about the policy, operations, regulatory systems, technology, market establishment systems of the industry.

Management was asked to rate each of the governance structure types on a five-point Likert scale (1 - strongly disagree to 5 - strongly agree) regarding the extent or degree of being applied in business transactions between their respective companies and reinsurers or policyholders.

They were also asked to rate on a five-point Likert scale: (1- strongly disagree to 5 - point strongly agree) how the regulatory framework of the industry contributed to maintaining a balance of power in the business transactions between their respective companies and the reinsurer or the policyholders.

Of the 357 survey questionnaires 318 were responded. The response rate was 89%. The study used the SPSS statistical software package for the analysis. The five-point Likert scale responses were re-categorised into three scales (strongly disagree and disagree merged to disagree, strongly agree and agree merged to agree, and the third neither disagree nor agree) to simplify the analysis.

Figure 5- 2 shows the level of education of the management. A majority (64%) of the management were BA/BSc degree holders, while 33% were MA/MSc degree holders, and 2% of the management diploma holders. Very few were PhD holders (0.3%). The rest (0.6%) were certificate holders.

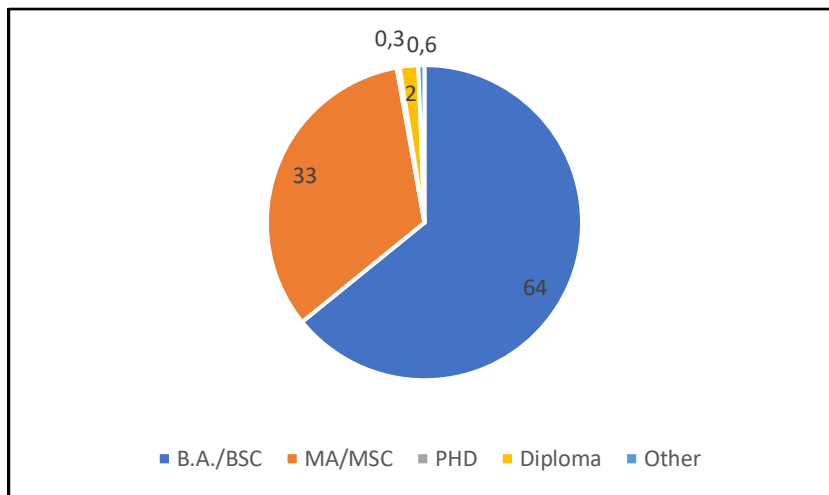


Figure 5- 2: Education profile of the management of insurance companies

As shown on the education profile of the management, most of them were undergraduates, indicating that the industry was in short supply of the required level of education (MBA or BSc). According to Zhang and Nesbit (2018), adequate professionalism, managerial skills and capability of strategic leadership require MBL/MBA -level of education.

5.3.1 Value Chain Governance Structure and Performance of Insurance Industry

There are five types of value chain governance structures: market, modular, relational, captive, and hierarchy (section 3-5). This ranges from a low to high level of explicit coordination and power asymmetry (Gereffi *et al.*, 2005). Further, the literature consulted identified three variables indicating how the value chain governance type could be determined, changed and influenced in the interaction between the buyer and supplier in managing specifications of transactions. These factors are: (i) the complexity of transactions, (ii) the ability to codify transactions, and (iii) the capability and competency to deliver specifications of transactions with the required standard in terms of quality and safety.

Vertically integrated firms (section 3.5) exercise the hierarchical type of value chain governance, characterised by integrated institutional power and decision-making from designing to operation and reporting (Gereffi *et al.*, 2005). Gereffi *et al.* (2005) describe the relational type of value chain governance as having shared long-term commitment, mutual trust and decision-making between the buyer and supplier, and a potential effective impact on industry performance. Whipple *et al.* (1999) characterise both relational and captive types to have a high degree of explicit coordination and power asymmetry and a potentially effective influence on industry performance. Porter (1991) and WB & IMF (2005) highlight the critical roles of legal and regulatory frameworks in maintaining a balance of power and interdependency among actors and the potential impact on industry performance.

The next section investigates whether the value chain governance structure in the industry contributed to the underperformance of the insurance industry. It poses the question: “Is the value chain governance structure in the industry a contributing factor to the underperformance of the insurance industry?” In addressing the research question the study used the following sub-questions:

- (i) Which type of value chain structure was predominantly used in the business relationships between insurers and cross-border reinsurers?
- (ii) Which type of value chain governance structure was predominantly used in the business relationship between insurers and policyholders?

I. Value Chain Governance structure types predominantly used between Insurers and reinsurers

The analysis aimed to determine the predominant types of value chain governance structures used in the business relationship between insurers and reinsurers as perceived by the management of the insurance companies. To achieve this, the study used mean scores to analyse the perception of management. The mean score for the value chain governance structure types used in the business transaction between insurers and reinsurers are shown in line graphs (Figure 5-3). The mean score for market type is 3.22, modular type 3.27, relational type 3.17, and captive type 2.84. This indicates that on average most of the management perceived the modular value chain governance structure type to be the most predominantly used in the business relationship between insurers and reinsurers.

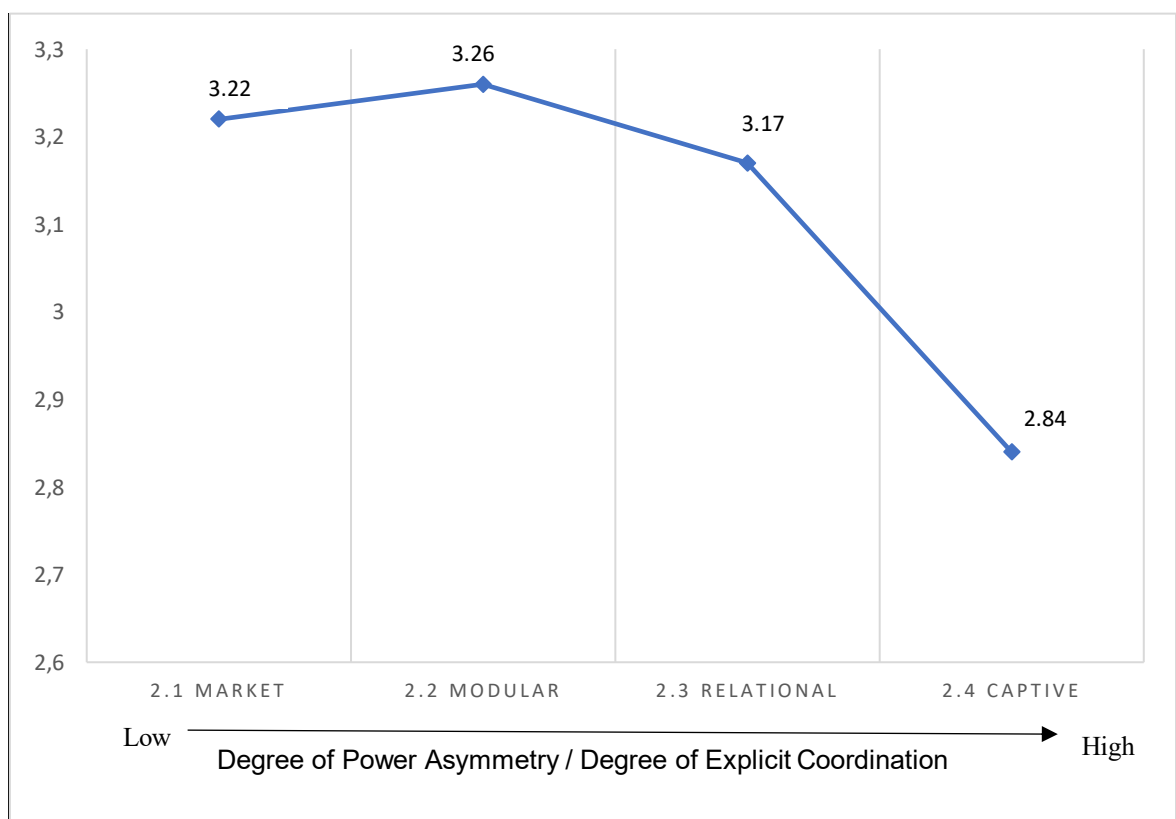


Figure 5- 3: Management View: rating VCGST in use between insurers and reinsurers

As discussed in Section 3.5, the modular value chain governance structure is associated with a low degree of explicit coordination and power asymmetry. This type of structure is characterised by limited possession of the knowledge and

capability required to manage complex information, codify specifications of transactions into professional and systematised standards and lack of the necessary capabilities and competencies to deliver requirements of specifications to the required standard in terms of quality and safety (Gereffi *et al.*, 2005). The result was consistent with the empirical findings by Golini *et al.* (2018).

According to Golini *et al.* (2018), industries characterised by the relational and captive value governance structure exhibited greater effectiveness in initiating and driving innovations, including introduction of new products, efficient transaction processing, and establishment of career developments. In contrast, Golini *et al.* (2018) found that industries characterised by value chain governance structure types with a low degree of explicit coordination and power asymmetry, such as modular structures, were found to be less effective in initiating innovations and facilitating career development.

II. Value Chain Governance Structure predominantly used between Insurers and Policyholders

This analysis aimed to determine the type of value chain governance structure employed in the business interaction between insurers and policyholders, as perceived by management. Management was asked to rate the predominant value chain governance structure type (market, modular, relational, or captive) being used in the industry. The mean scores of the value chain governance types in the business interaction between insurers and policyholders are presented in line graph (Figure 5.4). The mean score for market type is 3.67, modular type 2.82, relational type 2.62, and captive type 3.13. The results indicated that, on average, management perceived the market type governance structure (3.67) to be used by companies in the industry for their interaction with policyholders.

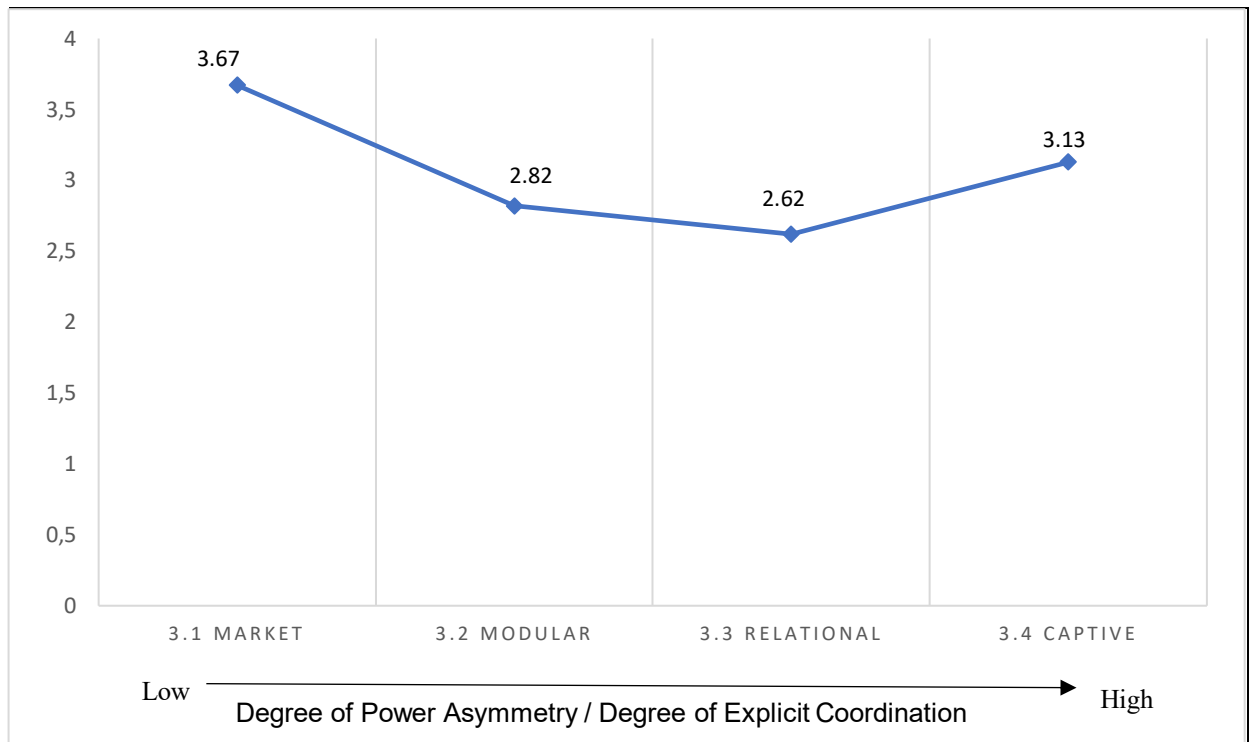


Figure 5- 4: Management View: rating VCGST in use between insurers and policyholders

As discussed in section 3.5, the market value chain governance structure is associated with a low degree of explicit coordination and power asymmetry. It lacked the knowledge and capability to manage specifications and codify the specifications into systems. It further lacked the capability and competency to deliver specifications of transactions to the required level in terms of quality and safety (Gereffi *et al.*, 2005). The results are consistent with the findings by Golini *et al.* (2018). According to the empirical findings of Golini *et al.* (2018), industries characterized by a low degree of explicit coordination and power asymmetry including market value chain governance structure types were found to be less effective in driving innovations, initiating human capital, and promoting performance.

To conclude, results shown in sections I and II above indicate that value chain governance structure types used by the industry were associated with lower levels of explicit coordination and power asymmetry. As discussed, according to the findings of Golini *et al.* (2018), industries characterised by value chain governance structure types with low levels of explicit coordination and power asymmetry lack the capability to drive innovations effectively and enhance performance. Thus, the

value chain governance structure types used in the Ethiopian insurance industry have limited the industry's ability to drive innovation and develop human capital. Consequently, a lack of value chain governance structure characterized by low degree of explicit coordination and power asymmetry leads to have lack of capability to drive innovations, which is a cause for underperformance of the industry.

5.3.2 Regulatory Framework in Value Chain Governance Structure

This section presents results of the analysis regarding the role of the regulatory framework in the value chain governance business relationship between insurers, reinsurers, and policyholders within the industry. The analysis addressed the following research sub-questions.

- (III) Does the regulatory directive for the reinsurance business contribute to maintaining a balanced power in the business relationship between insurers and reinsurers?
- (IV) Does the regulatory directive for the insurance business contribute to maintaining a balanced power in the business relationship between insurers and policyholders?

Management was asked to rate their understanding using a Likert scale (ranging from agree to disagree) regarding the regulatory framework in terms of the extent to which (i) the directive for the reinsurance business contributed to maintaining a balance of power between insurers and reinsurers, and (ii) the directive for insurance business contributed to maintaining a balance of power between insurers and policyholders within the value chain governance structure.

The results are presented in Figures 5- 5 and 5- 6, where management responses were simplified to a three-point scale, merging 'strongly disagree' and 'disagree' under 'disagree,' and 'strongly agree' and 'agree' under 'agree.'

As shown in Figure 5-5, 42% of management agreed that the regulatory framework contributed to the value chain governance structure of the industry in maintaining

a balance of power in the business relationship between insurers and reinsurers, while 32% remained indifferent, and 26% disagreed.

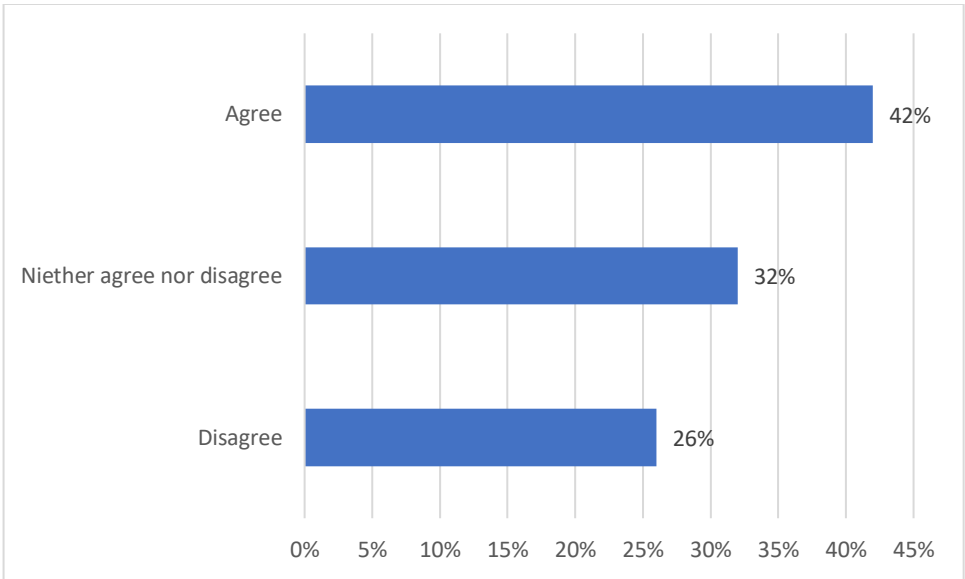


Figure 5- 5: Management view: the role of directive for reinsurance business

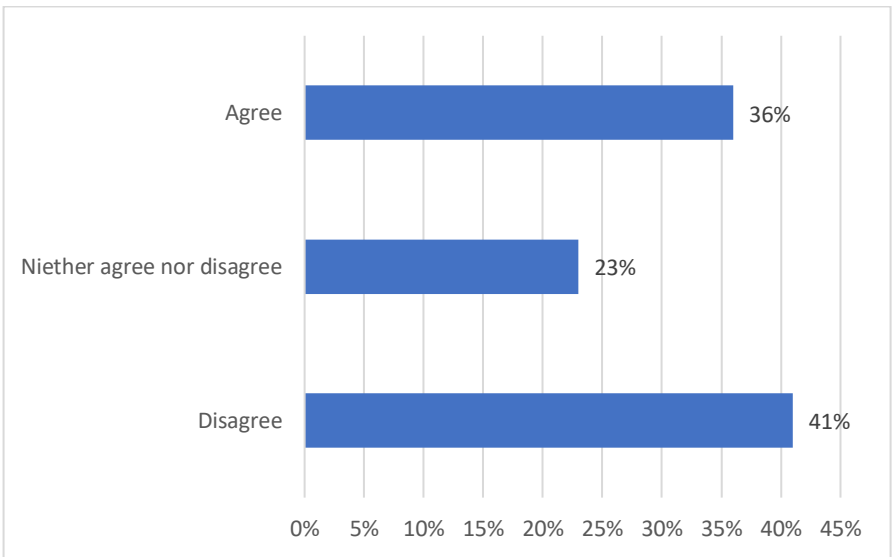


Figure 5-6: Management view: role of the insurance directive between insurer and policyholders

As shown in Figure 5-6, 41% of management disagreed on the contribution of the regulatory framework to the value chain governance structure of the industry in maintaining a balance of power in the business relationship between insurers and policyholders, 36% agreed and 23% were indifferent.

The results explain the extent to which the industry lacked the required professional capability to understand and interpret situations and formulate strategies. As shown in Figure 5-2, most management did not possess MSc/MBA degrees. Reference studies by Mumford *et al.* (2000); Mumford and Van Doorn (2001); Zhang and Nesbit (2018); and Gloet and Samson (2018) highlighted the importance of business leaders having a higher level of education to effectively understand and interpret industry strategies, policies, and business dynamics and develop company level strategies accordingly. The results can therefore be linked to lack of adequate knowledge of management attributed to insufficient education. It underscores the importance of education in enabling management to comprehend the dynamics of the value chain and its impact on the industry's performance.

To conclude, the results indicated that (i) the industry operated with value chain governance structure characterised by a low degree of power asymmetry and explicit coordination, and (ii) the management profile of the industry indicated that the industry had inadequate education level to understand business dynamics. According to Golini *et al.* (2018), industries operating with wanting value chain governance structure types, including market and modular, lacked the necessary knowledge, competency, and ability to undertake innovations, R&D and human capital development initiatives to build competitiveness to capitalise on opportunities effectively. Therefore, based on the industry's value chain governance structure types associated with a low degree of power asymmetry and explicit coordination as well as the inadequate education level of the management, it is justified to conclude that the value chain governance structure contributed to the underperformance of the insurance industry.

5.4 Qualitative Data Analysis

This part of the analysis used qualitative data gathered from management of insurance companies based on questions regarding the role of the regulatory framework in the value chain governance. The results of the analyses were limited to the limitations of the roles regulatory framework in relation to the reinsurance business and strategic plans of the insurance industry concerning innovation. The questions were:

- (V) What are the weaknesses in the regulatory framework governing the reinsurance business?
- (VI) Describe whether the insurance companies have strategic plans for innovation?

5.4.1 Regulatory Framework of Reinsurance Business

Management was asked to identify the limitations of the regulatory framework for the reinsurance business of the insurance industry. The management described the limitations of the regulatory framework of the reinsurance business as including stringent features of the regulatory framework, inadequate supervision capacity of the regulatory framework, absence of participation of the companies in the process of developing the regulatory framework, and lack of prudence of the regulatory framework. Responses of management are reported in themes in Table 5-9.

Table 5- 9: Limitations of the regulatory framework in relation to reinsurance

Themes	Statements of Respondents
Rigid or ineffective regulatory framework	• Weak capital of the companies hinders the companies from investing in technologies and innovation, as a result limited technology, R&D and high inefficiency and limited market penetration in the economy, fierce competition, low profitability of the companies • The regulatory framework does not allow companies to build professional careers and build expertise capacity. • Does not allow foreign sources capital, (shareholders) partners join their capital to expand market share and introduce technology, consider more risk investments, and involve in neighbouring countries' markets. • Weakened capital resulted in companies having weak bargaining power in the business deals between the company and corresponding cross-border reinsurance companies.
Inadequate supervision capability of the regulator	• The regulatory framework has no institutional and professional capability to supervise and provide professional support to the companies (limited staff, lack of insurance industry knowledge and expertise) • The Reinsurance Company Establishment Directive No. SRB/1/2014 fails to address critical issues in managing the reinsurance business, including how the reinsurance commission should address dispute resolution and settlement (NBE, 2014) • Poor supervision, loose regulator leadership • Limited or absence of capacity-building initiatives • Limited platforms for exchange of ideas and sharing of contemporary industry developments. • Contributes scantily to the development of the industry. • Limited involvement of the companies in the process of developing the regulatory framework

Themes	Statements of Respondents
Corporate governance	• Lack of healthy business relationship between the companies and among staff within a company • Poor value chain governance of the industry • Weak association office of the industry, cannot help the industry in influencing policies of the regulator, or help in creating platforms to discuss domestic and contemporary business issues

a. Rigid or ineffective features of the regulatory framework

The regulatory framework does not allow companies to increase their capital as needed, such as to increase the capital of their respective company from foreign sources (shareholders). Due to a lack of sufficient capital and foreign exchange, companies could not invest in technologies and R&D so that to enhance efficiency and performance of the companies. Lack of sufficient capital weakened the bargaining power of companies in business dealings with their cross-border reinsurance counterparts on sharing risks and respective premiums. As a result, a major part of the risks was ceded to cross-border reinsurers. According to the management, the regulatory framework has no provisions that can allow foreign companies either to invest or to join their capital with domestic companies. Because of lack of hard currency, companies cannot easily access technology, knowledge and use advantages of the domestic and neighbouring countries' market opportunities and boost their performance. This behaviour is also indicative of industries where there a high degree of concentration can lead to collusive practices and reduced competition among firms that leads to under investment.

The regulatory framework has no provisions where can motivate and incentivise companies to invest in technologies, invest in career development, expertise and professionalism, which is the basis for R&D and international competition. Lack of career developmental programmes resulted in high staff turnover and lack of dynamism in the industry. Lack of strategic management and expertise resulted in companies becoming fiercely engaged in price wars to grab the maximum share of the existing market, instead of looking forward to taking the potential advantages of growth in the economy. The framework constraints let the industry underperform and contribute little to the economy.

b. Inadequate regulatory supervision capability

According to the management inadequate regulatory supervision capability is explained by the shortcomings of the directive Reinsurance Company Establishment Directive No. SRB/1/2014 (NBE, 2014). According to them the directive does not include clauses (provisions), such as reinsurance commission, dispute resolution and premium and due settlement, which are the fundamental baselines for domestic companies in their business dealings with cross-border reinsurance counterparts. The directive fails to provide clear guidelines on the limits of premium retention and ceding by insurance companies, leading to extensive ceding of risks to cross-border reinsurers. The directive has also failed to include provisions of code of conduct of professionals of the companies and intermediaries.

The regulator failed to monitor and control professional issues related to professional misconduct, and abuse of professional responsibilities due to inadequate skill and diligence of the regulator. The regulator had been inadequate in terms of institutional setup and size of staff and expertise to supervise and provide professional supports to the companies. The insurance industry regulating department was established under the central bank, which is designated to regulate and supervise commercial banks. The staff of the regulatory was also limited in terms of staff to size to supervise the activities of insurance companies. (this is consistent with the literature review under section 2.5). Thus, as a result, little efforts had been made to involve the companies in discussions of challenges and strategy issues, to provide expertise support to the insurance companies and influence the value chain governance.

In contrast, the management of insurance companies of Kenya is monitored by a regulatory authority where the private sector participates in the process of developing policies and regulatory frameworks and in the decision-making process of the regulator as member of the regulating body. According to the management of insurance companies, the regulator had been excessively engaged in routine issues, such as reviewing of annual financial reports of the companies.

c. Lack of good corporate governance

According to management, the regulator made little effort to introduce information exchange platforms to bring stakeholders together to discuss business matters among themselves. The regulator also made minimal effort in mediating and resolving issues that involve fierce conflicts, such as price wars among the companies and in cases of misbehaviour in the cross-border businesses.

In conclusion, the results of the qualitative analysis indicate that the regulatory framework dedicated to reinsurance business is not comprehensive and does not adequately support insurance companies in their dealings with cross-border reinsurers. This finding contrasts with the conclusions drawn in the literature by Wang (2003) and UNCTAD (2007). According to Wang (2003) and UNCTAD (2007), it is crucial to have proper regulations in place for business arrangements between reinsurers and insurers to safeguard the solvency of primary insurers and protect the interests of policyholders.

5.4.2 Strategic Plan for Innovation

Managers were asked to provide their descriptions concerning strategic plans for innovations in their respective company. The responses varied, with some indicating the absence of strategic plans, while others mentioned presence of broad innovation policy perspectives. The responses of management are summarised in Table 5- 10.

Table 5- 10: Responses of management regarding strategic planning for innovation

Themes	Statements of Respondents (ideas categorised)
No strategic plans for innovation	• Companies have no requirements by the regulator to have strategic plan for innovation • The industry does not have policy directions for innovations • Strict directives of the regulator hinder companies not to take initiatives for strategic plans • Non-existence of strategic plan is explained by the similar and aged products and services in the market
Weak performance in implementing strategic plan for innovation	• High bureaucracy of the regulator a cause for weak performance strategic plan • The regulator gives more attention to the banks

a. No strategic plans for innovation

Management confirmed that there was no strategic plan regarding innovation at their firms ascribed to the regulatory and institutional setbacks and practical exercise. The lack of a strategic plan by the industry in relation to the regulatory landscape can be explained as follows:

- (i) Lack of well-defined policy guidance by the regulator requiring or mandating companies to have strategic plans for innovation,
- (ii) The regulator does not urge companies to have a strategic plan for innovation.
- (iii) Limited capital and institutional capacity at the company and the industry posed a challenge in developing and implementing a comprehensive strategy plan for innovation. The industry has no training institution devoted to build employees and leadership with the required skill, knowledge and capability.
- (iv) Lack of clearly defined incentives in return for investments in technologies and innovation efforts resulted in companies being less motivated to develop strategic plans specifically focused on innovation.

Lack of strategic plans for innovation in the industry is explained by the management to include:

- (i) limited and stagnant insurance products and lack of technology in customer services
- (ii) heavy reliance by the companies on traditional insurance management practices,
- (iii) limited professional capability and competency of the company and regulator, and
- (iv) limited understanding of the dynamics and complexity of the insurance business domestically and globally by the management

These claims are consistent with the suggestions by Bain (1959). According to Bain (1959), strategies do play critical roles in influencing market structure, shaping the competitive landscape, and determining the overall dynamics of the industry, and industry performance.

b. Weak performance in implementing the strategy plans for innovation

The management, holding contrary views, asserted that strategic plans for innovation are theoretically in place but have never been implemented. According to them, the lack of innovation is attributed to inadequate supervision, a lack of consultative support, and a shortage of professionals and expertise within the companies, as well as at the regulatory level. Furthermore, they claimed that the regulator assigns less weight and focus to the insurance industry, prioritizing banking in terms of regulatory attention. Consequently, the insurance industry continues to operate with outdated systems and offers insurance products that have been in the market for decades. In contrast, commercial banks operate within a dynamic system, employing modern technologies and introducing new banking products, including mobile banking and online banking transactions some to mention.

In addition, the management argued that the industry suffers from a lack of institutional and professional capability to understand the business dynamics, regional challenges, and global trends of the insurance industry. According to them, this lack of understanding hampers both the regulator and the industry from defining the problems of the industry and developing a sound strategic plan for innovation. Consequently, the industry persists in offering stagnant insurance products and operates without technological advancements in customer services.

To conclude, the management claims that the industry lacks regulatory, institutional and professional capability to understand the business dynamics and complexity and failure so that to undertake proper strategic measures. Due to lack of the competency and capability to undertake innovative measures the industry continued operating in a high market structure concentration (section 5.2.2). This has led to reduced competition, collusive behaviour, stagnant product offerings, weak technological advancement, a loose link with prevailing economic growth, and low industry performance.

5.5 Chapter Summary

Results show no long-run relationship between economic growth and the performance of the insurance industry, indicating that economic growth in the country had little influence on the industry's performance. Results indicate absence of long-run relationship between market structure concentration and insurance industry performance and little correlation between performance and innovation efforts of the industry. Results reveal that the types of value chain governance structures employed by the industry are characterised by a low level of explicit coordination and power asymmetry, which results with limited capabilities and competencies to meet specification requirements with the required standards in terms of quality and safety.

Further, results indicate that the regulatory frameworks are not comprehensive and adequate to maintain a balance of power in the business relationship of the industry with its actors addressed by the study. Results of the qualitative analyses show that the industry lacks the required institutional and professional capability to understand and address business dynamics, challenges, and envisage opportunities, which is consistent with the result of the primary quantitative data analysis of the value chain governance structure. Lack of having the right value chain governance structure type exposes the industry to operate in an inefficient and collusive market structure, with weak technological advancement, stagnant products and services offering.

CHAPTER SIX: DISCUSSION, CONTRIBUTION, AND CONCLUSIONS

6.1 Introduction

Grounded in the literature review, the conceptual framework in chapter Three elucidates the complex nature of industry performance and the multitude of factors that influencing it. The overarching goal of this study was to identify the factors contributing to the underperformance of the Ethiopian insurance industry. To achieve this aim, specific objectives were formulated and explored throughout the research process. Section two discusses the results obtained in line to the specific objectives of the study. The third section gives a summary of the findings. The fourth section presents the study's conclusions, contributions, and recommendations. The last two sections present the limitations of the study and proposals for further research.

6.2 Discussion of Results

This section discusses the results in line with objectives one and two within the context of objective three. It triangulates the results to gain a comprehensive understanding of how the relationship between the factors are influenced by other factors. The goal is to identify the factors that primarily contribute to the underperformance of the Ethiopian insurance industry by considering all the results.

6.2.1 Triangulation of Objective One

The first objective of this study was to analyse the impact of economic growth, market structure, and innovation on the performance of the Ethiopian insurance industry using time series analysis. By examining the relationship between the quantitative and qualitative results provided, the research sheds valuable insights into the factors that contributed to the underperformance of the industry.

6.2.1.1 Performance of Insurance Industry and Economic Growth

The relationship between economic growth and the performance of the insurance industry has been extensively studied. Literature showed a significant relationship between economic growth and the performance of the insurance (Patrick, 1966; Webb *et al.*, 2005; Haiss and Sumegi, 2008; Chang *et al.*, 2014). However, the empirical results of this study do not support the existence a long-term causal

relationship between the Ethiopian economic growth and the performance of the insurance industry.

The result is not unique to Ethiopia. Peleckien *et al.* (2019) also found no causal relationship between economic growth and the performance of the insurance industry in Slovakia. Din *et al.* (2017) and Adetunji *et al.* (2018) found empirical evidence of unidirectional causality running from the performance of the insurance industry to economic growth. According to their research, the insurance industry contributed to economic growth through capital formation and by facilitating commerce and trade through capital allocation, risk transfer, and loss mitigation mechanisms. Improved performance of the insurance industry promotes capital mobilisation, allocation, and investments, thus fostering economic growth (Din *et al.*, 2017). Developed insurances also introduce technologies, new insurance products and innovative services that efficiently allocate financial resources and spur economic growth (Din *et al.*, 2017). Countries that implement investment-stimulating policies for institutional infrastructures, as highlighted by Din *et al.* (2017) and Adetunji *et al.* (2018) benefit significantly from the contribution of the insurance business to their economic growth.

The insurance industry is primarily active in sectors that constitute a small portion of the economy, such as import and export, freight, and vehicle coverage (section 2.4). The industry is not active in the major sectors of the economy, including agriculture and livestock (constitute 57% of GDP), real estate, and mining (Chapter Two section 2.4). The absence of insurance industry investment-stimulating policies and the lack of investments in technology, innovative products and activities (sections 5.4) further contribute to the industry's limited access to sectors that drive economic growth, resulting in a much smaller supply of insurance market than its potential. This indicates a lack of meaningful supply of insurance products/services in sectors of the economy that constitute a large part of economic growth.

Studies by Pradhan *et al.* (2017); Dash *et al.* (2018); Peleckien *et al.* (2019) demonstrated causality ran from economic growth to the performance of insurance industry of some of the countries in their study. According to Pradhan *et al.* (2017) causality ran from economic growth to performance of insurance in Malta, a

developing country experiencing a rapid economic growth, contrasting with the results observed in the case of Ethiopia.

Agriculture and livestock are dominated by smallholder farmers, characterised by traditional agricultural practices, livestock husbandry systems, and rain-fed crop production (Yalew *et al.*, 2017; Filho *et al.*, 2018). Furthermore, farmers in Ethiopia live in rural widely dispersed areas, which makes the transaction cost for insurance high/unaffordable. This makes premiums expensive, and insurance coverage unattractive to the farmers to spur demand (Yalew *et al.*, 2017; Filho *et al.*, 2018) (section 2.4.1).

The empirical results of this study do not support the presence of a long-term causal relationship between economic growth and the performance of the insurance industry. The result maybe a false negative (Type II error for not being able to reject the Null Hypothesis) however the triangular evidence presented here supports the empirical result and provides further evidence for why there is a disconnect between economic growth and the performance of the insurance industry in Ethiopia. This supports the evidence presented in Chapter One that Ethiopia witnessed notable economic growth (2005 - 2017) while the insurance industry underperformed during the same period. This confirms the research gap that necessitated the exploration of the factors that resulted in this disconnect as explained below.

6.2.1.2 Performance of the Insurance Industry and Market Structure

The literature (section 3.3) highlights a strong causal relationship between market structure and industry performance, which is explained by two competing hypotheses: Structure-Conduct-Performance (SCP) and Efficient Structure (EFS) (Miller, 1969; Sawyer, 1985; Ellickson, 2015; Yang *et al.*, 2017). The SCP hypothesis argues that high market concentration in the market leads to lower competition, inefficiencies, and lack of innovation that results in poor industry performance, suggesting an inverse relationship between market concentration and industry performance (section 3.3). Empirical evidence by Li *et al.* (2017) and Capraru and Moise (2015) also found a statistically significant negative causal relationship between market concentration and industry performance, supporting the SCP hypothesis.

The empirical result (section 5.2.2) does not provide evidence of a causal relationship between high market concentration and the performance of the Ethiopian insurance industry. Therefore, based on the empirical result the conclusion was that there is no indication that the poor performance of the insurance industry can be attributed to high market concentration.

However, the data in section 5.2.2 shows that the market concentration of the Ethiopian insurance industry, measured by the CR4 (four largest firms) and the HHI, had been consistently high over the ten years covered by this study (Table 5-5). The CR4 ranged from 57% to 69%, indicating high market concentration. Similarly, the HHI ranged from 1660 to 2200, which also indicated a high concentration, implying a tight oligopoly market structure in the industry which indicates, price-setting and collusive behaviour that leads to underperformance of an industry (Sathye, 2005; Yoon, 2004; Stigler, 1964; Bain, 1951). High-market concentration erodes competition, which results in a welfare loss and eventually poor industry performance (Mason, 1939; Bain, 1956; Ellickson, 2015). Li *et al.* (2017) investigated the relationship between market concentration, efficiency, and industry performance in China's solar cell industry. Their findings revealed that there was a negative relationship between market concentration and industry performance. From the literature review, there are numerous studies, in many countries, that support the SCP hypothesis that high market concentration leads to lower competition, inefficiencies and lack of innovation that result in poor industry performance (Tarus, and Cheruiyot, 2015; Cole and McCullough, 2015; Capraru & Moise, 2015; Li *et al.*, 2017).

The survey (qualitative and quantitative) results in 5.3 and 5.4 are indicative of the characteristics of an industry with high market concentration, supporting the SCP hypothesis. The results show that there was a lack of sufficient capital, and companies did not invest in technologies and R&D to enhance efficiencies in companies. The lack of sufficient capital resulted in collusive practices that reduced the bargaining power of companies in dealing with their cross-border reinsurance counterparts for sharing risks and premiums. As a result, a major part of the risks was ceded to cross-border reinsurers which negate the risks away from competition

in the local market. High market concentration, through collusive behaviour, prevented foreign partners from providing capital to domestic companies. This prevented companies to access state of the art technology and knowledge to increase their performance. Furthermore, the lack of competition did not motivate and incentivise companies to invest in technologies, R&D and innovations to access untapped sectors that the industry has no access to. All of this inhibits performance in the industry. The lack of adequate value chain governance structure, lack of proper regulatory and institutional and professional capability in understanding the business dynamics and complexity as well as failure to undertake proper strategic measures for innovation (section 5.2.2 and 5.4) has led to reduced competition, collusive behaviour, stagnant product offerings, weak technological advancements, low coemption and thus poor industry performance.

The empirical results of this study do not support the presence of a long-term causal relationship between market concentration and the performance of the insurance industry implying that high market concentration did not contribute to the underperformance of the industry. This result maybe a false negative (Type II error). This error occurs when one fails to reject a false null hypothesis. In other words, it's the mistake of failing to identify an effect or difference that exists. The triangular evidence presented above provides conclusive evidence to reject the Null Hypothesis and proof that the empirical result is a false negative. Thus, considering all results there is enough evidence to conclude that high market concentration was contributing to the underperformance of the Ethiopian insurance industry.

6.2.1.3 Performance of Insurance Industry and Innovation

Empirical studies showed a strong positive relationship between innovation and industry performance and the crucial role of innovation in driving industry performance (Chen, 2017; Calabrese *et al.*, 2013; Pradhan *et al.*, 2018; Rajapathirana and Hui, 2018). The study (Pradhan *et al.*, 2018) revealed a long-run relationship between innovation and the performance of the finance sector. It emphasized the crucial role of technological capabilities and knowledge-based competency in driving innovation for industry performance. Similarly, a study by Rajapathirana and Hui (2018) demonstrated the role of innovation capabilities, knowledge and managerial capabilities playing significant roles in driving

innovations and fostering the relationship between innovation and industry performance.

However, given the absence of a correlation between innovation and performance of the industry, despite the ongoing innovation investment efforts in the industry (section 5.2.3) proves that the industry lacks critical factors essential for driving innovation. Based on Figure 5-1(period 2011 to 2016), the result shows that the innovation investments in the industry did not contribute to the performance of the insurance industry. Hence, there is a disconnect between performance and innovations in the industry.

Further, the results in section 5.3.1 showed that value chain governance structure types used by the industry are associated with lower levels of explicit coordination and power asymmetry. According to Golini *et al.* (2018) industries characterised by value chain governance structures with low levels of explicit coordination and power asymmetry lack the capability to effectively drive innovations and enhance performance. In light of this, the types of value chain governance structures used in the Ethiopian insurance industry are attributed to the lack of innovation capabilities and knowledge necessary to drive innovation. Furthermore, the results (section 5.3 and 5.4) reveal that the industry lacks technological capabilities, knowledge and management competencies that are critical for driving innovation (Pradhan *et al.*, 2018; Rajapathirana and Hui, 2018).

Thus, these results collectively demonstrate that the industry lacks the technological capabilities and managerial and professional knowledge that is essential for driving innovations and enhancing industry performance. This is because of outdated insurance service products, poor service, and a lack of automation that has persisted since the early days of the oldest company in the industry. These findings align with the literature findings (Pradhan *et al.*, 2018; Rajapathirana and Hui, 2018).

In conclusion, the absence of innovation capabilities, knowledge, and managerial competencies renders the industry less effective in driving innovation and thus leads to the underperformance of the industry. This is also confirmed by the empirical

result that there is no statistically significant relationship between innovation and the performance of the Ethiopian insurance industry.

6.2.2 Triangulation of Objective Two

The second objective focuses on investigating the influence of the value chain governance structure on the performance of the Ethiopian insurance industry, triangulated with other results of the study to uncover how these factors shape industry performance and identify areas for improvement.

i. Value Chain Governance

Gereffi (2011); Gereffi (2005); Dan (2008); Gereffi *et al.* (2005) emphasise the crucial role of value chain governance structure in determining industry performance. As discussed in Chapter Three, Gereffi (2011& 2005); Dan (2008); Gereffi *et al.* (2005) identify five types of value chain governance structures: market, modular, relational, captive, and hierarchy. These structures are determined by three variables: (i) the complexity of information and level of know-how required by the actors in the value chain, (ii) the ease with which transactions and knowledge can be codified and transmitted within a system, and (iii) the capabilities and competencies of the actors in delivering transactions in line to the required standards of quality and safety.

Among these structures, hierarchy is exercised by vertically integrated firms in an industry. Gereffi *et al.* (2005, 2011) emphasise relational governance as the most effective structure for initiating and facilitating innovations and building business-winning capabilities along the value chain, leading to higher industry performance. Whipple *et al.* (1999) highlight the superiority of relational and captive structures in the value chain governance of firms, as they enable the initiation and strengthening of innovations and the development of winning business capabilities, ultimately achieving efficiency and higher industry performance (section 3.5).

Empirical studies conducted by Gyau and Spiller (2008) found that the relational and captive governance structures played a superior role in enhancing the performance of the Ghanaian fresh produce export industry (section 3.5). Golini *et al.* (2018) also found that the relational and captive governance structures were more viable than

modular and market structures in stimulating innovations and building competitive capabilities, leading to increased industry performance (section 3.5).

The results in section 5.3.1 of this study indicate that the insurance industry in Ethiopia predominantly adopts modular and market types of value chain governance structures. However, this is in contrast with what the literature deems as the best types of value chain governance structures. The industry's predominant use of these structures hinders the initiation, introduction, and facilitation of innovations, R&D, and career development. The absence of relational and captive governance structures, which are considered more conducive to fostering innovations, can be explained by the industry's reliance on insurance products introduced decades ago and outdated technology (sections 2.2 and 5.4.2). Therefore, the results suggest that the prevailing value chain governance structure is a contributing factor to the lack of innovations, R&D, career development, and ultimately, to the underperformance of the industry.

ii. Regulatory Framework

According to Porter (1991), a sound regulatory framework plays a critical role in maintaining a balance of power among actors in the value chain of an industry, building interdependency among actors for a common goal, and enhancing industry performance.

The results (section 5.3.2) indicate that the regulatory framework of the Ethiopian insurance industry is not sufficiently comprehensive to maintain a balance of power among the actors in the value chain. Specifically, the regulatory framework lacks provisions to effectively resolve disputes during claims from reinsurers, and the industry faces limitations in maintaining independence in decision-making across the value chain due to limited capital and this contributed to the underperformance of the industry.

iii. Professional Skill and Managerial Competencies

The literature provides strong evidence (sections 3.5.1 and 3.5.2) that professional and managerial competencies in an industry lead to innovation and improved industry performance (Szczepanska-Woszczyna & Dacko-Pikiewicz, 2014;

Blommestein, 2015; Mumford *et al.*, 2017; Gloet and Samson, 2018). The qualitative data analysis (section 5.4) confirms that the insurance industry in Ethiopia lacks professional managerial skills and expertise ascribed to the absence of career development, training institutions and a low level of education among industry employees. This lack of skills and expertise makes it challenging for the industry to manage complexities and explore new opportunities within the value chain. Due to the lack of the required know-how and competency, firms cannot pursue innovations and strategies, adapt themselves to oversee market demands, and capitalise on opportunities to their advantage. Strategies adopted by firms can bring dramatic changes in the business dynamics of the industry. Firms that pursue innovations such as introducing new products, services as well as technology can have a major impact on an industry's market structure and competitive behaviour that drives industry performance.

In summary, the analysis of the value chain governance structure adopted by the industry firstly relies predominantly on low degree of power asymmetry and explicit coordination. This indicates that the industry lacks the capability and competency to develop strategies for innovation, implement and foster innovations, engage in R&D activities, and promote career development programmes. Secondly, management is characterised by low degrees of power asymmetry, explicit coordination, and limited expertise. This indicates that management fails to understand and adapt to cross-border market developments. Consequently, management is incapable of leveraging opportunities to take advantage of the dynamic nature of a business.

The conclusion is that the lack of a proper value chain governance structure, insufficient institutional capabilities, and the lack of industry knowledge contributed to a large degree to the underperformance of the insurance industry.

6.3 Summary

Chapter six provides a comprehensive analysis of various factors impacting the underperformance of the Ethiopian insurance industry. It begins by discussing the results concerning the objectives of the study, aiming to identify and understand the interconnectedness between different factors influencing industry performance.

The chapter meticulously explores and triangulates various factors that contributed to the underperformance of the Ethiopian insurance industry. It sheds light on how economic growth, market structure, innovation, and value chain governance structure interplay and contribute to the industry's underperformance. The findings underscore the need for strategic reforms and investments in technology, innovation, and institutional capabilities, as well as improvements in governance structure and regulatory frameworks, knowledge, and professional development to enhance industry performance.

6.4 Conclusions, Contributions, and Recommendations

This section discusses the importance of the study for the Ethiopian insurance industry as well as its contribution to the body of knowledge, recommendations, and limitations of the study.

Conclusions

The disconnect between economic growth and industry performance is due to:

- The industry is limited to the life insurance sector.
- The industry is notably absent from major sectors of the economy

To explain the disparity the study identified the main factors that contributed to the underperformance of the Ethiopian insurance industry.

Market structure: The data shows that high market concentration in the Ethiopian insurance industry contributed to the underperformance of the industry. This resulted in a lack of efficiency and collusive practices that reduced competition among firms which ultimately resulted in lower industry performance. Thus, evidence supports the SCP hypothesis.

Innovation: The results show that the lack of institutional innovation capabilities, management knowledge and competencies contributed to the disconnect between innovation and performance of the industry and ultimately to the underperformance of the insurance industry.

Value chain governance structure: The industry lacks efficiency and competition due to high market concentration and collusive market behaviour aligned with the value

chain governance structure. The industry predominantly adopts modular and market types that result in an inefficient value chain governance structure. The industry also lacks adequate regulatory, institutional, and professional capabilities to understand the business dynamics, challenges, and opportunities in the industry.

Contributions

The study discussed results of the multilevel analyses inline to the research objectives. aiming to examine the factors that contribute to the underperformance of the Ethiopian insurance industry.

The study utilised triangular analysis to identify the factors that contribute to industry performance. This comprehensive analysis leads to a better understanding of the complex interrelationships between various factors affecting an industry's performance. Such a detailed understanding of the multi-level dynamics of an industry provides valuable insights for policymakers, industry professionals, and researchers into the dynamics that drive performance in an industry.

The study also provides valuable insights into the dynamics of the Ethiopian insurance industry's underperformance and identifies specific factors that can enable the industry's potential for future growth and expansion. This allows policymakers and industry players to formulate strategies to leverage the opportunities in the Ethiopian insurance industry to enhance growth, development, and performance.

Recommendations

The researcher proposes the following recommendations.

- The industry needs strategies and policies to provide products and services to the agriculture real estate and mining sectors to expand the insurance market in Ethiopia.
- The industry needs to introduce institutional and technological capability-building programs that will lead to the introduction of new technologies and innovative products and services that are affordable and accessible in sectors of the economy where the insurance is unaffordable.

- Academics and business professionals need to urgently engage in studies of quest for business strategy dynamics aligned with the value chain governance structure and technological advancements.
- Insurance companies should implement strategies to move away from a modular market type structure towards relational or captive market structures to create a more efficient value chain governance structure in the industry,
- The regulator and the insurance companies should implement HR strategies to enhance the knowledge capabilities of management to overcome the challenges related to a lack of innovation and technology shortcomings in the industry.
- The insurance companies should invest to strengthen the insurers' association, which can, in turn, provide support to the companies through information dissemination and knowledge sharing.
- The academic and research community should consider studying technology adoption and behavioural economics concepts, as they may help uncover why people choose to adopt or not adopt a particular technology.
- Academic and research communities should investigate how economic resilience and business adaptation can strengthen the relationship between insurance performance and economic growth.
- Future studies can provide new insights into how indigenous insurance solutions, such as livestock and birth rates, can enhance the performance of an indigenous insurance industry (stimulating economic growth) in developing countries.

6.5 Limitation

The study is limited in terms of scope and timeframe among which include:

- The analysis of value chain governance structure was limited to the head office of insurance companies, focusing on their business relationships with policyholders and reinsurers. Trust the study was limited to examining the value chain governance structure from the perspective of policyholders, reinsurers, and regulators.

6.6 Proposals for Further Research

Based on the results of this study and the reviewed literature the following topics are proposed for further research:

- Life insurance contributes only 5% to 6% of the industry's Market. Therefore, there is a need for a study to uncover the reasons.
- Further research is needed, with different time frames, to allow for a comparison with the results of this study.
- The insurance industry receives limited support from the association of insurers, unlike the insurance industry in Kenya, which benefits from robust support serving as a hub for marketing and essential information. Hence, it is important to conduct a study on how to broaden the roles and responsibilities of the association as a support structure for the industry.

LIST OF REFERENCES

- Abbott, A.D. 2004. *Methods of Discovery: Heuristics for the Social Sciences*. New York: W.W. Norton.
- Abomeh, O.S. & Peace, N.N. 2015. Effects of Training on Employees Productivity in Nigeria Insurance Industry, *British Journal of Economics, Management & Trade*, 7(3):27-235.
- Adams, M., Andersson, J., Andersson, L.F & Lindmark, M. 2009. Commercial banking, insurance and economic growth in Sweden between 1830 and 1938, *Accounting, Business and Financial History*, 19(1):21-38.
- Adetunji, A.I., Nwude, E.C. & Udeh, S.N. 2018. Inference of Insurance and economic growth, *International Journal of Economics and Financial Issues*, 8(4):16-26.
- Adom, D. Hussein, E.K. & Agyem, J.A. 2018. Theoretical and Conceptual Framework: Mandatory ingredients of a Quality Research, *International Journal of Scientific Research*, 7(1):438-441.
- ADB (African Development Bank). 2020. *African Economic Outlook 2020 Developing Africa's Workforce for the Future*. Abuja. African Development Bank Group. ISBN 978-9938-882-95-7.
- ADB (Africa Development Bank). 2018. *The African Infrastructure Development Index 2018*. Abuja. African Development Bank.
- AEI (Association of Ethiopian Insurers). 2020. Insurance Industry Profile, Addis Ababa, Association of Ethiopian Insurers.
- AKI (Association of Kenya Insurers). 2017. Association of Kenya Insurers Report. Nairobi: Act Press, AKI.
- AKI (Association of Kenya Insurers). 2016. Association of Kenya Insurers report. Nairobi: Act Press, AKI.
- Alamirew, M. 2006. Modality for forming National Reinsurance Company, *Journal of the Society of Insurance Professionals*, 3(1): 13-17.
- Alhassan, A.L. Addisson, G.K. & Asamoah, M. E. 2015. Market structure, efficiency and profitability of insurance companies in Ghana, *International Journal of Emerging Markets*, 10 (4): 648-669.

- Alise, M.A. and Teddlie, C. 2010. A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/ behavioural sciences, *Journal of Mixed Methods Research*, 4(2), 103-126.
- Alomari, B.M.A. 2017. The Importance of Training and its Impact on the Performance of Employees in Banking Sectors of Abu Dhabi, Dubai - UAE to Raise Efficiency: A Field Study on UAE banks, *Journal of Accounting and Marketing*, 6(2):1-8.
- Amha, W., Peck D., Berhane, G. Assefa, Y. & Kidanu, B. 2013. *A diagnostic study of providing micro-insurance services to low-income households in Ethiopia. An input to design micro-insurance strategy. A report was submitted to the Federal Cooperative Agency (FCA) and IFPRI*, Addis Ababa. Unpublished.
- Amin, S.B. 2011. Causal Relationship between Consumption Expenditure and Economic Growth in Bangladesh, *World Journal of Social Sciences*, 1(2): 158-169.
- Amir, R. 2003. Market Structure, Scale Economies and Industry Performance, Core Discussion Paper No. 2003/65, Department of Economics; University of Arizona, University of Arizona.
- Anderson, R. 2007. Thematic Content Analysis (TCA): Descriptive Presentation of Qualitative Data, *academia.edu*, 1-4. Available at: www.wellknowingconsulting.org [Accessed 10 December 2004].
- Andreosso, B. & Jacobson, D. 1996. *Industrial Economics and Organization: European perspective*. London: McGraw-Hill.
- Archibugi, D. & Coco, A. 2005. Measuring Technological Capabilities at the Country Level: A Survey and a Menu for Choice, *Research Policy*, 34:175-194.
- Asari, F.F.A.H., Baharuddin, N.S., Jusoh, N., Mohamad, Z., Shamsudin, N. & Jusoff, K. 2011. A Vector Error Correction Model (VECM) Approach in Explaining the Relationship between Interest Rate and Inflation Towards Exchange Rate Volatility in Malaysia, *World Applied Sciences Journal*, 12:49-56.
- Asteriou, D. & Hall, S.G. 2007. *Applied Econometrics: A Modern Approach Using Eviews and Microfit*, Revised Edition. UK: Palgrave Macmillan.
- Athanasoglou, P.P., Brissimis, S.N. & Delis, M.D., 2008. Bank-specific, industry-specific and macroeconomic determinants of bank profitability, *Journal of International Financial Markets, Institutions and Money*, 18(2):121-136.

- Atsebaha, G.K. 2018. Ethiopian Insurance Sector and its Contribution to Economic Growth. Unpublished MBA thesis. Addis Ababa University, Addis Ababa.
- Audretsch, D.B. 2004. Sustaining Innovation and Growth: Public Policy Support for Entrepreneurship, *Industry and Innovation*, 11(3):167-191.
- Azlina, A.A. & Mustapha, N.H.N. 2012. 'Energy, Economic Growth and Pollutant Emissions Nexus: The case of Malaysia', *Procedia-Social and Behavioral Sciences*, 65, 1-7.
- Azolibe, C.B. & Okonkwo, J.J. 2020. Infrastructure development and industrial sector productivity in Sub-Saharan Africa, *Journal of Economics and Development*, 22 (1): 91-109. DOI 10.1108/JED-11-2019-006
- Bain J.S. 1959. *Industrial Organization*. New York, John Wiley & Sons Inc.
- Bain, J.S. 1956. *Barriers to New Competition: Their Character and Consequences in Manufacturing Industries*. Massachusetts: Harvard University Press.
- Bain, J.S. 1954. Conditions of Entry and the Emergence of Monopoly and Competition and Their Regulation, E.H. Chamberlin, ed, London: Macmillan.
- Bain, J.S. 1951. Relation of profit rate to industry concentration, American manufacturing, 1936-1949, *Quarterly Journal of Economics*, 65(2), 293-324.
- Bamberger, M. 2012. *Introduction to Mixed Methods in Impact Evaluation*, A United Voice for Global Change. New York: the Rockefeller Foundation.
- Basturk, F.H. 2012. Characteristics and competition structure of Turkish insurance industry, *Social and Behavioural Sciences*, 62, 1984-1088.
- Baum, F.C. 2013. VAR, SVAR and VECM models, *Applied Econometrics*, 1-61.
- Bazeley, P. 2012. Integrative Analysis Strategies for Mixed Data Sources, *American Behavioural Scientist*, 56(6): 814–828.
- Beck, T. & Webb, I. 2003. Economic, demographic, and institutional determinants of life insurance consumption across countries, *The World Bank Economic Review*, 17(1):51-88.
- Bello, M. and Isola, W.A. 2014. Empirical analysis of structure-conduct-performance paradigm on Nigerian banking industry, *The Empirical Econometrics and Quantitative Economics Letters*, 3(3):24-34.
- Beenstock, M., Dickinson, G., & Khajuria, S. 1986. The determination of life premiums: An international cross-section analysis 1970-1981, *Insurance, Mathematics and Economics*, 5(1): 616-634.

- Belloumi, M. 2009. Energy consumption and GDP in Tunisia: Co-integration and causality analysis, *Energy Policy*, 37: 2745-2753.
- Bhatia, M. 2018. Humans of Data: Your Guide to Qualitative and Quantitative Data Analysis Methods, Available at <https://humansofdata.atlan.com/2018/09/qualitative-quantitative-data-analysis-methods/> [Accessed 25 July 2019].
- Biesta, G. 2010. Pragmatism and the philosophical foundations of mixed methods research. In Tashakkori, A. and Teddlie, C. eds. *Handbook of mixed methods in social and behavioural research*. 2nd ed. Thousand Oaks, CA: Sage.
- Binder, S. and MuBhoff, J. 2017. *Global Insurance Industry Insights, An in-depth perspective, the seventh edition of McKinsey's annual in-depth analysis of the global insurance industry*.
- Bititci, U, Garengo, P, Dorfler, V. & Nudurupati, S. 2012. Performance Measurement: challenges for tomorrow, *International Journal of Management Reviews*, 14(3): 305-327.
- Binh, P.T. 2013. Unit Root Tests, Co-integration, ECM, VECM, and Causality Models, *Topics in Time series Econometrics*. Available at: https://socialsciences.mcmaster.ca/magee/761_762/02time%20series%20models%20B-notes.pdf [Accessed 17 July 2017]
- Blommestein, H. 2015. *Legal and Regulatory framework for developing government bond markets-suggested issues for discussion, Second OECD-China Forum on Public Debt Management and Government Securities Markets*, Xi'an International Conference Center, China, September 15-16, 2015. OECD-Paris.
- Bollen, K.A. 1989. *Structural Equations with Latent Variables*. New York: Wiley.
- Boring, E.G. 1950. Great Men and Scientific Progress, *Proceedings of the American Philosophical Society*, 94, (4): 339-351. Available at: <http://www.jstor.org/stable/3143518> [Accessed 23 July 2016].
- Bozkurt, C. 2015. R&D expenditures and Economic Growth relationship in Turkey, *International Journal of Economics and Financial Issues*, 5 (1):188-198.
- Bradley, E.H, Curry, L. A & Devers, K. J. 2007. Qualitative data analysis for health services research: Developing taxonomy, themes and theory. *Health Research and Educational Trust*, 42(4): 1758-72.
- Brasil, M. V., Abreu, M.C., Filho, J.L. & Leocadio, A.L. 2016. Relationship between eco-innovations and the impact on business performance: an empirical survey

- research on the Brazilian textile industry, *Environmental Management Journal*, 51, 276–287.
- Braun, V. & Clarke V. 2006. Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3: 77-101.
- Bravo, G. & Potvin, L. 1991. Estimating the reliability of continuous measures with Cronbach's Alpha or the intraclass correlation coefficient: toward the integration of two traditions, *J Clin Epidemiol*, 44 (4/5):381-390.
- Brooks, C. 2008. *Introductory Econometrics for Finance*. 2nd ed. New York: Cambridge University Press.
- Bryman, A. 2007. Barriers to Integrating Quantitative and Qualitative Research, *Journal of Mixed Methods Research*, 1 (1):8-22.
- Bryman, A. 2006. Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, 6(1): 97–113.
- Bryman, A. 1988. *Quantity and Quality in Social Research*. London: Unwin Hyman.
- Buchanan, D.A. & Bryman, A. 2007. Contextualizing Methods Choice in Organizational Research, *Organizational Research Methods*, 10(3):483-501.
- Buckley, P.J., Pass, C.L. & Prescott, K. 1988. Measure of International Competitiveness: A Critical Survey, *Journal of Marketing Management*, 4(2):175-200.
- Calabrese, A., Campisi, D. Capece, G., Costa, R. & Pillo, F.D. 2013. Competitiveness and Innovation in High-tech Companies: An Application to the Italian Biotech and Aerospace Industries, *International Journal of Engineering Business Management*, 5 (40):1-11.
- Cankar, S.S. & Petkovsek, V. 2013. Private and Public Sector Innovation and The Importance of Cross-Sector Collaboration, *The Journal of Applied Business Research*, 29 (6): 1597-1605.
- Capraru, B. & Moise, N. 2015. *Insurance market's competition in Romania after 2007, 7th International Conference on Globalization and Higher Education in Economics and Business Administration, GEBA 2013*, Procedia Economics and Finance, (20):112-118.
- Catalan, M., Impavido, G., & Musalem, A.R. 2000. Contractual savings or stock market development: Which leads? *Policy Research Working Papers*, Available at: <https://doi.org/10.1596/1813-9450-2421> [Accessed at 5 June 2020]

- Carayannis, E. & Provance, M. 2007. Measuring Firm Innovativeness: Towards A Composite Innovation Index Built on Firm Innovative Posture, Propensity and Performance Attributes, *International Journal of Innovation and Regional Development*:1-30.
- Carayannis, E. & Alexander J. 2002. Is Technological Learning a Form Core Competence; When, How and Why: A longitudinal, Multi-Industry Study of Firm Technological Learning and Market Performance, *International Journal of Technovation*, 22(10):625-643.
- Carlyle, T. 1840. *Heroes, Hero-Worship and the Heroic in History*. New York: Fredrick A, Stokes & Brother.
- Caves, R.E. & Porter, M. E. 1977. From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition, *The Quarterly Journal of Economics*, 91(2): 241–262. Available at: <http://www.jstor.org/stable/1885416> [Accessed 10 March 2106].
- Chandan, D. 2017. Human Resource Development Practices: A Study of Public and Private Life Insurance Companies, *Journal of Business and Management (IOSR-JBM)*, 19, (6):10-21.
- Chandel, P. & Kumar, N. 2016. An Analysis of the Growth of India Insurance Industry concerning Top Ten Economies of the World, *Studies in Asian Social Science*, 3(2):36-43.
- Chang, T. Lee, C-C. & Chang, C.H. 2014. Does insurance activity promote economic growth? Further evidence based on bootstrap panel Granger causality test, *The European Journal of Finance*, 20 (12):1187-1210.
- Chavez, D. 2012. Institutional framework for fostering innovation capabilities and collective action: The case of Nuevo León, Mexico. *The paper was to be presented at the DRUID University of Cambridge Academy /The Moeller Centre, January 19-21, 2012*. Cambridge.
- Chen, S. 2017. The Relationship between Innovation and Firm Performance: A Literature Review, *Advances in Computer Science Research*, 82: 648-652.
- Chen, X.Y. 2013. Empirical Research on Chinese coal industry concentration. Nanjing: University of Aeronautics.
- Cho, H.J. & Pucik, V. 2005. Relationship between innovativeness, quality, growth, profitability, and market value. *Strategic Management Journal*, 26(6): 555-575.

- Chowdhury, R. 2019. Embarking on Research in the Social Sciences: Understanding the Foundational Concepts, *VNU Journal of Foreign Studies*, 35(1):99-113.
- Clapham, C. 2015. *The changes that Ethiopia has undergone since the assassination 40 years ago of its last emperor, Haile Selassie*. The Centre of African Studies. UK: University of Cambridge. Available at: <https://www.cam.ac.uk/research/discussion/four-decades-after-Haile-selassies-death-ethiopia-is-an-african-success-story> [Accessed 28 August 2015].
- Clark, J. & Guy, K. 1998. Innovation and competitiveness: a review, *Technology Analysis & Strategic Management*, 10(3): 363-395. :Available at: <http://dx.doi.org/10.1080/09537329808524322> [Accessed 11 May 2016].
- Cohen, L., Manion, L. & Morrison, K. 2011. *Research methods in education*. London: Routledge.
- Cohen, L., Manion, L., & Morrison, K. 2007. *Research methods in education*. 6th ed. London: Routledge.
- Cole, C. & McCullough, K., 2015. Market Structure and the Profitability of the U.S. Health Insurance Marketplace: A State-Level Analysis, *Journal of Insurance Regulation*, 34(4):1-30.
- Cook, T.D. & Campbell, D.T. 1979. *Quasi experimentation: Design and analysis issues for field settings*. Chicago: Rand McNally.
- Cooksey, R. & McDonald, G. 2011. *Surviving and thriving in postgraduate research*. Prahran, VIC, Tilde: University Press.
- Crespi, G., Ortiz, E.A., Tacsir, E., Vargas, F., & Zuniga, P. 2014. Innovation for economic performance: the case of Latin American firm, *Eurasian Bus Rev*, 4:31–50.
- Creswell, J.W. 2014. *Research Design: Qualitative, Quantitative and Mixed Methods*. 4th ed. Los Angeles: SAGE Publications, Inc.
- Creswell, J. W. 2013. *Qualitative inquiry and research design: Choosing among five approaches*. 3rd ed. Thousand Oaks, CA: Sage.
- Creswell, J.W. & Clark, P.V.L. 2011. *Designing and Conducting Mixed Methods Research*. 2nd ed. Thousand Oaks, CA: Sage Publications.

- Creswell, J.W. & Clark, P.V.L. 2007. Designing and Conducting Mixed Methods Research, *Organizational Research Methods*, 12(4):801-804.
- Creswell, J.W. 2009. *Research design: Qualitative, quantitative, and mixed methods approaches*. 3rd ed. Thousand Oaks, CA: Sage.
- Creswell, J.W. 2005. *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. 2nd ed. Essex: Prentice Hall, Pearson Merrill.
- Creswell, J.W. 2003. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 2nd ed. Thousand Oaks, CA: Sage Publications.
- Crotty, M. 1998. *The Foundation of Social Research: Meaning and Perspectives in the Research Process*. London: Sage.
- Currall, S.C. & Towler, A.J. 2003. Research methods in management and organizational research: Toward integration of qualitative and quantitative techniques. In: Addie, T. & Charles, T. eds. *Handbook of Mixed Methods in Social Science and Behavioural Research*, Thousand Oaks, CA: Sage.
- Dan, A.V. 2008. Innovation – A Key element in Product and Services Competitiveness, *Economic Science Series*, 7 (4):33-38.
- Dash, S., Pradhan, R.P., Maradana, R P., Gaurav, K., Zaki, D.B. & Jayakumar, M. 2018. Insurance market penetration and economic growth in Eurozone countries: Time series evidence on causality, *Future Business Journal*, 4, 50–67.
- DeBoef, S, 2001. Testing for Cointegrating Relationships with Near-integrated Data, *Political Analysis*, 9:78-94.
- DeBoef, S. 2000. Modelling Equilibrium Relationships: Error Correction Models with Strongly Autoregressive Data *Political Analysis*, 9(1):1-17.
- Deltuvaite, V. & Sineviciene, L. 2014. *Investigation of the relationship between financial and economic development in the EU countries*, *International Conference on Applied Economics (ICOAE) 2014 Procedia Economics and Finance* 14,173 – 180.
- Demsetz, H. 1974. Two Systems of Belief About Monopoly. In: Goldschmid, H.J. Mann, H.M. & Weston, J F. eds. *Industrial Concentration: The New Learning Boston*: Little, Brown. 164-184.
- Demsetz, H. 1973. Industry Structure, Market Rivalry, and Public Policy, *Journal of Law and Economics*, 16 (1): 1-9.

- Denzin, N.K. & Lincoln, Y.S. 2000. *Handbook of qualitative research*, London, Sage.
- Denzin, N.K. & Lincoln Y.S. 1994. *Handbook of qualitative research*. London: Sage.
- Dey, I. 1993. *Qualitative data analysis: A user-friendly guide for social scientists*. New York: Routledge.
- Diamantopoulos, A. & Schlegelmilch, B.B. 2000. *Taking the fear out of data analysis*. London: Thomson.
- Dickey, D.A. & Fuller, W.A. 1979. Distribution of the estimators for autoregressive time series with a unit root, *Journal of American Statistical Associations*, 74 (366):427–431.
- Din, S. M.U. Bakar, A. A. & Regupathi, A. 2017. Does insurance promote economic growth: A Comparative Study of Developed and emerging/developing Economies, *Cogent Economics & Finance*, 5:1-12.
- Dixit, A. 2009. Governance institutions and economic activity, *American Economic Review*, 99(1):5–24.
- Dolado, J., T.Jenkinson, T. & Sosvilla-Rivero, S. 1990. Co-integration and Unit Roots, *Journal of Economic Surveys*, 4(3):249-273.
- Doornik, J.A. 1996. Testing Vector Autocorrelation and Heteroscedasticity in Dynamic Models. *A revised version of a paper presented at the Econometric Society 7th World Congress, Tokyo*.
- Doyle, L., Brady, A.M. & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing*, 14(2), 175-185.
- Draskovic, V. & Lojpur, A. 2013. the importance of the institutional framework in regulating corporate social responsibility, *Montenegrin Journal of Economics*, 9(2): 39-46.
- Dwyer, G.P. 2015. The Johansen Tests for Co-integration, *New Introduction to Multiple Time Serie*:1-7. Available at: <<http://jerrydwyer.com/pdf/Clemson/Co-integration.pdf>> [Accessed 9 March 2018].
- Edmondson, A. C. & McManus, S.E. 2007. Methodological fit in management field Research, *Academy of Management Review*, 32(4):1155–1179.
- Eggink, M.E. 2012. Innovation system performance: How to address the measurement of a system's performance, *Journal of Innovation & Business Best Practices*, IBIMA Publishing, 9:1-9.
- Eggink, M. E. 2012b. The role of innovation in economic development, D.Com. Thesis, University of South Africa, Pretoria.

- Eisenhardt, K. 1989. Building theories from case research, *Academy of Management Review*, 14: 532–550.
- Ellickson, P.B. 2015. Market structure and performance, *International Encyclopaedia of the Social & Behavioral Sciences.*, 2nd ed.14: 549-554.
- Elo, S., Kaariainen, M. Kanste, O., Polkki, T. Utriainen, K. & Kyngas, H. 2014. Qualitative content analysis - A focus on trustworthiness, *Sage Open*, 4(1):1-10.
- Engle, R.F. & Granger, W.J. 1987. Co-integration and error correction: representation, estimation, and testing, *Econometrica*, 55(2)251-276.
- Engle, R. F. & Yoo, B.S.1987. Forecasting and testing in co-Integrated systems, *Journal of Econometrics*, 35:143-159.
- Erickson, P.I.& Kaplan, C.P. 2000. Maximizing qualitative responses about smoking in structured interviews, *Qualitative Health Research*, 10: 829-840.
- Ethiopian House of Representatives. 2012. Proclamation No.746/2012: Licensing and Supervision of Insurance Business. Addis Ababa: Berhanena Selam Printing Press 18(57) 6462-6496.
- Evans, M. 1992. 'Robustness of size of tests of autocorrelation and heteroscedasticity to nonnormality', *Journal of Econometrics*, 51: 7-24.
- Fagerberg, J., Mowery, D. & Nelson, R.R. 2013. *The Oxford handbook of innovation*. USA: Oxford University Press.
- Fagerberg, J., & Srholec, M. 2008. National innovation systems, capabilities and economic development, *Research Policy*, 37(9):1417–1435.
- Fagerberg, J. Mowery, D.C., & Nelson R.R. 2004. *The Oxford handbook of innovations*: USA: Oxford University Press.
- Fagerberg, J. 2002. *Technology, growth and competitiveness: Selected essays*. UK: Edward Elgar, Cheltenham.
- Fagerberg, J.1987. A technology gap approach to why growth rates differ. *Research Policy*, 16, 87- 101.
- Filho, W.L., Balogun, A., Ayal, D.Y., Bethurem, E.M., Murambadoro, M., Mambo, J., Taddese, H., Tefera, G. W., Nagy, G.J., Fudjumdjum, H. & Mugabe, P. 2018. Strengthening climate change adaptation capacity in Africa studies from six major African cities and policy implications, *Environmental Science and Policy*, 86: 29-37.
- Finnis, J. 1980. *Natural law and natural rights*. Oxford: Clarendon Press.

- Flick, U. 2004. Constructivism. In Flick, U. von Kardorff, E. & Steinke, I. eds. *A companion to qualitative research*. Thousand Oaks, CA: Sage. 88–94.
- Frederick, S. & Gereffi, G. 2009. Value Chain Governance: USA: USAID. Available at: http://www.microlinks.org/ev.php?ID=35948_201&ID2=Do_Topic [Accessed 23 October 2016].
- Gage, N. 2007. The paradigm wars and their aftermath: A historical sketch of research on teaching since 1989. In M. Hammersley. ed. *Educational research and evidence-based practice*. London, England: Sage. 151–166.
- Gall, M. D., Gall, J. P. & Borg, W. R. 2003. *Educational research: An introduction*. 7th. ed. Boston, MA: Pearson.
- Garg, V.K., Walters, B.A. & Priem, R. L. 2003. Chief executive scanning emphases, environmental dynamism, and manufacturing firm performance, *Strategic Management Journal*, 24(8): 725-744.
- Gereffi G. & Fernandez-Stark K. 2016. *Global value chain analysis: a primer*. 2nd ed. Duke, USA: Center on Globalization, Governance and Competitiveness at the Social Science Research Institute.
- Gereffi, G. 2011. Global value chains and international competition, *The Antitrust Bulletin*, 56 (1): 37-46.
- Gereffi, G. & Fernandez-Stark, K. 2011. *Global Value Chain Analysis A Primer*. 2nd ed. USA: Center on Globalization, Governance & Competitiveness.
- Gereffi, G., Lee, J. & Christian. M. 2009. US-Based Food and Agricultural Value Chains and Their Relevance to Healthy Diets, *Journal of Hunger & Environmental Nutrition*, 4(3): 357-374.
- Gereffi, G., Humphrey, J. & Sturgeon, T. 2005. The governance of global value chains, *Review of International Political Economy*, 12(1), 78-104.
- Gereffi, G. 2005. The Global Economy: Organization, governance and development. In: Smelser, N.J & Swedberg, R. eds. *The Handbook of Economic Sociology*. 2nd. New Jersey: Princeton University Press, 160-182.
- Gereffi, G. 1999. International trade and industrial upgrading in the apparel commodity chain, *Journal of International Economics*, 48(1): 37-70.
- Gereffi, G. 1995. Global Production Systems and Third World Development. In Stallings, B. ed. *Global Change, Regional Response: The New International Context of Development Cambridge*; New York and Melbourne: Cambridge University Press, 100-142.

- Gerybadze, A. 2010. *R&D, Innovation and Growth: performance of the world's leading technology corporations*. Verlag Berlin Heidelberg: Springer.
- Gilbert, R.A. 1984. Bank market structure and competition, *Journal of Money, Credit and Banking*, 617-645.
- Gloet, M. & Samson, D.A. 2018. The role of knowledge management in innovative supply chain design, *Proceedings of the 51st International Conference on System Sciences*, Hawaii, January 2018.
- Gochoco-Bautista, M.S., Sotocinal, N.R., & Wang, J. 2014. Corporate investments in Asian markets: Financial conditions, financial development and financial constraints, *World Development*, 57(3):63-78.
- Goldsmith, R.W. 1969. *Financial structure and development: Studies in comparative economics*. New Haven: Yale University Press.
- Golini, R., De Marchi, V., Boffelli, A. & Kalchschmidt, M. 2018. Which governance structures drive economic, environmental, and social upgrading? A quantitative analysis in the assembly industries, *International Journal of Production Economics*, 203,13–23.
- Gorodnichenko, Y., Svejnar, J. & Terrell, K. 2010. Globalization and innovation in emerging markets, *American Economic Journal: Macroeconomics*, (2): 194-226.
- Granger, C.W.J. & Sin, C. 2000. Modelling the absolute returns of different stock indices: exploring the forecastability of an alternative measure of risk, *Journal of Forecasting*, 19(4): 277-298.
- Granger, C.W.J. 1969. Investigating Causal Relations by Economic Models and Cross-spectral Methods, *Econometrica*, 37(3):424-438. Available at: http://www.escholarship.org/help_copyright.html#reuse [Accessed 13 February 2017].
- Grant, C. & Osanloo, A. 2014. Understanding, Selecting and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for your “House”, *Administrative Issues Journal*, 2(4):12-26.
- Gray, D.E. 2014. *Doing Research in the Real World*. 3rd. ed. Los Angeles: Sage Publications Ltd.
- Greatrex, H., Hansen J.W., Garvin S., Diro R., Blakeley S., Le Guen, M., Rao, K.N. & Osgood, DE. 2015. Scaling up index insurance for smallholder farmers: Recent evidence and insights. CCAFS Report No. 14 Copenhagen: CGIAR

- Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available at: <http://www.ccafs.cgiar.org>. [Accessed 20 Junie 2019].
- Grix, J. 2004. *The Foundations of Research*. London: Palgrave Macmillan.
- Guion, R.M. 1980. On Trinitarian Doctrines of Validity, *Professional Psychology*, 11:385-398.
- Guloglu, B. & Tekin, R.B. 2012. A panel causality analysis of the relationship among research and development, innovation, and economic growth in high-income OECD countries, *Eurasian Economic Review*, 2(1): 32–47.
- Guo, L. 2017. Co-integration Analysis, *Procedures of Johansen Approach*, 1-16.
Available at: <<https://socialsciences.mcmaster.ca/racinej/762/files/guo-project.pdf> [Accessed 8 March 2017].
- Guochen, P., & Wei, S.C. 2012. The relationship between insurance development and economic growth: A cross-region study for China Conference held in China International Conference on Insurance and Risk Management, held at Qingdao from July 18-21.
- Gutierrez, C.E.C. 2007. Selection of Optimal Lag Length in Cointegrated VARs Models. Available at: <<https://scholar.google.com/scholar?hl=en&as>> [Accessed 28 June 2018].
- Gutierrez, C.E.C., Souza, R.C. & Guillen, O.T.D.C. 2007. Selection of Optimal Lag Length in Cointegrated VARs Models with Common Cyclical Features, Working Paper Series, *Banco Central Do Brasil*, 139,1-35.
- Gyau, A. & Spiller, A. 2008. The impact of supply chain governance structures on the inter-firm relationship performance in agribusiness, *Agricultural Economics*, 54(4):176-185. DOI: 10.17221/292-AGRICECON.
- Hafeman, M. 2020. *Developing Insurance Markets, Use of Financial Health and Stability Indicators in Insurance Supervision*. World Bank Group. Washington DC. World Bank.
- Haile, T.G. 2015. Comparative Analysis for the SDPRP, PASDEP and GTP of the FDR of Ethiopia, *Global Journal of Business, Economics and Management*, 05(1):13-24.
- Haiss P. & Sumegi, K. 2008. The Relationship of Insurance and Economic Growth in Europe: A Theoretical and Empirical Analysis, *Empirical* 35(4):405-431.
- Hall, L.A. & Bagch-Sen, S. 2002. A study of R&D, Innovation and business Performance in the Canadian biotechnology industry, *Technvation*, 22: 231-244.

- Han, L., Li, D., Moshirian, F. & Tian, L. 2010. Insurance development and economic growth, *The Geneva Papers on Risk and Insurance*, 35(2):183-199.
- Hannan, T.J. 1991. Bank profitability and the threat of entry, *Journal of Bank Research*, 157-163.
- Harrison, R.L. 2013. Using mixed methods designs in the Journal of Business Research, 1990-2010, *Journal of Business Research*, 66:2153-2162.
- Hashi, I. & Stojcic, N. 2013. The impact of innovation activities on firm performance using a multistage model: Evidence from the Community Innovation Survey 4 , *Research Policy*, 42: 353-366.
- Hatemi-J, A. 2002. Can LR test be helpful in choosing the Optimal Lag order in the VAR Model when information criteria suggest different Lag orders? *Applied Economics*, 1-9.
- Hatemi-J, A. 2002b. Multivariate tests for Autocorrelation in the Stable and Unstable VAR Models, paper was presented at the Conference for Econometric Modelling in Pretoria, 3-5.
- Heizer, J. & Render, B. 2007. *Operations Management*. New Jersey: Pearson Education, Inc.
- Hoffman, D.L. & Rasche, R.H, 1996. Assessing Forecast Performance in a Cointegrated System, *Journal of Applied Econometrics*, 11(5):495-517.
- Hopkins, W.G. 2007. Understanding statistics by using spreadsheets to generate and analyse samples, *Sportscience*, 11: 23-36.
- Hopkins, W. G. 2000. Measures of reliability in sports medicine and science, *Sports Medicine*, 30: 1-15.
- House, W.J. 1973. Market Structure and Industry Performance: The Case of Kenya, *Oxford Economic Papers*, 25, (3): 405–419.
- Hui, Z. & Xin, Z. 2017. The dynamic relationship between insurance development and economic growth: New evidence from China s costal areas. *African Journal of Business Management*, 11(5):102-109.
- Humphrey, J. 2014. Internalization Theory, Global Value Chain Theory and Sustainability Standards: International Business and Sustainable Development, *International Business Research*, 8:91-114..
Available at: [at:<http://dx.doi.org/10.1108/S1745-8862\(2013\)0000008009>](http://dx.doi.org/10.1108/S1745-8862(2013)0000008009)
[Accessed 06 November 2016]

- Humphrey, J. & Schmitz, H. 2002. How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters? *Regional Studies*, 36(9): 1017-1027.
- Humphrey, J. & Schmitz, H. 2001. Governance in Global Value Chains, *Institute of Development Studies (IDS) Bulletin*, 32 (3):1-16.
- IMF, 2005. *Indicators of financial structure, development, and soundness. In Financial Sector Assessment: A Handbook*. Washington. IMF.
- IRA (Insurance Regulatory Authority). 2019. *Insurance Industry Annual Report for the Year Ended 31st December 2018*. Nairobi, Kenya: IRA.
- IAIS (International Association of Insurance Supervisors). 2018. *IAIS Global Insurance Market Report (GIMAR) 2017*. Switzerland: IAIS.
- Irukwu, J.O. 1987. *Insurance Law in Africa: Cases, Statutes and Principles*. London: Witherby Co. Ltd.
- Ismail, N., Ishak, I., Manaf, N. A. & Husin, M. 2018. Macroeconomic Factors Affecting Performance of Insurance companies in Malaysia, *Academy of Accounting and Financial Studies Journal*, 22, 1-5.
- Jacobson, T. 1995. On the determination of lag order in vector autoregressions of cointegrated systems, *Computational Statistics*, 10 (2), 177-192.
- Javadi, M. Zarea, K., 2016. Understanding Thematic Analysis and its Pitfalls, *Journal of Client Care*, 1 (1): 34-40.
- Johansen, S. 1995. *Likelihood-based inference in cointegrated Vector Autoregressive Models*. Oxford: Oxford University Press.
- Johansen, S. 1992. Determination of co-integration rank in the presence of a linear Trend, *Oxford Bulletin of Economics and Statistics*, 54(3): 383 – 397.
- Johansen, S. 1991. Estimation and Hypothesis Testing of Co-integration Vectors in Gaussian Vector Autoregressive Models, *Econometrica*, 59, (6):1551–1580.
- Johansen, S. 1988. Statistical Analysis of Co-integration Vectors, *Journal of Economic Dynamics and Control*, 12 (2–3): 231–254.
- Johnson, B.R., Onwuegbuzie, A. J., & Turner, L. A. 2007. Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2): 112–133.
- Joppe, M. 2000. *The Research Process*. Retrieved February 25, 1998.
- Available at: <<http://www.ryerson.ca/~mjoppe/rp.htm>> [Accessed 13 August 2017].
- Juselius, K. 2006. *The Cointegrated VAR Model: Methodology and Applications, Advanced Texts in Econometrics*. New York: Oxford University Press Inc

- Keele, L. 2004. Not just for co-integration: Error Correction Models with Stationary Data, 1-19. Available at:
<https://pdfs.semanticscholar.org/32fa/a6da80e2e8361bf6c650e11a2033d8b3b8> [Accessed 14 March 2018].
- Keeves, J.P. 1997. *Educational research methodology and measurement*. Cambridge: Cambridge University Press.
- Kiran, B. & Guris, B. 2009. Relationship between electricity consumption and GDP in Turkey, *Problems and Perspectives in Management*, 7(1):166-171.
- Kirchgassner, G. & Wolters, J. 2007. *Introduction to Modern Time series Analysis*. Verlag Heidelberg, Berlin: Springer.
- Kivunja, C. & Kuyini, A.B. 2017. Understanding and Applying Research Paradigms in Educational Contexts, *International Journal of Higher Education*, 6 (5):26-41.
- Koore, G. M., & Drakopoulos, S., 2009. Economics of innovation: A review in Theory and Models, *European Research Studies*, 7 (3): 25-38.
- Kramaric, T.P. & Galetic, F. 2013. The role of the overall economic development on the insurance market growth—evidence of the European union. *Journal of Applied Finance & Banking*, 3 (3):157-168.
- Krishnamurthy, S., Mony, S.V., Jhaveri, N., Bakhshi, S. Bhat, R., Dixit, M.R. & Maheshwari, S. 2005. Insurance industry in India: Structure, performance, and future challenges, *Colloquium*, 93-119.
- Kugler, M. & Ofoghi, R. 2005. Does insurance promote economic growth? Evidence from the UK. Paper presented at the Money Macro and Finance (MMF) Research Group Conference, United Kingdom.
- Kwon, W.J. & Wolfram, L. 2016. Analytical tools for the insurance market and macro-prudential surveillance. *OECD Journal Financial Market Trends*, 2016(1):1-49.
- Lee, H., Yong, Z. & Lim, Q. 2018. Insurance development and economic growth. *Financial Statistical Journal*, 1: doi:10.24294/fsj.v1i4.1057.
- Leedy, P.D & Ormrod, J.E. 2005. *Practical research: Planning and design*. 8th ed. NJ: Pearson Merriman: Prentice Hall.
- Levine, R. 2005. Finance and growth: Theory and evidence. In: Aghion, P. & Durlauf, S. (ed.), *Handbook of Economic Growth*, 1(1): 865-934.
- Levine, R. 1997. Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35 (2): 688-726.

- Li, Y. Nie, D. Zhao, X. & Li, Y. 2017. Market structure and Performance: An empirical study of the Chinese solar cell industry. *Renewable and Sustainable Energy Reviews*, 70, 78-82.
- Liew, V.K. 2004. Which lag length selection criteria should we employ? *Economics Bulletin*, 3(33):1-9.
- Lincoln, Y.S. & Guba, E.G. 1985. *Naturalistic Inquiry*. Thousand Oaks: Sage.
- Lipczynski, J., Goddard, J. & Wilson, J.O.S. 2005. *Industrial organization: competition, strategy, policy*. 5th.ed. New York: Prentice Hall.
- Liu, Z. 2021. The impact of government policy on macro dynamic innovation of the creative industries: studies of the UK's and China's animation sectors. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(168):1-17. Available at: <https://www.mdpi.com/journal/joitmc>. [Accessed 20 May 2022].
- Lohse, S. 2017. Pragmatism, ontology, and philosophy of the social science in practice, *Philosophy of the social sciences*, 47,1-32.
- Loury, G. 1979. Market structure and innovation., *The Quarterly of Economics*, 93 (3): 395-410.
- Lucas, R. E.1988. On the mechanics of economic development. *Journal of Monetary Economics*, 22(3): 3-42.
- Luo, X. & Xu, X. 2018. Infrastructure, value chains, and economic upgrades, *Journal of Infrastructure, Policy and Development*, 2 (2):1-19.
- Lutkepohl, H. 2005. *New introduction to multiple time series analysis*. Berlin Germany: Springer.
- Maarouf, H. 2019. Pragmatism as a supportive paradigm for the mixed research approach: conceptualizing the ontological, epistemological, and axiological stances of pragmatism, *International Business Research*; 12, (9):1-12.
- Maduka, A. & Onwuka, K. 2013. Financial market structure and economic growth: Evidence from Nigeria Data. *Asian Economic and Financial Review*, 3(1):75-98.
- Mahmoud, E. 1984. Accuracy in Forecasting: A Survey, *Journal of Forecasting*, 3:139-159.
- Martin, S. 2012. Market Structure and Market Performance, Springer Science+Business Media, 40:87–108.
- Mason, E.S. 1939. Price and production policies of large-scale enterprise, *American Economic Review*, 29: 61–74.
- Maxwell, J. A. & Reybold, L.E. 2015. Qualitative Research. *International Encyclopaedia of the Social Science*. 2nd ed. Thousand Oaks, CA: Sage Publications.
- McDaniel, B.A. 2002. *Entrepreneurship and innovation: An economic approach*. London: M.E Sharpe.

- McNees, S. 1986. Forecasting accuracy of alternative techniques: a comparison of us macroeconomic forecasts, *Journal of Business and Economic Statistics*, 4,5-15.
- Meko, M., Lemie, K. & Worku, A. 2019. Determinants of life insurance demand in Ethiopia. *Journal of Economics, Business, and Accountancy Ventura*, 21 (3): 293 – 302.
- Mertens, D.M. 2008. Mixed methods and the politics of human research. In Clark, V.P. & Creswell, J.W. (eds). *The Mixed Methods Reader*. California: Sage.
- Merton, R.C. 1995. A conceptual framework for analyzing the financial environment. Massachusetts: Harvard Business School Press. 3-31.
- Michael, O. B. & Tobi, B. A. 2014. Performance measurement in the United Kingdom (UK) retail banking industry. *European Journal of Business and Management*, 6, (19):70-81.
- Mihretu, M. 2015. The Ethiopian insurance industry and the reinsurance business legal environment., Ethiopian Development Research Institute (EDRI), Research Report No.22. Addis Ababa. Available at: <http://www.edri.org.et> [Accessed 20 March 2019].
- Mihretu, M. 2014. Microinsurance business and the institutional and legal environment, literature review and analysis. Proceedings of the 8th Bi-Annual Microfinance Conference, Associations of Ethiopian Microfinance Institutions, Addis Ababa, Ethiopia.
- Miles, M & Huberman, A. 1994. *Qualitative data analysis: An expanded source book*. 2nd ed. Thousand Oaks: Sage.
- Miller, D. 1988. Relating Porter's business strategies to environment and structure: analysis and performance implications, *The Academy of Management Journal*, 31(2):280-308.
- Miller, R.A. 1969. Market structure and industrial performance: relation of profit rates to concentration, advertising intensity and diversity, *The Journal of Industrial Economics*, 17 (2): 104-118.
Available at: <<http://www.jstor.org/stable/2097765>>. [Accessed 8 May 2018].
- Mkansi, M. & Acheampong, E.A. 2012. Research philosophy debates and classifications: students' dilemma , *The Electronic Journal of Business Research Methods*, 10(2):132-140.

- MoFEDET (Ministry of Finance and Economic Development Ethiopia). 2010. *Growth and Transformation Plan (GTP I)*. Addis Ababa.
- MoFEDET (Ministry of Finance and Economic Development of Ethiopia). 2006. *Building on Progress a Plan for Accelerated and Sustained Development to end Poverty (PASDEP) 2005/06-2009/10*. Addis Ababa: MoFED.
- MoFEDET (Ministry of Finance and Economic Development of Ethiopia). 2005. *Sustainable Development and Poverty Reduction Program (SDPRP) Annual Progress Report (2003/04)*. Addis Ababa.
- MoFEDET (Ministry of Finance and Economic Development). Ethiopia. 2002. *SDPRP: Sustainable Development and Poverty Reduction Program*. Addis Ababa.
- Mohan, S. 2014. Rethinking governance of complex commodity systems: Evidence from the Nepali tea value chain. In: Padt, F., Opdam, P., Polman, N. & Termeer, C. eds. *Scale-Sensitive Governance of the Environment*. 1st ed. John Wiley & Sons, Ltd. 220-240.
- Molyneux, P.Y., Altunhas, Y. & Gardner, E. 1996. *Efficiency in European banking*. Chichester: John Wiley and Sons.
- Mongale, I. P. & Monkwe, K. 2015. The determinants of growth in the South African economy: CVAR Analysis. *Journal of Governance and Regulation*, 4(3):271-276.
- Morgan, D.L. 2007. Paradigms lost and pragmatism regained methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1):48-76.
- Mukherjee, C., White, H. & Wuyts, M. 1998. *Econometrics and data analysis for developing countries*. New York: Routledge.
- Mumford, M.D, Todd, E.M., Higgs, C. & McIntosh, T. 2017). Cognitive skills and Leadership performance: The nine critical skills, *The Leadership Quarterly*, 28, 24-39.
- Mumford, M.D., Schultz, R.A., & Van Doorn, J.R. 2001. Performance in planning: Processes, requirements, and errors. *Review of General Psychology*, 5, 213.
- Mumford, M.D., Zaccaro, S.J. Harding, F.D., Jacobs, T.O. & Fleishman, E A. 2000. Leadership skills for a changing world, solving complex social problems. *The Leadership Quarterly*, 11(1):11-35.
- NBE (National Bank of Ethiopia). 2017. *Annual Report*. Addis Ababa:

- NBE (National Bank of Ethiopia). 2014. Reinsurance Company Establishment Directive No. SRB/1/201. Addis Ababa.
- Naqbi, E.A., Alshurideh, M., AlHamad, A. & Kurdid, B.A. 2020. The impact of innovation on firm performance: A systematic review, *International Journal of Innovation, Creativity and Change*, 14 (5):31-58.
- Neely, A., Filippini, R., Forza, C., Vinelli, A. & Hii, J. 2001. A framework for analysing business performance, firm innovation and related contextual factors: Perceptions of managers and policy makers in two European regions, *Integrated Manufacturing Systems*, 12(2): 114-124.
- Neely, A. 1999. The performance measurement revolution: why now and what next? *International Journal of Operations & Production Management*, 19 (2), 205-228.
- Neely, A. 1998. Innovation and business performance: A literature review. Research +. Available at :<
<http://www.researchgate.net/publication/264870158>>. [Accessed 28 March 2016].
- Nelson, C.R., & Plosser, C.I. 1982. Trends and random walks in macroeconomic time series. *Journal of Monetary Economics*, 10: 139–162.
- Neuman, L. W. 2006. *Social research methods: Qualitative and quantitative approaches*. 6th ed. Boston: Pearson Education.
- Nguimkeu, P.E. & Rekkas, M. 2011. Third-order inference for autocorrelation in nonlinear regression models, *Journal of Statistical Planning and Inference*, 141: 3413–3425.
- Nielsen, B. 2001. Order determination in general vector autoregressions., Working paper, Department of Economics, University of Oxford and Nuffield College.
- Njegomir, V., Marovic, B. & Puric, R. 2014. Development and Competitiveness Aspects of Insurance Markets of Former Yugoslavia: The Emphasis on Montenegrin Insurance Market, *Economic thought and Practice Periodical of the University of Dubrovnik*, 1, 291-308.
- NPCET (National Planning Commission of Ethiopia). 2018. *National accounts statistics 2016/2017*, Addis Ababa.
- NPCET (National Planning Commission Ethiopia). 2016. *Growth and transformation Plan II (GTP II)*. Addis Ababa.

- O'Connor, H. & Gibson, N. 2003. A step-by-step guide to qualitative data analysis. *A Journal of Aboriginal and Indigenous Community Health*, 1(1):64-90.
- OECD, 2016. The role of institutional frameworks in regulatory policy. measuring regulatory performance. 8th OECD Conference on measuring regulatory performance, Sydney Australia 15 -16 June 2016.
- OECD, 2007. *Innovation and growth: rationale for an innovation strategy*. Paris: OECD.
- Ohno, K. 2009. *ADLI and future directions for industrial development*. Tokyo: The National Graduate Institute for Policy Studies (GRIPS).
- Olsen, W., 2004. Triangulation in social research: qualitative and quantitative methods can really be mixed. In: Holborn, M. ed. *Developments in Sociology*. Ormskirk, London: Causeway Press.
- Olsen, W. K. 2003. *Triangulation, time, and the social objects of econometrics*. In: Downward, P. ed. *Applied Economics and the Critical Realist Critique*. London: Routledge.
- Ossovski, N.C. Lima, E.P. & Costa, S.E. 2014. *Performance measurement system a conceptual model*, 1-10.
Available at:
:<https://pdfs.semanticscholar.org/2a2b/64f82fede4fb1c5ff7e34480f157f8032a39.pdf> [Accessed 13 June 2018].
- Outreville, J.F. 2013. The relationship between insurance and economic development: 85 Empirical Papers for a Review of the Literature, *Risk Management and Insurance Review*, 16(1):71-22.
- Outreville, J.F. 2007. Players and driving forces in world insurance services: Locations and governance, In: Mashayekhi, M. & Fernandes, D. eds. *Trade and Development Aspects of Insurance Services and Regulatory Frameworks*. New York: UNCTAD. 47-63.
- Outreville, J.F. 2002. Introduction to insurance and reinsurance coverage. In: Dror, D.M. & Preker, A. *Social Reinsurance: A New Approach to Sustainable Community Health Financing*. ILO and WB. 59-74.
- Outreville, J.F. 1998. *Theory and practice of insurance*. First Edition. New York: Kluwer Academic Publishers.
- Outreville, J.F. 1996. Life insurance markets in developing countries, *Journal of Risk and Insurance*, 63(2):263-278.

- Outreville, J.F. 1990. The economic significance of insurance markets in developing countries, *Journal of Risk and Insurance*, 3: 487-498.
- Overcash, J.A. 2003. Narrative research: a review of methodology and relevance to clinical practice, *Critical Reviews in Oncology/ Hematology*, 48 (2): 179-184. doi.org/10.1016/j.critrevonc.2003.04.006.
- Patrick, H.T. 1966. Financial development and economic growth in underdeveloped countries, *Economic Development and Cultural Change*, 44: 174-189.
- Patton, M. 2015. *Qualitative research & evaluation methods: Integrating theory and practice*. 4th ed. Thousand Oaks: California: Sage Publications.
- Patton, M.Q. 2002. *Qualitative research and evaluation methods*. 3rd ed. Thousand Oaks, CA: Sage.
- Paulsen, J. 1984. Order determination of multivariate autoregressive time series with unit roots, *Journal of Time series Analysis*, 5: 115–127.
- Pedroni, P. 2004. Panel co-integration: asymptotic and finite sample properties of pooled time series tests with an application to the PPP hypothesis, *Econometric Theory*, 20 (3):597–625.
- Peleckien, V., Peleckis, K., Dudzeviciute, G., & Peleckis, K. 2019. The relationship between insurance and economic growth: evidence from the European Union countries. *Economic Research*, 32 (1):1-32. doi.org/10.1080/1331677X.2019.1588765.
- Perron, P. 1989. The Great Crash, The Oil Price Shock and The Unit Root Hypothesis, *Econometrica*, 57: 1361-1401.
- Perron, P. 1997. Further Evidence on Breaking Trend Functions in Macroeconomic Variables. *Journal of Econometrics*, 80:355-385.
- Petrova, Y. 2015. The relationship between insurance market activity and economic growth, 1-31. Available at: http://www.wriec.net/wp-content/uploads/2015/07/1F3_Petrova.pdf [Accessed 14 August 2015].
- Phillips, P.C.B. & Perron, P. 1988. Testing for a Unit Root in Time series Regression, *Biometrika*, 1988, 75 (2):335–346.
- Polit, D.F. & Beck, C. T. 2004. *Nursing Research, Principles and method*. 7th ed. Philadelphia: Lippincott Williams and Wilkins.
- Pothas, A. M., Andries, D. & DeWet, J. 2001. Customer satisfaction: Keeping tabs on the issues that matter. *Total Quality Management*, 12: 83-94.

- Porter M.E., 1991. Towards a Dynamic Theory of Strategy, *Strategic Management Journal*, 12:95-117.
- Porter M. E. 1985. *Competitive Advantage: Creating and Sustaining Superior Performance*: New York: Free press
- Pradhan, R.P., Arvin, M.B. & Bahmani, S. 2018. Are innovation and financial development causative factors in economic growth? Evidence from a panel Granger causality test, *Technological Forecasting & Social Change* 132, 130–142.
- Pradhan, R.P., Dash, S., Maradana, R.P. Jayakumar, M. & Gaurav, K. 2017. Insurance market density and economic growth in Eurozone countries: the Granger causality approach, *Financial Innovation*, 3 (17): 1-24.
- Pratt, M.G. 2000. The good, the bad, and the ambivalent: Managing identification among Amway Distributors. *Administrative Science Quarterly*, 45: 456–493.
- Pro Inno Europe. 2011. Innovation Scoreboard: Enterprise and Industry, European Commission. Brussels.
- Rajapathirana, R.P.J.& Hui, Y. 2018. Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation & Knowledge* 3, 44–55. doi.org/10.1016/j.jik.2017.06.002 .
- Ramadani, V. & Gerguri. S. 2011. Theoretical Framework of Innovation and Competitiveness and Innovation Program in Macedonia, *European Journal of Social Sciences*, 23(2):
- Ramadani, V. & Gerguri. S. 2011b. Innovation: Principles and Strategies, *Advances in Management*, 4 (7):102.
- Rehman, A.A. & Alharthi, K. 2016. An introduction to research paradigms, *International Journal of Educational Investigations*, 3 (8): 51-59.
- Richards, K. 2003. *Qualitative inquiry in TESOL*. New York, NY: Palgrave Macmillan.
- Riyami, A.T. 2015. Main approach to Educational Research, *International Journal of Innovation and Research in Educational Sciences*, 2 (5): 2349–5219.
- Robert S. P. 2012. Market Definition and Concentration, Revised Lecture Notes, Industrial Economics for Strategic Decisions. Sloan School of Management, Massachusetts Institute of Technology, USA.
- Ruttan, V.W. 1959. Usher and Schumpeter on Invention, Innovation and Technological Change, *The Quarterly Journal of Economics*, 73 (4):596-606.

- Sahile, S.W. Tarus, D.K. & Cheruiyot, T.K. 2015. Market structure-performance hypothesis in Kenyan banking industry, *International Journal of Emerging Markets*, 10 (4): 697 – 710.
- Sathye, M. 2005. Market Structure and Performance in Australian Banking, *Review of Accounting and Finance*, 4 (2): 107 – 124. Available at <http://dx.doi.org/10.1108/eb043425> [Accessed 24 February 2016].
- Sathye, S. & Sathye, M. 2004. Structure conduct and performance relationship in Indian banking, *Journal of Indian School of Political Economy*, 16(1):1-11.
- Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research methods for business students*. 6th ed. San Francisco; Pearson.
- Sawyer, M.C, 1985. *The economics of industries and firms, theories, evidence and policy*. 2nd ed. Sydney: Croom Helm Ltd.
- Scherer, F.M & Ross, D. 1990. *Industrial market structure and economic performance*. Boston: Houghton Mifflin.
- Schwandt, T.A. 1997. *Qualitative Inquiry: A dictionary of terms*. Thousand Oaks, CA: Sage.
- Scotland, J. 2012. Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms, *English Language Teaching*, 5(9): 9–16.
- Scott. D. & Usher, R. 2004. *Researching education: Data, methods, and theory in educational enquiry*. New York: Continuum.
- Shih, H. 2013. Market Structure and Performance: Perspective from Network Analysis of Industry Structure, *Research Gate*, 85-121.
- Shaw, E.S. 1973. *Financial deepening in economic development*. Oxford: Oxford University Press.
- Shabaninejad, H., Mirsalehian, M.H., & Mehralian, G., 2014. Development of an Integrated Performance Measurement (PM) Model for Pharmaceutical Industry, *Iranian Journal of Pharmaceutical Research*, 13, 207-215.
- Sibindi, A. B. & Godi, N.J. 2014. Insurance Sector Development and Economic Growth: Evidence from South Africa, *Corporate Ownership & Control*, 11(4):1-9.

- Sigma Swiss Re. 2017. World insurance in 2016: The China growth engine steams ahead. Swiss Re Institute. No 3/2017
Available at: https://media.swissre.com/documents/sigma3_2017_en.pdf
[Accessed 17 May 2021]
- Sims, C.A., Stock, J.H. & Watson, M.W. 1990. Inference in linear time series models with some unit roots, *Econometrics*, 58 (1):113-144.
- Slote, M. 1985. *Common-Sense Morality and Consequentialism*. London: Routledge and Kegan Paul.
- Smith, A. & Chamberlain, D. 2010. Opportunities and Challenge for Micro Insurance in Ethiopia. Analysis of the Supply, Demand and Regulatory Environment: *Center for Financial Regulation and Inclusion*. Oxfam, America.
- Solow, R. M. 1956. A Contribution to the Theory of Economic Growth, *The Quarterly Journal of Economics*, 65-94.
- Srivastava S.K. & Ray, A. 2013. Benchmarking Indian General Insurance Firms, *An International Journal*, 20 (1):4-24.
- StataCorp LLC. 2015. Stata: Release 14, Statistical Software: Stata Time series Reference Manual. Texas: College Station.
- Stigler, G. L. 1964. A Theory of Oligopoly, *Journal of Political Economy*, 72: 44-61.
- Stock, J.H. & Watson, M.W. 1989. Interpreting the evidence on money-income causality, *Journal of Econometrics*, 40: 161–182.
- Subedi, B.P., 2016. Using Likert Type Data in Social Science Research: Confusion, Issues and Challenges, *International Journal of Contemporary Applied Sciences*, 3 (2): 2308-1365
- Sujit, K.S & Kumar, B.R. 2016. Impact of Discretionary Expenditures on Profitability during Recession: Evidence from Manufacturing Sector in India, *Theoretical Economics Letters*, 6, 376-387.
- Sulaiman, A, Migiro, S & Yeshihareg, T. 2015. Investigating the factors influencing the life Insurance market in Ethiopia: *Problems and Perspectives in Management*. 13 (2):152-160.
- Swinnen, J., Deconinck, K. Vandemoortele, T. & Vandeplas, A. 2015. *Quality Standards, Value Chains, and International Development Economic and Political Theory*. New York: Cambridge University Press.
- Szczepanska-Woszczyna, K. & Dacko-Pikiewicz, Z. 2014. Managerial Competencies and Innovations in the Company-The case of Enterprise in Poland, *Business, Management and Education*, 12(2): 266–282.

- Tabachnick, B.G. & Fidell, L.S. 2001. *Using Multivariate Statistics*. 4th ed. New York: Harper Collins.
- Tan, Y. 2013. Essays on the analysis of performance and competitive condition in the Chinese banking industry. PhD thesis. University of Portsmouth. Portsmouth.
- Tangen, S. 2004. Performance measurement: from philosophy to practice, *International Journal of Productivity and Performance Management*, 53(8): 726-737.
- Tashakkori, A. & Teddlie, C. 2003. *Handbook of Mixed Methods*, in Social & Behavioural Research. Thousand Oaks: CA: Sage.
- Tashakkori, A. & Teddlie, C. 1998. *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks: Sage.
- Termeer C., Dewulf A & Van Lieshout, M. 2010. Disentangling scale approaches in governance research: Comparing monocentric, multilevel, & adaptive governance, *Ecology and Society*, 15(4):29–43.
- Tiwari, R .2008. *As compiled, Definition of Innovation based Oslo Manual*. 3rd ed. Germany: Hamburg University of Technology.
- Toda, H.Y., Yamamoto, T., 1995. Statistical inference in vector autoregressions with possibly integrated processes, *Journal of Econometrics*, 66, 225–250.
- Todaro, M.P. & Smith, S.C. 2006. *Economic development*. London: Pearson-Addison Wesley.
- Totten, V.Y., Panacek, E.A & Price, D. 1999. Basic of Research (Part 14) Survey Research Methodology: Designing the Survey Instrument, *Air Medical Journal Associates*, 74(1): 93553.
- Tsay, R.S. 2005. *Analysis of Financial Time series*. 2nd ed. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Tsay, R. S. 1984. Order selection in nonstationary autoregressive models, *Annals of Statistics*, 12: 1425–1433.
- Tulu, B. 2001. MEDIN, Special Issue bulletin, Ethiopian Insurance Corporation (EIC) 25th Anniversary, Addis Ababa.
- Ubom, U.K., Michael, E.I & Essien, J.M. 2016. Bank Portfolio Structure and Absorption Theory of Economic Development, A Theoretical Proposition, *Expert Journal of Finance*, 4:44-51.

- UNISA (University of South Africa). 2016. *Policy on Research Ethics*. UNISA, Pretoria.
- UNCTAD (United Nations Conference on Trade and Development). 2007. *Trade and development aspects of insurance services and regulatory frameworks*. New York and Geneva: UNCTAD. (UNCTAD/DITC/TNCD/2007/4).
- UNCTAD (United Nations Conference on Trade and Development). 1980. *The history of UNCTAD 1964-1984, Digitized by the Digitization and Microform Unit, UNOG Library*. New York: United Nations. (UNCTAD/OSG/286).
- Vaismoradi, M., Jones, J., Turunen, H. & Snelgrove, S. 2016. Theme development in qualitative content analysis and thematic analysis, *Journal of Nursing Education and Practice*, 6(5):100-110.
- Van Berkum, S. 2009. Dairy chain competitiveness in EU's new member states, candidate and potential candidate countries, *German Journal of Agricultural Economics*, 58 (7):314–323.
- Van Leuvensteijn, M., Sorensen, C. K., Bikker, J. A. & Van Rixtel, A. A. J.M. 2013. Impact of bank competition on the interest rate pass-through in the Euro area, *Applied Economics*, 45(11):1359-1380.
- Vaughn, D. 1992. Theory elaboration: The heuristics of case analysis. In: Ragin, C. and Becker H. eds. *What is a case?* New York: Cambridge University Press. 173–202.
- Verbeek, M. 2004. *A Guide to Modern Econometrics*. 2nd ed. England: John Wiley & Sons Ltd.
- Viira, A.H., Omel, R., Varnik, R., Luik, H., Massing, B. & Poldaru, R. 2015. Competitiveness of the Estonian Dairy Sector: 1994–2014, *Journal of Agricultural Science*, 2(26):84-105.
- Wang, B.W. & Li, W. X. 2012. China's coal industry concentration and its influencing factors, *Product Research*, 5: 168-169.
- Wang, W.H-C. 2003. Reinsurance Regulation: A Contemporary and Comparative Study. International Banking, *Finance and Economic Law Series*. The Hague: Kluwer Law International.
- Ward, D., & Zurbrugg, R. 2000. Does insurance promote economic growth? Evidence from OECD Countries, *Journal of Risk and Insurance*, 67(4): 489-506.

- Webb, I.P., Grace, M.F. & Skipper, H. 2005. The effect of Banking and Insurance on the growth of Capital and Output. *J. Financial issues*, 2(2): 1-32.
- Whipple J.S., Frankel R., & Anselmi K. 1999. The effects of Governance structure on performance: a case study on efficient consumer response, *Journal of Business Logistics*, 20 (2): 43–62.
- Williamson, O.E. 1996. *The Mechanisms of Governance*. New York, Oxford University Press.
- Williamson, O.E. 1995. *The Institutions and Governance of Economic Development and Reform, Proceedings of the World Bank Annual Conference on Development Economics*. World Bank.
- Williamson, O.E. 1975. *Markets and Hierarchies, Analysis and Antitrust Implications: A Study in the Economics of Internal Organization*. Free Press. New York.
- Woodside, A. G. 2004. Advancing from subjective to confirmatory personal introspection in consumer research, *Psychology and Marketing*, 21(12): 987–1010.
- Woodside, A. G. 2010. Bridging the chasm between survey and case study research: Research methods for achieving generalization, accuracy, and complexity, *Industrial Marketing Management*, 39(1): 64–75.
- WB (World Bank). 2024. World Development Indicators. The World Bank. Available:
<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=ET>
 [Accessed on 18 January 2024].
- WB (World Bank). 2020. Can Interventions Spur Development of the Insurance Sector? World Bank Policy Research Working Papers. Washington DC. World Bank. Available at:
<http://documents.worldbank.org/curated/en/900271577688062759/Can-Interventions-Spur-Development-of-the-Insurance-Sector-From-Examples-of-World-Bank-Projects> [Accessed 5 May 2021].
- WB (World Bank). 2019. Insurance that works: What drives insurance sector development in the Republic of Rwanda and what are the opportunities ahead? Washington DC: World Bank.

- WB (World Bank). 2019b. Global Financial Development Database (GFDD) of the World Bank, World Development Indicators, World Bank. Available at: <http://data.worldbank.org/indicator/NY.GDP.DEFL.ZS?locations=ET>. [Accessed 20 June 2022].
- WB (World Bank). 2018. World Development Indicators. The World Bank. Available: <https://data.worldbank.org/country/Malta> [Accessed on 23 January 2024].
- WB (World Bank). 2018. *Ethiopia Economic Update: The Untapped Benefits of Services Reforms*. Addis Ababa, World Bank. 2018/133/AFR.
- WB (World Bank). 2017b. Global Financial Development Database (GFDD) of the World Bank, World Development Indicators, World Bank. Available at: <http://data.worldbank.org/indicator/NY.GDP.DEFL.ZS?locations=ET>. [Accessed 20 June 2022.]
- WB (World Bank). 2017. *Macroeconomic Implications of Financial Imperfections A Survey, World Bank Policy Research Working Paper No.8260*. Washington, DC. World Bank.
- WB (World Bank). 2016. *The Insurance Sector in the Middle East and North Africa Challenges and Development Agenda, World Bank Policy Research Working Paper No. 5608*. Washington DC: World Bank
Available at: <https://openknowledge.worldbank.org/handle/10986/9> [Accessed 5 May 2021].
- WB (World Bank). 2015. 4th Ethiopia Economic Update Overcoming constraints in the manufacturing sector: Recent Economic Developments and Outlook, World Bank Group, Washington Dc.
- WB (World Bank) and IMF (International Monetary Fund). 2005. Financial Sector Assessment. A Handbook the International Bank for Reconstruction and Development /the World Bank) the International Monetary Fund Washington DC, USA.
- Yalew, A.W., Hirte, G., Lotze-Campen, H. & Tscharaktschiew, S. 2017. General Equilibrium Effects of Public Adaptation in Agriculture in LDCs: Evidence from Ethiopia, Working Paper No. 11/17, Center of Public and international Economic (CEPIE),1-32.
- Yamauchi, L.A., Ponte, E., Ratliffe, K.T. & Traynor, K. 2017. Theoretical and Conceptual Frameworks Used in Research on Family–School Partnerships, *School Community Journal*, 27 (2).

- Available at: <https://files.eric.ed.gov/fulltext/EJ1165647.pdf>. [Accessed 23 February 2022].
- Yang, Q., Zhang, L. & Wang, X. 2017. Dynamic analysis on market structure of China's coal industry, *Energy Policy*, 106: 498-504.
- Yinusa, O. & Akinlo, T. 2013. Insurance development and economic growth in Nigeria, 1986-2010, *Journal of Economics and International Finance*, 5 (5): 218-224. doi: 10.5897/JEIF2013.0498.
- Yoon, S. (2004). A note on the market structure and performance in Korean manufacturing industries, *Journal of Policy Modeling*, 26:733-746.
- Zafu, Z. 2006. Strategic Issues in Considering a National Reinsurer for Ethiopia, *Journal of the Society of Insurance Professionals*, 3(1): 19-24.
- Zait, A. & Zait. D. 2009. Research Anticipation: The Methodological Choice, *Review of International Comparative Management*, 10 (5):902-909.
- Zaman, K. Izhar, Z., Khan, M.M., & Ahmad, M. 2012. The relationship between financial indicators and human development in Pakistan, *Economic Modelling*, 29(5): 1515-1523.
- Zelege, H. 2007. Insurance in Ethiopia: Historical Development, Present Status and Future Challenges. Addis Ababa: Ethiopia. Master Printing Press P.L.C.
- Zeng, Z. & Johansson, P. 2017. The relationship between Macroeconomic variables and the Chinese Stock market an application of Vector Error Correction Model. MA Faculty of Social Sciences. Uppsala University. Sweden.
- Zewdie, B.B. 2015. Analyses of Agricultural Development led Industrialization (ADLI) Policy's Effectiveness in Ethiopia, *Journal for Studies in Management and Planning*, 01 (11): 201-220.
- Zhang, X. & Cheng, X. 2009. Energy consumption, carbon emissions and economic growth in China, *Ecological Economics*, 68: 2706-2712.
- Zhang, Y.E. & Nesbit, P.L. 2018. Talent Development in China: Human Resource Managers' Perception of the value of the MBA, *International Journal of Management Education*, 16, 380–393.
- Zhou, J. Shalley, C.E. & Hitt, M.A. 2015. *The Oxford Handbook of Creativity, Innovation, and Entrepreneurship*. USA: Oxford University Press.

ANNEXURES

Annexure A. Diagnostics Tests

The study has employed diagnostic tests, specifically post-estimation specification tests, to validate that the chosen model for the analysis fits the data in use and aligns with the underlying assumptions. The post-estimation diagnostic tests utilized in this study encompass assessments of data goodness-of-fit, tests for autocorrelation, normality, and stability (see appendices section for details).

A-I Tests of specification: Economic growth and performance of insurance industry

1a. Model data fit test: Co-integration test

The hypothesis is:

H0: The model does not fit the data.

H1: The model fits the data.

Table A-I presents the results of validity test statistics for the variables in the specification and the data used in the analysis of the relationship between the performance of the insurance industry and economic growth in Ethiopia. This table includes data size, lag selection criteria, and data fit test results. The test outcomes for the null hypothesis are assessed using p-values.

Table A- I: Model Data fit test: economic growth and performance of insurance industry

var: gdppcl, ins_density, Lags (1)*				No. of observations = 30	
Time series: 1987-2016					
LL: = 0 -409.4376:		AIC		= 27.69584	
FPE: = 3.66e+09		HQIC		= 27.78549	
Det (Sigma: ml) = 2.45e+09		SBIC		= 27.97608	
Equation**	parms	RMSE	R-sq	Chi ²	p>chi ²
gdppcl	3	186.375	0.4683	26.4243	0.0000
ins_density	3	299.086	0.1743	6.333161	0.0421

* Presents Information section, displays sample size, data time coverage, lag selection information criteria

** Presents: statistics measures of the goodness of fit results for: the R-square, Chi-square (χ^2), root mean-square error (RMSE) and the p-values for the variables gdppc and ins_density.

The X^2 test results are 26 for gdppc and 6.3 for ins_density. Likewise, the coefficient of determination (R-square) indicates a goodness-of-fit of 47% for gdppc and 18% for ins_density. The critical p-values for both R-square and X^2 are 0.0000 (<5%) for gdppc and 0.0421 (<5%) for ins_density. As a result, the null hypothesis is rejected at the 5% significance level. This demonstrates that the model is statistically significant, well-fitted to the data, and robust, leading to the study's conclusion.

Ib. Test of autocorrelation on errors:

The researcher formulated the following null hypotheses to test the autocorrelation on errors of the variables: insurance density and GDP per capita.

H0: there is no autocorrelation between consecutive errors at lag one.

H1: There is autocorrelation between consecutive errors at lag one.

Table A-II reports the postestimation diagnostic test result of autocorrelation and normality tests including: Jarque-Bera test, Skewness test and Kurtosis test.

Table A- II: Diagnostic test: Autocorrelation and Normality results

diagnostic test	Variables		Chi ²	df	Prob>chi ²	Result
Ib. Autocorrelation						
•Lagrange multiplier			3.8959	4	0.42027	
Ic. Normality test						
• Jarque-Bera test	gdppcl		0.507	2	0.77590	
	ins_density		0.377	2	0.82830	
	All		0.884	4	0.92681	
• Skewness test	gdppcl	-0.2013	0.203	1	0.65262	
	ins_density	-0.18317	0.168	1	0.68211	
	All		0.370	2	0.83095	
• Kurtosis test	gdppcl	2.5062	0.305	1	0.58086	
	ins_density	2.5911	0.209	1	0.64755	
	All		0.514	2	0.77342	

The autocorrelation test, conducted using the Lagrange-multiplier test, yielded a p-value of 0.42, which is higher than the critical value of 5% ($0.42 > 5\%$).

Consequently, the results indicate the absence of autocorrelation in the errors of the variables insurance density and GDP per capita, confirming the robustness of the cointegration model.

Ic. Normality test:

The study has formulated the normality test hypotheses for the causal relationship analysis between the performance of the insurance industry and the performance of economic growth:

H0: All residuals (disturbances) of the model are normally distributed.

H1: All residuals (disturbances) of the model are not normally distributed.

These hypothesis statements were adopted from StataCorp (2015).

The p-values for the four normality tests (Table A-II) are as follows: Jarque-Bera (J-B), 0.92, which is higher than the critical value of 5% ($0.92 > 5\%$); Skewness and Kurtosis tests, 0.83, which is higher than the critical value of 5% ($0.83 > 5\%$); and Kurtosis tests, 0.77, which is greater than the critical value of 5%. All the p-values are greater than the critical values (5%). Consequently, the results indicate that there is sufficient evidence that the errors of the model are normally distributed, confirming the model's robustness.

Id. Stability test

To ensure the robustness and proper specification of the regression model, the study conducted a stability test of the data and model applied. Table A-III reports the results of the stability test for the variables under study. Additionally, Figure A-I illustrates the stability of the variables based on the eigenvalues of the companion matrix.

Table A- III: Stability condition test result

Variables	Eigenvalue	Modulus
Gdppcl	0.5433705	0.543371
ins_density	0.2249373	0.224937

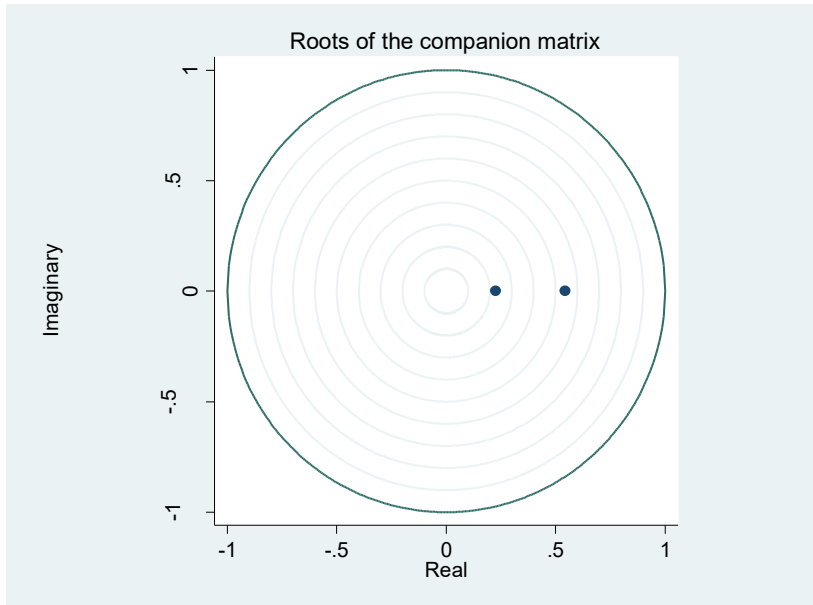


Figure A- I: Stability Test for the relationship between per capita GDP and ins_density

The graph shows that all the eigenvalues lie in the unit circle. Thus, the test result report on Table A-III: eigenvalues and figure A-I, the graph on roots of the companion matrix combined show that the two of the eigenvalue results are strictly less than one, confirming stability of the model. Thus, the stability check does not indicate that the model used for the research is mis-specified.

Annexure B: Data Inquiry Template from Insurance Companies

(For the Year 1996-2016) in Gross Premium by firms represented by the alphabet
(Source: Supervising Agency: NBE- Central Bank)

Company Name Presented by:	Class of Insurance Business (in'000 Birr)										Total
	Aviation	Engineering	Fire	Liability	Marine	Motor	Accident & Health	Pecuniary	Workmen's Comp.	Others(specify)	
A											
B											
C											
D											
E											
F											
G											
H											
I											
J											
K											
L											
M											
N											
O											
P											
Q											

GP=Gross Premium

NEP=Net Premium

Earned

RC=Reinsurance Premium (Ceded)

NP=Net premium

NCI=Net Incurred

Claims

CRR = Claim Recovered from Reinsurance

Source: National Bank of Ethiopia (NBE)

Annexure C: Data Inquiry Template Insurance Companies Innovation costs

(From the year 2005-2015)

Name of insurance company _____

Year		R&D costs	Innovation Cost (in '000 Birr)					
			ICT	Marketing	Training	Advertisement	Wage marketing & IT workers	Others (Specify)
2005								
2006								
2007								
2008								
2009								
2010								
2011								
2012								
2013								
2014								
2015								

Annexure D-I: Introductory to the Questionnaire/Information Sheet:

on: “the Value Chain Governance Framework of the Ethiopian Insurance Industry”

(To be completed by Senior and Middle Management at the Head Office of the Insurance Companies)

Research study title *“Multidimensional Framework for Analysis of Insurance Industry Performance: Case of the Ethiopian”*. A study in collaboration with the School of Business Leadership (SBL) of the University of South Africa (UNISA) for fulfilment of requirement of studies leading to the award of Doctor of Business Leadership Degree (DBL).

Dear Sir/Madam,

The purpose of the study is to develop a *“Multidimensional Framework for Analysis of Insurance Industry Performance: considering the Ethiopian case”*. In this regard, the aim of this structured questionnaire is to collect data in relation to the value chain governance and legal and regulatory modalities of the Ethiopian insurance industry with respect to the performance efficiency of the industry. Your participation in this survey is very crucial to the study. There are no costs involved and no compensation will be given for participating in this research study. There are no risks associated with participating in this study. The survey collects no identifying information of any respondent. If any, will be regarded as sensitive and will be treated with utmost confidentiality and anonymity throughout and subsequent to the study. However, your participation in this research is completely voluntary.

In light of this, you are to be provided with the questionnaire: titled “Value Chain Governance Practices in the Ethiopian Insurance Industry” along a post. You are kindly requested to answer questions (Annexure C2). Please take few minutes to read the brief description about the role of value chain governance modalities and legal and regulatory frameworks for business performance of an industry provided in the questionnaire template. The exercise will take approximately twenty to thirty minutes of your time. The questionnaire filled will be returned sealed directly to the researcher or to his assistant to be introduced during the briefing.

My advisor is Prof AJ SMIT, Professor of International Business, SBL, UNISA. In the case of interest his e-mail is: aj.smit080@gmail.com.

THANK YOU IN ADVANCE FOR YOUR INDESPENABLE COOPERATION !!!

With Kind Regards,

Mezgebe Mihretu Woldegebriel

Doctoral Student

SBL, UNISA

Cell: +251-911-500474

Email: arisema2001@yahoo.com or 78891760@mylife.unisa.ac.za

Annexure D-II: Quantitative and Qualitative Questionnaire

1. Profile of respondents

1.1 Current position: 1=Senior Management, 2= Middle level management
(please circle item number of your position)

1.2 Years of service in the industry/finance sector _____(Years)

1.3 Gender: 1= Male [] 2= Female []

1.4 Completed Education level _____

Instructions for scoring:

Based on statement below about market value chain governance give your score of understanding or perception for the questions on a five point Likert-scale ranging from strongly disagree to strongly agree.

“1” means that you **strongly disagree** with the description of the statement.

“2” means that you **disagree** with the description of the statement.

“3” means that you **neither agree nor disagree** with the description of the statement.

“4” means that you **agree** with the description of the statement.

“5” means that you **strongly agree** with the description of the statement

Brief notes of the value chain governances and legal and regulatory framework from business perspective:

Literature provide two typologies of business governances: market based governance and legal and regulatory frameworks. Literature generate five types of market based value chain governances: markets, modular, relational, captive, and hierarchy. The governance typology and the respective definition is given on the following table.

Value chain governance	Definition or features of the governance
Markets	Price is the centre of the governing mechanism. No long term contractual relationship
Modular	Relationship between supplier and buyer is substantial. However, supplier or service provider influence is higher in dictating the business transaction.
Relational	The balance of power between buyer and seller is more of symmetrical, and both buyer and seller contribute towards knowledge sharing and mutual reliance. It is referred as the “Proper” type of governance in a value chain
Captive	Explained by dependency of large suppliers on one or a few buyers. High degree of monitoring, intervention and dictating by the buyer.

Value chain governance	Definition or features of the governance
Hierarchical	Characterized by vertical hierarchical integration of the value chain.

Whereas, literature underline the crucial role of public policies and regulatory frameworks in fostering innovations and competitiveness in the financial markets. Legal and regulatory frameworks involve in the dynamics of value chains of a market in a way of either stimulating or impeding innovations and performances of an industry.

Survey questions						
2	The following statements (2.1 to 2.4) are the types of governance in a value chain of an industry. Please indicate your level of agreement with each of the options by putting Tick (✓) in the context that Insurance companies in the Ethiopian insurance industry in general transacts along the market value chain with their downstream counterparts (reinsurers)	1. Strongly Disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly Agree				
2.1	Market governance modality: Price is the centre of the governing mechanism. No long term contractual relationship	1	2	3	4	5
2.2	Modular governance modality: Relationship between supplier and buyer is substantial. However, supplier or service provider influence is higher in dictating the business transaction.	1	2	3	4	5
2.3	Relational governance modality: The balance of power between buyer and seller is more of symmetrical, and both buyer and seller contribute towards knowledge sharing and mutual reliance. Referred as “the Proper” type of governance in a value chain	1	2	3	4	5
2.4	Captive governance modality: Explained by dependency of small suppliers on one or a few larger buyers. High degree of monitoring, intervention and dictating by the buyer.	1	2	3	4	5
3	The following statements (3.1 to 3.4) are the types of governance in a value chain of an industry. Please indicate your level of agreement with each of the options by putting Tick (✓) in the context that Insurance companies in the Ethiopian insurance industry in general transacts along the market value chain with their upstream counterparts (policyholders)	Strongly Disagree Disagree Neither agree nor disagree Agree Strongly Agree				
3.1	Market governance modality: Price is the centre of the governing mechanism. No long term contractual relationship	1	2	3	4	5

Survey questions						
3.2	Modular governance modality: Relationship between supplier and buyer is substantial. However, supplier or service provider influence is higher in dictating the business transaction.	1	2	3	4	5
3.3	Relational governance modality: The balance of power between buyer and seller is more of symmetrical, and both buyer and seller contribute towards knowledge sharing and mutual reliance. Referred as “the Proper” type of governance in a value chain	1	2	3	4	5
3.4	Captive governance modality: Explained by dependency of small suppliers on one or a few larger buyers. High degree of monitoring, intervention and dictating by the buyer.	1	2	3	4	5

4. Which type of value chain governance modality is more frequently used by your company for the transaction between your company and your downstream counterparts (reinsurance) counterparts.

- 1. Market ☐
- 2. Modular ☐
- 3. Relational ☐
- 4. Captive ☐

5. Which type of value chain governance modalities do frequently been exercised in the transaction between your company and your upstream (policyholders) counterparts.

- 1. Market ☐
- 2. Modular ☐
- 3. Relational ☐
- 4. Captive ☐

6. In your opinion which type of value chain governance modalities is more appropriate for the industry in general for the transaction between your company and your upstream (policyholders) counterparts.

- 1. Market ☐
- 2. Modular ☐

- | | |
|---------------|--------------------------|
| 3. Relational | ☐ |
| 4. Captive | ☐ |

7. In your opinion which type of value chain governance modalities is more appropriate for the industry in general for the transaction between your company and your downstream (reinsurance) counterparts.

- | | |
|---------------|--------------------------|
| 1. Market | ☐ |
| 2. Modular | ☐ |
| 3. Relational | ☐ |
| 4. Captive | ☐ |

8. The Ethiopian Insurance Business Proclamation plays crucial role in regulating the market value chain governance systems in the business transactions along the value chain of the Ethiopian insurance industry. Indicate your most level of agreement by putting Tick (✓)

- | | |
|-------------------------------|--------------------------|
| 1. Strongly disagree | ☐ |
| 2. Disagree | ☐ |
| 3. Neither agree nor disagree | ☐ |
| 4. Agree | ☐ |
| 5. Strongly Agree | ☐ |

9. The involvement of the firms of the Ethiopian insurance industry in the cross-border reinsurance business contributes much for innovativeness of the industry along the value chain of the industry. Indicate your most level of agreement by putting Tick (✓).

- | | |
|-------------------------------|--------------------------|
| 1. Strongly disagree | ☐ |
| 2. Disagree | ☐ |
| 3. Neither agree nor disagree | ☐ |
| 4. Agree | ☐ |
| 5. Strongly Agree | ☐ |

10. The directive has been contributing much in creating conducive business environment for collaboration between the insurance industry and **cross-border reinsurers** where balance of power between the parties has been maintained,

towards joint problem solving & collaboration type of contract among others.

Indicate your most level of agreement by putting Tick (✓)

- | | |
|-------------------------------|--------------------------|
| 1. Strongly disagree | ☐ |
| 2. Disagree | ☐ |
| 3. Neither agree nor disagree | ☐ |
| 4. Agree | ☐ |
| 5. Strongly Agree | ☐ |

11. The directive has been contributing much in creating conducive business environment for collaboration between the insurance industry and the ***policyholder counterparts*** where, balance of power between the parties has been maintained, towards joint problem solving & collaboration type of contract among others. Indicate your most level of agreement by putting Tick (✓)

- | | |
|-------------------------------|--------------------------|
| 1. Strongly disagree | ☐ |
| 2. Disagree | ☐ |
| 3. Neither agree nor disagree | ☐ |
| 4. Agree | ☐ |
| 5. Strongly Agree | ☐ |

12	There is detailed legal and regulatory modalities regarding reinsurance along the value chain of the insurance industry	1=Strongly Disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly Agree									
12.1	On terms and conditions of contract	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							
12.2	Reinsurance methods	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							
12.3	Reinsurance commission	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							
12.4	Amount of cession	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							
12.5	Dispute resolution	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							
12..6	Premium due settlement	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr></table>					1	2	3	4	5
1	2	3	4	5							

13. Currently, there is a detailed and clear legal and regulatory set up (in terms of institution and governance frameworks) in the Ethiopian insurance industry in relation to the manner in which the insurance companies would transact with the domestic reinsurance company. Indicate your most level of agreement by putting Tick (✓)

- | | |
|-------------------------------|--------------------------|
| 1. Strongly disagree | ☐ |
| 2. Disagree | ☐ |
| 3. Neither agree nor disagree | ☐ |
| 4. Agree | ☐ |
| 5. Strongly Agree | ☐ |

14. What are the gaps in relation to the regulatory framework of the reinsurance business? What needs to be done?

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15. Describe whether the insurance companies have strategic plans for innovation?

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16. Do the board of directors and senior managers discuss innovation issues ever, describe?

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17. What are the present and future challenges of the insurance Industry in general and in relation to governance in particular? (please be brief)

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Annexure E-I: Responses of the management (Quantitative Data)

Particulars		Gender		New Service year		
		Male	Female	1-10 years	11-19 Years	>20 years
		Count	Count	Count	Count	Count
2.1 Value chain governor between Insurer & Reinsurer: Market governance modality: Price is the center of the governing mechanism. No long-term contractual relationship	Strongly disagree	33	14	22	13	12
	Disagree	50	14	36	21	7
	Neither agree nor disagree	27	4	19	8	4
	Agree	105	18	69	31	23
	Strongly Agree	40	13	30	15	8
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
2.2 Value chain governor between Insurer & Reinsurer: Modular governance modality: Relationship between supplier and buyer is substantial. However, supplier or service provider influence is higher in dictating the business transaction.	Strongly disagree	22	6	14	9	5
	Disagree	69	11	35	26	19
	Neither agree nor disagree	30	7	23	8	6
	Agree	95	30	75	36	14
	Strongly Agree	39	9	29	9	10
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
2.3 Value chain governor between Insurer & Reinsurer: Relational governance modality: The balance of power between buyer and seller is more of symmetrical, and both buyer and seller contribute towards knowledge sharing and mutual reliance. Referred as "the Proper" type of governance in a value chain	Strongly disagree	14	2	12	2	2
	Disagree	83	18	58	31	12
	Neither agree nor disagree	43	9	28	11	13
	Agree	84	27	54	37	20
	Strongly Agree	31	7	24	7	7
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
2.4 Value chain governor between Insurer & Reinsurer: Captive governance modality: Explained by dependency of small suppliers on one or a few larger buyers. High degree of monitoring, intervention and dictating by the buyer.	Strongly disagree	38	8	27	10	9
	Disagree	76	18	49	30	15
	Neither agree nor disagree	50	15	38	16	11
	Agree	74	17	53	25	13
	Strongly Agree	17	5	9	7	6
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
3.1 Value chain governor between Insurer & Policyholder: Market governance modality: Price is the centre of the governing mechanism. No long term contractual relationship	Strongly disagree	19	6	15	9	1
	Disagree	36	8	28	10	6
	Neither agree nor disagree	24	7	16	9	6
	Agree	109	19	72	37	19
	Strongly Agree	67	23	45	23	22
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%

Particulars		Gender		New Service year		
		Male	Female	1-10 years	11-19 Years	>20 years
		Count	Count	Count	Count	Count
3.2 Value chain governor between Insurer & Policyholder: Modular governance modality: Relationship between supplier and buyer is substantial. However, supplier or service provider influence is higher in dictating the business transaction.	Strongly disagree	39	12	22	14	15
	Disagree	89	22	55	32	24
	Neither agree nor disagree	18	4	15	6	1
	Agree	91	20	71	29	11
	Strongly Agree	18	5	13	7	3
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
3.3 Value chain governor between Insurer & Policyholder: Relational governance modality: The balance of power between buyer and seller is more of symmetrical, and both buyer and seller contribute towards knowledge sharing and mutual reliance. Referred as "the Proper" type of governance in a value chain	Strongly disagree	32	13	23	11	11
	Disagree	102	22	65	43	16
	Neither agree nor disagree	58	12	35	21	14
	Agree	48	16	45	10	9
	Strongly Agree	15	0	8	3	4
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
3.4 Value chain governor between Insurer & Policyholder: Captive governance modality: Explained by dependency of small suppliers on one or a few larger buyers. High degree of monitoring, intervention and dictating by the buyer.	Strongly disagree	26	5	20	9	2
	Disagree	75	13	50	28	10
	Neither agree nor disagree	39	9	27	9	12
	Agree	83	29	58	35	19
	Strongly Agree	32	7	21	7	11
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
4. Which type of value chain governance modalities do frequently been exercised in the transaction between your company and your downstream (reinsurance counterparts).	Market	71	21	56	24	12
	Modular	63	19	49	22	11
	Relational	108	20	61	39	28
	Captive	13	3	10	3	3
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
5. Which type of value chain governance modalities do frequently been exercised in the transaction between your company and your upstream (policyholders) counterparts.	Market	141	35	86	54	36
	Modular	43	13	38	13	5
	Relational	43	8	32	11	8
	Captive	28	7	20	10	5
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%

Particulars		Gender		New Service year		
		Male	Female	1-10 years	11-19 Years	>20 years
		Count	Count	Count	Count	Count
6. In your opinion which type of value chain governance modalities is more appropriate for the industry in general for the transaction between your company and your upstream (policyholders) counterparts.	Market	44	10	31	17	6
	Modular	20	8	19	7	2
	Relational	188	40	120	63	45
	Captive	3	5	6	1	1
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
7. In your opinion which type of value chain governance modalities is more appropriate for the industry in general for the transaction between your company and your downstream (reinsurance) counterparts.	Market	37	9	27	15	4
	Modular	33	8	24	10	7
	Relational	178	42	116	63	41
	Captive	7	4	9	0	2
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
8. The Ethiopian Insurance Business Proclamation plays crucial role in regulating the market value chain governance systems in the business transactions along the value chain of the Ethiopian insurance industry. Indicate your most level of agreement by putting Tick (✓)	Strongly disagree	39	9	26	16	6
	Disagree	67	12	38	26	15
	Neither agree nor disagree	28	15	28	11	4
	Agree	104	22	70	31	25
	Strongly Agree	17	5	14	4	4
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
9. The involvement of the firms of the Ethiopian insurance industry in the cross-border reinsurance business contributes much for innovativeness of the industry along the value chain of the industry. Indicate your most level of agreement by putting Tick (✓).	Strongly disagree	24	3	15	6	6
	Disagree	56	11	34	23	10
	Neither agree nor disagree	45	15	35	13	12
	Agree	102	27	74	36	19
	Strongly Agree	28	7	18	10	7
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%

Particulars		Gender		New Service year		
		Male	Female	1-10 years	11-19 Years	>20 years
		Count	Count	Count	Count	Count
10. The directive has been contributing much in creating conducive business environment for collaboration between the insurance industry and cross-border reinsurers where balance of power between the parties has been maintained, towards joint problem solving & collaboration type of contract among others. Indicate your most level of agreement by putting Tick (✓)	Strongly disagree	17	3	14	3	3
	Disagree	55	9	29	21	14
	Neither agree nor disagree	74	27	56	28	17
	Agree	92	23	64	32	19
	Strongly Agree	17	1	13	4	1
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%
11. The directive has been contributing much in creating conducive business environment for collaboration between the insurance industry and the policyholder counterparts where, balance of power between the parties has been maintained, towards joint problem solving & collaboration type of contract among others. Indicate your most level of agreement by putting Tick (✓)	Strongly disagree	22	3	14	8	3
	Disagree	88	15	53	32	18
	Neither agree nor disagree	53	20	38	20	15
	Agree	82	24	63	26	17
	Strongly Agree	10	1	8	2	1
	Sum Total	255	63	176	88	54
	Total %	80%	20%	55%	28%	17%

Annexure E-II: Responses of the Management: Qualitative

Category of	Categories (Content coded)	themes
Category one: regulatory framework and reinsurance	Weak Capital, professionalism, expertise	Market openness/flexibility for competition
	Capital flight, encourages overseas business, shortage of professionals	Inadequate legal and regulatory and supervision support
	Limited idea sharing, limited private sector discussion, limited contribution	Inadequate private sector participation in regulatory framework development
	Industry philosophy, not broad enough to codify or sort out more services,	Prudence, independency philosophy

Category of	Categories (Content coded)	themes
Category one: regulatory framework and reinsurance	Poor supervision, loose leadership, weak confidence towards regulatory Weak innovation, limited technology, R&D Limited information regarding business climate, unhealthy relationship between companies, weak value chain governance	Corporate governance
Category two: Strategy for innovation	New product, R&D and expand market share, new technology high bureaucracy by the regulator and supervising, domination banks in the finance sector, stringent or constricted directives, discussions only No clear strategy, no action plan regarding innovation, routine, stringent directives, provide similar products and similar services	When there is strategy for innovation Presence of strategy but, has never been implemented there has never been any related strategy and policfor innovation
Category three: attention of BoD and management on innovation	Innovation in marketing, Business development, Not series, never implemented Focus on un strategic or routine issues Focus on daily activity issues, No clear strategy, attempt in an unstructured manner, little comprehend into practice	Innovation discussable discussed but in an unstructured manner, sometimes the senior management only in doubt if the management and BoD ever discussed

Category of	Categories (Content coded)	themes
Category four: Challenge of value chain Governance, current and future	Macroeconomy policy, flexibility for capital development, foreign exchange source	poor awareness or understanding of the role of the industry
	Fierce price-based rivalry, weak quality of service, Customer loyalty	desperate price cut
	Limited innovation, expertise quality, limited strategic thinking, vision	Stagnant market space
	No institutions of trainings Minimal expertise, lacks Strategic leadership, focusing on side-business (Rental)	Professionalism undermined
	Unstable market, low industry profitability, poor performance poor staff incentive (high staff turnover)	Economic growth and macroeconomy instability
	No new products, obsolete products, quality of service low, limited technology, low quality service Low customer satisfaction	Minimal attention to strategic based innovation
	Suffers from inflation devaluation, affects competitiveness	Capital insufficiency
	No clear regulatory framework, policies, strategies, weak governance relationship Lack of finance sector training institution, weak human capital development, Lacks ICT infrastructure Limited ICT database and network, limited roads and electric power, limited R&D	Lacks sound legal and regulatory framework Capacity building

Category of	Categories (Content coded)	themes
Category four: Challenge of value chain Governance, current and future	Fraud, unethical practice, lack of professional integrity	Lack of proper governance and regulatory setup, expansion of Corruption
	Improper regulatory and supervisory setup	
	Lacks common strategy, weak integration	weak cooperation among actors in the value chain
	New entrants, limited local capability and readiness for competition	Insurance Market is not Free for foreign investors and high cost of entrance

APPENDIXES

A. Inferential Statistics Regression Tools and Statistical Tests

The research employed both quantitative (inferential and descriptive statistics) and qualitative data and analysis methods to assess performance of the insurance industry of Ethiopia. Descriptive statistics tools encompass frequency distribution, graphical representations, measures of central tendency, and measures of dispersion (Diamantopoulos and Schlegelmilch, 2000). Inferential statistics consist of two methods: estimation statistics and hypothesis testing (Diamantopoulos and Schlegelmilch, 2000). Hypothesis testing involves two estimation approaches: the correlation coefficient and regression methods, depending on the time span of the data used for the analysis. Granger causality analysis refers to the analysis of interdependencies of variables and the direction of causality flow from one to the other (Zhang & Cheng, 2009). The choice of the analysis tool depends on the type, size, and time span of the data available for the research. Vector Autoregressive (VAR) and Vector Error Correction Model (VECM) are the most used time series inferential regression tools for examining causation between dependent and independent variables (Zhang & Cheng, 2009).

A-I Hypothesis Tests and Level of Significance

The study employs hypothesis tests to estimate the relationships between time series variables to address the research problems, research questions and hypotheses proposed in chapters one and four of this study. According to Diamantopoulos and Schlegelmilch (2000:136), there are five steps involved in formulating and testing hypotheses: (i) formulating research questions and null hypotheses, (ii) specifying the significance level at which to reject or accept the null hypothesis, (iii) selecting an appropriate statistical test (such as the chi-square test, t-test, F-test, and Z-test), (iv) identifying the probability distribution of the test, and finally, (v) computing the test statistics from the data and making a decision regarding whether to reject or not reject the null hypothesis.

To test the null hypothesis, the study set a 5% level of significance, which is a typical value for type 1 error. This 5% level of significance (α) is then compared with the computed p-value, representing the probability of distribution from the data included

in the model (Diamantopoulos and Schlegelmilch, 2000). As Diamantopoulos and Schlegelmilch (2000:146) point out, "the lower the p-value, the stronger the evidence against the null hypothesis." Unlike critical values, which are test-specific, p-values provide a common currency across different tests, allowing researchers the flexibility to make their own judgments about the significance of results within the context of their study.

In this case, if the level of significance (α) is set at 0.05, and the p-value related to the given hypothesis test is greater than 0.05, then it implies that the null hypothesis cannot be rejected. However, if the p-value is less than 0.05, then it implies presence of strong evidence to reject the null hypothesis and accept the alternative hypothesis (Diamantopoulos and Schlegelmilch, 2000).

Statistical tests avail methods for identifying and making decisions regarding the relationships between dependent and independent variables. These statistical tests include the F-test, Chi-square test, Z-test, t-test, standard error, and R-squared (r^2) (Diamantopoulos and Schlegelmilch, 2000). The coefficient of determination (r^2) measures the goodness of fit of the model, indicating how closely the data align with the linear regression line (StataCorp, 2015). The Chi-square test (X^2) assesses the 'goodness of fit' between observed and expected values in an analysis, assisting investigators in drawing conclusions about variables (Diamantopoulos and Schlegelmilch, 2000). This test measures how well the model fits the dataset, and it's customary to test the null hypothesis to determine if there's no significant difference between expected and observed results (Diamantopoulos and Schlegelmilch, 2000). The X^2 test involves summing the squared differences between observed and expected values for hypothesis testing against the null hypothesis.

The t-test is a statistical method used to analyse the means of two populations, particularly in cases where you have a small sample size (Diamantopoulos and Schlegelmilch, 2000). The F-test is often employed to compare statistical models under the null hypothesis, primarily to test if the models are suitable for the dataset. It helps to analyse econometric results in the context of how well they fit a given dataset and identify the model that best represents the populations (Diamantopoulos and Schlegelmilch, 2000). The Z-test is used to determine whether two population means

are different when the variances are known. It is best suited for larger sample sizes often exceeding 30. Z-tests are closely related to t-tests, although the latter is more appropriate for experimental studies with small sample sizes and when the standard deviation is unknown.

A-II Granger Causality Analysis

Granger causality shows the extent at which knowledge of past values of a variable helps to improve the forecasts of another variable (Granger & Sin, 2000). Granger causality is only relevant with time series variables, applied in determining the direction of causation between Y and X variables, independent (nonhomogeneous) and linearly causal to each other (Kirchgassner & Wolters, 2007; Tsay, 2005). X Granger causes Y if, hysteresis values of Y and X can help explain Y. Similarly, past value of Y Granger causes current Y if, hysteresis values of Y and X can explain current Y. In other words, the model assumes that prior performance of the independent variable in the formula causes the current dependent variable (Y). The Granger causal functional form of the model is stated below:

$$Y_t = \alpha_0 + \sum_{j=1}^J \beta_j Y_{t-j} + \sum_{k=1}^K \gamma_k X_{t-k} + \varepsilon_t \dots\dots\dots (1)$$

$$X_t = \alpha_1 + \sum_{h=1}^H \gamma_h X_{t-h} + \sum_{l=1}^L \beta_l Y_{t-l} + \varepsilon_t \dots\dots\dots (2)$$

Where, α is a constant, Y and X are time series variable of interest, t is a time subscript, β and γ are slope coefficients, k and j are indicator of lags and ε is error term or white noise. In equation (1) Granger causality runs from X_t to Y_t if, $\gamma_k \neq 0$ and significant. Whereas, in equation (2) Granger causality runs from Y_t to X_t if, $\beta_j \neq 0$, and when the coefficients are significant based on the hypothesis test results.

To examine the Granger causal relationship (interdependency between variables), the literature suggests using inferential statistics such as regression models. Regression analysis is an econometric tool that explores the causal interaction between dependent and independent variables by studying how the value of the dependent variable changes when there are changes in the independent variable, while keeping other independent variables constant (Asteriou & Hall, 2007; Mahmoud, 1984; McNees, 1986). According to Brooks (2008) regression analysis is a statistical technique used in finance and other disciplines to assess and determine the strength of the relationship or interdependency between dependent and independent variables.

The literature suggests three core econometric analytical tools: (i) VAR, (ii) VECM, and (iii) Co-integration analysis (Tabachnick and Fidell, 2001; Dolado, Jenkinson & Sosvilla-Rivero, 1990). These tools are used to investigate both the long-run and short-run relationships between the dependent and independent variables (Tabachnick and Fidell, 2001; Dolado *et al.*, 1990). Further, regression models are employed to estimate the values of coefficients of the parameters (equations). These coefficients describe the magnitude and direction of the relationship between the variables of interest in the study (Brooks, 2008; Dolado *et al.*, 1990). The interpretation of these coefficients depends on how the dependent and independent variables are measured and how significant they are when compared against statistical tests. A simple linear regression can be mathematically depicted as follows:

$$Y_t = \partial_0 + \beta X_t + \varepsilon_t \dots \dots \dots (3)$$

Where, Y and X are the dependent and independent variables respectively. ∂_0 is the constant (Y-intercept), ε is the error term while t is the time script.

The literature also suggests three core steps in econometric analysis for examining causal relationships between variables (Azlina & Mustapha, 2012): First, conduct a test of stationarity for the series, to determine the order of integration for all variables. Second, perform a test of co-integration to assess the presence of long-run interdependencies among variables in an equation. Third, if co-integration is confirmed by the test, run a Vector Error Correction Model (VECM). If there is no co-integration among the variables, then use Vector Autoregression (VAR) (Azlina & Mustapha, 2012).

In the process of time series analysis, there are various pre-estimation and post-estimation tools available to complement the analysis and make regression analysis more comprehensive. The regression models and pre-estimation and post-estimation tools are discussed in more detail below.

A-III Vector Autoregression (VAR)

VAR (Vector Autoregression) is a stochastic mathematical model designed to capture linear interdependencies (relationships) between variables (Brooks, 2008). VAR is suitable when there are multiple independent variables and two (bivariate) variables

in a system or model (Brooks, 2008). According to Asteriou (2007); Brooks (2014); Hoffman and Rasche (1996); Engle and Yoo (1987), VAR is particularly applicable in the context of financial and monetary policy issues and when Granger causality tests are needed for effect analysis. VAR is one of the most widely used econometric models in applied econometrics. However, it is not applicable to non-integrated or non-cointegrated variables that require no differencing (Sims, Stock & Watson, 1990). In general, VAR has the following characteristics:

- VAR is a model used to capture linear interdependencies among multiple time series for regression analysis, designed for estimating coefficient or slope parameters (Lutkepohl, 2005).
- VAR examines relationships between variables that are covariance-stationary, stationary at levels, differenced (first-order difference I(0) or integrated of order one I(1), or variables with no co-integration features (Binh, 2013; Zhang & Cheng, 2009; Toda & Yamamoto, 1995; Dickey & Fuller, 1979; Phillips & Perron, 1988).
- VAR is well-suited for both estimation and forecasting of economic time series systems (Engle and Yoo, 1987:143).
- VAR is not suitable for differenced variables (Engle and Granger, 1987), meaning it is inapplicable to non-stationary data.
- VAR coefficients are only consistent when the variables of interest are stationary at first-order differences (I(0)) or integrated of order one (I(1)) (Zhang & Cheng, 2009)."

The conventional VAR in variables in a bi-variate differenced model can be mathematically described in the following equation:

$$\Delta Y_t = \alpha_0 + \sum_{j=1}^J \beta_{j\Delta} Y_{t-j} + \sum_{k=1}^K \gamma_{k\Delta} X_{t-k} + \varepsilon_t \dots\dots\dots (4)$$

$$\Delta X_t = \alpha_1 + \sum_{h=1}^H \beta_{h\Delta} X_{t-h} + \sum_{l=1}^L \gamma_{k\Delta} Y_{t-l} + \varepsilon_t \dots\dots\dots (5)$$

Estimation and analysis of VAR involves three stages: first, identifying VAR lag length using certain selection criteria. second, estimate numerical coefficient values of the parameters or variables using VAR regression analysis, and third, undertake hypothesis test for the statistical significance of the values of the coefficients of the explanatory variables.

A-IV Vector Error Correction Model (VECM)

The Vector Error Correction Model (VECM) is a regression model, applied when the variables of interest are covariance stationary after differencing and when there is co-integration (long-run relationship) among the variables (Juselius, 2006; Belloumi, 2009; Asari *et al.*, 2011; Guo, 2017; Baum, 2013). VECM is labelled as popular and powerful model due to its typical features to simultaneously capture both long and short-term dynamics of the variables (Keele, 2004; Belloumi, 2009; Asari *et al.*, 2011; Yinusa & Akinlo, 2013; Li & Lu, 2017). VECM also examines the causal relationships among the variables (Asteriou, 2007).

VECM is typical in providing information of the causal link between long-run and short-term relationships among the variables presented by ECT. Insertion of ECT into the model helps (i) to differentiate between short-run and long-run causality between the variables, (ii) to indicate the extent as how the short run shocks can be restored back to the long-run relationship (Belloumi, 2009; Engle & Granger, 1987; Asari *et al.*, 2011; Guo, 2017). In VECM, co-integration test results are expressed as Johansen test ranks, indicating the maximum number of vectors or linearly independent combinations of differenced stationary variables (Binh, 2013; Asteriou, 2007; Yinusa & Akinlo, 2013). The conventional regression equation in VECM is based on two co-integration vectors developed using the Engle-Granger method for the Y and X series, and it is presented below (DeBoef, 2001 and 2000).

$$\Delta Y = \alpha_0 + \phi ect_1 + \sum_{i=1}^n \delta \Delta Y_{t_i} + \sum_{i=1}^n \beta \Delta X_{t_i} + \varepsilon_t \dots\dots\dots (6)$$

$$\Delta X = \alpha_0 + \phi ect_1 + \sum_{i=1}^n \delta \Delta Y_{t_i} + \sum_{i=1}^n \beta \Delta X_{t_i} + \varepsilon_t \dots\dots\dots (7)$$

Where, changes in Y is the function of a constant α_0 , a sum of changes in the differenced dependent variable, with effect of the short-term coefficient parameter presented by δ , followed by the sum of changes in the explanatory variable with the effect of the estimated parameter of the cointegrating vector coefficient β . The Zet_1 , the error correction term, the coefficient ϕ of the ect (Zet_1) represents the deviation of the dependent variables from the long-run equilibrium. ε is the error term and it is time subscript.

Deterministic trends in the cointegrating VECM model

Economic time series data can be affected by factors leading to spurious challenges in regression analysis. This problem often arises from trends and non-stationarity in the data.

Long-run vs short run relationship between variables

According to Juselius (2006), long-run relationship between variables can have statistical and economic interpretations. Statistically, a long-run relationship (co-integration) implies that the two or more non-stationary variables move together, and there is a linear combination that becomes stationary in the long-run. For example, in the case of the study, if a statistical test shows co-integration between the variables for example measured in terms of density and the economy, in GDP then it leads variables moves together in the long run, irrespective of the changes and persistent underlining shock that drives either of the variables. The economic interpretation of long-run relationship is that there is a steady-state relation (or co-integration) between two or more variables even after ongoing state of shocks or shocks in the economy. For example, if there is co-integration between insurance density and the economy in GDP, then persistently reverts to the same steady state relationship in the long-run despite persistent shocks in either of the variables (Juselius, 2006).

Short run causal relationships arise when one or both variables make an adjustment to the long-run relationships, which is a necessary condition for the long-run causal relationship (steady state) relationship between the variables. However, short-run relations can also arise between two stationary variables or irrespective of long-run relations (Juselius, 2006).

Thus, the case of this study, presence of short-run causal relationship between economic growth and insurance performance according to Juselius (2006) explains that (i) statistically in a short run, the first difference variables have a causal relationship indicating that the two variables have relationship for a short run period (ii) However, beyond a few years, economic growth and insurance industry performance revert to their own means, meaning the underway economic growth does not have a significant impact to the trajectory of the insurance industry.

A-V Analysis of Co-integration

Co-integration indicates the presence of a long-run or equilibrium relationship among time series variables (Juselius, 2006; Gujarati & Porter, 2009; Mongale & Monkwe 2015). According to Asteriou (2007), co-integration is a fundamental requirement for economic models using nonstationary time series data at the level. In the analysis, if the non-stationary variables at the level do not co-integrate, the econometric work (regression) between these variables becomes meaningless and spurious (Belloumi, 2009).

Co-integration analysis determines the number of equations (vectors) and long-run relationships among the time series variables in a model (Amin, 2011; Pedroni, 2004). Co-integration tests have the following features: (i) Time series data must be in first differences or integrated of order one. (ii) Co-integration tests assess whether there is a long-run relationship between non-differenced variables (Engle and Granger, 1987). (iii) Co-integration tests are essential to establish whether the variables are integrated of the same order.

iva. Johansen Co-integration test

There are two methods for testing co-integration: the Engle-Granger approach and the Johansen and Juselius approach (Guo, 2017). The former is straightforward and commonly used for bivariate variables, despite criticisms of its disadvantages. In contrast, the latter, which is based on complex matrix algebra, is the most widely applied approach in most studies (Guo, 2017). Unlike the Engle-Granger co-integration approach, the Johansen co-integration approach can be used for testing both bivariate and multivariate variables with the same order of integration.

Johansen (1995, 1991, and 1988) suggests two methods for determining the number of co-integrating relations in the Johansen co-integration model: eigenvalue test statistics and eigenvalue trace statistics. The eigenvalue test statistics involve ordering the largest eigenvalues in descending order, with the maximum eigenvalue known as the maximal eigenvalue statistic (λ -max). The maximal eigenvalue statistic (λ -max) tests whether the results significantly differ from zero. The null hypothesis for the eigenvalue test statistics posits the existence of r co-integrating vectors, while the alternative suggests $(r+1)$ vectors (Johansen, 1995 and 1991). Eigenvalue trace statistics refer to the likelihood ratio test that examines whether adding more

eigenvalues beyond the r^{th} eigenvalue increases the trace test. The literature emphasizes that if there are k variables of interest, all with unit roots at the first difference ($I(1)$), then there are at most $k-1$ cointegrating vectors (r) (Johansen, 1992; Jacobson, 1995; Chao and Phillips, 1999; Asteriou, 2007; Dwyer, 2015). Johansen's testing procedure begins by testing for zero cointegrating equations, assessing the maximum rank of zero.

The hypothesis for the co-integration test is given as follows:

H0: There is no co-integration between the variables

H1: there is co-integrations between variables

The cointegrating test involves comparing the t-statistics for trace statistics of the first differences with the stationary k variables against the critical 5% p-value. If the t-statistics exceed the 5% critical value, the null hypothesis of no co-integrating vectors is not rejected. However, if the p-value is less than the 5% critical value, the null hypothesis is rejected, and the alternative hypothesis of at most $k-1$ (r) vectors is accepted, indicating the presence of co-integration between the variables.

ivb. Lag length selection

Determining the appropriate lag length is a crucial step in time series econometrics (Liew, 2004; Juselius, 2006; Gutierrez, 2007; Gutierrez, Souza & Guillen, 2007). The lag length selection affects the number of cointegrating equations or parameters (Gonzalo and Pitarakis, 1998). To analyse co-integration and fit a Vector Error Correction Model (VECM), it is essential to specify the correct number of lags (Tsay, 1984; Paulsen, 1984; Nielsen, 2001). For instance, a two-year lag length implies that the current year's regression analysis on the insurance industry's performance and economic growth depends on the outcomes of the last two years: last year and the year before that.

The challenge is how to determine the optimal number of lags for the dependent variable (Brooks, 2008). Gonzalo and Pitarakis (1998) suggest that finding the optimal lag length " k " and co-integration rank " r " involves using commonly used model selection criteria. Various criteria exist for choosing the optimal number of lag lengths in the analysis of non-stationary time series data (Lutekpohl, 2005). These criteria include the Akaike Information Criterion (AIC), Schwartz Bayesian Information

Criterion (SBIC), Hannan-Quinn Criterion (HQIC), Root Mean Square Error (RMSE), Mean Absolute Error (MAE), Bias Proportion (BP), Long-Likelihood (LL), sequential modified LR test statistics (LR), and Final Prediction Error (FPE) as proposed by Johanson (1991) (Gonzalo & Pitarakis, 1998 and 1991). When selecting, the literature recommends choosing the lag length based on the majority of these selection criteria, such as HQ, SIC, AIC, and LR (Gutierrez, 2007; Gutierrez *et al.*, 2007). Liew (2004) and Bahman-Oskooee and Brooks (2003) suggest that AIC and FPE are superior lag length selection criteria, especially for studies with a small number of observations, typically sixty or fewer.

Furthermore, literature advises studies to consider using two lags in annual time series data (Liew, 2004). Some researchers propose considering the goodness of fit as a criterion for selecting the lag length. Ultimately, the optimal number of lags may depend on the nature of the data and the type of regression used in the analysis. Generally, the literature suggests using simple rules of thumb to determine the optimal number of lags, taking into account the data's size and nature.

A-VI Stationarity or Unit Root Tests

Causality tests, as noted by Belloumi (2009) and Stock and Watson (1989), are highly sensitive to the stationarity of time series data. Therefore, it is essential to assess the stationarity of time series data before conducting any regression analysis and parameter estimation (Stock and Watson, 1989; Brooks, 2008; Belloumi, 2009). The examination of time series stationarity is based on the underlying assumptions that (i) stationarity can significantly impact data behaviours and properties, (ii) the use of non-stationary data may lead to spurious regressions, and (iii) hypothesis tests regarding regression parameters become invalid.

As highlighted by Brooks (2008), non-stationary data exhibits certain characteristics, including (i) high R-squared values, (ii) low p-statistics, (iii) high t-ratios for slope coefficients, and, ultimately, the risk of spurious regression (Asteriou, 2007; Brooks, 2014). In contrast, time series stationarity is characterized by features such as (i) mean reversion, (ii) a constant or time-invariant variance, and (iii) consistent autocovariance over time for the variables at each lag (Asteriou, 2007; Brooks, 2014).

Non-stationarity in time series data is a critical concern in empirical statistical analysis, as it often leads to spurious regression results, rendering the outcomes economically meaningless (Brooks, 2008). Therefore, the literature emphasizes the need to address non-stationarity by conducting stationarity validity tests on time series data. Non-stationarity is typically attributed to the presence of a unit root in the data. This unit root can be conceptualized as follows (Brooks, 2008):

$$Y = \alpha + \beta X_i + \varepsilon_i, \dots\dots\dots(8)$$

where ε_i is a white noise disturbance term

Unit roots are a common characteristic of non-stationary time series data and can pose challenges in statistical inference processes. Non-stationary data often result in "spurious" or economically inconclusive regressions (Belloumi, 2009). As noted by Nelson and Plosser (1982), most macroeconomic series exhibit non-stationarity. However, many economic and financial time series data can be made stationary through first differencing to eliminate unit roots or by considering them as integrated processes of order one (I (1)) (Belloumi, 2009; Zeng & Johansson, 2017). The literature offers several alternative unit root test methods, with one of the most widely used being the Augmented Dickey-Fuller (ADF) test introduced by Dickey and Fuller (1979). However, Perron (1989 and 1997) points out that the presence of structural change can diminish the power of unit root tests due to information loss during the ADF unit root test. A typical equation for the PP (1988) and ADF (1979) stationarity test can be expressed as follows (Binh, 2013):

$$\Delta Y = \alpha + \sigma Y_{t-1} + \sum_{i=1}^n \beta Y_{t-i} + u_t \dots\dots\dots (9)$$

$$\Delta Y = \alpha + \gamma T + \sigma Y_{t-1} + \sum_{i=1}^n \beta Y_{t-i} + u_t \dots\dots\dots (10)$$

The difference between the two regression equations developed by ADF is the presence of deterministic elements, γT , in equation 10 above.

In this study, the Augmented Dickey-Fuller (ADF) test is employed. The null hypothesis regarding the presence of a unit root for each variable of the time series in the study is tested as follows:

H0: The time series data for a variable is non-stationary.

H1: The time series data for the variable is stationary.

The results of the first differences of the time series data are then compared against a 5% significance level for p-values. If the null hypothesis of a unit root is not rejected, it indicates that the time series data in the analysis are non-stationary. In such cases, differencing of the data is performed until the null hypothesis of non-stationarity is rejected and the alternative hypothesis of stationarity is accepted.

A-VII Postestimation Specification Tests

To draw valid inferences on the parameters, research requires a corresponding range of post-estimation diagnostic test procedures to check the model specifications, such as VAR and VECM (Hatemi-J, 2002 and 2002b; Doornik, 1996). Various post-estimation diagnostic tests are used to assess the reliability of the models (Brooks, 2008). Model robustness is evaluated through different specification tests, including tests for normality, autocorrelation, sensitivity, heteroskedasticity, and stability, among others (Belloumi, 2009).

via. Normality test

The normality test is conducted to determine whether the data represents the population accurately and is well-modelled, specifically assessing if the sample data follows a normal distribution (Brooks, 2008). Various graphical and statistical methods are employed to conduct the normality test, which includes two fundamental tests for normal distribution: the Skewness test and the Kurtosis test. Among these, R-squared (R^2) is a widely used measure for assessing goodness-of-fit (Verbeek, 2004).

Belloumi (2009) emphasizes that the robustness of a model can be evaluated through normality residual tests, such as the Jarque-Bera test, autocorrelation test, and homoscedasticity test. The Jarque-Bera test examines whether the data under consideration fits a normal distribution based on estimates of skewness and kurtosis. It serves as a goodness-of-fit test to assess whether the data follows a normal distribution. For the analysis, a study goes through the hypothesis test for normality framed as follows:

H0: all residuals (disturbances) of the model are normally distributed.

H1: all residuals (disturbances) of the model are not normally distributed.

The statement of the null hypothesis is adopted from StataCorp (2015). To ensure that the empirical data fits the study, the p-value obtained should be greater than the critical value of 0.05. This criterion is used to decide whether to accept or reject the null

hypothesis of normality at the 5% significance level. In simpler terms, if the probabilities of the test results exceed 5%, it indicates that the data follows a normal distribution. Conversely, if the p-value is less than 0.05, it implies that the data does not conform to a normal distribution.

vib. Autocorrelation test

Autocorrelation tests are concerned with the impact of non-normality, especially in small samples which are common in econometric analysis (Evans, 1992). According to Nguimkeu and Rekkas (2011) testing for autocorrelation is a fundamental tool for conducting model adequacy checks in applied time series data analysis.

H0: no autocorrelation between consecutive errors of the model

H1: there is autocorrelation between consecutive errors of the model

vic. Sensitivity test analysis

Sensitivity test analysis is crucial for the results of model estimation (Mukherjee, White & Wuyts, 1998). Sensitivity tests are often used to estimate the parameters associated with latent continuous variables that cannot be directly measured (Mukherjee *et al.*, 1998). According to Diamantopoulos and Schlegelmilch (2000), sensitivity analysis assesses the extent to which a particular measure can capture variability in response to changes in the characteristics of interest.

vid. Heteroskedasticity test

Heteroskedasticity refers to the issues of model specification by the study, such as fitting a linear model when the true relationship is nonlinear (Evans, 1992). Incorrect model specifications may result in heteroskedastic outcomes. Heteroskedasticity is said to occur when the variance of the unobservable error, conditional on independent variables, is not constant (Evans, 1992).

vie. Stability test

A stability test checks the robustness of a model (Zhang and Wang, 2017), ensuring that the chosen model is well-specified and fits the variables of interest (Zhang and Wang, 2017). In an economic system, model instability may be reflected in the estimated model's parameters, and if used for inference, it can lead to misleading results (Lee, 2013). Stability tests are typically presented in graphic form, often as a polynomial within a unit circle.

A-VIII Correlation Coefficient

The study employed Pearson's correlation coefficient analysis to examine the relationship between innovation and the performance of the insurance industry. The bivariate correlation coefficient (r) assesses the strength of the linear relationship between two continuous quantitative variables, Y and X (Gujarati, 2011 and 1992). It indicates the extent to which two variables tend to change together and describes the strength and direction of this relationship. However, correlation coefficients do not provide information about causality, and the significance of the relationship is determined using a two-sample t-test.

In the literature, there are two primary types of correlation analyses: Pearson product-moment correlation and Spearman rank-order correlation. Pearson's coefficient measures the strength of a linear association between two continuous variables, where changes in one variable correspond to proportional changes in the other.

On the other hand, Spearman's correlation evaluates the monotonic relationship between continuous or ordinal variables by ranking their values rather than using raw data. It is especially useful for assessing relationships involving ordinal variables (Kramaric and Galetic, 2013). The Pearson and Spearman correlation coefficients range from -1 to 1, where -1 represents a perfect negative correlation, 1 a perfect positive correlation, and 0 indicates no relationship (Kramaric and Galetic, 2013).

A-IX: Market structure of the Ethiopian Insurance industry

Year	Number of companies	GP '000 birr	CR4 (%)*	HHI**	Average GP
1996	7	341,130	92	5,834	48,733
1997	8	366,176	68	4,454	45,772
1998	8	384,318	82	3,572	48,040
1999	8	384,539	83	3,416	48,067
2000	8	424,051	80	2,682	53,006
2001	8	450,272	80	2,692	56,284
2002	8	554,331	82	3,240	69,291
2003	9	555,574	78	2,744	61,730
2004	9	568,226	78	2,737	63,136
2005	9	640,228	77	2,660	71,136
2006	9	796,867	73	2,360	88,541
2007	9	1,002,680	72	2,246	111,409
2008	10	1,187,030	69	2,223	118,703
2009	10	1,374,658	69	2,252	137,466
2010	11	1,824,893	69	2,220	165,899
2011	12	2,422,415	68	2,073	201,868
2012	14	3,724,760	67	1,992	266,054
2013	16	4,497,666	67	2,354	281,104
2014	17	4,687,657	61	1,938	275,745
2015	17	5,242,085	59	1,747	308,358
2016	17	6,093,677	57	1,629	358,452
2017	17	7,133,478	57	1,664	419,616

*CRn = Concentration ratio of highest performer 'n' companies from the total turnover of the industry.

For example, in 1996 four of the companies in the industry comprised 92% of the turnover.

** HHI = Herfindahl-Hirschman Index (HHI): the sum of the squared market shares of companies in an industry in terms of annual turnover. HHI is expressed as the sum of the squares of the individual ratios of the premium of each company included in the examined industry. The formula for HHI is given as:

$$HHI = \sum_{i=1}^n S_i^2$$

HHI: measures market concentration, Si: turnover share of an individual firm in a year, n: number of firms in an industry

Source: NBE

B: Ethical Clearance for Research

Graduate School of Business Leadership, University of South Africa, PO Box 392, Unisa, 0003, South Africa
Cnr Janadel and Alexandra Avenues, Midrand, 1685. Tel: +27 11 652 0000. Fax: +27 11 652 0099
E-mail: sbl@unisa.ac.za Website: www.unisa.ac.za/sbl

**SCHOOL OF BUSINESS LEADERSHIP
RESEARCH ETHICS REVIEW COMMITTEE (GSBL CRERC)**

07 August 2017

Ref #: 2017_SBL_DBL_008_FA
Name of applicant: Mr MM Woldegebriel
Student #: 78891760

Dear Mr Woldegebriel

Decision: Ethics Approval

Student: Mr MM Woldegebriel, 78891760@mylife.unisa.ac.za, +251911500474

Supervisor: Dr AJ Smit, aj.smit080@gmail.com, 082 336 5216

Project Title: The value chain governance framework of the Ethiopian Insurance Industry.

Qualifications: Doctorate in Business Leadership (DBL)

Expiry Date: July 2021

Thank you for applying for research ethics clearance, SBL Research Ethics Review Committee reviewed your application in compliance with the Unisa Policy on Research Ethics.

Outcome of the SBL Research Committee:
Approval is granted for the duration of the Project

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the SBL Research Ethics Review Committee on the 25/07/2017.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
- 2) Any adverse circumstance arising in the undertaking of the research project shall

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relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the SBL Research Ethics Review Committee.

- 3) An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.
- 4) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

Kind regards,



Prof R. Ramphal

Chairperson: SBL Research Ethics Committee

011 - 652 0363 or ramphr@unisa.ac.za



Dr R. Mokate

CEO and Executive Director: Graduate School of Business Leadership

011- 652 0256/mokatrd@unisa.ac.za

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78891760

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Cell: 082 7756 476

Nelly E Sonderling

BA, BAHons, MIS (Information Science cum laude)

Freelance editor for University of Pretoria, University of Johannesburg, Stellenbosch University, UNISA and Stadio

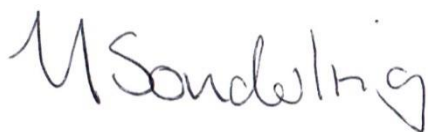
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- ✓ Sentence structure
- ✓ Logic and flow of sentences and document
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- ✓ Indicating errors and omissions in in-text citations and List of References
- ✓ Formatting

Sincerely



Nelly Sonderling

7 November 2023



Faculty of Humanities

Fakulteit Geesteswetenskappe
Lefapha la Bomotheo

Language Unit



2024-03-12

TO WHOM IT MAY CONCERN

This serves to certify that

Nelly Sonderling

has been working as a freelance academic editor for more than a decade.

The Language Unit editors are responsible for the editing of departmental academic documents.

Ms Sonderling is also on the University of Pretoria's list of freelance editors available for editing of research reports at PhD and Master's levels.

Her work is consistently of a high standard.

A handwritten signature in black ink, appearing to read 'Mrs JC Lombard'.

Mrs JC Lombard
Head: Language Unit

Room 17-17, Humanities Building
University of Pretoria, Private Bag X20
Hatfield 0028, South Africa
Tel +27 (0)12 420 3111
language@up.ac.za

E: Curriculum Vitae

Mezgebe Mihretu

Mezgebe.mihretu@gmail.com | +17815260252 | Boston, MA,USA

SUMMARY

Worked for Research Institutes as: Policy Analyst. Programs Officer responsible for grant fund contracts administration, research and capacity building programs and projects, producing performance reports, non-cost extension requests with sufficient justification, Proposal developing addressed to potential grant resources. Accountant and Finance officer: Produce financial reports, get audited. Human resources officer: responsible for screening, recruiting, hiring, training, placement, performance evaluation, promotion. Officer: logistics and transport, general service.

WORK EXPERIENCE

Policy Analyst – Trade and Logistics

May 2015 – January 2021

Ethiopian Policy Analysis Unit

Addis Ababa, Ethiopia

- Analysed the performance of exporting industries of the country with respect to trends of performance, challenges of policies, underlying determinants (drivers), the role of commodity exchange (ECX)
- Produced studies on market structure and value chain governance of the insurance industry.
- Assessed logistics performance comprising customs management, transport, bank facility, warehousing, cross-border issues including port and land traffic management.
- Analysed trade policies and practices, tax and regulatory implications on domestic production, market structure of the manufactured import industry

Business Development Advisor

May 2002 – January 2021

Luna Slaughterhouse Export PLC

Addis Ababa, Ethiopia

- Supervised setup of accounts and financial, logistics (shipment, insurance, storage, delivery, settling accounts) and human resources management systems, including recruitment, trainings, evaluation
- Managing books of accounts, reconciliation of books of accounts, financial reports get audited, strong internal control is maintained, analysis of financial reports, accounted by departments and cost centres against the respective plan, budget and physical performance.

Manager: Finance, Programs Officer**May 2008 – April 2015**

Ethiopian Development Research Institute

Addis Ababa, Ethiopia

- Supervised the accounts and budget division, checked accuracy of reconciliation of books of accounts, subsidiary and general or controlling ledgers, ensure financial statements being audited, discussed by the management, and approved by the advisory board.
- Demonstrated a consistent ability to achieve 100% accuracy in producing financial statement of companies, reports of disbursements of donors strictly adhering to Grant agreement (such as ACBF, World Bank, WB, DFID, Melinda & Gates Foundation, IDRC, UNDP, GRIPS) regulations.
- Ensured payments of obligations including taxes and loans be settled on time.
- Ensured special grant accounts being maintained, procurements of goods and services and disbursements thereof financed by the proceeds of the grant be executed pursuant to the grant agreement and the manual of the donor.
- Managed accounts of grants in line with the grant contract and item budget line and disbursement manual of the donors (institutions)
- Developed grant fund mobilization projects (proposals), involved in a series of discussions and brainstorming, involved at appraisal, negotiation with donors and series follow up until get approved by the donor(s)
- Managed funds in line with the grant agreements and prepare report of performance and ensured timelines were being respected as per the plan the program/ project.
- Represented in the aid memo discussion, deals and agreements of looking forward: proposed to non-cost extension of the project and rescheduling of grant.

Officer: Resources and Logistics**March 2002 – April 2008**

Ethiopian Development Research Institute

Addis Ababa, Ethiopia

- Managed human resources: selection and preparation of contracts of staffing, trainings, compensations and benefits (capacity building, insurance systems) systems, addressing of complaints from employees, clients, and stakeholders.
- Successfully managed logistics of the institute: liaising procurement, shipping, insurance, coordinate procurement, customs clearance, field cars (rural and urban) contract management, managing DSA and accommodations deployed for research and data survey
- Ensured all books of accounts were being reconciled and presented with comparison to budget, and grant contract guidelines, discussed with the relevant department ahead of reporting timeline.

Officer: Finance HR and Transport**October 1999 – April 2002**

Afric Transport PLC

Addis Ababa, Ethiopia

- Managed budget, approving invoices, ensured timing settlement of payments, federal and state taxes, keeping of books of accounts, debts and payables, reconciliation of accounts including bank, stock, receivables, producing financial statements, analysis of financial performances against physical results
- Managed administrative needs: staffing: recruitment, placement, training coordination, performance, evaluation, succession plan.
- Prepared evaluation of performance of fleets compared by revenue accomplished, costs of services, including turnover and cost of operating per mileage.

Chief Officer: Accounts and Resources**October 1987 – October 1999**

Fertline PLC, Mega Enterprise, DDC

Addis Ababa, Ethiopia

- Managed human resources: Selection, contracts of staffing, trainings, compensations, and benefits (capacity building, insurance systems) systems, addressing of complaints from employees, clients, and stakeholders.
- Ensured inventories be taken periodically and reconciled against books of accounts.

EDUCATION**Master of Business Leadership (MBL)****May 2011**

University of South Africa

Pretoria, South Africa

Bachelor of Arts in Accounting**June 1987**

Addis Ababa University

Addis Ababa, Ethiopia

