



HOCHSCHULE MAINZ
UNIVERSITY OF
APPLIED SCIENCES

Double Degree Programme

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

**A Thesis Submitted in Partial Fulfillment of the Requirements of Double
Degree Programme in Master of Science in Innovation Management and
Entrepreneurship and Master of Art in International Business**

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May 10, 2021

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**The Influence of Innovation Practices on the Relationship
Between Firm Internal Strategies and Firm Performance:
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Declaration and statement of original authorship

I certify that this research work on the topic “**The influence of innovation practices on the relationship between firm internal strategies and firm performance: evidence from the textile and garment industry in Ethiopia**” is original and the author alone and the work has not been submitted for partial fulfillment for a degree to this or any other university. All the references are properly acknowledged.

Yodit Gebreyohannes

May 10, 2021

Acknowledgements

First and foremost, I would like to thank Almighty God for his blessings and enabling love and grace on my journey in completion of double degree program and to successfully accomplish my studies.

I would like to convey my deepest appreciation to my supervisor, Dr Lakew Alemu for his valuable guidance in the course of this research work that have been a tremendous learning opportunity to upgrade my research skill. His confidence in my capacity and encouragement has motivated me to develop my academic knowledge and as a researcher.

I also pass my sincere gratitude to the double degree program coordinators to Dr. Mohammed Seid, Dr. Workneh Kassa and Ato. Yohannes Neda from Addis Ababa University in Ethiopia and Prof Claudia Hensel, Prof. Daniel Porath and Prof. Ulrich Schuele from Hochschule Mainz in Germany. It has been great opportunity to get the scholarship to conduct part of double degree program in Mainz together with international students and to learn from international environment that has great contribution to my professional development.

My sincere thanks go to all parties who have participated in the survey and provide relevant information including managers and senior experts of medium and large textile and garment in Addis Ababa and experts from Ethiopian Textile Development Institute and Ethiopia Textile and Garment Association.

I also extend my heartfelt thanks to my family and friends who has been encouraging to finalize my research work. My special thanks go to my sister Tiruwork Gebreyohannes and my brother Tewodros Gebreyohannes for their inspiration and support to successfully accomplish the entire study programme.

Abstract

Innovation is key determinant for business to sustainably retain its competitive advantage and survive in the rapidly changing market environment. The contribution of innovation to structural transformation of the economy in Ethiopia through enhancing the share of manufacturing sector is low. The focus of this study is on the influence of innovation practices on the relationship between firm internal strategies and firm performance. The study also emphasize on the mediation effect of innovation practices on the relation between internal strategies and firm performance taking the case of medium and large textile and garment sector in Addis Ababa. Quantitative data is gathered from 231 managers and higher level experts from 71 firms'. The inferential statistics is analyzed by using SMARTPLS statistical software. The result of the study reveal that internal strategies such as management orientation, organizational culture, technology orientation, alliance and networking and knowledge management except market orientation have positive and significant influence on innovation practice. Furthermore, innovation practice mediated the relationship between the internal strategies such as management orientation, organizational culture, technology orientation and organizational learning and management and firm performance where as innovation practice does not have mediation effect on the relation between internal strategies such as market orientation and alliance and networking and firm performance. Thus, based on the findings of the study the main practical implication is to strengthen the capacity and collaboration of relevant partners in the sector to encourage and support to develop the firm internal strategies to influence innovation and increase firm productivity.

Key words: Innovation, internal strategies, Medium and large size firms, Manufacturing firms, Addis Ababa

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Table of Contents

Declaration and statement of original authorship i

Acknowledgements..... ii

Abstract..... iii

Acronyms..... ix

Chapter One: Introduction 1

 1.1 Background of the Study..... 1

 1.2 Statement of the Problem..... 3

 1.3 Objective of the Study..... 4

 1.3.1 General Objective 4

 1.3.2 Specific Objectives 5

 1.4 Research Questions 5

 1.5 Scope of the Study 5

 1.6 Significance of the Study 6

 1.7 Research Limitation 6

 1.8 Outline of the Study 7

Chapter Two: Literature Review and Theoretical Framework 8

 2.1 Theoretical underpinnings – the theory of the Firm..... 8

 2.1.1 Resource Based View (RBV) 8

 2.1.2 Dynamic Capability View (DCV)..... 9

 2.1.3 Knowledge Based View (KBV)..... 10

 2.2 Innovation 11

 2.2.1 Definition of Innovation..... 11

 2.2.2 Types of innovation 12

 2.2.3 Degree or Novelty of Innovation 13

 2.3 Drivers of innovation 13

 2.4 Challenges of innovation 15

 2.5 In- firm innovation determinants 16

 2.6 Firm characteristics and innovativeness..... 18

 2.7 Innovation practices 18

 2.8 Innovation and firm performance 19

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

2.9	Conceptual framework and development of hypothesis	20
2.9.1	Conceptual framework.....	20
2.9.2	Development of hypothesis.....	22
2.9.2.1	Management orientation, innovation practice and firm performance	22
2.9.2.2	Organizational culture, innovation practice and firm performance	23
2.9.2.3	Technology orientation, innovation practice and firm performance.....	24
2.9.2.4	Market orientation, innovation practice and firm performance	25
2.9.2.5	Alliance and networking, innovation practice and firm performance.....	26
2.9.2.6	Organizational learning and knowledge management, innovation practice and firm performance	28
2.9.2.7	Innovation practices and firm performance	29
2.10	Overview of innovation practices in manufacturing sector in Ethiopia.....	32
2.10.1	Innovation system in Ethiopia.....	32
2.10.2	Innovation practices in textile and garment industry in Ethiopia.....	33
Chapter Three: Research Design and Methodology		36
3.1	Research Philosophy	36
3.2	Research Design.....	37
3.3	Data Collection Procedure	37
3.3.1	Data Source	37
3.3.2	Target Population	38
3.3.3	Sampling Method and Sample Size	38
3.3.4	Primary Data Collection Procedure	40
3.4	Pre-testing of Questionnaire.....	42
3.5	Data Analysis	44
3.6	Ethical Consideration.....	44
Chapter Four: Data Presentation and Analysis		46
4.1	Preliminary data examination	47
4.1.1	Data Screening.....	47
4.1.2	Assumption testing.....	48
4.2	General characteristics of survey participants	49

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

4.2.1	Respondent characteristics	49
4.2.2	Firm characteristics	50
4.2.3	Innovation strategy of firms	51
4.3	Operationalization of constructs	54
4.4	Measurement model – assessment of outer model.....	55
4.4.1	Reliability.....	55
4.4.2	Validity	56
4.5	Structural model: assessment of inner model.....	58
4.5.1	Assessment for multicollinearity	58
4.5.2	Assessment of path coefficients.....	59
4.5.3	Assessment of coefficient of determination (R^2)	63
4.5.4	Assessment of effect size (f^2).....	63
4.5.5	Assessment of predictive relevance of the model (Q^2)	65
4.6	Assessment of mediating hypothesis relationship.....	65
4.7	Summary of hypothesized relationship result	71
4.8	Discussion of research hypothesized relationship results	72
4.8.1	Management orientation, innovation practice and firm performance	73
4.8.2	Organizational culture, innovation practice and firm performance	74
4.8.3	Technology orientation, innovation practice and firm performance	75
4.8.4	Market orientation, innovation practice and firm performance	76
4.8.5	Alliance and networking, innovation practice and firm performance.....	77
4.8.6	Organizational learning and knowledge management, innovation practice and firm performance	78
4.8.7	Innovation practice and firm performance.....	80
Chapter five: Conclusion and implications		81
5.1	Conclusion	81
5.2	Practical implications.....	83
5.3	Limitations and future research direction	84
References.....		86

Appendices

Appendix A: Survey questionnaire with cover letter in English version.....	102
Appendix B: Survey questionnaire with cover letter in Amharic version	112
Appendix C: Semi - structured interview questions	122
Appendix D: Inter-item and item-to-total correlation.....	123
Appendix E: Respondent characteristics.....	124
Appendix F: Measurement model cross loadings report.....	125

List of Figures

Figure 1: Proposed conceptual framework of the research.....	21
Figure 2: PLS Algorithm model result.....	61
Figure 3: PLS Bootstrapping model result.....	62
Figure 4: Simple mediation model.....	66
Figure 5: Mediation analysis procedure.....	67

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

List of Tables

Table 1: OECD innovation typology in Oslo manual..... 12

Table 2: Innovation enablers or drivers 14

Table 3: Cronbach's alpha coefficient of the constructs..... 43

Table 4: Respondent characteristics..... 49

Table 5: Firm characteristics..... 51

Table 6: Innovation strategy of firms in the last three years..... 52

Table 7: Drivers of innovation 53

Table 8: Operationalisation of constructs 54

Table 9: Reliability and Average Variance Extracted measures..... 56

Table 10: Latent variable correlation 57

Table 11: Multicollinearity values of latent variables..... 59

Table 12: Summary of structural path result..... 60

Table 13: Summary of effect size (f^2)..... 64

Table 14: Direct effect structural path result 69

Table 15: Indirect effect structural path result 69

Table 16: Mediation types result..... 70

Table 17: Summary of research hypothesized relationship result..... 71

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Acronyms

AVE	Average Variance Extracted
CB	SEM – Covariance – based SEM
CFA	Confirmatory Factor Analysis
CSA	Covariance Structure Analysis
DCV	Dynamic Capability View
EFA	Exploratory Factor Analysis
ETGAMA	Ethiopian Textile and Garment Manufacturing Association
ETIDI	Ethiopian Textile Industry Development Institute
F ²	Effect size
FDI	Foreign Direct investment
GOE	Government of Ethiopia
GDP	Gross Domestic Product
GTP	Growth and Transformational Plan
GSCA	Generalized Structured Component Analysis
IDS	Industrial Development Strategy
KBV	Knowledge Based View
MInT	Ministry of Innovation and Technology
OECD	Organization for Economic Cooperation and Development
Q2	Stone – Geisser Test
STI	Science, Technology and Innovation policy
SPSS	Statistical Package for Social Science
SEM	Structural Equation Modeling
R ²	Coefficient of determination
R&D	Research and Development
RBV	Resource Based View
ROA	Return on Asset
ROI	Return on Investment
VAF	Variance Accounted for
VIF	Variance Inflation Factor

Chapter One: Introduction

1.1 Background of the Study

Innovation has existed through the development of human beings looking for new and better living conditions. If people didn't think and act differently, it is less likely to imagine of the modern world achievement that completely change the way people are doing things in transforming with the fundamental innovation as wheel and alphabets and also other sophisticated technologies in transportation, machineries and communication technologies, to mention few (Fagerberg, 2004).

There is lack of consensus in the definition of 'innovation'. The famous definition of innovation is stated by Schumpeter (1934) as innovation is to develop knowledge to apply new ideas that results in changes in economic development. This involves commercialization of new or modified product, new managerial and organization practices, application of new technology and ideas to the market to improve firm performance. Firms develop knowledge through Research and Development (R&D) activities, create network with other firms, engage in international markets and use ideas from clients (Alin, 2012; Cirera et al., 2017; Shouyu, 2017).

The 21st century, industrial innovation is a disruptive innovation that highly impacts changes in consumer demands and drives productivity across industries that result in the transformation to new product, process, marketing and organizational strategy. The innovations include new materials as new information technologies i.e the Internet of Things, 3D printing and robotics. The change will improve quality of life, enhance the role of artificial intelligence, facilitate market to inventions, change of life style using internet (Min et al., 2018; Mckinsey Global Institute, 2012).

Firm internal strategies are micro environmental determinants that enables or hinders firm innovation capability (Avlonitis & Gounaris, 1999; Azua, Salazar, & Berrocal, 2020) . Strategic orientation is related to firms direction and focus to attain business goal (Ferreira, Coelho, & Weersma, 2019). The strategic objective of a firm should focus on the realization of innovation through continuous creation and development of resources to guarantee sustainable innovation processes. The success of companies' innovativeness need to be developed by the companies

strategies to realize its impact continuously on innovation practice and firm performance (Striteska & Prokop, 2020).

Mckinsey Global Institute (2012) state that manufacturing sector matters more for economies due to its potential to drive productivity, trade of balance and innovation. The sector plays critical role to tackle socio – environmental challenges as minimize greenhouse gas emission. Manufacturing industry is closely related to other sectors as source of raw material (eg. agriculture and mining sector) and to market the products (eg. transportation and business services) (Herman, 2016). Thus, the sector is considered as powerful force across countries (Mckinsey Global Institute, 2012; Herman, 2016; Naude & Szirmai, 2012).

In Ethiopia, Industrial Development Strategy (IDS) is designed in the year 2003/2004 that outlines the priority sectors and government intervention to achieve competitive manufacturing sector. The focus of the strategy is to outline mechanism of interventions to promote industries that have tight linkages with agriculture, export oriented, import substituting and labour intensive industries as textiles / garment industries and leather and leather products that has linkage with the local economy and in which the country has competitive advantage. Growth and Transformational Plan (GTP) and IDS outline methods to encourage the development of the industry particularly the manufacturing sector through supporting entrepreneurship development schemes, establishment of sub-sectoral institutes and intellectual property rights protection (AFBD, 2014; FeDRE, 2015)

According to Smita, Hiroyuki, & Aga (2016), innovation plays important role to change structure of the economy that is dominated by agricultural and service sector to manufacturing sector to achieve sustainable economic growth. The study shows that innovation is correlated with firm performance in Ethiopia. Firms that introduced innovations show higher performance in sales and enhance labor productivity. The study also indicates manufacturing firms innovate more than service firms and in terms of size, large firms are more innovative than small and micro firms attributed to higher expenditure to R&D (Smita, Hiroyuki, & Aga, 2016).

Thus, the purpose of this study focused on the influence of innovation practices on the relationship between firm internal strategies and firm performance taking the case of the textile and garment industry in Ethiopia. The study assessed the mediating effect of innovation practice on the relation between internal strategies and firm performance. Since larger firms are more

innovative than small and micro firms and manufacturing firms are more innovative than other sectors, this study takes the case of medium and large manufacturing firms.

1.2 Statement of the Problem

The key objective of the government of Ethiopia in the previous decade was to achieve sustainable economic growth to eliminate poverty and to become middle income country through the Growth and Transformation Plan. During the GTP I years (2010/11 – 2014/15) although the share of industry sector to Gross Domestic Product (GDP) shows modest increase mainly driven by construction sector, the manufacturing sector contributes only 5% to GDP that hinders rapid industrialization and the planned structural transformation of the economy (FeDRE, 2015).

The main aim the structural transformation during GTP II (2015/16 – 2019/20) emphasizes on private sector development particularly the manufacturing sector to address trade imbalance, technology transfer and job creation. The plan focuses on enhancing productivity, quality of production and competitiveness of the sector in the international market. In the progress review of the plan in 2016/17, the sector grew by 17.4 percent due to new investments and improved capacity utilization of the existing firms. However, the sector still plays minimal role in export, productivity and employment creation. Value added of manufacturing is only 6.4 percent during 2017 as compared to 25 percent in the industry sector. The growth pattern of exports declines from 12.7 to 7.7 percent of the GDP through 2001 to 2017. The potential of the sector to compete internationally has remained low (FeDRE, 2018; Oqubay, 2018).

The Ethiopian government has considered the crucial role of technology adoption and innovation to achieve the goal. Thus, the program focused to pursue the science, technology and innovation policy that was adopted in 2010 through outlining implementation strategies. However, according to the Global Competitiveness Report (2019), Ethiopia ranks 126th of 141 countries and scores innovation index of 44 out of 100 and the country compares less favorably to other countries including low income nations. The competitiveness performance is based on composite indicators to assess progress that influence productivity including enabling environment, human capital, market system and innovation ecosystem of a nation (Klaus, 2019; Smita et al., 2016).

There are studies conducted on the influence of innovation practices on the relationship between firm internal strategies and firm performance in different geographies that includes Nina et al.,

2009; Gunday, Ulusoy, Kilic, & Lufihak, 2011; Antonio & Jose, 2008; Roy, 2012; Juliana, 2014; Al-Ansari, 2014; Quiang, 2018 and Francisco, 2018. Since the studies are made in different macro environment context and the scholars has based on different constructs it is difficult to rely on the findings for firms in Ethiopia.

Although research on innovation has attracted scholars, there are very few studies conducted on the relationship between firm internal strategies, innovation and firm performance in Ethiopia. Beyene et al. (2016) study focus on the influence of innovation strategy on product innovation performance mediated by organizational learning and moderated by firm size and ownership. Smita et al., (2016) study focus in general on the role of innovation performance in Ethiopia and innovation at firm level in correlation with firm size, credit availability and export performance. Mulu, (2009) study focus on factors that hinder innovation in small firms and role of innovation to create employment opportunity. Asheber, (2016) study focus on the influence of intellectual capital on innovation considering organizational capital as mediator taking the case of banking sector in Ethiopia.

The empirical studies did not consider the influence of firm internal strategy such as management orientation, organizational culture, technology orientation, market orientation, alliance and networking and knowledge management on innovation practices and firm performance. The studies did not consider the mediation effect of innovation practice on the relation between firm internal strategies and firm performance. Thus this study endeavors to fill the research gap through assessing the influence of firm internal strategies on innovation and its impact on firm performance. The study also emphasize on the mediation effect of innovation practices on the relation between internal strategies and firm performance taking the case of the textile and garment industry in Ethiopia.

1.3 Objective of the Study

1.3.1 General Objective

The aim of the study is to assess the influence of innovation practice on the relationship between firm internal strategies and firm performance taking the case of medium and large manufacturing firms in Addis Ababa.

1.3.2 Specific Objectives

The specific objectives are to:

- examine the influence of in-firm determinants on innovation practices and firm performance
- examine the impact of innovation practices on firm performance
- examine the mediating role of innovation practices between firm internal strategies and firm performance

1.4 Research Questions

The research questions of the study are:

- Does the internal determinants of firms influence innovation?
- Does the internal determinants of firms influence firm performance?
- Do innovation practices influence firm performance?
- Does innovation practice mediate the relationship between firm internal strategies and firm performance?

1.5 Scope of the Study

The study focuses on the influence of micro environment of firms on innovation and firm performance. The study addresses aspects of internal driven factors as management orientation, technology orientation, human capital, alliance and cooperation, organization culture, market orientation, knowledge management on innovation practices. The effect of macro environment or external driven factors on innovation practices is not considered. Furthermore, the study considers only innovation practices as influencing factors in the relationship between firm internal strategies and firm performance and ignored other moderating and mediating factors that are likely to influence the relationship in a different constructs.

The target of the study is medium and large manufacturing firms in Addis Ababa and thus it didn't consider other regions of Ethiopia. The researcher takes the case of textile sub-sector of the manufacturing industry which is prioritized in the GTP and IDS (AFBD, 2014; GTP II, 2015) and did not consider other sub-sector in the manufacturing sector and other industries in the nation's economy as well with the purpose of obtaining deep dive target sector results.

1.6 Significance of the Study

The contribution of this study is attributed to theoretical contribution, to fill void in empirical evidences and has practical implications.

Theoretically the study contributes to the recent research areas to innovation management literature and business strategies. The proposed conceptual model on the influence of innovation practices on the relationship between firm internal strategies and firm performance would provide researchers additional theoretical and empirical literature taking the case of a least developing economy. The study shows insights on firm innovation capabilities in medium and large manufacturing firms in the context of least developed market as case of Ethiopia.

Second, this empirical study contributes to limited study available on the influence of innovation on firm performance in Ethiopia. The study tested range of hypothesis on the interrelationship between firm internal strategies with innovation practices and firm performance as there is no empirical study that considers various firm internal determinants and the mediating effect of innovation practices on the relationship between firm strategies and performance. Thus, the study aims to fill empirical research through providing additional evidence on the research topic.

Third, the study provides information to relevant actors as policy makers and practitioners that are engaged in the economy. The findings of the study is relevant input for policy makers in devising strategies and to take regulatory measures to encourage innovation practices in industries to contribute to the domestic economy and achieve the structural transformation program of the government. Moreover, organizations may use the study to revise their policies and practices on organizational strategies and innovation practices to be competitive in the fast changing business environment. Importantly the findings encourage managers to reassess organizational strategies in view of innovation performance to enhance the contribution of product, process / technology and market innovation to achieve business goals sustainably.

1.7 Research Limitation

The limitation of the study is attributed to limited availability of resources. First, there are very few limited reference materials available on the study subject matter in the context of Ethiopia that could be used as secondary reference and to be used as comparison source for the study findings. Second, the limitation in time and cost to conduct the study influenced the selection of

the firms that are located in a particular geography i.e Addis Ababa and third, the data is collected from one sub – sector in the manufacturing industry and thus has effect to generalize the findings to the industry.

To minimize the effect of the limitation, the researcher has defined the scope of the study clearly. Furthermore the limitation in reference resources is dealt through collection of data from primary sources and based on secondary source of information from similar economies categorized as developing economy for comparison of the findings. The delimitation of geography was selected due to the availability of majority of the firm in Addis Ababa based on the data obtained from Ethiopian Textile Industry Development Institute (ETIDI) database.

1.8 Outline of the Study

The study is structured based on five chapters:

Chapter One: presents background of the study, statement of the problem, limitation and delimitation of the study, Objectives and research questions of the study, limitation and delimitation of the study, significance of the study and organization of the paper

Chapter Two: presents literature review and conceptual framework of the study

Chapter Three: presents research design and methodology applied, sampling techniques and sample size, method of data collection and analysis to examine the research hypothesis and conceptual model, data quality assurance and measurement implications.

Chapter Four: presents data analysis and interpretation from the research instrument and based on the proposed research methodology

Chapter Five: presents conclusion and recommendation of the study and forward suggestions for future research.

Chapter Two: Literature Review and Theoretical Framework

2.1 Theoretical underpinnings – the theory of the Firm

Theories of the firm' are developed to provide answer to the basic question on the nature of firms: Why do firms exist? (Kraaijenbrink & Spender, 2011). Coase (1937) publication on 'The Nature of the Firm' is the beginning of modern firm theories. Coase's theory explained that firms exist to minimize transaction costs and enhance efficiencies that are not possible at discrete level. Since then, many Theories of Firm has been developed by scholars in different discipline including organizational, economic and strategy fields among others (Coase, 1937; Kraaijenbrink & Spender, 2011).

Business strategy literatures are dominated by economic approaches and the most dominant strategy is based on performance of the firm on achieving sustainable competitive advantage. (Krzakiewicz, 2013). This is mainly reflected through the three consecutively developed theories of Resource Based View, Dynamic Capability View and Knowledge Management theories. The theories explain the recent innovative economy to build sustainable competitive advantage than focus on the traditional view of reducing transaction costs (Kraaijenbrink & Spender, 2011; Smith & Prieto, 2008, and Ambrosini & Bowman, 2009). Thus, this study is based on these three theoretical foundations of strategic management.

2.1.1 Resource Based View (RBV)

Resource Based View (RBV) is developed in the strategic management literature and focuses on the link between organization resources to achieve sustainable competitive advantage and enhance firm performance (Madhani, 2010; Mweru & Muya, 2015; Kellermanns et al., 2016). The effective management of resources is related to value creation of resources, opportunity for innovation and optimal rate for growth (Penrose, 1959).

RBV considers resources as internal strategies for the success of firms in the competitive market (Madhani, 2010). Barney (1991) defines resources as assets, capabilities, information, knowledge or process that enable firms to manage and implement strategies. The attributes of resources 'VRIN' indicates Valuable, Rare, Inimitable and Non substitutable make it possible for competitive advantage of the firm to enhance performance in terms of increase sales, reduction of cost or results in high profits (Madhani, 2010; Barney, 1991; Mweru & Muya, 2015).

Resources are categorized as physical and intangible resources. Types of tangible resources are financial, physical, technological and organizational systems and intangible resources include human capital, innovation capabilities and organization reputation (Madhani, 2010). Strategic assets are determined based on the competitive outcome to the organization (Mweru & Muya, 2015; Madhani, 2010). Examples of such assets are financial ability to raise funds, physical location of plants, number of copy rights owned, organization culture, research and development capability, reputation of the services or products and loyalty of customers (Madhani, 2010).

2.1.2 Dynamic Capability View (DCV)

Dynamic Capability View (DCV) is the extension from RBV to develop the theory from perspective of changing market environment (Zhou et al., 2019; Breznik & Lahovnik, 2016; Collis & Anand, 2019). RBV didn't explain how to sustain competitive advantage in rapidly changing environment and the theory didn't show the ways on how to organize the resources bundle (Zaidi & Othman, 2011). Dynamic capabilities are related to the effective management of strategic and operation processes to sense and seize opportunities in the changing environment and develop competencies to manage on – going activities (Zaidi & Othman, 2011; Teece, 2018).

According to Teece et al. (1997), DCV is defined as *'the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments'*. Thus, DCV exists to develop high level capability as compared to RBV to sustain competitive advantage in rapidly changing environment (Ferdinand et al., 2004; Cavusgil, Seggie, & Talay, 2007). The firm performance is related to the degree of application of dynamic capabilities (Teece, 2018; Giniuniene & Jurksiene, 2015; Collis & Anand, 2019). The two dimensions of dynamic capabilities are capability exploitation and capability upgrading (Corte & Gaudio, 2012). Capability exploitation deals with attaining competitive advantage through use of the resource base and the latter deals with upgrading sustainable performance through enhancing capability to generate novel resource bundles (Corte & Gaudio, 2012).

Dynamic capability is related by nature to innovation to respond to the rapid change in the environment through renewal of the resource bundles (Zaidi & Othman, 2011; Zhou et al., 2019). The process is mainly related to innovation, organizational learning, knowledge systems, abilities, skills and explains on how such routines have impact on firm performance

(Giniuniene & Jurksiene, 2015; Zaidi & Othman, 2011). This process becomes sustainable competitive advantage when it is unique and difficult to imitate. There are various resources of dynamic capabilities explained in terms of efficiency and effectiveness as network, resource base, internal firm orientations including market orientation, competitor orientation, customer and technological orientation (Zaidi & Othman, 2011; Breznik & Lahovnik, 2016).

2.1.3 Knowledge Based View (KBV)

KBV in strategic management is the extension of RBV that considers knowledge as strategic resource for firms (Curado, 2006; Sijtsema & Postma, 2004; Nagano, 2019). In the recent economy KBV is most important as there is shift from material based classical production system to information based system. The new era is termed as knowledge century and the economy as 'new economy' (Curado, 2006). It is evident that knowledgeable workers are assigned and provided at core positions that are highly influential to the organization. Strategies rely on two categories of knowledge, tacit and explicit. Tacit knowledge is embedded inside individuals and is revealed in the actions, behaviors and emotions whereas explicit knowledge is objective and can be codified and expressed easily (Eisenhardt & Santos, 2000; Sijtsema & Postma, 2004).

Dynamic capabilities developed with time through organizational learning enable organizations to reconfigure their resources in the rapidly changing environment (Curado, 2006; Eisenhardt & Santos, 2000). Knowledge is one of the key intangible capabilities as a capacity to act to attain sustainable competitive advantage in the current economy. Intangible assets provide advantage over competitors as it is difficult to imitate, non - substitutable and rare (Sveiby, 2001; Nickerson & Zenger, 2004). Knowledge differs from other strategies as the central role is played by people, treats dynamic environment and has social concern to benefit the firm along with the society (Takeuchi, 2013; Sveiby, 2001).

The knowledge capacity developed by organizations to respond to the dynamic environment provides unique capacity to enhance learning, develop flexible approaches and gain increasing returns (Takeuchi, 2013; Curado, 2006). The capacity could be used externally or internally to create value (Sveiby, 2001). The use of knowledge is related with the capacity to absorb and make it useful. Absorption capability is the ability to use new knowledge and is related with process and product innovation to influence firm performance (Sijtsema & Postma, 2004).

2.2 Innovation

2.2.1 Definition of Innovation

The term innovation has started to be used in the twentieth century and has evolved from imitation and invention that has been widely used beginning from the sixteenth century (Taylor, 2017). During the sixteenth and seventeenth century imitation imply invention where in Europe importers were provided license to import existing products. In the eighteenth century, the modification of the imported goods was termed as invention for enhancing the quality of the goods. The nineteenth century industrialization and discovery of machineries is related to invention (Taylor, 2017). The term innovation started to be used along with the development of economic theory to explain technological change and the relation to economic and social change in the twentieth century. Innovation has extended its application in wider disciplines indicating different meanings and concepts in the twenty first century (Taylor, 2017; Fadiyah et al., 2016).

There are wider definitions of innovation in various disciplines and fields in literatures and organization practices (Ramadani & Gerguri, 2011; Kagabayev & Maziliauskas, 2017; Popa, Preda, & Boldea, 2010; Taylor, 2017; Baregheh, Sambrook, & Rowley, 2009). Schumpeter, the founder of economic theory of innovation, indicates innovation as the outcome of change in technology and defines innovation as an activity that results in new products and process as new goods, production process, market and organization (Schumpeter, 1934).

Baregheh, Sambrook, & Rowley (2009) and Taylor (2017) have summarized the main elements of the definitions as a creative and multistage process where novel ideas are used to develop new or improved products, services or process to remain competitive in the market. The main elements in the definitions are the nature of innovation or the degree of newness, type of innovation (product, market), steps in the innovation process, socio-environmental factors to influence innovation, resources to be used for innovation and the result of innovation in value creation (Baregheh, Sambrook, & Rowley, 2009).

Innovation should not be confused with changes that do not meet certain characteristics as stated in the definitions (OECD/Eurostat, 2019). Some changes that are not innovation include routine product/ service updates, replacement of similar equipment or minor extensions, simple aesthetic modifications, advertised product not yet being implemented, professional service firms reports unless are significantly novel, extension of products unless

tangible changes are made in the firms process, activities of newly established firms unless the products supply is new to the market and adopts new process that is novel in the industry, mergers or acquisitions unless the firm develops new process for implementation, withdrawal from market or terminate business process, change in business strategy unless it is implemented (OECD/Eurostat, 2019).

2.2.2 Types of innovation

The development in the innovation concepts has led to the evolution of different types of innovation classification. The common types of classification are multi-type and classification based on degree of novelty (Kagabayev & Maziliauskas, 2017; Kotsemir, Abroskin, & Dirk, 2013; Edwards, 2018; OECD/European Communities, 2005; Popa, Preda, & Boldea, 2010).

- i. Multi-type classification: The most common type of innovation that is proposed by Organization for Economic Cooperation and Development (OECD). The types of innovations are product, process, marketing and organizational innovations as explained in detail in Table 1 (OECD/European Communities, 2005).

Table 1: OECD innovation typology in Oslo manual

Types of innovation	Definition	Key features
Product Innovation	Goods and services that is new or significantly improved in characteristics or functions.	Innovation in goods is significant changes in materials, components, technical specification and others to enhance performance. Innovation in services is significant improvements in provision, addition of new features or introduction of novel services.
Process Innovation	The implementation of new or significantly improved method of production and delivery	The methods include significant changes in techniques, technology and software in production or in logistics for delivery for the creation or provision of services and in subsidiary support activities
Marketing Innovation	The implementation of new marketing	Results in new or significant change in the 4Ps of marketing methods – packaging, pricing,

	methods	placement, promotion and in product design to address customer needs
Organizational Innovation	The implementation of new organizational method	The methods are related to significant changes to business practices, organization and relationships with other institutions taken through strategic management decisions.

2.2.3 Degree or Novelty of Innovation

Innovation on the basis of degree of novelty ranges from incremental to revolutionary based on the degree of technological and market novelty (Kotsemir, Abroskin, & Dirk, 2013). There are number of classification categorized according to the intensity of innovation. The most common classification is categorized as radical and incremental innovations as suggested by Marquis (1969).

Radical innovation represents a paradigm shift through application of new technology and alteration on the concept of business. The innovations are new product, process or organization implying new to the industry or the market. The innovation is novel, disruptive and unique as compared with the other innovation in the past. The success of radical innovation is rare and takes more time to be implemented (Norman & Verganti, 2014; Schulz, 2008; Kotsemir, Abroskin, & Dirk, 2013; Sen & Ghandforoush, 2011; Popa, Preda, & Boldea, 2010).

Incremental innovation is the modification and refinement of products, process and organizations systems to improve existing performance as cost reduction enhance customer satisfaction and so on. Incremental innovation is sometimes referred as adaptation and majority of the innovation in business are related to incremental innovation (Norman & Verganti, 2014; Schulz, 2008; Kotsemir, Abroskin, & Dirk, 2013; Sen & Ghandforoush, 2011; Popa, Preda, & Boldea, 2010).

2.3 Drivers of innovation

Innovation in the organization is influenced by several internal and external factors (Malinen, 2006; EBRD, 2014). The internal factors range from firm characteristics as age, size and ownership type to management decisions as target international market. External factors are related to the business environment of the country. Unethical business environment with

fragile rule of law discourage innovation due to lack of guarantee and high cost to successfully implement innovation (EBRD, 2014). A consolidated research on innovation enablers through literature review was conducted by Johnsson (2017) to provide deeper understanding on drivers of innovation. The research has categorized innovation enablers to organizational level, team and individuals in the firm. The enablers overlap each other and are applied in two or all of the major categories (Johnsson, 2017). Table 2 provides the list and brief explanation of innovation enablers.

Table 2: Innovation enablers or drivers

1	Climate -	Organization and team enabler - stable feature expressed in the policies and procedures of the organization and motivates employees to proactively try novel idea. Team is considered as small organization.
2	Culture	Organization and team enabler - shared values, norms and actions to encourage innovation through participatory approach in decision making and implementation of activities.
3	Economy	Organization and team enabler - Allocation of resources as financial and human capital to encourage innovation.
4	Management	Organization enabler - Assure continuous innovation by actively following on innovation projects and set encouraging environment
5	Strategy	Organization and team enabler - provides priority to innovation and allocates resources to research and development, establish cooperation with partners and develop the learning capacity
6	Time	Organization and individual enabler - Allocate time for employees to be creative and implement novel ideas
7	Collaboration	Team enabler – recent firm success depends on internal cooperation as building cross functional team and external collaboration with customers, suppliers, joint business network and competitors.
8	Education	Team enabler – upgrade the knowledge and skills of the team to develop the learning capability
9	Empowerment	Team and individual enabler – provide employees freedom to manage their work, enhance job ownership and creativity.
10	Human	Team enabler - recruit competitive and talented employees and

resources	continuously develop, train, motivate and recognize achievements to enhance performance.
11 Need	Team enabler - identify unmet needs through assessing major changes in the macro environment and opportunities to target new potential market.
12 Processes	Team enabler – develop innovation process to identify, select, adopt and learn through arranging innovation strategy, linkage and organization.
13 Awareness	Individual enabler – benefit from innovation opportunity depends on the interaction between the entrepreneur capability, technology know how and expertise developed in the firm.
14 Capabilities	Individual enabler – technical and organizational skills to deploy resources enhance ability to implement new products or processes.
15 Dedication	Individual enabler – motivated employees are effective in the competitive market.
16 Incentives	Individual enabler – financial and non-financial compensation to motivate employees
17 Knowledge	Individual enabler – manage updated information flow for knowledge creation to enhance decision making and innovation capability. The crucial action is to obtain and transform tacit knowledge to new knowledge.
18 Knowledge Management	Individual enabler – tailored approach to manage the organization explicit and tacit knowledge resources to be competitive and innovative
19 Mind-set	Individual enabler – develop ‘I can do it’ mind set or a positive attitude to enhance self-efficacy to implement ideas
20 Entre/intra-preneurship	Individual enabler – innovation behaviors as risk takers, problem solving skill, flexibility and opportunity determined.

Source: (Johnsson, 2017)

2.4 Challenges of innovation

In modern society, innovation is critical to be competitive in the dynamic environment. However, organizations are less devoted to integrate innovation in their strategy, allocate

budget for innovation and to proactively benefit from changes in technologies and market needs (Benmansour & Hogg, 2002). Researchers on various literatures have indicated that there are many internal and external barriers to innovation (Benmansour & Hogg, 2002; Joshi, 2017; Pourkiani, Farahabadi, & Komak, 2013; Lukjanska, 2010). External barriers are related to legislation, finance, limited networking partners and internal barriers are related to management and employees in the organization.

External barriers

External barriers are related to macro or broader economic environment. Government legislation is common external barriers, refers to the political and regulatory actions taken by government to administer the economic activities of the country (Benmansour & Hogg, 2002; Joshi, 2017). The legislation causes barriers due to gap in policy formulation and execution, bureaucratic procedures and lack of government incentives to innovation. Example of such legislation is competition policy that may hinder the firm to exploit relationship or partnership with backward and forward actors in the supply chain. The other common barrier is financial barrier and it relates to higher interest rate for loan capital for innovation investment also known as discrimination against innovation (Benmansour & Hogg, 2002; Lukjanska, 2010).

Internal barriers

Internal barriers are connected to the level of the firm or micro environment and are easier to manage internally. Organization culture influence innovation based on the norms shared in the organization environment (Benmansour & Hogg, 2002). The characteristic of the culture deterring innovation includes aversion of risk and short term profit orientation resulting in fewer motives for novel products or process. The other element is organizational structure classified as organic and mechanistic structures. Mechanistic structure is formal, centralized and bureaucratic allowing little freedom to initiate new ideas whereas organic structures are less formal and flexible promoting the novel ideas. Individual related barriers are mainly due to the low ability as lack of competitive knowledge and less motivation of the employees (Benmansour & Hogg, 2002; Lukjanska, 2010).

2.5 In- firm innovation determinants

The firm level strategy to maintain competitive advantage is explained by three theories Resource Based View, Dynamic Capability and Knowledge Based View (Kraaijenbrink &

Spender, 2011; Smith & Prieto, 2008; Ambrosini & Bowman, 2009). The resource base focuses on effective management of strategic assets while DC on effective modification of resources to meet the changing market needs (Zaidi & Othman, 2011; Wang & Ahmed, 2007). Resources are categorized as tangible resources, intangible resources and capabilities. The resources consist of technology, finance, market assets, structural and reputation asset and capabilities includes management capability, networking and alliances, and internal firm orientations including market and customer orientation (Zaidi & Othman, 2011; Wang & Ahmed, 2007). KBV considers knowledge as strategic capability emphasizing on developing learning capacity and adoption of new knowledge to enhance innovation (Curado, 2006; Eisenhardt & Santos, 2000; Sijtsema & Postma, 2004).

The global intense competition has led firms to devise strategies to remain competitive in the market (Ulusoy, Kilic, & Gunday, 2015). The innovation strategies or factors firms adapt to influence the innovative capabilities are known as innovation determinant (Ulusoy, Kilic, & Gunday, 2015; Mendoza-Silva, 2020). The types of determinants are categorized as indigenous and exogenous determinants. The in-firm (indigenous) determinants broad category include firm general characteristics as age, size and ownership; firm internal strategies, intellectual capital, organizational culture, entrepreneurial orientation and capability to communicate within the firm and externally. The out-firm (exogenous) determinants are related to the industry, market and access to finance (Ulusoy, Kilic, & Gunday, 2015; Striteska & Prokop, 2020).

There are various studies that puts emphasize on the determinants of innovation capacity (Pertuz, Perez, & Geizzelez, 2018; Ulusoy, Kilic, & Gunday, 2015; Mendoza-Silva, 2020; Bhattacharya & Bloch, 2004; Kamasak, 2015; Braga & Roberto, 2018; Striteska & Prokop, 2020; Saunila, 2019). Most studies deal with assessment of one individual determinant on innovation practices (Striteska & Prokop, 2020). There are other studies that combine the main determinants of innovation performance (Striteska & Prokop, 2020; Pertuz, Perez, & Geizzelez, 2018; Ulusoy, Kilic, & Gunday, 2015; Soutaris, 2003). Pertuz, Perez, & Geizzelez (2018) systematically reviewed literatures and draws convergence on the factors of innovation capability to better comprehend determinants of innovation. The main determinants consist of management and leadership, organizational culture, cooperation, strategic orientation to innovation management, knowledge management and organic structure. Thus, this study specifically focuses on the following in – firm determinants of innovation practices: management orientation, organization culture, technology orientation,

market orientation, alliance and networking, organizational learning and knowledge management.

2.6 Firm characteristics and innovativeness

Firm characteristics are categorized as in-firm determinants to innovation performance (Ulusoy, Kilic, & Gunday, 2015). The general firm characteristics relevant to innovativeness include size, age and ownership that provide contradictory results in prior innovation research (Ulusoy, Kilic, & Gunday, 2015; Moohammad, Alini, & Kamal, 2014). Researches indicate ambiguous result on the effects of the characteristics on innovativeness. For instance, according to some researchers larger firms are more innovative because of higher resource capability on the contrary other scholars noted that smaller firms are more innovative based on its flexibility and entrepreneurial oriented personnel. With regard to age, there are different views including the influence of age on innovation depend on the type of innovation and some scholars noted that experience for older firm is a driver to innovation while others claim on the contrary experience as challenge to initiate novel ideas. Also, the same hold with foreign and locally owned firms (Ulusoy, Kilic, & Gunday, 2015; Moohammad, Alini, & Kamal, 2014).

Firm characteristics are commonly considered as control variables by various researchers to avoid influence on the interaction with findings of innovation studies (Moohammad, Alini, & Kamal, 2014). This are also sometimes referred as 'demographic variables' that describe the characters of the unit of analysis that the researcher controls for the effects to be reflected on findings of the study (Kock, 2011). Control variable usually is not included in the hypothesis or the model mainly because the focus of analysis is bivariate and rather results in long and complicated hypothesis. It is recommended to define and acknowledge the control variables before the conceptual model development to clarify the causal relationship apply only when holding constant the identified control variables (Klarmann & Feurer, 2018). Thus, the findings of this study on the relationship of the construct reflects that the characteristics size, age and ownership are controlled.

2.7 Innovation practices

Firm innovation practices is broadly categorized as product or service, process, marketing and organizational innovation (OECD/European Communities, 2005). Product innovation is the introduction of radically improved new products or significant changes in the existing

products. The product is new to the firm to satisfy evolving customer needs, adopt new technologies and to respond to the maturity of product life. Process innovation is the introduction of new or improved techniques to enhance information, efficiency of tasks, production quality, cost reduction and support activities. In case of manufacturing sector the process innovation contributes to improve productivity (Karabulut, 2015; Vargas et al., 2017; Canh et al., 2019; Rajapathirana & Yan, 2018; Gunday et al., 2011). Marketing innovation consist of non-technological innovation to strengthen marketing position of the firm through adoption of new marketing method to satisfy customer satisfaction and increase revenue. Organizational innovation is related to new working methods to increase productivity, communication, technology capacity and database management. Organizational innovation consist of encouraging R&D and facilitate new business practices as cooperation among business (Karabulut, 2015; Vargas et al., 2017; Canh et al., 2019; Rajapathirana & Yan, 2018; Gunday, Ulusoy et al., 2011).

Management practices affects firms decisions to invest in innovatoin decisions for instance allocation of budget to strenghten R&D and incentives to motivate employees (Sidorkin, 2015). The incentive systems establishes monitoring mechanism to closely engage with employees. Overall management actions to devise innovation oriented strategy, target long-term goals, allocation of resources to support novel ideas, facilitate learning culture and establish developed knowledg management system influence firm to achieve innovation performance (Sidorkin, 2015).

2.8 Innovation and firm performance

Firm performance in business firms can be measured from various dimensions such as growth performance including extend market share in new markets or existing market and profit performance indicate efficiency of the business measured as return on asset (ROA) or return on investment (ROI) (Kalkan, Bozkurt, & Arman, 2014). Other common dimensions to measure performance are categorized to innovative, production, market and financial performance (Rajapathirana & Yan, 2018; Kijkasiwat & Phuensane, 2020; Gunday et al., 2011).

Innovative performance is the result of efforts in incremental and new innovations as the implementation of novel or improved products, process, marketing and organizational systems. Production performance is enhanced operational achievement related to speed, cost efficiency, quality and so on to achieve profitability (Gunday et al., 2011). Market

performance is the position of the firm in relation to its competitors in terms of customer satisfaction and retains loyalty of the existing and new customers (Rajapathirana & Yan, 2018). Financial performance is the ultimate business firm goal to achieve better profitability and ROI offering competitive price, increase sales and minimizing production and marketing cost (Kalkan, Bozkurt, & Arman, 2014; Rajapathirana & Yan, 2018).

Innovation influence firm performance providing competitive advantage to strengthen market share in the industry (Kijkasiwat & Phuensane, 2020; Rajapathirana & Yan, 2018). Innovation is key determinant for business to sustainably retain its competitive advantage and survive in the rapidly changing market environment. Both radical and incremental innovation has tangible contribution to firm performance (Rajapathirana & Yan, 2018).

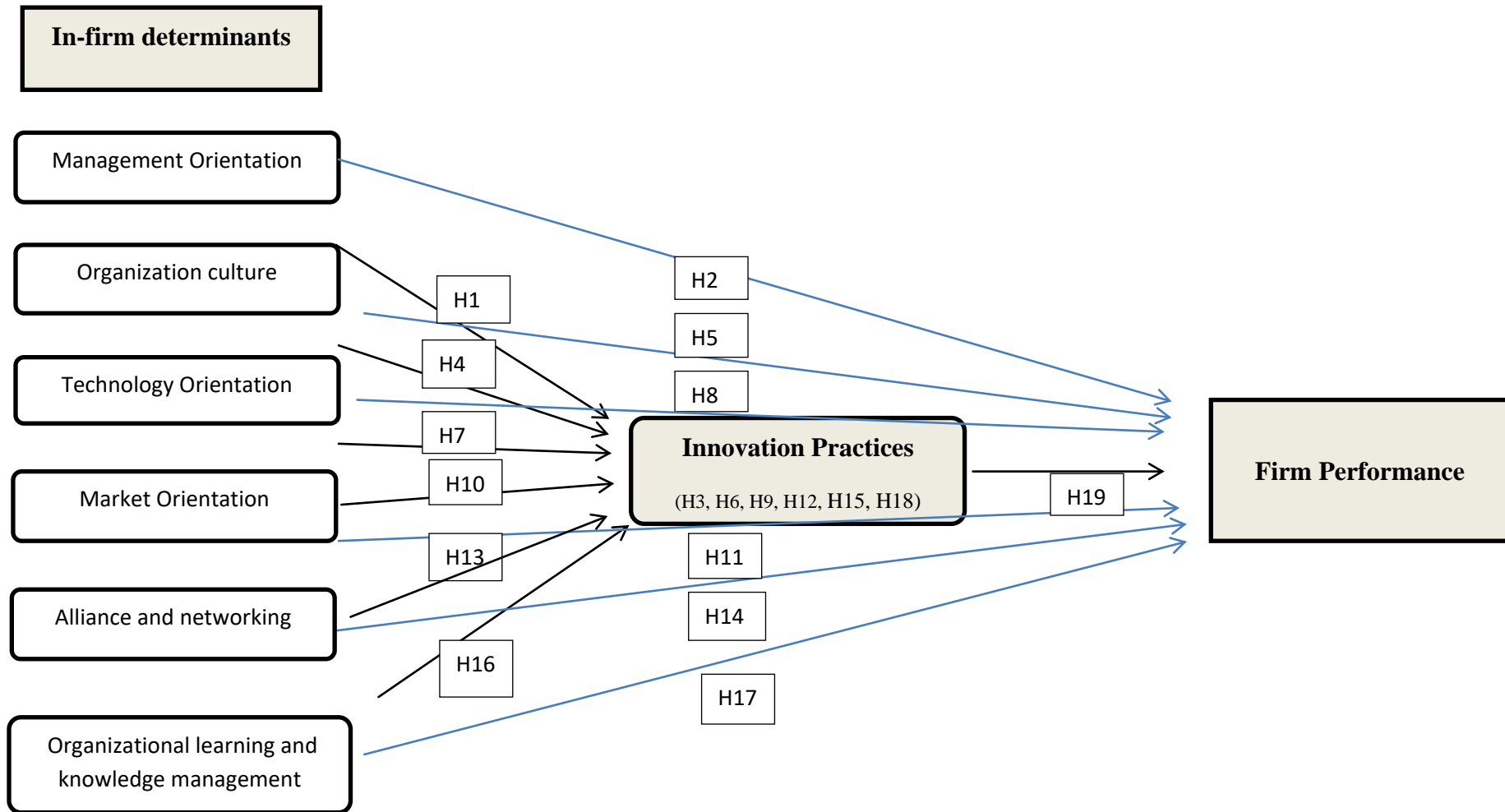
2.9 Conceptual framework and development of hypothesis

This study, as stated in the research question examine the influence of firm internal strategies on innovation practices, the impact of innovation practices on firm performance and the mediating role of innovation practices between firm internal strategies and firm performance. The following subsections will elaborate on the relationship of the innovation determinants, innovation practices and firm performance.

2.9.1 Conceptual framework

The proposed conceptual model as shown in *Figure 1* hypothesized the relationship between in-firm innovation determinants such as management orientation, organizational culture, technology orientation, market orientation, alliance and networking and organizational learning and knowledge management with innovation practice and firm performance. Thus, the conceptual model depicts the relationship between the multidimensional constructs supported based on the review of previous researches that is discussed in subsection 2.9.2.

Figure 1: Proposed conceptual framework of the research



2.9.2 Development of hypothesis

This section discusses the relationship of the constructs to propose hypothesis of the research.

2.9.2.1 Management orientation, innovation practice and firm performance

The focus of management to participate in risky projects and allocate resources for innovation influence positively innovation practices of firms and firm performance. Empirical studies indicate the positive link between innovation and firm performance (Sidorkin, 2015; Khan, Rehman, & Fatima, 2009). The quality in management is characterized as establishing incentive system, facilitate innovation platform, and allocate resources to support innovation and incentive to reward best performances, promote new ideas and technologies. Management support long term goals to encourage R & D that contributes to innovation (Sidorkin, 2015). There are different models to manage innovation and the most common are organizational capability and transformational leadership. Organizational capability is the development of innovation capability through restructuring the organization to facilitate innovation, linkage with modern technologies to enhance capabilities and manage the complexity of innovation breakthrough. Transformation leadership impacts innovation through encourage motivation, ensure empowerment of employees, set flexible structure and promote success in market (Razavi & Attarnezhad, 2013; Khan, Rehman, & Fatima, 2009). Management should promote risk taking to achieve innovation through allocation of resources and making risky decisions that increase firms' benefits (Llopis, Granero, Mesa, & Alegre, 2013).

Furthermore, management orientation has positive influence on firm performance as a result of flow of innovative ideas that enhance the capacity of product, process and organizational innovativeness to create competitive advantage (Kraiczy, Hack, & Kellermanns, 2015). The support of management enhances the success of novel ideas through creation of smooth environment and allocation of resources to facilitate innovation. Management innovation improves internal firm operations and responds in novel ways rapidly to the rapidly changing environment (Walker, Damanpour, & Devece, 2010; Zhang, Khan, Lee, & Salik, 2019). Thus, in light of the above evidence, the study devised the following hypothesis.

H1: Management orientation has positive and significant relationship with innovation practices

H2: Management orientation has positive and significant relationship with firm performance

Moreover, the link between management orientation and firm performance is mediated by innovation practices (Kraiczy, Hack, & Kellermanns, 2015). The positive impact of management orientation on firm performance is influenced by firm innovativeness. Thus, the study devised the following hypothesis:

H3: Innovation practices mediates the relationship between management orientation and firm performance

2.9.2.2 Organizational culture, innovation practice and firm performance

Organizational culture that encourage staff to take risk and adopt new ideas, provide flexible organizational structure and reward innovative outcomes to positively impact innovation practice and firm performance. Favorable organizational culture thrive innovation through stimulating the acquisition, sharing and use of knowledge (Ceausu, Murswieck, Kuth, & Ionescu, 2017; Mazur & Zaborek, 2016; Chen et al., 2018; Woszezyna, 2015). The characteristics of positive culture are flexibility, establish learning organization, develop the knowledge and skills of employees, encourage risk taking and facilitate knowledge and information sharing among employees (Woszezyna, 2015). The innovative culture supports employees to be committed to innovation and minimize workloads, provide time to develop knowledge and set reward systems to encourage innovation. Positive organizational culture requires the allocation of resources to develop human resource capacity and in R&D and set flat structure for flexible decision making. Democratic leadership culture impacts positively innovation (Barbosa, 2014). Organizational culture is highly influenced by the managers at different levels. The managers should clearly state and communicate the value of innovation to the success of organization and develop the capacity of employees to be creative and manage novel ideas (Adelekan, 2016).

In addition, various studies support the link between organizational culture and firm performance (Zhao et al., 2018; Umrani, Shah, Memon, & Samo, 2017; Oberfoll, Adame, & Garcia, 2018; Siagian, Samuel, & Widjaja, 2017). The quality of cultural values leads to positive link to organizational performance. The quality of the culture is characterized by flexibility, competitiveness, innovative and professionalism (Yesil & Kaya, 2013). The impact of culture on performance depends on the types of cultures categorized as clan, adhocracy, market and hierarchy. Clan facilitate friendly environment and collaboration of employees, adhocracy culture facilitates innovative work environment, market culture is to be competitive and leader in

the market and hierarchy culture is defined by formal and structured work flow. The impact level of different types of culture on firm performance depends on firm environment (Yesil & Kaya, 2013). The positive impact of culture is sustainable if the firm constantly changes and adapt to the rapid dynamic environment and its alignment with firm structure and strategy. The strength of culture and its influence depend when the cultural values are shared and internalized by employees in the firm (Joseph & Kibera, 2019). Thus, in light of the above evidence, the study devised the following hypothesis.

H4: Organizational culture has positive and significant relationship with innovation practices

H5: Organizational culture has positive and significant relationship with firm performance

Also, some studies support innovation has mediating effect on the link between organizational culture and firm performance (Uzkurt, Kumar, Kimzan, & Eminoglu, 2013; Jenatabadi, 2014). Strong cultures leads to innovation that enhance competitiveness to improved firm performance. Thus, the study devised the following hypothesis:

H6: Innovation practices mediates the relationship between organizational culture and firm performance

2.9.2.3 Technology orientation, innovation practice and firm performance

Technology orientation illustrate firm initiation to use up-to date technologies, proactively tries new methods and internal process to positively influence innovation and firm performance. The firm strategy towards the use of technology is an indicator toward innovation. The firm attitude to use latest technologies improves competitive advantage and impacts its capability of innovation (Ansari, Altalib, & Sardoh, 2013). The use of advanced technologies implies the importance attributed to R&D and advanced technologies giving priority to innovations. Technology oriented firms are pacesetters to introduce new products and techniques to the market to assure competitive advantage (Tutar, Nart, & Bingol, 2015). The firm promotes employees to be flexible, initiate new ideas and facilitate risk taking work environment that results in breakthrough innovation (Zhou, Yim, & Tse, 2005). Technology oriented firms introduce technologically advanced products or service to improve value to customers (Obeidat, 2016).

Moreover, some studies have indicated positive relationship between technology orientation and firm performance (Nakola, Tarus, Buigut, & Kipchirchir, 2015; Ali, Leifu, & Rehman, 2016; Saqib, Udin, & Zarine, 2018; Ansari, Altalib, & Sardoh, 2013). The firms are able to introduce improved or novel products, services and systems using latest technology and offers advanced and differentiated products with improved value to customers that results in improved profitability (Ali, Leifu, & Rehman, 2016). In rapidly changing market environment, the impact of the influence of technology orientation is high and the firms should actively manage the changes in technology to sustainably succeed in the market (Nakola, Tarus, Buigut, & Kipchirchir, 2015). Thus, in light of the above evidence, the study devised the following hypothesis:

H7: Technology orientation has positive and significant relationship with innovation practices

H8: Technology orientation has positive and significant relationship with firm performance

Additionally, technology orientation leads to innovation with the use of superior technology that enables them to create novel ideas to meet customer demand that impacts firm performance (Obeidat, 2016; Yousaf et al., 2020). The technology pacemakers ensure competitive advantage to attract and retain customers to sustain competitive performance. Some scholars indicate that innovation mediates the link between technological orientation and firm performance (Obeidat, 2016; Yousaf et al., 2020). Thus, the hypotheses are as follows:

H9: Innovation practices mediates the relationship between technology orientation and firm performance

2.9.2.4 Market orientation, innovation practice and firm performance

Market orientation coordinates firm units to serve the target market, create customer value and respond quickly to competitor action to positively influence innovation practices and to achieve profitability. Various studies have indicated that market orientation has positive influence on innovation (Newman, Prajogo, & Atherton, 2016; Wilches, Valencia, & Jimenez, 2018; Haryanto & Haryono, 2015). Market orientation refers to customer orientation, competitor orientation and the coordination of these insights along the internal functions within the firm. Market orientations are based on enhancing knowledge on customers and competitors and disseminate the information across departments to create novel knowledge and coordinate to apply to the business. Market oriented firms trace the customer preference before competitors

and develop novel or improved products or services (Ho et al., 2018; Al - Dmour & Amin, 2012; Johnson, Dibrell, & Hansen, 2009). Market orientation enhances competitive advantage to recognize opportunities created through intelligence generation from various partners including competitors (Prifti & Alimehmeti, 2017; Carbonell & Rodriguez-Escudero, 2009).

Further, a number of previous researchers have identified the positive effect of market orientation and firm performance in terms of improved financial and non-financial performances (Lekmat, Selvarajah, & Hewege, 2018; Scholastica & Maurice, 2013; Ismail, Narsa, & Basuki, 2019; Onditi, 2016; Prifti & Alimehmeti, 2017; Salyova, Petrovicova, Nedelova, & Dado, 2015; Ekaterina & Domberger, 2014). The success of the firm is the result of the capability of the firm to proactively satisfy customer needs and deliver valuable products or services to customers. Market orientation enables firms to be reactive to rapid external environmental changes through gathering market information (Scholastica & Maurice, 2013). Thus, in light of the above evidence, the study devised the following hypothesis:

H10: Market orientation has positive and significant relationship with innovation practices

H11: Market orientation has positive and significant relationship with firm performance

Moreover, some researchers have identified the mediation role of innovation on the relation between market orientation and firm performance (Zafar, Hafeez, & Shariff, 2016; Alerasoul & Derogar, 2019; Bamfo & Kraa, 2019; Zehir, Kole, & Yilduz, 2015). Innovation acts as a catalyst and facilitates performance through adoption of new techniques; enhance value creation and problem solving capacity (Bamfo & Kraa, 2019). Thus, the study devised the following hypothesis:

H12: Innovation practices mediates the relationship between market orientation and firm performance

2.9.2.5 Alliance and networking, innovation practice and firm performance

Alliance and networking promotes innovation and firm growth through actively engaging customers and other partners to develop new products and participating in local and international association. Alliance and networking is an enabling factor to firm innovativeness enhancing the success of innovation and cost efficiency (Abuzaid, 2014). The advantages of alliances to innovation are access to new technologies, bring together complementary expertise, minimize risks though sharing of resources, fill internal capacity gap through access to knowledge and

resources from relevant partners (Pittaway, Munir, Denyer, & Robertson, 2004). The benefit of networking creates a platform between firms to actively share experiences on innovation techniques and to enhance the capacity of firms to diffuse innovation (Pittaway, Munir, Denyer, & Robertson, 2004). Recently, multinational companies rely on strategic alliances to exploit opportunity for better market performance through novel or improved products (Dicevska et al., 2016). The success of the alliance depends on effective relationship management through creation of integration with key partners, flexibility and establishment of learning organization (Dicevska et al., 2016; Stefanovic & Dukic, 2011).

In addition, alliance and networking is one of key determinant to enhance competency in the market and for better performance (Raheem, Adekunle, & Saidi, 2018). Today, most firms especially in the manufacturing sector have strengthened relationship through vertical and horizontal integration to address the changing demand of customers (Yu, Xu, & Dong, 2019; Raheem, Adekunle, & Saidi, 2018). Based on previous research, firm networking strategy has positive influence on better returns, however the type of alliance portfolio depending on various factor as vertical / horizontal alliance, size scope, etc. could highly influence the level of success to sustain competitive advantage (Yu, Xu, & Dong, 2019). The firm to enhance its performance, the quality of the partners is measured depending on the resources compatibility and complementarities including technology, organizational culture, and firm strategy and research activities to fit with the firm (Kim, 2014; Sampson, 2017). Thus, in light of the above evidence, the study devised the following hypothesis.

H13: Alliance and networking has positive and significant relationship with innovation practices

H14: Alliance and networking has positive and significant relationship with firm performance

Also, Sajilan & Tehseen (2019) has studied the influence of network competence on firm performance taking the case of wholesale businesses in Malaysia and on the research have proved that innovation has significant mediating role on the relation between firm networks and financial and non-financial business performance. Thus, the study devised the following hypothesis:

H15: Innovation practices mediates the relationship between alliance and networking and firm performance

2.9.2.6 Organizational learning and knowledge management, innovation practice and firm performance

Organizational learning and knowledge management encourages innovation and influence firm performance through facilitating open learning system and developing system to benefit from knowledge management. Knowledge management nurture innovation through integration of implicit and explicit knowledge (Akram et al., 2011). Organizations engage in knowledge activities to transform tacit knowledge to explicit knowledge and collaborate within and outside the organization to fill knowledge gap and to assure access to knowledge and data sources to supplement activities and implement novel ideas (Akram et al., 2011). Organizations enhance knowledge capacity through continuous learning to achieve competitive advantage and success in innovation (Gupta & Dasgupta, 2009). The organizations characterized with active learning are able to identify current and future customer needs, sustain competitiveness in the market through adoption of novel products, operations and technologies (Abbas et al., 2020). Based on review of previous studies provides positive relationship between knowledge management, organizational learning and innovation (Ngoc-Tan & Gregar, 2018; Mohammadbagher & Mariyayee, 2015; Liao & Wu, 2009).

Also, the effective application of knowledge management is a strategic value to succeed and adapt in rapidly dynamic market and to achieve better firm performance through innovation, collaboration with relevant partners, enhanced decision making capability, develop capacity of knowledgeable workers and improved financial performance (Theriou, Maditinos, & Theriou, 2011; Marques & Garrigos-simon, 2006; Jain, 2015). Knowledge management is a competitive asset to organizations when the capacity is developed to integrate the knowledge to enhance firm performance through employee satisfaction, adoption of new technologies and customer satisfaction (Theriou, Maditinos, & Theriou, 2011; Daud & Yusoff, 2010). Learning organization reveals a positive achievement in performance through continuous learning, strengthen market strategy through by actively introducing new or improved products to the market and enhance customer satisfaction that result in growth in market share and improved revenue (Kocoglu, Imamoglu, & Ince, 2011; Jain, 2015; Liao & Wu, 2009). Thus, in light of the above evidence, the study devised the following hypothesis:

H16: Organizational learning and knowledge management has positive and significant relationship with innovation practices

H17: Organizational learning and knowledge management has positive and significant relationship with firm performance

Moreover, organizational learning and knowledge management has indirect effect on firm performance through innovation (Byukusenge & Munene, 2017; Kocoglu, Imamoglu, & Ince, 2011). Knowledge management orientation results in better profitability through adoption of novel and improved products, process and organizational techniques and organizational learning impacts innovation (Byukusenge & Munene, 2017; Ghafoor, Munir, Shehzad, & Ahmad, 2016). Various scholars confirmed that innovation has mediating effect between organizational learning and knowledge management and business performance (Kamluk & Acar, 2015; Byukusenge & Munene, 2017; Kocoglu, Imamoglu, & Ince, 2011; Ghafoor, Munir, Shehzad, & Ahmad, 2016). Thus, the study devised the following hypothesis:

H18: Innovation practices mediates the relationship between organizational learning and knowledge management and firm performance

2.9.2.7 Innovation practices and firm performance

The firms approach to introduce new products, use of up – to – date technologies and engage in new market targets enhance firm competitive advantage. Innovation is considered as core advantage in this era of rapid market changes and intense competition to drive and sustain business success (Lin & Chen, 2007). For companies to sustain in the economy, focusing on reduction of cost, price and quality change does not guarantee long term survival of the business rather continuous trivial to introduce new products or process supported by advanced technologies ensures to be competitive in the sector (Lin & Chen, 2007).

Various previous studies on the relationship of innovation and firm performance have concluded both positive and negative associations (Gunday, Ulusoy, Kilic, & Lufihak, 2011; Mai, Vu, Bui, & Tran, 2019; Lin & Chen, 2007). The association of innovation to firm performance can be explained from different aspects. On one aspect, innovation requires firms to allocate budgets to innovation related operations that increase cost of operations and has direct effect to decrease profitability. On the contrary, innovation is associated with high performers in the industry to engage in innovation and create linkage to access credit, benefit from regulatory support, enhance customer satisfaction, introduce change to the market that strengthen firm position and

enhance productivity. Thus, some scholars argue that innovation result in higher profitability of firms (Mai, Vu, Bui, & Tran, 2019).

The link between innovation and performance depends on types of innovation such as incremental and radical innovation (Lin & Chen, 2007). Incremental innovation is associated with continuous improvements of business engagement leading to short term growth and improved performance of firms. Radical innovation is driver for long term profitability though has negative association with performance in the short term (Lin & Chen, 2007).

Schumpeter, (1934) suggest that when new products is in the market as a result of limited competition, the firm earn targeted profits. The advantage of the firm from new products decreases over time due to introduction of substitutes and imitation by competitors and thus the firm should continuously innovate to survive and succeed in the dynamic business environment (Atalay, Anafarta, & Sarvan, 2013).

The impact of innovation on firm performance is charaterized in to four major dimensions as innovative performance, production, market and financial performance (Gunday, Ulusoy, Kilic, & Lufihak, 2011). Innovative performance impacts is observed in the long term and in the short term the related cost of investment may result loss as it takes time to observe the returns. Innovative performance at the intial stage is linked to non-financial impacts as attraction and retention of customers (Gunday, Ulusoy, Kilic, & Lufihak, 2011). Production performance expressed in terms of efficiency and effectiveness thourgh enhancement of quality, cost reduction, flexibility leads to customer satisfaction and high financial returns. Market performance is related to the attraction and retntention of customers that results in higher market value. The success in the various innovation types in organizational, product innovation and market innovation results in higher financial performance thourgh sales growth, increase in revenue and reduction of costs (Gunday, Ulusoy, Kilic, & Lufihak, 2011). Thus, the study devised the following hypothesis:

H19: Innovation practices has positive and significant relationship with firm performance

Thus, the summary of the research hypotheses on the relationship of the constructs are as follows:

H1: Management orientation has positive and significant relationship with innovation practices

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

H2: Management orientation has positive and significant relationship with firm performance

H3: Innovation practices mediates the relationship between management orientation and firm performance

H4: Organizational culture has positive and significant relationship with innovation practices

H5: Organizational culture has positive and significant relationship with firm performance

H6: Innovation practices mediates the relationship between organizational culture and firm performance

H7: Technology orientation has positive and significant relationship with innovation practices

H8: Technology orientation has positive and significant relationship with firm performance

H9: Innovation practices mediates the relationship between technology orientation and firm performance

H10: Market orientation has positive and significant relationship with innovation practices

H11: Market orientation has positive and significant relationship with firm performance

H12: innovation practices mediates the relationship between market orientation and firm performance

H13: Alliance and networking has positive and significant relationship with innovation practices

H14: Alliance and networking has positive and significant relationship with firm performance

H15: innovation practices mediates the relationship between alliance and networking and firm performance

H16: Organizational learning and knowledge management has positive and significant relationship with innovation practices

H17: Organizational learning and knowledge management has positive and significant relationship with firm performance

H18: Innovation practices mediates the relationship between organizational learning and knowledge management and firm performance

H19: Innovation practices has positive and significant relationship with firm performance

2.10 Overview of innovation practices in manufacturing sector in Ethiopia

Ethiopia has registered high economic growth with GDP growth rate of 10.8% from year 2004/5 to 2016/17 that is higher as compared to sub-Saharan Africa with GDP growth rate of 5.4% (AFBD, 2015). The growth is registered in three main sectors including agriculture, services and industry grown by 8%, 12.9% and 12.9% respectively. The growth though is not accompanied by change in economic transformation from agriculture to industry sector as was targeted in the GTP. The contribution of manufacturing sector to the economy is very low only around 5% to GDP. This implies high trade deficit and weak export that leads to risk of escalated debt and low competitiveness in the international market (AFBD, 2015; FeDRE, 2015).

The challenges in the economic structure is considered by the Government of Ethiopia (GOE) and has focused to private sector development providing strategic priority to agriculture led industrial development initiative to support the manufacturing sector (AFBD, 2015). The five year strategic plan is in GTP I (2010/11 – 2014/15) and GTP II (2015/16 – 2019/20) to foster manufacturing sector with the aim to reach the lower middle economy by 2025. Thus, various steps will be taken to ensure the achievement of the goal through follow up on the sector policies, established industrial parks, promote clusters, attract Foreign Direct investment (FDI) and develop linkage between local and foreign firms. The development of manufacturing sector has multi – faceted objective including enhance export earnings through improve the production and productivity capacity, create linkage between agriculture and industry, improve international trade competence, support society through job creation and address gender equality, promote environmental friendly manufacturing sector (FeDRE, 2010; FeDRE, 2015).

2.10.1 Innovation system in Ethiopia

Ethiopia has learned from South East Asian countries development in economy in the recent years that is mainly attributed to the focus to escalate their export earnings and adoption of technologies (FeDRE, 2012). Thus, the country has adopted national Science, Technology and Innovation (STI) policy to support economic transformation plan and enhance export performance. The vision of the policy aligns with national economic transformational plan stating “*alleviating poverty and joining mid-level income earning countries by 2023*” (FeDRE, 2012). The aim of the policy is to promote research, establish governance system to implement

the policy, promote adoption of foreign technology and growth of indigenous innovation, and streamline innovation along with various socio-economic activities and to develop the capacity of private sectors to adopt recent technologies. The innovation system is governed by state and is supported by research institutions, universities and vocational school, industrial parts, financial institution, industries, quality assuring agencies, among others. Ministry of Innovation and Technology (MInT) has the ultimate responsibility to lead the STI policy (FeDRE, 2012; UNCTAD, 2020).

The economic performance of Ethiopia is low and ranks 109 out of 140 countries based on World Economic Forum's Global Competitiveness Index in the year 2015-16 (Cornell University, INSEAD and WIPO, 2016). Based on the indicators used to measure competitiveness the low performance is reported mainly as a result of very slow improvement in innovation, technological readiness and business sophistication that enhance production and productivity (Cornell University, INSEAD and WIPO, 2016; Smita, Hiroyuki, & Aga, 2016). The spending on R&D though has increased during GTP years its overall spending is still low as compared to similar economies for instance Kenya. The increase in skilled personnel is linked with the expansion of higher level education of universities all over the country though the value addition is not as expected due to low quality of the education system and lack of support through tangible research (Smita, Hiroyuki, & Aga, 2016).

According to study conducted by Smita, Hiroyuki, & Aga (2016) innovation performance of firms are low compared to developing economies. Based on survey result, one third of the firms have adopted innovation either new or improved products and process. Innovation practice is depends on firm attributes as size and sector of operation. Larger firms are more innovative than smaller firms accounting for around 70% of firms innovation practices. By sector of operation manufacturing firms are more innovative than service firms. The difference in innovation performance by sector is also related to firm size as the number of large manufacturing firms excel the number of service firms (Smita, Hiroyuki, & Aga, 2016).

2.10.2 Innovation practices in textile and garment industry in Ethiopia

One of the objectives of the structural transformation plan of GTP is to enhance export performance in the manufacturing sector. Recently, the contribution of the manufacturing sector

to GDP is only 10% (FeDRE, 2015). The capacity of manufacturing sector as indicated in the GTP will be enhanced through development of technology, innovation, quality management and productivity to strengthen the competitiveness of the firms. The textile and garment sector is the priority sector for the government to achieve its developmental goals and to enhance export performance (FeDRE, 2015). GoE is planning to develop the textile and garment sector as leading hub in Africa and to achieve 22% of total export earnings from the sector (Balchin & Calabrese, 2019).

The country is too far from reaching the target to play role in structural transformation of the economy (FeDRE, 2015; Balchin & Calabrese, 2019). There are however various progress made in the development of the sector. The number of firms has increased from 20 to 122 during the year 1991 to 2015 (Balchin & Calabrese, 2019). There is significant increase in the export of apparel though it is long way from achieving the target and high concentration of exports is in low value addition products. The main strategy to expand the sector is to attract FDI by promoting investment through providing incentives, address the challenges of investment and establish industrial parks. The GoE has established ETIDI in 2010 to enhance productivity and competitiveness of the sector and promote investment. The government has supported access to finance to priority sector including textile and garment sector through linkage with banks and special loan access is provided by the Development Bank of Ethiopia to promote investment (UNCTAD, 2020; Balchin & Calabrese, 2019).

However, despite the effort, the textile and garment sector except the increase in numbers of firms has low production and productivity performance, employment, value addition and export earnings (Balchin & Calabrese, 2019; UNCTAD, 2020). The low performance in export is mainly due to the availability of demand in the local market and the lack of motives of domestic investors to compete in the international market that requires the fulfillment of several export requirements in terms of production standards, quality and constraints in foreign exchange. This implies the gap on the targeted technology transfer between domestic firms and FDI (Balchin & Calabrese, 2019; UNCTAD, 2020).

The technological capacity along the value chain is weak (UNCTAD, 2020; Balchin & Calabrese, 2019). The value chain includes production of raw material as cotton, ginning, spinning, weaving/knitting, dyeing and finishing and garment sub-sector. The raw material

includes production and supply of cotton, wool and artificial fiber. The traditional agricultural practices have resulted in low quality cotton production that has adverse quality effect on the finished textile product (UNCTAD, 2020; Balchin & Calabrese, 2019). Ginning is to take the seed from the cotton, spinning is making of threads from the raw material, weaving/knitting is the conversion of threads to fabrics and the final stage in the value chain is dyeing and finishing the garments. The expansion in the large and medium textile and garment firms in the recent years is in the apparel sub-sector and there is insignificant growth in the other sub-sector. In general, the capacity of the sub-sectors is under-utilized as a result of various challenges including lack of access to inputs and the strict restrictions to obtain foreign exchange in short time with the requested amount (UNCTAD, 2020).

Innovation practices in the sector is low due to various barriers as financial constraints to invest in high cost technologies, lack of linkage between research institutes, universities and private sectors and low motives of firms to allocate resources and engage in R&D (UNCTAD, 2020; Smita, Hiroyuki, & Aga, 2016). The firms uses the technologies for long period of time and the use of obsolete technology has adverse effect in quality of production and result in high cost of maintenance. The use of obsolete technologies restrains firms' competitiveness to benefit from advanced technology to improve production and process capacity (UNCTAD, 2020).

Chapter Three: Research Design and Methodology

This chapter provides detail explanation on the proposed methodology that was applied to achieve the research objective and proof the stated hypothesis. Thus the chapter covers research philosophy and design, sampling procedure, data collection and analysis procedures, and ethical consideration applied to conduct the study.

3.1 Research Philosophy

Research philosophy is the assumptions considered by the researcher in developing new knowledge (Saunders et al., 2016). It shows different perspective of philosophers about nature of knowledge and how to acquire knowledge. The well – tailored set of assumptions allow the researcher to devise research strategy and methods that is coherent to conduct the research. In the field of business and management there are four common philosophies i.e positivism, critical realism, constructionism and pragmatism (Sekaran & Bougie, 2016; Saunders et al., 2016; Creswell, 2009)

Positivists believe the use of scientific approach to get to objective truth and conduct experiment to test cause and affect relationships giving much concern for the findings to be replicable and generalizable. On the contrary constructivism is against objective truth and believes the world is constructed in people mind and depends on qualitative research strategy to understand case by case and the findings couldn't be generalized (Saunders et al., 2016; Sekaran & Bougie, 2016). Critical realism is intermediary of the two views and criticizes the certainty or objective truth that is influenced by subjective phenomena as emotions and feelings. For pragmatism research is socially constructed and emphasize on the link of theory to inform practice (Saunders et al., 2016; Sekaran & Bougie, 2016; Creswell, 2009).

Thus, this research is based on the positivist philosophy to determine the objective truth about the research topic. The aim of the study is to assess the constructs that shows the cause effect relationship between the variables and to confirm the hypothesis objectively through statistical approach assuring reliability.

3.2 Research Design

Research design is a plan that is applied to respond to the research questions including the research approach, methods of data collection and analysis (Sekaran & Bougie, 2016).

This study applied mixed method with combination of exploratory, descriptive and explanatory research approach. Exploratory asks open question as ‘How’ or ‘what’ to clarify understanding on the topic. Descriptive research asks WH- questions to get the profile of a phenomenon. Explanatory research is for a study that focuses on causal relationships and to explain the relation between the variables. (Saunders et al. 2016). In this study exploratory research was used to gather secondary data through literature review and primary data through interview with relevant parties. Descriptive research was used to gather data to develop the understanding on the topic through primary data source i.e. questionnaires and interviews. Exploratory research conducted to assess the linkage of the variables in the constructs.

The strategy of inquiry in the study adopted mixed method through combination of quantitative and qualitative data gathering approach. Quantitative data involves numbers and exists in survey and experimental research through collecting and analyzing data from the selected sample. Qualitative data are non - numeric and involves collection and analysis of open-ended data in figures, texts, tables, etc (Creswell, 2009).

The advantage of mixed method is to triangulate data and to be flexible in using different types of data to clearly present the result to the research questions and to see the topic from different inductive and deductive approach (Neuman, 2014). Inductive thinking observes specific phenomenon to arrive at general conclusion and on the contrary deductive thinking works from general theory and narrow to specific hypothesis (Sekaran & Bougie, 2016). In addition, the study was based on data collected at one point in time that is referred as cross – sectional study in addressing the research questions (Sekaran & Bougie, 2016).

3.3 Data Collection Procedure

3.3.1 Data Source

The different methods of data collection to conduct study are mainly categorized to primary data and secondary data. Primary data should be collected originally by the researcher through

different means as observation method, interview method, questionnaires, content analysis, and focus group discussions among others. Secondary data is obtained from published and unpublished sources as reports, books, letters, unpublished biographies and so on (Kothari, 2004; Creswell, 2009; Neuman, 2014).

In this study, data was gathered using both primary and secondary data sources. Primary data was gathered using questionnaires from higher officials in the selected sample in the medium and large manufacturing sector and through interviews with relevant parties in the sector. Secondary data was gathered from google scholar and databases as JSTOR, EBSCO, WILEY online library and others as workshop proceedings, reports and books.

3.3.2 Target Population

Population is set of elements that have some common features. The target population is the set of cases that a researcher is interested to conduct the research (Kothari, 2004; Neuman, 2014). Thus, in this study the target population is medium and large textile and garment firms in Addis Ababa. The textile and apparel sectors are selected as it is given higher priority in the transformation of the economic structure of the country by the government in the manufacturing sector. Firm size is based on the definition of Ethiopia Central Statistical Agency disaggregated by number of employees for medium enterprises 20 to 99 employees and large firms +100 employees (World Bank, 2013).

The number of medium and large textile and apparel sector has grown fast in the nation and has reached 188 based on the data obtained from database at ETIDI. The highest aggregations of the firms around 46% are located in Addis Ababa and thus, this study targeted the firms in Addis Ababa.

3.3.3 Sampling Method and Sample Size

Sampling is the process of selection of elements as representative of the entire population. Sample frame is workable representation of the population elements from which sample is drawn (Zikmund et al., 2013; Kothari, 2004). In this study the sample frame is 86 medium and large textile and garment enterprises listed in the database of Ethiopia Textile Development Institute.

Sampling methods are categorized to probability and non-probability sampling. Probability sampling selection procedure is based on chance and the elements in the population have known nonzero chance of being selected. Non – probability sampling is based on preference and personal judgment of the researcher and thus, the elements do not have predetermined chance to be selected (Zikmund et al., 2013; Kothari, 2004). There are different types of probability and non- probability sampling. Probability sampling includes simple random sampling, systematic sampling, stratified sampling, cluster sampling, area sampling and double sampling. Non-probability sampling is categorized to convenience sampling and purposive sampling (Zikmund et al., 2013; Kothari, 2004; Sekaran & Bougie, 2016).

Sample size refers to number of elements to be selected from the sample frame. The size should be optimum to be representative, efficient and reliable. Different scholars have suggested the optimum sample size to conduct research. Hair et al. (2006) suggests sample size of 100 to 200 to achieve desirable empirical result with required statistical power. Ding et al. (1995) state adequate minimum sample size of 100 to 150. Erika et al. (2013) suggest range of sample size in between 30 to 460 depending on changes in parameters.

The common method to estimate the required minimum sample size in SEM PLS is the 10-times rule method and the minimum R-squared method (Kock & Hadaya, 2018; Hair et al., 2006). The 10-times rule method proposes that sample size should be higher than 10 times the greatest number of inner or outer structural model links (Hair et al., 2006). Thus, the minimum sample size requirement is the maximum number to model links i.e 7 multiplied by 10 is 70. The minimum R-squared sample size estimation method builds on Cohen (1988) power tables for least square regression that is based on three elements: the maximum number of links at a latent variable, the commonly used significance level of .05 and minimum R² (Kock & Hadaya, 2018). Thus, in this study taking the maximum number of links to the latent variable of 7 and the minimum R² of 0.733, the closest cell in the table for the intersection between the two points is minimum sample size of 41.

Kothari (2004), suggest a formula in determining the sample size for definite number of population based on precision rate and confidence level i.e

$$n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2 (N - 1) + z^2 \cdot p \cdot q}$$

where n is sample size, N is size of population, e is acceptable error, p is sample proportion of successes, q is $1 - p$ and z is standard variation for given confidence level.

Given confidence level of 95% and margin of error $\pm 5\%$ which is acceptable in business research and sample proportion of 50% the sample size for this study are 70 firms. Thus, based on the conventional sample size determination formula and the minimum sample size requirement for SEM PLS, the sample size taken for this study are 70 medium and large firms. The firms were selected randomly from the database obtained from textile institute.

The gathering of data from single individuals in a firm cause biases that arise from individual positive or negative emotions or mood, individuals tendency to select (or avoid selecting) the extreme choices to the questions and differences in perceptions (Morten & Rasmus, 2015; Podsakoff et al., 2003; Balloun et al., 2011) . Wright et al. (2001) suggest that gathering data from single respondents' leads to high measurement error that could be minimized from gathering data from multiple respondents. The use of multiple respondents in organization research is supported to consider the effect both in terms of the variation between organizations and individuals (Balloun, Barrett, & Weinstein, 2011). The key informants commonly suggested by researchers are mostly qualified informants that have higher position in the firms or leaders in the different functions of the organization (Balloun et al., 2011) Thus, in this study data was proposed to be gathered from four higher level experts or managers in different departments in the firms totally from 280 respondents.

Unit of analysis refers from whom or what to collect the data and indicates level of aggregations as individuals, dyads, groups, organizations, nations, culture and so on (Zikmund et al., 2013; Sekaran & Bougie, 2016). In this study, the units of analysis are the firms listed in the database of the textile institute.

3.3.4 Primary Data Collection Procedure

Quantitative and qualitative primary data was collected to conduct the study. Quantitative data was gathered through questionnaire developed with close ended questions using likert scale and the questions are adopted from previous researches including (Al-Ansari, 2014; Quiang, 2018; Gunday, Ulusoy, Kilic, & Lufihak, 2011; Sinkula, Baker, & Noordewiet, 1997 and Terziovski,

2010). The survey questionnaire used to conduct the study in English and Amharic version is attached in Appendix A and Appendix B.

The survey questionnaire was proposed to be gathered from 280 respondents in 70 medium and large textile and garment firms in Addis Ababa. The plan was to gather four questionnaires from managers or higher level experts in four departments' i.e general administration or project managers, marketing and sales, production and / or quality, and Research and Development. To obtain the data from the specified sample size by taking into consideration the non – response rate, 332 questionnaires were distributed to 83 firms. The questionnaire was distributed through email and in person to the office. Close follow up was made to increase the response rate by sending reminder email, text messages and making phone calls. The actual response rate is 231 questionnaires (70% response rate) from 71 firms'. The response rate is above the minimum acceptable level of response rate i.e 30% (Sekaran & Bougie, 2016).

The questionnaire was distributed using emails and in person to enhance the response rate. The address of the firms in the database was used to contact the respondents. One data collector was recruited to support the in person distribution and collection of data with a given time within two to three weeks. A pilot survey was conducted to check and modify the instrument based on the respondents' comments and the researcher observation, and to assess the validity and reliability of the instruments before the large survey is conducted.

Qualitative data was gathered using semi – structured interview checklist with key partners in the sector Ethiopia Textile Industry Development Institute (ETIDI) and Ethiopian Textile and Garment Manufacturing Association (ETGAMA). Interview was also conducted with the management team of ten firms in the sector that are selected purposively. Purposive sampling provides rich information on the research questions and constructs (Lopez & Whitehead, 2013). The interview was conducted with three firms that have higher innovation performance, three firms that have lower innovation performance and four firms that have average innovation performance based on the survey results. The qualitative primary data was gathered to substantiate the results obtained through questionnaire.

3.4 Pre-testing of Questionnaire

Pretest or pilot test of survey instruments as questionnaire or structured interview is the final activity to test and refine the instruments before conducting the larger survey (Cooper & Schindler, 2014; Sekaran & Bougie, 2016). The importance of pre-testing includes discover content difficulties for ambiguous questions or wording, determine the time required to complete the survey by participants and estimate the response rates, check the flow of questions and improve the quality of the instrument (Zikmund, Babin, Carr, & Griffin, 2013; Cooper & Schindler, 2014).

The pretest is conducted with small number of participants and the number of pilot test to be conducted depends on various factors as availability of time, money and the targeted sample survey size. For small survey including survey to be conducted by students the minimum pilot test data could be gathered from ten participants (Saunders, Lewis, & Thornhill, 2016). The selected participants should be diverse to include the intended sample groups in the main survey (Saunders, Lewis, & Thornhill, 2016).

The pilot test is conducted by sending 32 questionnaire to randomly selected firms representing the major sub-sectors i.e. ginneries, spinning, textile, garment and handloom sub-sector. Several reminders send to the firms through email, message and calls to increase the response rate. The final response rate was 63% or 20 responses. The average time taken to complete the questionnaire is 15 to 20 minutes. The questionnaire is distributed in two version in English and Amharic version and feedback is obtained on the clarity of the wording, instructions and flow of questions and made minor amendments based on inputs from respondents.

The pilot survey responses are used to assess preliminary reliability of the survey instruments and amend the instrument based on the result of the analysis (Saunders, Lewis, & Thornhill, 2016). The two types of reliability are test – retest and internal consistency reliability. Test – retest reliability assess consistency of responses at different time and internal consistency measures inter-correlation of individual items in a construct (Hair et al., 2006; Zikmund et al., 2013). In the study the preliminary reliability assessment is conducted using SPSS 25 statistical package.

Table 3: Cronbach's alpha coefficient of the constructs

Constructs	Number of items	Cronbach's Alpha
Management orientation	5	0.883
Organization culture	6	0.893
Technology orientation	7	0.899
Market orientation	7	0.902
Alliance and networking	6	0.881
Organizational learning and knowledge management	7	0.918
Innovation practices	10	0.885
Business growth performance	12	0.896

Internal consistency is common method to assess reliability and the known measure of internal consistency is Cronbach's alpha and indicates the inter-correlations of items to measure a variable. Cronbach alpha coefficient closer to 1.0 indicates stronger correlation and coefficient greater than 0.7 are acceptable for set of items to measure a construct (Sekaran & Bougie, 2016). The cronbach's alpha coefficient obtained in the pilot test of the instrument measure for all variables ranges between 0.881 and 0.918 and thus the result for internal consistency is acceptable. The result of cronbach's alpha coefficient for the constructs in the survey questionnaire is shown in Table 3.

The second measures of internal consistency are inter-item correlation and item-to-total correlation on the relationship of the individual items among each other and to sum of items in a construct respectively (Hair et al., 2006). The internal consistency is supported if the inter-item correlations is greater than 0.30 and item-to-total correlation is greater than 0.50 (Hair et al., 2006). Based on the assessment of pilot result the item-to-total correlation exceeds 0.50 for all constructs and the inter-item correlation exceeds 0.30 except for one item. Inter-item correlation between item 45 and 46 is .266 though the item to total correlation for both items are greater than 0.50. The item is not deleted at this stage since the change in cronbach's alpha if item deleted is small from .881 to .884. (The result summary on the inter-item correlation and item-to-total

correlation for all constructs is presented in Appendix D). Finally, based on the assessment of the pilot test, the final version of the questionnaire was ready to conduct the final survey.

3.5 Data Analysis

Data analysis is the computation of measures of the collected data to search for relationship and test the hypothesis (Kothari, 2004). Data analysis is categorized to descriptive statistics and inferential statistics. Descriptive statistics provides basic information on the variables of the population through simple statistics as mean, mode, standard deviation and error. Inferential statistics is the drawing of inferences based on set of observations, estimation of values of the population and test of significance to test the relationship between the dependent and independent variables (Kothari, 2004; Neuman, 2014). Thus, in this study analysis was made using both descriptive and inferential statistics.

The first step in data analysis is data screening that requires editing, coding, checking for error, missing value, presence of outlier, normality and statistical violations. Then data was entered to statistical software to conduct descriptive and inferential analysis to verify the research hypothesis. Data screening in this study was conducted using Statistical Package for Social Science (SPSS) and the study constructs are tested with Structural Equation Modeling (SEM)

SEM is a second generation multivariate data analysis method to assess complex relationships between direct and indirect latent variables. SEM has the ability to estimate complex interrelated relationships simultaneously unlike the first generation technique and combines factor analysis, regression analysis or path analysis. (Hair, 2006; Carvalho & Chima, 2014). Unlike the conventional regression method, SEM analyzes multiple relationships among and between variables to test hypothesized relationship (Carvalho & Chima, 2014). Thus in this study SEM statistical tool is used since the construct of this study has intervening and mediating relationship.

3.6 Ethical Consideration

Ethical issues relies on major two concerns i.e the conduct of the study based on the requirement of scientific knowledge and to protect the rights of research participants. The researcher in

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

conducting research should be aware of the required ethics from the beginning of the study and not be late to identify ethical issues in the middle or final stage of the study (Cohen, 2007).

Thus, the researcher is aware and will follow the required ethical concerns by the universities as well as research discipline to conduct this study. The ethical issues to be considered among other include:

- Meet ethical responsibilities required from researcher
- Avoid to solicit information for personal use from respondents
- Maintain the confidentiality of the information gathered from the target sample.
- Maintain professional approach with research participants and take care not to humiliate the respondents in any situation
- Avoid plagiarism and cite the source material appropriately that is used as a reference in the study.
- Make analysis and presentation of results of the study in line with the gathered data
- Follow the required scientific approach with high standard to achieve the study result with the required accuracy.

Chapter Four: Data Presentation and Analysis

In this chapter the result of the data analysis is presented through compiling the information gathered through quantitative and qualitative data gathering techniques. The main findings of the result of the study is presented in major sections including preliminary data examination, characteristics of the respondent and the firm, and the result of inferential statistics by assessing the measurement model and the structural model to test the proposed hypothesized relationship. The data screening and descriptive statistics are analyzed using IBM SPSS statistics version 25 and the inferential statistics is analyzed by using SMARTPLS 2.0 M3 statistical software.

The common research in education is categorized as exploratory (theory generating) and confirmatory research (theory testing) (Guarino, 2004). The statistical approach used to analyze exploratory research is called first generation and the later is called second generation. Examples of first generation techniques are linear regression, logistic regression, analysis of variance, etc and for second generation multivariate analysis include Structural Equation Modeling (SEM) (Guarino, 2004; Yahaya, Murtala, & Onukwube, 2019). The draw backs of first generation model is the limitation to simple model analysis or test one link at the same time and the assumption to measure the variables without considering systemic or random errors (Haenlein & Kaplan, 2004).

The second generation techniques overcome these limitations and allow working on complicated model in a single analysis and to present in simple picture model. The statistical procedure test sophisticated and complex models that contains higher order constructs, mediation and moderation construct (Elangovan & Rajendran, 2015; Gerow et al., 2010). SEM assess the measurement model to validate the relation between latent variables and set of indicators and the structural model i.e the relation between dependent and independent latent variables in a single analysis. The result of the analysis integrates the influence of measurement errors on the model and provides combined result of factor analysis and the test of hypothesis (Haenlein & Kaplan, 2004; Elangovan & Rajendran, 2015).

There are three different approaches to conduct SEM that varies in the statistical assumptions called Covariance – based SEM (CB – SEM), Partial Least Squares (PLS) and Generalized Structured Component Analysis (GSCA) (Wong, 2013; Haenlein & Kaplan, 2004; Guarino, 2004). CB-SEM is applied in case of large sample size and the data distribution is normal. CB –

SEM is also called Covariance Structure Analysis (CSA) and is the statistical tools used include LISREL, AMOS and EQS. PLS on the other hand do not require the normality assumptions and is best applied with small sample size. PLS constructs are tested using tools as SmartPLS and WarpPLS. The third approach is GSCA is mainly used in case of non-linear relationship of variables. The application of GSCA is limited to rare literatures and thus is not being widely applied for education research (Wong, 2013; Haenlein & Kaplan, 2004; Guarino, 2004).

PLS SEM is used in this study due to various reasons including the procedure doesn't require population assumption, the sample size requirement is not highly affected by the complexity of the construct, the user – friendly graphical interface of SMARTPLS to comprehend the analysis easily, predictive precisions is most important and test complex path modeling including mediation in the construct using single analysis.

4.1 Preliminary data examination

4.1.1 Data Screening

The raw data gathered through questionnaire should be edited and coded to prepare the data for entry to proceed with the analysis (Zikmund et al., 2013). The raw data is susceptible to error made by the respondent or by the interviewer called respondent and non-respondent error. Data editing and coding check the errors in the initial stage of data analysis. Data editing refers to checking data for completeness, consistency and clarity to prepare the data for coding (Zikmund et al., 2013; Sekaran & Bougie, 2016).

The respondents of the returned questionnaire may not answer part of the question resulting in missing data. There are different approaches to manage missing data depending on the number of unanswered questions. If the questionnaire contains significant number of missing data greater than 25% of the questions, it is recommended not to include the questionnaire in data entry, otherwise if the missing data is lesser the common procedure the approach is to assign midpoint in an interval scale for the missing value or adjust the software to ignore the missing data (Sekaran & Bougie, 2016). Data coding is to assign numerical values or classify the data to represent the responses in the data collection instrument (Zikmund et al., 2013; Sekaran & Bougie, 2016)

The researcher conducts data editing to check for completeness and consistency on the date of receiving the questionnaire to clarify the responses on due time. The total questionnaire gathered was 231, of which 6 questionnaires have large number of missing data and thus the six questionnaires were discarded and not included in the data entry. The data entry is made after coding the data item with numbers and categorizes the data to make it ready for data entry to IBM SPSS statistics software.

4.1.2 Assumption testing

Outlier are observation that are distinct as compared to other observations and is characterized as distinct value on a variable called univariate outlier or unique combination of values across two or more variables called multivariate outlier (Tabachnik & Fidell, 2013; Hair et al., 2006). In this study, the data is tested for univariate and multivariate outliers using SPSS statistical software. Univariate outlier occurs when the standardized Z score is greater than 3.29 for $P < 0.001$, two tailed test (Tabachnik & Fidell, 2013). Univariate outliers were assessed through calculating the Z score for each case and examining the histograms and box plots and no univariate outlier was identified.

The multivariate outlier was assessed through calculating the mahalanobis distance that indicates the distance of a case from the combination of the mean of other variables in the centroid with probability of $p < .001$ for X^2 distribution (Tabachnik & Fidell, 2013). Only case 36 is identified as multivariate outlier and the researcher has decided to retain the case since the variance is small and not to influence the generalizability of the study. Hair et al.(2006) suggest to retain outlier unless in extreme situation that the case is not representative of any segment of the population and not to limit the generalizabilty of the study.

Normality test asses the normal distribution of the data and the two methods to conduct the test are skewness and kurtosis. Skewness is related with the symmetry of a distribution and kurtosis measure the peakedness of a distribution (Neuman, 2014; Tabachnik & Fidell, 2013) . The rule of thumb to test normalty using statistics is by dividing the skewness or kurtosis value with the related standard error to compare the coefficient with the normal Z score table. The Z score associated for 99% confidence level is $+ / -2.58$ one of the commonly applied critical value (Hair et al., 2006).

Based on the calculation for skewness only one variable is normally distributed i.e organizational culture orientation with skewness value (-0.399) and seven variables are not normally distributed and negatively skewed including management orientation (- 0.755), technology orientation (- 1.006), market orientation (- 0.806), networking and alliance (- 0.637), knowledge management (- 0.511), innovation practices (- 0.873) and firm performance (- 0.941). Kurtosis results is obtained following the same procedure and the result indicates that all variables are normally distributed except organization culture with kurtosis value (-1.084). Given the non- normality distribution of the data the study used SEM PLS statistical software that does not require normality assumption to be fulfilled.

4.2 General characteristics of survey participants

This section presents general characteristics of survey participants based on the result of the survey questionnaire in section A, B and C related to respondent characteristics, firm characteristics and innovation strategy of the firms.

4.2.1 Respondent characteristics

The characteristics of the respondents are explained in terms of respondent sex, age, education level, work department, role and the work period in the firm. The result of the survey is shown in Table 4 and Appendix E.

Table 4: Respondent characteristics

Measure items		Frequency (n - 225)	Percent
Gender	Male	170	76
	Female	55	24
Education level	Vocational school	23	10
	Bachelor degree	116	52
	Master degree	86	38
Department	General administration	71	32
	Marketing	71	32
	Design and production	74	33
	Research and development	9	4

The survey result indicates that majority of the participants around 76% are male and almost half of the respondent (47%) are in the age group 35 to 44 years old. Almost 90% of the respondents have completed higher level education where 52% and 38 % have completed Bachelor Degree and Masters Degree respectively. The data is gathered from almost equal number of participants in the three different departments' General administration (32%), Marketing (32%) and Design and production (33%) and very less respondent from Research and Development (R & D) department as most of the firms don't have the R & D department. The respondents include Managers or Supervisors around 64% and higher level experts or officers around 36%. Almost half of the respondents 56% have worked more than 6 years, 30% have worked 3 to 5 years and 14% have worked less than two years in the firms.

4.2.2 Firm characteristics

The findings on the characteristics of firms are related to sub-sector, ownership type, employees' number, year of establishment and the current target market. The results of the survey are summarized in Table 5.

The findings indicate that respondents from five sub-sector participated in the survey and majority of the respondents 60% and 26% are from garment and textile sub-sector. Other subsector includes ginneries (5%), spinning (1%) and handloom (7%). The sample is taken stratified in proportion to the number of the population where garment and textile sub-sector are dominant. Majority of the firm's 63% are owned by Ethiopians and the remaining 30% and 7% are owned by foreigners and joint venture respectively. The firm size is categorized as large firms and medium size firms by 78% and 22% of respondents respectively. More than half of the firms (54%) years of establishment are above 11 years and 32% of firms are established with in 7 to 10 years. The result on current target market indicates that the main market for the products of the textile and garment sector is domestic market (26%), Europe (30%) and USA (24%).

Table 5: Firm characteristics

	Measure items	Frequency	Percent
Sub-sector	Ginneries	12	5
	Spinning	3	1
	Textile finishing	58	26
	Handloom	16	7
	Garment	136	60
Ownership type	Locally owned	142	63
	Joint venture	16	7
	Foreigners	67	30
Employees number	20 to 99	49	22
	Above 100	176	78
Establishment	Under 2 years	3	1
	3 to 6 years	29	13
	7 to 10 years	72	32
	11 to 14 years	56	25
	Above 15 years	65	29
	Total	225	100
Current target market (multiple response item)	Domestic market	104	26%
	Africa	32	8%
	UAE / Middle East	23	6%
	Asia	16	4%
	Europe	117	30%
	Australia / New zealand	8	2%
	USA / Canada	93	24%
	Others	1	0.3%
	Total	394	100%

4.2.3 Innovation strategy of firms

The general innovation practices of firms in the last three years are assessed focusing on firm innovation strategy, innovation type and number of new products adopted. The findings of the survey are presented in Table 6.

Table 6: Innovation strategy of firms in the last three years

	Measure items	Frequency	Percent
Innovation strategy	Proactive	98	44
	Passive	53	24
	Reactive	74	33
Innovation type	Incremental innovation	112	50
	Radical innovation	3	1
	Both innovation type	27	12
	stable	83	37
New products	0	109	48
	Under 2	3	1
	3 to 5	10	4
	6 to 10	40	18
	11 to 15	34	15
	Above 15	29	13
	Total	225	100
Incremental innovation type (multiple response item)	Product incremental innovation	107	51%
	Process incremental innovation	37	18%
	Organization incremental innovation	23	11%
	Marketing incremental innovation	44	21%
	Total	211	100%
Radical innovation type (multiple response item)	Product radical innovation	25	64%
	Process radical innovation	7	18%
	Organization radical innovation	4	10%
	Marketing radical innovation	3	8%
	Total	39	100%

As shown in Table 6, less than half of the firms' 44% indicate to adopt proactive innovation strategy and the remaining 33% and 24% follow reactive and passive innovation strategy respectively. This finding aligns with Smita, Hiroyuki, & Aga (2016) study result that indicates firm level innovation in Ethiopia is very low as compared to other developing countries. The types of innovation introduced during the last three years are mainly incremental innovation (50%) and no innovation is introduced by 37% of the respondents. Very few of the respondents 12% and 1% practice both innovation type and radical innovation respectively. The innovation of

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

firms depends on improving existing product or process that is mainly new to the firm but not new to the market (Smita, Hiroyuki, & Aga, 2016; UNCTAD, 2020).

Around 52% of firms introduced new products and 46% of firms did not introduce any new products. The textile and garment sector are more engaged in product innovation in Ethiopia as compared to performance of Least Developing Countries (Smita, Hiroyuki, & Aga, 2016). The common types of incremental and radical innovation are product innovation accounting for 51% and 64% of all types of innovation respectively. Significant number of other types of incremental and radical innovation is introduced including process innovation (18%), organization innovation (11% and 10%) and market innovation (21% and 8%) respectively.

The drivers of innovation are assessed based on multiple response measurement items. The findings result is summarized in Table 7 and indicate that the major drivers of innovation for the textile and garment firms are competition (15%), market (14%), customers (13%), growth (12%), management (12%), internal culture (10%), technology (7%) and employees (6%). Other drivers that have minor effect include partners, suppliers, legislation and finance. This result align with the finding of Ansari, Altalib, & Sardoh (2013) that indicate management, customers, technology, employees, competition and market are major drivers of innovation in manufacturing firms.

Table 7: Drivers of innovation

Measure items	no.	Percent
Management	53	12%
Employees	27	6%
Internal culture	45	10%
Intellectual property	1	0%
Partners	16	3%
Customers	61	13%
Suppliers	16	3%
Market	63	14%
Growth	53	12%
Competition	67	15%
Legislation	10	2%
Technology	31	7%
Finance	15	3%
Others	1	0%
Total	459	100.0%

The main drivers of innovation in textile and garment firms in Ethiopia are market, growth and enhancing value to customers (UNCTAD, 2020).

The challenges of innovation in medium and large textile and garment sector is assessed using multiple response measurement items and based on the result the barriers on descending order of intensity are inadequate research and development (11%), high cost (11%), financial fund (11%), technology and knowledge transfer mechanism (11%), lack of networking and alliance (11%), government policy (8%), limitation to local market (8%), organization culture (7%), customers

(7%), managerial expertise (6%), market information (5%) and suppliers (4%). The findings align with other study results that indicates internal and external factors that hinders innovation including cost factors, knowledge factors, market factors and institutional factors (Talegeta, 2012; Silva & Andersson, 2006; Wakeford, 2017).

4.3 Operationalization of constructs

The study constructs is developed based on review of literature in chapter 2. The construct has 8 latent variables and 60 measurement items. The measurement items are effects of the latent variable and the arrows point towards the indicators called reflective indicators. Table 8 presents the constructs by specifying the number of items of each latent variable and assign codes to be used for SEMPLS statistical software. In the table IV represent Independent variable, DV represent Dependent variable and INV represent Intervening variable.

Table 8: Operationalisation of constructs

Latent variables and items	Code for latent variables	Code of indicators
IV1: Management orientation (5 items)	MO	MO1, MO2, MO3, MO4, MO5
IV2: Organization culture (6 items)	OC	OC1, OC2, OC3, OC4, OC5, OC6
IV3: Technology orientation (7 items)	TO	TO1, TO2, TO3, TO4, TO5, TO6, TO7
IV4: Market orientation (7 items)	MKO	MKO1, MKO2, MKO3, MKO4, MKO5, MKO6, MKO7
IV5: Alliance and Networking (6 items)	AN	AN1, AN2, AN3, AN4, AN5, AN6
IV6: Organizational learning and knowledge management (7 items)	OLM	OLM1, OLM2, OLM3, OLM4, OLM5, OLM6, OLM7
INV: Innovation practices (10 items)	IP	IP1, IP2, IP3, IP4, IP5, IP6, IP7, IP8, IP9, IP10
DV: Firm performance (12 items)	FP	FP1, FP2, FP3, FP4, FP5, FP6, FP7, FP8, FP9, FP10, FP11, FP12

4.4 Measurement model – assessment of outer model

SEM conducts statistical analysis using two main steps called validation of measurement model and evaluation of the structural model (Janadari et al., 2018; Hair, Howard, & Christian, 2020; Weston & Gore, 2006). Measurement model validate that the measurement items explains the latent variable. Measurement model is conducted using Confirmatory Factor Analysis (CFA). CFA reduces the measurement error and assess the potential of variables to explain the hypothesized constructs. The other common method to assess measurement quality is Exploratory Factor Analysis (EFA). EFA is used when there is no theory to base for the establishment of the constructs and the aim is to identify reliable measurement scales from large set of variables and measurement items. CFA objective is to validate the set of variables or items to measure the hypothesized constructs (Hair, Howard, & Christian, 2020). In SEM, the CFA measurement validation is conducted initially by assessing reliability, internal consistency and validity of the observed and latent variables (Barclay, Thompson, & Higgins, 1995).

4.4.1 Reliability

Reliability measures the level of consistency of variables in multiple measurements. Reliability is assessed by testing individual item reliability and internal consistency (Janadari et al., 2018; Hair et al., 2006; Barclay, Thompson, & Higgins, 1995) Individual item reliability measures the loading of the observed variables on the latent variables and internal consistency requires correlation of indicators to measure the same construct. Internal consistency is assessed using measures of cronbach alpha and composite reliability. The cutoff point to achieve reliability for individual item reliability, cronbach alpha and composite reliability is 0.707 and higher but it may be acceptable if the measure decrease to 0.60 limits. All observed variables with measure less than the threshold should be discarded (Barclay, Thompson, & Higgins, 1995; Hair et al., 2006; Hair, Howard, & Christian, 2020)

In this study the measurement model is reflective that consist of 60 measurement items and 8 latent variables. To find the values of the measurement model, the path diagram are constructed and the values are calculated by PLS Algorithm using 300 maximum iterations in SMARTPLS 2.0 M3 statistical software. Based on the result of the calculation the loading of the measured items on their respective latent variables is assessed and loading were above 0.707 except item 4

(question 70) in firm performance with value of 0.55 that is below the acceptable limit and item 8 (question 74) in firm performance with value 0.699 that is below the rule of thumb but still remain within acceptable level of 0.60 to 0.707. Thus, item 4 was deleted and the PLS algorithm is re – calculated for the remaining 59 measurement items and all were above 0.707.

Internal consistency is measured using two test composite reliability and cronbach alpha. Cronbach alpha assumes equivalence of indicators and is mostly used in 1st generation statistical analysis while composite reliability depend on weighted measurement of indicators and is more reliable than cronbach alpha (Hair, Howard, & Christian, 2020; Barclay, Thompson, & Higgins, 1995). In the study, the composite reliability for the internal consistency was scanned through using the software report and the result show the measure values are between 0.8704 and 0.9298. Thus, it could be concluded that the measurement model is reliable. The details on the result of individual loadings, composite reliability and Average Variance Extracted are shown in Table 9.

Table 9: Reliability and Average Variance Extracted measures

Latent variables and items	Outer loadings range	Composite reliability	Average Variance Extracted
Management orientation (5 items)	0.8896 – 0.9146	0.8708	0.8084
Organization culture (6 items)	0.8553 – 0.8972	0.8808	0.7716
Technology orientation (7 items)	0.8658 - 0.9025	0.8917	0.7753
Market orientation(7 items)	0.8524 – 0.8937	0.9179	0.7618
Alliance and Networking (6 items)	0.8001 – 0.8279	0.8988	0.6638
Organizational learning and knowledge management (7 items)	0.8145 – 0.8629	0.9298	0.7032
Innovation practices (10 items)	0.7965 – 0.8522	0.8704	0.6917
Firm performance (11 items)	0.7118 – 0.8566	0.8826	0.6367

4.4.2 Validity

Validity assesses how well the measures in the instrument express the concept in the study and indicates the extent it is free from measurement error. The common types of validity are convergent validity and discriminant validity (Janadari, Subramaniam, Ramalu, & Wei, 2018; Hair, Howard, & Christian, 2020). Convergent validity measure the degree to which measures in

a construct correlate and discriminant validity measure the degree to which the distinct construct varies (Hajjar, 2018; Hair, Howard, & Christian, 2020).

Convergent validity is measured using Average Variance Extracted (AVE) that is obtained by dividing the squared loading by number of measurement items in a construct. AVE expresses the average variance that is explained among the constructs and the indicators. To assure validity the value should be greater than 0.5 or higher (Hair, Howard, & Christian, 2020; Barclay, Thompson, & Higgins, 1995). Accordingly, the study result of validity in the PLS measurement model ranges 0.6367 to 0.8084 that is significantly higher and indicates more than half of the variance in the measurement items is explained by the construct as shown in Table 9.

Discriminant validity could be measured with two approaches. The first is the rule that no item should load higher in other latent variables as compared to its respective constructs (Barclay, Thompson, & Higgins, 1995; Janadari, Subramaniam, Ramalu, & Wei, 2018). The cross loading report of the PLS as shown in Appendix F indicates that the result align with the requirement of the first test. The second approach is that the square root of AVE of each variable should be greater than the correlation between latent variables (Farrell & Rudd, 2009). Table 10 shows the correlation report between latent variables and the diagonal values are the square root of Average Variance Extracted. From the report, it is evident that the diagonal values are greater than other matrix values in their respective rows and columns. Thus, discriminant validity is satisfied. Overall, the measurement model result is verified given the acceptable result of reliability and validity and the model could be used to assess the structural model.

Table 10: Latent variable correlation

	AN	FP	IP	MKO	MO	OC	OLM	TO
AN	0.8147							
FP	0.7599	0.7979						
IP	0.6642	0.7491	0.8317					
MKO	0.5830	0.6631	0.601	0.8728				
MO	0.5309	0.6403	0.6912	0.4909	0.8991			
OC	0.4140	0.5057	0.6500	0.3775	0.4753	0.8784		
OLM	0.3137	0.3910	0.464	0.2479	0.2241	0.3034	0.8386	
TO	0.6878	0.7339	0.7813	0.6498	0.6340	0.5103	0.3715	0.8805

Note: The bolded diagonal values are square root of AVE

4.5 Structural model: assessment of inner model

The inner model is assessed for quality statistic test and hypothesis testing to identify the causal link between the exogenous and endogenous link of the construct through multiple regression analysis. The inner model depicts the relation of independent and dependent constructs and the mediation relationship of intervening variable in the construct (Tabachnik & Fidell, 2013; Barclay, Thompson, & Higgins, 1995; Weston & Gore, 2006). The assessment of the inner model follows several steps including assessment of multicollinearity, coefficient of determination (R^2), path coefficients (β) and t-statistics, effect size (f^2) and predictive relevance of the model (Q^2) (Hair, Sarstedt, Ringle, & Mena, 2012; Hair, Howard, & Christian, 2020; Janadari, Subramaniam, Ramalu, & Wei, 2018).

4.5.1 Assessment for multicollinearity

Multicollinearity is the degree to which one independent variable is correlated with other variables and delimits the influence of single variable effect in the construct (Tabachnik & Fidell, 2013; Hair et al., 2006). Multicollinearity is measured by computing Variance Inflation Factor (VIF) and tolerance values. In SEM PLS Multicollinearity is not a problem when VIF value is less than 5.0 and tolerance is not below 0.2 (Hair, Hult, Ringle, & Sarstedt, 2017).

Multicollinearity is assessed using SPSS through conducting regression in two steps to assess the collinearity of the independent variables on the intervening variable innovation practice and the collinearity of independent variables including innovation practice on firm performance. The result of the regression analysis aligns with the minimum requirement of multicollinearity rules as shown in Table 11 and thus multicollinearity does not affect the variation of the variables in the constructs.

Table 11: Multicollinearity values of latent variables

Set of variables 1				Set of variables 2			
DV	IV	VIF	Tolerance	DV	IV	VIF	Tolerance
IP	MO	1.803	.555	FP	MO	2.043	.489
	OC	1.460	.685		OC	1.734	.577
	TO	2.861	.350		TO	3.271	.306
	MKO	1.841	.543		MKO	1.866	.536
	AN	2.040	.490		AN	2.113	.473
	OLM	1.189	.841		OLM	1.300	.769
				IP	4.327	.231	

4.5.2 Assessment of path coefficients

The path coefficients on relation between the constructs and coefficient determination (R^2) square values are obtained from the PLS algorithm calculation as shown in Figure 2. The coefficient values (β) lies between +1 to -1 and the sign represent positive and negative relationship between the constructs. Coefficients those are closer to +/- 1 indicate stronger relationship whereas if the value is closer to 0 the coefficient is weak (Hair, Hult, Ringle, & Sarstedt, 2017). The significance of the coefficients is assessed by computing for t statistic and standard error using bootstrapping. Bootstrapping is non parametric method that estimates the precision for parameters by creating sample sets. The t value should be greater than the critical value at a given significance level (Hair, Hult, Ringle, & Sarstedt, 2017; Hair, Howard, & Christian, 2020; Chin & Marcoulides, 1998).

The bootstrapping is calculated using SEM PLS to test hypothesis result by taking the actual 225 cases and 500 re-samples. The bootstrapping PLS result is shown in Figure 3 and the bootstrapping report provides the result of the path coefficient, mean, standard deviation, standard error and t statistics. The significance of t values is assessed compared to the critical value 1.96 for two-tailed test for significance level of 5%.

The result of the research hypothesis is shown in Table 12 . The result indicates that nine of the hypothesis are supported based on the outcome of the path coefficient and t statistics. Thus, H1, H2, H4, H7, H11, H13, H14, H16 and H19 are supported where as H5, H8, H10 and H17 are not supported as the t statistic is below the critical value 1.96. The intervening variable Innovation practice has positive and significant relationship with five of the constructs management orientation, organizational culture, technology orientation, alliance and networking and

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

organizational learning and knowledge management. Market orientation does not have significant influence on innovation practice. The path coefficient indicates that technology orientation, organizational culture and management orientation have stronger relationship with innovation practice.

The independent construct has lesser influence on firm performance than the intervening variable innovation practice. Organizational culture, technology orientation and organization learning and management do not have significant relationship to firm performance. Innovation practice has positive and significant relationship with firm performance. Management orientation, market orientation and alliance and networking have positive and significant correlation with firm performance.

Table 12: Summary of structural path result

Hypothesis	Construct	Path coefficient	T Statistics	Expected relationship	Result
H1	MO -> IP	0.2363	4.7196	Positive	Supported
H2	MO -> FP	0.1526	3.0389	Positive	Supported
H4	OC -> IP	0.2505	5.2322	Positive	Supported
H5	OC -> FP	0.0404	0.9364	Positive	Not supported
H7	TO -> IP	0.3038	5.2822	Positive	Supported
H8	TO -> FP	0.1002	1.4608	Positive	Not supported
H10	MKO -> IP	0.0767	1.7977	Positive	Not supported
H11	MKO -> FP	0.1886	3.5617	Positive	Supported
H13	AN -> IP	0.1305	2.7131	Positive	Supported
H14	AN -> FP	0.3581	6.4149	Positive	Supported
H16	OLM -> IP	0.1622	4.6091	Positive	Supported
H17	OLM -> FP	0.0778	1.7941	Positive	Not supported
H19	IP -> FP	0.1518	2.054	Positive	Supported

Note: t statistic is significant if > 1.96 for significance level of p < 0.05.

Figure 2: PLS Algorithm model result

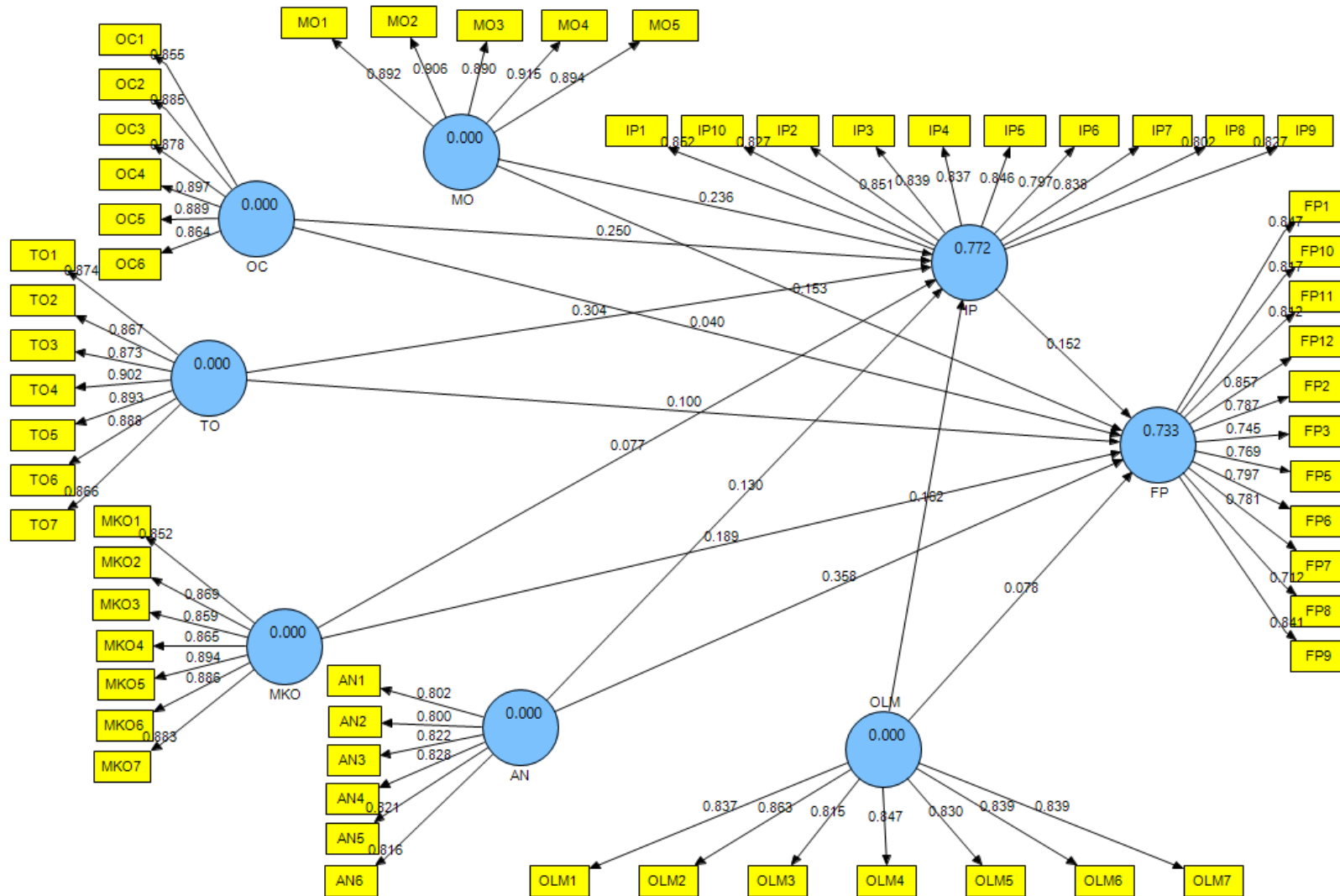
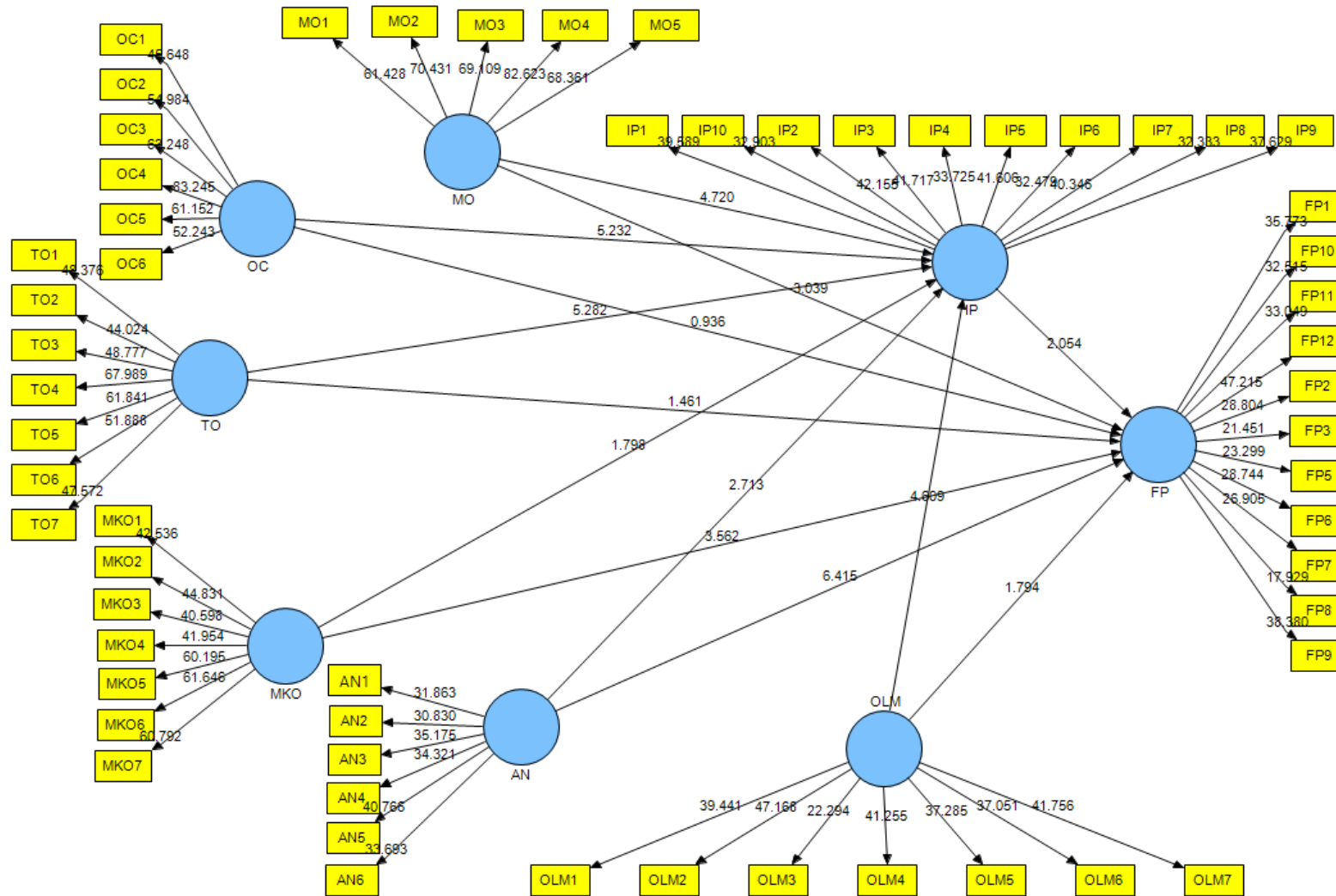


Figure 3: PLS Bootstrapping model result



4.5.3 Assessment of coefficient of determination (R^2)

Coefficient of determination (R^2) is the extent of variance explained by the exogenous variables to its respective endogenous variables and thus it indicates predictive quality. The value of R^2 is between 1 to 0 and the higher the value the more the exogenous variables explain the dependent variable (Hair, Howard, & Christian, 2020). The R^2 values equal to or greater than the threshold .67 .33 and .19 indicates substantial, moderate and weak level of precision (Chin & Marcoulides, 1998).

The endogenous R^2 values as shown in Figure 2 for innovation practice is 0.772 and firm performance is 0.733. Based on the rule of thumb the coefficient of determination are substantial or have strong precision quality. The result indicates that 77% of the variation in innovation practice is explained by the set of independent variables i.e management orientation, organization culture, technology orientation, market orientation, alliance and networking and organizational learning and management. The R^2 value for firm performance also indicates 73% of the variance is substantially explained by the independent variable and the intervening variable innovation practice.

4.5.4 Assessment of effect size (f^2)

The effect size (f^2) assess the extent a single independent variable has substantive effect on the endogenous variable. The effect size of a variable is assessed based on the change in R^2 when particular independent variable is not included in the estimation (Hair, Hult, Ringle, & Sarstedt, 2017). The cut off point for f^2 values are $f^2 < 0.02$; $0.02 \leq f^2 < 0.15$; $0.15 \leq f^2 < 0.35$; $f^2 \geq 0.35$ representing no substantial effect, small effect, moderate effect and strong effect of the independent variable on the endogenous construct respectively. The effect size is obtained using the formula below (Hair, Hult, Ringle, & Sarstedt, 2017; Hair, Howard, & Christian, 2020; Cohen J. , 1988):

$$F^2 = \frac{R^2 \text{ included} - R^2 \text{ excluded}}{1 - R^2 \text{ included}}$$

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

The effect size of each exogenous variable is calculated by omitting the variables to assess the impact of the respective variable and to calculate R^2 excluded. Then, using the formula f^2 is calculated to determine the effect size. The result for the effect size of all variables on the endogenous variables innovation practice and firm performance is presented in Table 13. The overall result indicates that the variables have no substantial effect, weak effect and moderate effect.

Table 13: Summary of effect size (f^2)

Innovation practice				Firm performance			
Constructs	R^2 included	R^2 excluded	f^2	Constructs	R^2 included	R^2 excluded	f^2
MO	0.7715	0.7411	0.1330	MO	0.7329	0.7214	0.0431
OC	0.7715	0.7289	0.1864	OC	0.7329	0.7321	0.0030
TO	0.7715	0.7398	0.1387	TO	0.7329	0.7299	0.0112
MKO	0.7715	0.7684	0.0136	MKO	0.7329	0.7142	0.0700
AN	0.7715	0.7634	0.0354	AN	0.7329	0.6749	0.2171
OLM	0.7715	0.7498	0.0950	OLM	0.7329	0.7282	0.0176
				IP	0.7329	0.7184	0.0543

The summary of the effect size on innovation practice indicates that four variable have small effect including management orientation, technology orientation, alliance and networking and organizational learning and knowledge management. Organizational culture has moderate effect and market orientation has no substantial effect on innovation practice. The result of the effect size on firm performance reveals that management orientation, market orientation and innovation practice have small effect on firm performance where as alliance and networking has moderate effect. The f^2 value for organizational culture, technology orientation and organizational learning and knowledge management is less than 0.02 indicating that the variable do not have substantial effect on firm performance.

The effect size result aligns with the result of the hypothesized relationship in that the four construct MKO -> IP; OC -> FP; TO -> FP and OLM -> FP relationship is not supported through the assessment of the structural path coefficient and t statistics. The f^2 result also indicates that the constructs do not have substantial effect on the specified endogenous variables.

4.5.5 Assessment of predictive relevance of the model (Q^2)

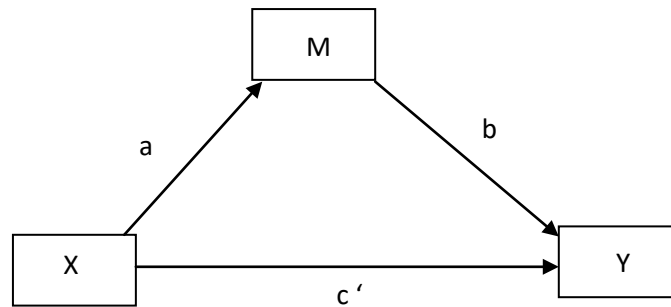
The predictive relevance is measured using Stone Geisser test and indicated the predictive relevance of the model or the predictive power for data omitted from the sample (Hair, Hult, Ringle, & Sarstedt, 2017; Henseler, Ringle, & Sinkovics, 2009). The blindfolding calculation is used to estimate Q^2 value with given specific omission distance in the dependent variable indicators. Blindfolding could be calculated using two methods through cross – validated redundancy and cross validated communality. Cross redundancy approach is recommended to estimate Q^2 as the prediction is based on the structural model and measurement model. Q^2 value should be greater than 0 that implies predictive accuracy for out of sample data for the specified endogenous variables (Chin & Marcoulides, 1998; Henseler, Ringle, & Sinkovics, 2009; Hair, Hult, Ringle, & Sarstedt, 2017).

The blindfolding calculation is used to obtain the Q^2 value by using the default omission distance 7 for the two endogenous variables innovation practice and firm performance. The cross validated redundancy report indicates Q^2 score of 0.4649 and 0.5303 for the dependent variable innovation practice and firm performance that confirms the predictive quality of the endogenous constructs.

4.6 Assessment of mediating hypothesis relationship

Mediation is the occurrence of intermediary variable that influence the relationship between the dependent variable and independent variable. The change in the independent variable X and dependent variable Y is governed by a third intervening variable (M) called mediator (Tabachnik & Fidell, 2013; Mackinnon, Fairchild, & Fritz, 2006; Hayes, 2009; Hair, Hult, Ringle, & Sarstedt, 2017). Figure 4 shows the simple mediation model. In the model the path coefficient c' indicates the *direct effect* of X on Y independent of the mediating variable and $a * b$ represents the *indirect effect* of X on Y through M where the change in X leads to change in Y through X effect on the mediator variable. The *total effect* is represented as c integrating the three path coefficients where $c = c' + ab$ (Mackinnon, Fairchild, & Fritz, 2006; Hayes, 2009; Hair, Hult, Ringle, & Sarstedt, 2017).

Figure 4: Simple mediation model



Source: Hayes (2009)

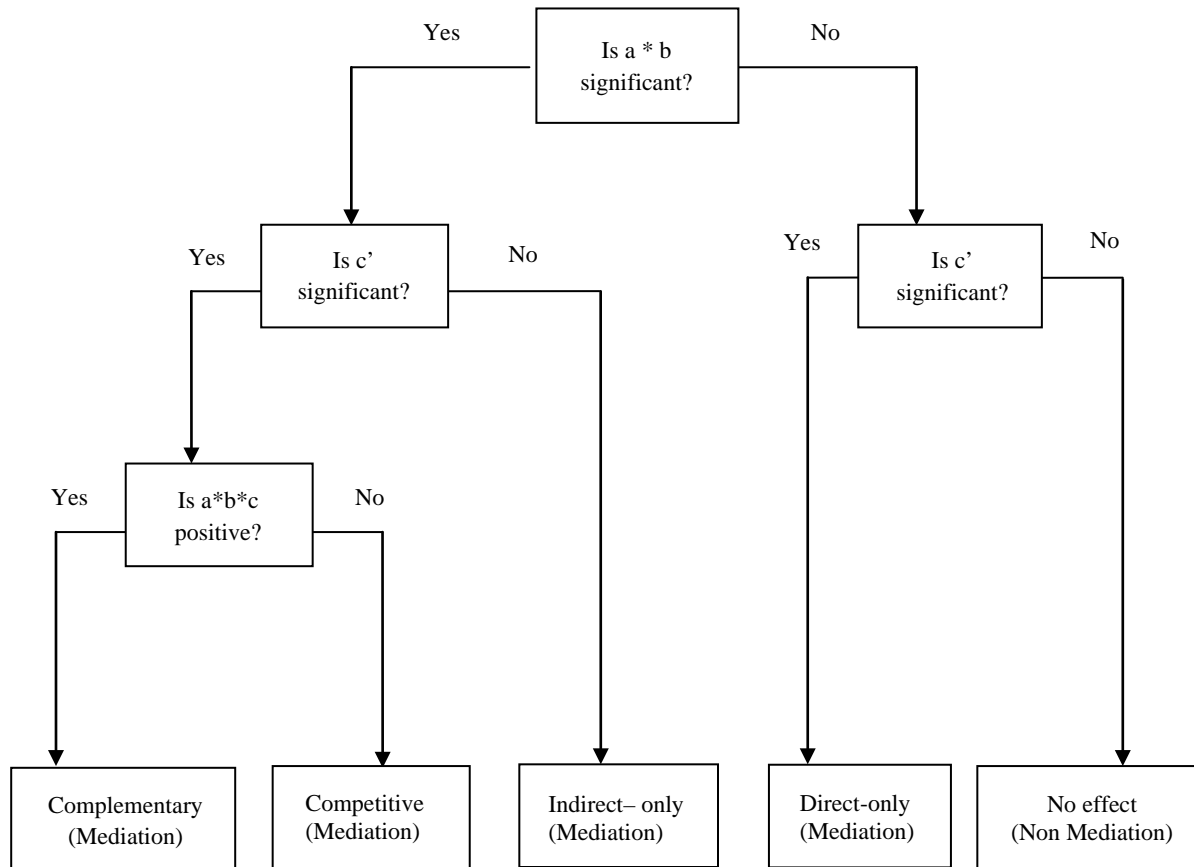
There are different approaches to test the effect of the mediator variable and the common approach is the causal step approach, Sobel test and bootstrapping methods (Hayes, 2009; Zhao, Lynch, & Chen, 2010). The causal model proposed by Baron & Kenny (1986) focuses on first generation techniques and the requirement to test mediation lies on the significance of the relationship of X and Y and the assessment of mediation variable appears to be only to know the p – values of the mediator. The causal approach is criticized as the lowest alternative to assess mediation since it relies on the significance of the total effect rather than the intervening relationship (Hayes, 2009; Zhao, Lynch, & Chen, 2010). The Sobel test proposed by Sobel (1982) conducts inferential statistics on the indirect effect to test the significance by assessing the t statistic and the confidence interval. The draw backs of the Sobel test are the requirement of normality distribution for correct estimation (Hayes, 2009; Zhao, Lynch, & Chen, 2010).

Bootstrapping technique is now a days the most recommended approach to test the significance of mediator variable as it overcomes the draw backs of the two common approaches (Hayes, 2009; Zhao, Lynch, & Chen, 2010). Bootstrapping is estimated using SEM software. The strength of bootstrapping is that the major decision is based on the significance of the indirect effect and not requires the normality distribution of the indirect variable. SEM bootstrapping is a multivariate technique to test complex relationship with numerous constructs and intervening variables (Hayes, 2009; Garson, 2016; Cepede-Carrion, Roldan, & Nitzi, 2018).

The procedure adopted by Zhao, Lynch, & Chen (2010) is recently the widely used approach to analyze mediation in the construct by using the bootstrapping and the indirect effect result to make major decision on the occurrence of mediation or no mediation in the construct. Figure 5

shows the procedure to be applied to identify the type of mediation and non mediation through series of analysis using decision tree (Zhao, Lynch, & Chen, 2010; Hair, Hult, Ringle, & Sarstedt, 2017).

Figure 5: Mediation analysis procedure



Source: Zhao, Lynch, & Chen (2010)

The first step in the decision tree is to assess the significance of indirect effect to make major decision on the occurrence of mediation or no mediation. The following steps identify the different types of mediation and non – mediation (Zhao, Lynch, & Chen, 2010). The second step is to test the significance of direct effect. In non mediation if the direct effect is significant the type of non mediation is *direct only effect* and if direct effect is not significant the result is *no effect* between the variables in the construct. In mediation the series of analysis are conducted to differentiate between three types of mediation by testing the direct effect in the second step and

then assess the sign of significance. Thus, the three types of mediation are (Zhao, Lynch, & Chen, 2010; Hair, Hult, Ringle, & Sarstedt, 2017):

- Complementary mediation: indirect effect and direct effect are significant with same sign of significance
- Competitive mediation: Indirect effect and direct effect are significant with opposite sign of significance
- Indirect – only mediation (Full mediation): Indirect effect is significant but not the direct effect and is also called full mediation.

The significance of the direct effect provides evidence for the possibility of omission of other mediation variable. It serves as guidance to develop the theoretical framework to further inspect the potential of omitted mediator. The types of mediation with likelihood of omitted mediator are complementary mediation, competitive mediation and direct – only non – mediation (Zhao, Lynch, & Chen, 2010; Hair, Hult, Ringle, & Sarstedt, 2017).

In this study the mediated hypothesized relationship tested are H3, H6, H9, H12, H15 and H18 mediated by innovation practice on the relation between firm internal determinants and firm performance. The procedure suggested by Zhao, Lynch, & Chen (2010) is used to identify the types of mediation. The bootstrapping result of direct effect path coefficient, standard error and t statistics in section 4.5.2 is copied in Table 14. Since the indirect effect result is not estimated by the PLS the respective estimates are calculated using excel based on technique applied by Wong (b) (2016). The path coefficient for the indirect effect ($a*b$) is calculated by multiplying the path coefficient a and b from the direct effect. The standard error is obtained by copying in excel the 500 path coefficients from the report of bootstrapping procedure calculated with the mediator and estimate the standard error for the path coefficient using the STDEV formula in excel. The T statistic for indirect effect is obtained by dividing the indirect path coefficient by the standard error. The result of the indirect effect values are shown in Table 15. The T statistics result determines the significance of the mediator variable only if $M > 1.96$ at significance level of $p < 0.05$ for two – tailed test.

The level of effect of the mediator variable is assessed using VAF (Variance accounted for). VAF is calculated by dividing the indirect effect by total effect. Total effect is obtained by calculating the sum of direct effect and indirect effect (Wong (b), 2016). The VAF result is

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

shown in Table 15. The types of mediation are identified using the procedure applied by Zhao, Lynch, & Chen (2010) and the result is shown in Table 16.

Table 14: Direct effect structural path result

Direct effect -> c'				Direct effect -> a & b			
Construct	β	Se	T Statistics	Construct	β	Se	t statistics
MO -> FP (c')	0.1526	0.0502	3.0389	MO -> IP (a)	0.2363	0.0501	4.7196
OC -> FP (c')	0.0404	0.0431	0.9364	OC -> IP (a)	0.2505	0.0479	5.2322
TO -> FP (c')	0.1002	0.0686	1.4608	TO -> IP (a)	0.3038	0.0575	5.2822
MKO -> FP (c')	0.1886	0.0427	3.5617	MKO -> IP (a)	0.0767	0.0530	1.7977
AN -> FP (c')	0.3581	0.0558	6.4149	AN -> IP (a)	0.1305	0.0481	2.7131
OLM -> FP (c')	0.0778	0.0434	1.7941	OLM -> IP (a)	0.1622	0.0352	4.6091
				IP -> FP (b)	0.1518	0.0739	2.054

Note: T statistic > 1.96 is significant at significance level $p < 0.05$ (two – tailed)

Table 15: Indirect effect structural path result

Indirect effect -> a * b						
Construct	β (a*b)	Se	T statistic	(a*b)+c'	VAF	Result
MO -> IP->FP	0.0359	0.0180	1.9928	0.1885	20%	Supported
OC -> IP->FP	0.0380	0.0179	2.1244	0.0784	48%	Supported
TO -> IP->FP	0.0461	0.0220	2.0998	0.1463	32%	Supported
MKO -> IP->FP	0.0116	0.0096	1.2129	0.2002	6%	Not supported
AN -> IP->FP	0.0198	0.0132	1.5048	0.3779	5%	Not supported
OLM -> IP->FP	0.0246	0.0123	1.9963	0.1024	24%	Supported

Note: T statistic > 1.96 is significant at significance level $p < 0.05$ (two – tailed)

Table 16: Mediation types result

H	Constructs	a*b significant?	C' significant?	a*b*c' positive?	Mediation type
H3	MO -> IP->FP	Yes	Yes	Yes	Complementary mediation (Partial mediation)
H6	OC -> IP->FP	Yes	No	n.a	Indirect only mediation (Full mediation)
H9	TO -> IP->FP	Yes	No	n.a	Indirect only mediation (Full mediation)
H12	MKO -> IP->FP	No	Yes	n.a	Direct only (non - mediation)
H15	AN -> IP->FP	No	Yes	n.a	Direct only (non - mediation)
H18	OLM -> IP->FP	Yes	No	n.a	Indirect only mediation (Full mediation)

The assessment of mediation effect reveals that innovation practice has complementary or partial mediation effect on the relation between management orientation and firm performance. Management orientation has significant indirect effect through innovation practice on firm performance and; the direct effect of management orientation on firm performance is significant and the direct and indirect effect aligns in the same direction. The effect level of innovation practice on the relation between management orientation and firm performance is 20%.

Innovation practice has indirect only mediation or full mediation effect on the relation for the three constructs between the exogenous variables organizational culture, technology orientation and organization learning and management with firm performance. The relation is full mediated as the internal firm strategies impact the endogenous variable firm performance only through innovation practice as the result indicates significance relation of the indirect effect but not the direct effect. The effect level (VAF) of innovation practice is 48%, 32% and 24% on the relation between organization culture, technology orientation and learning and management respectively with firm performance.

Innovation practice does not mediate the relation of two constructs market orientation and alliance and networking with firm performance as the indirect effect is not significant. The direct effect relation however is significant and thus the type of non – mediation is direct – only i.e

market orientation has significant direct effect on firm performance and alliance and networking has significant direct effect on firm performance.

4.7 Summary of hypothesized relationship result

The research has assessed nineteen hypothesized relationship using SMART SEMPLS software and the overall result indicates supported relationship that fits the proposed conceptual framework. As shown in Table 17, thirteen hypothesize relationship are supported, four directly related constructs are not supported and two indirectly related (mediated) hypothesized relationship are not supported.

Table 17: Summary of research hypothesized relationship result

	Hypothesis	Result
H1	Management orientation has positive and significant relationship with innovation practices	Supported
H2	Management orientation has positive and significant relationship with firm performance	Supported
H3	Innovation practices mediates the relationship between management orientation and firm performance	Supported
H4	Organizational culture has positive and significant relationship with innovation practices	Supported
H5	Organizational culture has positive and significant relationship with firm performance	Not supported
H6	Innovation practices mediates the relationship between organizational culture and firm performance	Supported
H7	Technology orientation has positive and significant relationship with innovation practices	Supported
H8	Technology orientation has positive and significant relationship with firm performance	Not supported
H9	Innovation practices mediates the relationship between technology orientation and firm performance	Supported
H10	Market orientation has positive and significant relationship with	Not supported

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

innovation practices

H11	Market orientation has positive and significant relationship with firm performance	Supported
H12	innovation practices mediates the relationship between market orientation and firm performance	Not supported
H13	Alliance and networking has positive and significant relationship with innovation practices	Supported
H14	Alliance and networking has positive and significant relationship with firm performance	Supported
H15	innovation practices mediates the relationship between alliance and networking and firm performance	Not supported
H16	Organizational learning and knowledge management has positive and significant relationship with innovation practices	Supported
H17	Organizational learning and knowledge management has positive and significant relationship with firm performance	Not supported
H18	Innovation practices mediates the relationship between organizational learning and knowledge management and firm performance	Supported
H19	Innovation practices has positive and significant relationship with firm performance	Supported

4.8 Discussion of research hypothesized relationship results

This section presents detail discussion on the findings of the study in relation to previous research and literature review to review the influence of innovation practices on firm performance in large and medium textile and garment sector in Addis Ababa. The semi structured interview is conducted with key sectoral institutions representative from ETIDI and ETGAMA and selected ten medium and large enterprises who have participated in the survey to substantiate the findings of the survey result. The interview is conducted with Capacity Development Specialists Ato. Messay Alemayehu and Ato Mekonnen Molla from ETIDI and Ato. Birhanu Degefa, Founder and member of ETGAMA.

4.8.1 Management orientation, innovation practice and firm performance

H1: Management orientation has positive and significant relationship with innovation practices

The study findings support that management orientation has positive significant relationship with innovation practices with small effect size. The findings is consistent with other scholar findings (Razavi & Attarnezhad, 2013; Khan, Rehman, & Fatima, 2009; Llopis, Granero, Mesa, & Alegre, 2013). Management orientation is characterized by management focus for innovation in the firms strategic goals, explore new opportunites with high – risk, actively participate in innovative programmes and set long term objectives and allocate resources for Research and Development.

The small effect indicates that management strategy to influence innovation is low. In Ethiopian firms, research and development expenitures are increasing in the last decade. However, the increase in budget expenditure is related to hiring of R & D personnel engaged in other tasks ratherthan qualified researchers that is actively engaged in the creation of new ideas and products (Smita, Hiroyuki, & Aga, 2016). Based on the discussion with ETIDI, the reflection is that managers are charaterized by high resistance to change to adopt new methods, techniques or implementation processes. Firms are not engaged in R & D and credit service from financial instutions are not available to support the firms to strengthen R & D.

H2: Management orientation has positive and significant relationship with firm performance

The hypothesis is accepted that indicates management orientation has significant positive influence on firm performance with small effect size. The study findings aligns with other research results (Kraiczy, Hack, & Kellermanns, 2015; Walker, Damanpour, & Devece, 2010; Zhang, Khan, Lee, & Salik, 2019). The low effect indicates low capacity of management to influence firm performance. Managers in the textile and garment sector lack relevant competent knowledge on the sector to compete in the local and global industry. The managers depend on outdated management strategy that hinders improvement in quality of production and profitability (International Trade Center, 2015). In discussion with ETIDI, the major challenge of the sector is the high turnover of staffs due to restrictive human resource management techniques.

H3: Innovation practices mediates the relationship between management orientation and firm performance

The research findings support the hypothesis that innovation practices mediates the relationship between management orientation and firm performance with partial mediation effect of the mediator. The study aligns with study findings of other scholars (Kraiczy, Hack, & Kellermanns, 2015).

4.8.2 Organizational culture, innovation practice and firm performance

H4: Organizational culture has positive and significant relationship with innovation practices

The study findings support that organizational culture has significant positive relation with innovation practice with moderate effect size. The study result is consistent with previous research findings (Ceausu, Murswieck, Kuth, & Ionescu, 2017; Mazur & Zaborek, 2016; Chen et al., 2018; Woszezyna, 2015; Barbosa, 2014; Adelekan, 2016). Organizational culture is characterized by the firm approach to adopt new ideas, exchange new knowledge, skills, success and failure among colleagues, encourage staff to take risk and reward innovative outcomes, and provide flexible organizational structure. In discussion with three good performing firms in innovation the insight obtained is that employees are encouraged to be creative and try innovative ideas and the firms devise competitive incentives as promotion and salary increment and allocates budget to support promising ideas.

H5: Organizational culture has positive and significant relationship with firm performance

Based on the study findings the hypothesis is rejected indicating organizational culture has no significant relationship with firm performance with non substantial effect. The study finding contradicts with some previous research findings (Zhou, Abby, Feng, & Jiang, 2019; Umrani, Shah, Memon, & Samo, 2017; Oberfoll, Adame, & Garcia, 2018; Siagian, Samuel, & Widjaja, 2017; Yesil & Kaya, 2013; Joseph & Kibera, 2019). The capacity of the firms to engage in innovation and influence performance is restricted by the quality of workforce due to limited experience in the sector and lack of updated regular practical trainings. The sector does not have adequate skilled human resource that inhibits value addition, productivity and profitability (Smita, Hiroyuki, & Aga, 2016; International Trade Center, 2015).

H6: Innovation practices mediates the relationship between organizational culture and firm performance

The research hypothesis is supported that innovation practices fully mediates the relationship between organizational culture and firm performance. The research result aligns with previous research suggestions (Uzkurt, Kumar, Kimzan, & Eminoglu, 2013; Jenatabadi, 2014)

4.8.3 Technology orientation, innovation practice and firm performance

H7: Technology orientation has positive and significant relationship with innovation practices

The hypothesized relationship is supported that technology orientation has significant positive relationship with innovation practices with small effect size. The study result aligns with previous research (Ansari, Altalib, & Sardoh, 2013; Tutar, Nart, & Bingol, 2015; Zhou, Yim, & Tse, 2005). Technology orientation is characterized by the firms initiation to devise technology management framework, use up – to-date technologies, allocates resources to invest in new technologies, proactively tries new methods and improves internal processes, consider technology as competitive advantage and develops capability to adopt new technologies. The low effect size indicates that technology orientation has low influence on innovation practices.

The main methods for technology transfer in Ethiopia are technology imports, Foreign Direct Investment (FDI) and industrial parks (UNCTAD, 2020; Smita, Hiroyuki, & Aga, 2016). Technology transfer accounts for major part of import bills and increase in debts. The outcome of FDI in technology is not monitored and whether the intended purpose in skill and technology transfer is achieved is not assessed. Also, the linkage between local and international firm for experience exchange is not developed to promote technology and knowledge transfer with establishment of industrial parks (UNCTAD, 2020).

H8: Technology orientation has positive and significant relationship with firm performance

The hypothesis is rejected and technology orientation has no significant relationship with firm performance with no substantial effect size. The study findings contradict with previous research result (Nakola, Tarus, Buigut, & Kipchirchir, 2015; Ali, Leifu, & Rehman, 2016; Saqib, Udin, & Zarine, 2018; Ansari, Altalib, & Sardoh, 2013). The modern value chain of the sector is aided by the Information and Technology system to enhance firm competitiveness in the international

market. However, the managers of Ethiopian firms did not update the systems to be competent in the dynamic market (International Trade Center, 2015). Based on the discussion with ETIDI and ETGAMA firms relatively adopt old technologies by using them for longer years with lack of proper maintenance and repair service. The main constraint to upgrade the technologies is financial capacity limitation of firms. This has impact on low quality of production, low productivity and low profitability of firms.

H9: Innovation practices mediates the relationship between technology orientation and firm performance

The research findings indicate that innovation practice fully mediates the relation between technology orientation and firm performance. The research suggestion is consistent with previous research literatures (Obeidat, 2016; Yousaf et al., 2020)

4.8.4 Market orientation, innovation practice and firm performance

H10: Market orientation has positive and significant relationship with innovation practices

The hypothesis is rejected based on the research result that market orientation do not influence innovation practices and has no substantial effect. The finding contradicts with some previous studies (Newman, Prajogo, & Atherton, 2016; Wilches, Valencia, & Jimenez, 2018; Haryanto & Haryono, 2015; Ho et al., 2018; Al - Dmour & Amin, 2012; Johnson, Dibrell, & Hansen, 2009; Prifti & Alimehmeti, 2017; Carbonell & Rodriguez-Escudero, 2009). Market orientation is characterized by coordination of firms units to serve the target market and create customer value, develop dialogue with customers, respond quickly to competitor action and share market information to develop common understanding of customer and competitor attitudes. Based on discussion with ETIDI and ETGAMA most of the locally owned firms are not willing to engage in the international market and this hinders the national goal of the sector to enhance earnings from export. The local firms target domestic market with low quality requirements. Firms' participation in international trade enhances innovation with intense competition and high quality standard requirements (Smita, Hiroyuki, & Aga, 2016).

H11: Market orientation has positive and significant relationship with firm performance

The research findings support the hypothesis that market orientation has significant positive relationship with firm performance with small effect size. The study is consistent with previous literature suggestions (Lekmat, Selvarajah, & Hewege, 2018; Scholastica & Maurice, 2013; Ismail, Narsa, & Basuki, 2019; Onditi, 2016; Prifti & Alimehmeti, 2017; Salyova, Petrovicova, Nedelova, & Dado, 2015; Ekaterina & Domberger, 2014). The low effect indicates that market strategy of firms has low influence on firm performance. The trade intelligence of the sector to communicate timely and accurate information is limited. The institutions to support the firms with information on international trade and to promote linkage are ETIDI, ETGAMA and Chambers of Commerce though with low practicality and reliability (International Trade Center, 2015).

H12: Innovation practices mediates the relationship between market orientation and firm performance

The research findings do not support the hypothesis and suggest non mediation effect of innovation practices and there is only direct relation between market orientation and firm performance. The research result contradict with some previous study findings (Zafar, Hafeez, & Shariff, 2016; Alerasoul & Derogar, 2019; Bamfo & Kraa, 2019; Zehir, Kole, & Yilduz, 2015)

4.8.5 Alliance and networking, innovation practice and firm performance

H13: Alliance and networking has positive and significant relationship with innovation practices

The hypothesis is supported that alliance and networking has significant positive relationship with innovation practices with small effect size. The finding is consistent with previous researches (Abuzaid, 2014; Pittaway, Munir, Denyer, & Robertson, 2004; Dicevska et al., 2016; Stefanovic & Dukic, 2011). Alliance and networking is characterized by actively engaging customers to develop new products, actively work with suppliers and other partners, participate in local and international associations, and devise strategy to work with partners to share the cost of innovation.

The small effect size indicates the influence of alliance and networking on innovation is low. The linkage between actors in the firms is weak. There is weak networking among enterprises,

partners and institutions including research centers that hinders innovation and the growth of the firms. The capacity of sectoral institutions and associations are limited to support the firms to compete in international market (Smita, Hiroyuki, & Aga, 2016) . In discussion with two managers in the selected firms it is captured that the major challenges of the sector in linkage with other actors in the industry include for example with suppliers is the scarcity of quality raw material supply and with financial institutions are the difficulty to obtain financial support for innovation.

H14: Alliance and networking has positive and significant relationship with firm performance

The hypothesis is accepted that alliance and networking has significant positive relationship with firm performance with moderate effect size. The study result aligns with previous research literatures (Raheem, Adekunle, & Saidi, 2018; Yu, Xu, & Dong, 2019; Kim, 2014; Sampson, 2017). ETIDI and ETGAMA are working to fill the gap and strengthen networking among local and international partners to encourage innovation, technology transfer and in capacity development of firms to compete in international market (International Trade Center, 2015). In discussion with three selected good performing managers of the firms the insight captured is that the firms develop networks with international associations and recognized textile and garment firms from abroad to develop their knowledge and technical capacity through experience exchange.

H15: Innovation practices mediates the relationship between alliance and networking and firm performance

The hypothesis is rejected based on the findings of the study that innovation practice has not mediation effect and there is direct only relation between alliance and networking and firm performance. The finding contradict with previous study by (Sajilan & Tehseen, 2019)

4.8.6 Organizational learning and knowledge management, innovation practice and firm performance

H16: Organizational learning and knowledge management has positive and significant relationship with innovation practices

The hypothesis is supported that organizational learning and knowledge management has positive relationship with innovation practices with small effect size. The finding is consistent with previous research result (Akram et al., 2011; Gupta & Dasgupta, 2009; Abbas et al., 2020; Ngoc-Tan & Gregar, 2018; Mohammadbagher & Mariyayee, 2015; Liao & Wu, 2009). Organizational learning and knowledge management is characterized by the firm to encourage open learning environment and develop system to benefit from knowledge management, conduct researches in partnership with relevant organizations as universities, facilitate experience exchange between staff members and enhance work efficiency with clear work procedures. The influence of organizational learning and knowledge management on innovation is low. In Ethiopia the linkage of university and industry is weak and hinders the transformation of the economy from agriculture based economy to knowledge based industrial economy to foster innovation to enhance productivity and survival of competent firms (Smita, Hiroyuki, & Aga, 2016).

H17: Organizational learning and knowledge management has positive and significant relationship with firm performance

The hypothesis is rejected based on the analysis of the study data that organizational learning and knowledge management do not have significant relationship and no substantial effect with firm performance. The finding contradicts with some previous study results in the literatures (Theriou, Maditinos, & Theriou, 2011; Marques & Garrigos-simon, 2006; Jain, 2015; Daud & Yusoff, 2010; Kocoglu, Imamoglu, & Ince, 2011; Liao & Wu, 2009). The weak linkage between academic institutions and the sector in Ethiopia has led to inadequate professional workers in the sector due to lack of practical knowledge from the university and TVET. The linkage between university / research centers and the sector is weak to adopt result based innovative solution to industrial challenges (Smita, Hiroyuki, & Aga, 2016).

H18: Innovation practices mediates the relationship between organizational learning and knowledge management and firm performance

The study findings reveal that innovation practices fully mediates the relationship between organizational learning and knowledge management with significant indirect relationship and no direct effect. The study finding is aligns with previous research literatures (Byukusenge &

Munene, 2017; Kocoglu, Imamoglu, & Ince, 2011; Ghafoor, Munir, Shehzad, & Ahmad, 2016; Kamluk & Acar, 2015).

4.8.7 Innovation practice and firm performance

H19: Innovation practices has positive and significant relationship with firm performance

The study result supports the hypothesis that innovation practices significantly positively influence firm performance with small effect size. The finding is consistent with previous study results in the literatures (Lin & Chen, 2007; Gunday, Ulusoy, Kilic, & Lufihak, 2011; Mai, Vu, Bui, & Tran, 2019; Atalay, Anafarta, & Sarvan, 2013; Schumpeter, 1934). Innovation practices is related with the firm approach to try new ideas and introduce new products / processes, use of up – to – date technologies, proactively engage in new market targets and engage in novel partnerships. Firm performance is related with the firms’ potential to introduce new products / processes, company benefit from innovation as customer satisfaction, sales growth, ROI growth, and expansion of market share and development of staff skills.

In Ethiopia, innovative firms perform better than non – innovative firms. The four types of innovation product innovation, process innovation, market innovation and system changes result in sales growth, job creation and labour productivity (Smita, Hiroyuki, & Aga, 2016). The small effect size indicates low influence of innovation on firm performance in the textile and garment sector. The revised Science, Technology and Innovation (STI) policy adopted in 2012 focus on technology transfer than technology learning and innovation (UNCTAD, 2020). There is weak coordination among government offices and sectoral institutions to effectively integrate implement the policy. In the textile and garment sector the challenges is institutional quality and weak coordination between Ministry of Innovation (MInT) and Technology and the sectoral institutions ETIDI to effectively implement and monitor the STI policy (Smita, Hiroyuki, & Aga, 2016; UNCTAD, 2020).

Chapter five: Conclusion and implications

5.1 Conclusion

The following conclusion is summarized based on the findings of the study:

- Firm level innovation in Ethiopia is low and proactive innovation strategy is adopted by less than half of the firms in the sector. Around one third of the firms did not introduce innovation in the last three years and around half of the textile and garment firms have practiced only incremental innovation during the same period. The main type of innovation firms introduced is product innovation followed by market innovation, process innovation and organization innovation.
- The main drivers of innovation in the sector are to be competitive in the sector, market growth, enhance customer value and firm performance, management orientation, firm internal culture, technology driven and employees' behavior.
- The barriers to innovation in the sector is related with major factors including cost, knowledge, market, networking and alliance, government policy, organization culture, customer behavior, managerial expertise, trade intelligence and suppliers
- The hypothesized relationship of the conceptual model address the research questions and objectives of the study on the relationship between firm internal determinants, innovation practices and firm performance taking the case of medium and large textile and garment sector in Addis Ababa. The brief results of the three research questions are:

Research question 1: Does the internal determinants of firms influence innovation practices?

The answer to the question is based on the statistical assessment and analysis of six hypothesized relationship (H1, H4, H7, H10, H13, H16) on the relation of firm internal strategies regarding management orientation, organizational culture, technology orientation, market orientation, alliance and networking and organizational learning and management with innovation practices. The study result reveal that all in – firm determinants except market orientation has positive significant influence on innovation practice with small to medium effect size though market orientation does not have significant influence on innovation practice in the case of the textile and garment sector.

The major sectoral challenges that influence innovation practices include the firms are not actively engaged in R & D and the government expenditure in R & D are merely related to personnel recruitment rather than result based researches to enhance the enterprise capacity. The knowledge and technology transfer approach through FDI, industrial parks and import of technology is not effectively monitored to guarantee the impact on local enterprises. The local firms mainly target the domestic market with low quality standard requirements. There is weak coordination among enterprises and partners to promote innovation and enhance competitiveness in the international market. The linkage of academic institution with the industry is low that hinders the structural transformation to knowledge based economy

Research question 2: Does the internal determinants of firms influence firm performance?

The study result of the hypothesized relationship (H2, H5, H8, H11, H14, H17) and statistical findings indicate that management orientation (H2), market orientation (H11) and alliance and networking (H14) have significant positive influence on firm performance whereas organization culture (H5), technology orientation (H8) and organizational learning and management (H17) do not have significant relationship with firm performance in the medium and large textile and garment sector.

The main challenges of the sector that influence firm performance are the inadequate skill of management leads to incompetent leadership to enhance productivity and profitability of firms. The low quality of the workforce in the sector restricts the employees' capacity to improve productivity and value addition to remain competitive in the sector. The enterprises use older machineries for long period of time that has high cost of operation and lower productivity. The recent innovations on information technologies are not being used by the firms to support the ongoing operation. The sectoral institutions capacity is weak to support the enterprises with updated trade intelligence to compete in the international market. There is weak linkage between research institutions and the sector to support the sector with innovative ideas

Research question 3: Do innovation practices influence firm performance?

The hypothesized relationship (H19) is accepted and indicates innovation practice has positive significant relationship with firm performance. Thus, innovation practices in the medium and large textile and garment firms in Addis Ababa have significant small effect size contribution on the performance of firms.

The challenges that influence the relationship between innovation practice and firm performance includes focus of the STI policy on technology transfer than technology learning and innovation. There is also weak coordination between Ministry of Innovation and ETIDI to integrate and implement effectively the STI policy.

Research question 4: Does innovation practices mediate the relationship between firm internal strategies and firm performance?

This research question is based on the assessment of hypotheses (H3, H6, H9, H12, H15, and H18) in the conceptual model. Innovation practice mediated the relationship between the in-firm determinants (management orientation (H3), organizational culture (H6), technology orientation (H9) and organizational learning and management (H18)) and firm performance where as innovation practice does not have mediation effect on the relation between the two firm internal determinants (market orientation (H12) and alliance and networking (H15)) and firm performance.

5.2 Practical implications

Based on the findings and conclusion of the study, the textile and garment firms could enhance innovativeness and competitiveness through:

- The sectoral institution should encourage firms to devise proactive innovation strategy and develop the firms' internal strategies to influence innovation and increase firm productivity. The internal determinants of firms including management orientation, organizational culture, technology orientation, market orientation, alliance and networking and organizational learning and management should influence the innovation performance of the firms that result in improve quality of products and profitability of firms.
- The academic institution as TVET and universities should be strengthened to provide quality and practical education to meet the quality work force demand of the industry. The skills of employees and managers should be developed through extensive technical and soft skill development trainings.
- The linkage between academic institutions and university should be strengthened to enhance knowledge and learning development in the industry and develop the alignment of research

outputs with the need of the industry. The government should support and design incentive structures to encourage R & D to enhance the productivity and efficiency of firms in the sector.

- The industrial parks potential should be strengthened to facilitate linkage and collaboration between local firms and FDI. The government should provide incentive to FDI to encourage technology transfer and knowledge sharing and to actively work along with the backward and forward linkages in the industry.
- The interaction between government and non government actors in the sector should be strengthened to mobilize required resources to develop innovation, technology transfer, tackle industry challenges, facilitate financial fund and enhance effectiveness of institutions.
- The effective implementation of STI policies should be strengthened through coordinated effort of government offices and sectoral institutions.
- The institutions in the sector should encourage the local firms to target the international market through capacity development, enhance quality standards, access to updated trade intelligence and create linkage with international associations, trade fairs and market.

5.3 Limitations and future research direction

The following are some of the study limitations acknowledged by the researcher:

- The study includes selected internal strategies that determine firm innovativeness. The conceptual framework may omit key other determinants relevant to enhance innovativeness of firms. Thus, the conceptual framework should be taken as reference and additional other factors that may influence innovation and the impact on firm performance could be integrated in further research.
- The study is conducted in the year 2020 during the occurrence of COVID 19 pandemic globally and this may limit the reliability of the study. Thus, it is important to conduct another study to enhance the reliability on the findings of the study in the future when the pandemic risk is alleviated.
- The study is conducted by taking medium and large textile and garment firms in Ethiopia. Thus, there is limitation to generalize the findings to other industry in the sector due to

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

differences in the organizations and to other developing nations due to variance in the socio – cultural environment. Thus studies using the research conceptual framework should be conducted for other sectors in the manufacturing industry in Ethiopia and in other developing nations to further develop the literatures on firm innovativeness.

- The research has an inherent limitation in relation to its design, which is cross – sectional in nature that implies the data is gathered at only one point of time where in reality conditions may vary through time that has impact on the measurement items and the conceptual construct. Thus, the applicability of the conceptual framework could be enhanced by use of longitudinal research approach.

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APPENDICES

Appendix A: Survey questionnaire with cover letter in English version

November 01, 2020

Yodit G.yohannes
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College of Business and Economics
E-mail: [yodit.gyohannes@gmail](mailto:yodit.gyohannes@gmail.com)
Mobile no. +251 911 197744

Dear Respondents,

Re: Research survey questionnaire to Large and Medium Textile and Garment firms in Addis Ababa

I am pursuing MSC in Innovation Management and Entrepreneurship at Addis Ababa University, college of Business and Economics. In partial fulfillment of my degree I am conducting a research on the topic ‘the influence of innovation practices on firm performance: The case of large and medium textile and garment sector in Addis Ababa’. The result of the study is attributed to theoretical contribution to literatures on innovation management and business strategies and provides empirical evidence on the influence of innovation practices on firm performance.

Accordingly, as your firm is in the targeted sub – sector, this is to kindly request your participation in the survey to complete the attached questionnaire as honestly as possible. It is expected to gather four questionnaires **from higher level experts or management members** from the divisions in your firm including general administration or project managers, marketing and sales, production and / or quality, and Research and Development. The survey questionnaire will approximately take 15 to 20 minutes to complete. The questionnaire could be gathered through e – mails or in person based on your preference.

I am grateful for your cooperation in the research and assure you that the information will be treated with utmost confidentiality and is intended to be used only for this study. Finally, please note that your commitment to provide accurate and genuine response is highly crucial to obtain reliable information for the success of the study.

Thank you in advance for your cooperation.

Sincererly Yours

Yodit G.yohannes

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Supervisor / Manager

Other, please specify _____

6. How long did you work in the firm?

Less than 2 years

11 to 15 years

3 to 5 years

More than 15 years

6 to 10 years

Section B: Firm Characteristics

Please mark 'X' in the box to the most appropriate answer

7. In which sub – sector is your firm?

Ginneries

Handloom

Spinning

Garment

Integrated textile mills

Blanket

Weaving and / or knitting

Other, Please specify

Textile finishing and processing (dyeing and printing)

8. What is the type of ownership of your firm?

Fully locally owned by Ethiopians

Joint venture between Ethiopia and foreigners

Fully owned by foreigners

Other, please specify _____

9. How many employees are currently working in your firm?

1 to 19

20 to 99

More than 100

10. When was your firm established?

Less than 2 years

7 to 10 years

More than 15 years

3 to 6 years

11 to 14 years

11. What market does your firm currently serve? (select all applicable answers)

Domestic market in Ethiopia

Australia / New Zealand

Africa

USA / Canada

UAE / Middle East

Central / South America

Asia

Online / Web – Based

Europe

Other, Please specify _____

Section C: Innovation Strategy of firms

Please mark 'X' in the box to the most appropriate answer – if not mentioned select only one answer.

12. What do you consider the ideal innovation strategy for your firm to be?

- Proactive (active) Reactive (respond to others' action)
 Passive (not active)

13. Which statement best describes your firm's innovation type in the last 3 years?

- Incremental innovation i.e slightly improved or modified products, processes, organizational / management systems or marketing system that is new to the firm but may not be new to the industry.
 Radical innovation i.e introduce new products, processes, organizational / management systems or marketing system that is new to the firm and new to the industry
 Both incremental and radical innovation
 Provide stable products, processes, organizational / management systems or marketing systems

--If you marked option 4, please go to question 18 or otherwise, please continue to question 14.

14. If you market option 1 & 3, what type of incremental innovation has your firm introduced in the last 3 years? (select all applicable answers)

- Product innovation – the introduction of slightly improved or modified product or service
 Process innovation – the implementation of slightly improved or modified production or delivery method for provision of services
 Organization / management innovation – the implementation of slightly improved or modified organizational method in internal business practices, work place organization or external relations
 Marketing innovation - the implementation of slightly improved or modified marketing method in packaging, placement, promotion or pricing
 No incremental innovation is introduced in the last 3 years
 Other, please specify _____

15. If you select option 2 & 3, what type of radical innovation has your firm introduced in the last 3 years? (select all applicable answers)

- Product innovation – the introduction of new product or service
 Process innovation – the implementation of new production or delivery method for provision of services

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

- Organization / management innovation – the implementation of new organizational method in internal business practices, work place organization or external relations
- Marketing innovation - the implementation of new marketing method in packaging, placement, promotion or pricing
- No radical innovation is introduced in last 3 years.
- Other, please specify _____

16. How many new products has your firm launched in the last 3 years?

- Less than 2
- 3 to 5
- 6 to 10
- 11 to 15
- More than 15

17. What are the drivers of innovation practices in your firm? (*select all applicable answers*)

- Management
- Partners
- Growth
- Employees
- Customers
- Competition
- Internal culture
- Suppliers
- Legislation
- Government grants
- Market
- Technology
- Intellectual property /patent award
- Finance
- Other, please specify _____

18. Which elements reflect significant barriers to your firms' innovation capability? (*select all applicable answers*)

- High cost of innovation
- Lack of networking and alliance
- Financial fund and capital resources
- Suppliers effect
- Government policy and regulation
- Customer attitude and behavior
- Organizational culture
- Market information or competition
- Inadequate Research and Development
- Limitation to local market
- Shortage of talent and managerial expertise
- Technological and knowledge transfer mechanism
- Others, please specify _____

Section D: Firm internal strategic orientation

This section is related to **firm internal strategic orientation** that might influence innovation performance.

Please rate all statements based on your firms' perspective and circle the appropriate number based on the below scale :

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

Questions 19 to 23 are related to **Management Orientation** and please circle the appropriate number for all statements based on your firm perspective

19	Our management considers innovation to be part of our firm's strategic goals and future ambitions	1	2	3	4	5	6	7
20	Our management focuses on long – term objectives with interests in adopting innovations	1	2	3	4	5	6	7
21	Our management favours high – risk projects with attitudes in exploring new opportunities	1	2	3	4	5	6	7
22	Our management is involved in new initiatives and innovative programmes	1	2	3	4	5	6	7
23	Our management allocates resources to support research and development into innovative products or services	1	2	3	4	5	6	7

Questions 24 to 29 are related to **Organization Culture** and please circle the appropriate number for all statements based on your firm perspective

24	Our firm is open to different perspectives that accepts and adopts new and external ideas	1	2	3	4	5	6	7
25	Staff within our firm obtain and exchange new knowledge and skills in fair and collegial ways	1	2	3	4	5	6	7
26	Our firm accurately shares important information such as success and failure and customer feedback with all relevant staff as part of our internal learning processes	1	2	3	4	5	6	7
27	Our firm has a flexible organizational structure	1	2	3	4	5	6	7
28	Our firm encourages staff to think freely, generate ideas, follow – up on ideas, learn by experience and take risks.	1	2	3	4	5	6	7
29	Behaviors related to creativity and innovation are rewarded in our organizational culture	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Firm internal strategic orientation continued...

Please circle the appropriate number based on the below scale

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

Questions 30 to 36 are related **Technology Orientation** and please circle the appropriate number for all statements based on your firm perspective

30	Our firm has a technology management framework in alignment with its business strategy	1	2	3	4	5	6	7
31	Our firm's policy is to adopt up-to date technologies	1	2	3	4	5	6	7
32	Our firm purchases and uses technologies to position itself ahead of competitors	1	2	3	4	5	6	7
33	Our firm is often to be first to try out new methods and technologies	1	2	3	4	5	6	7
34	Our firm frequently improves internal processes such as speed, reliability and information management	1	2	3	4	5	6	7
35	Our firm allocates resources for investments in latest technologies and future forecasted technological changes.	1	2	3	4	5	6	7
36	Our firm capability in technological development is high	1	2	3	4	5	6	7

Questions 37 to 43 are related **Market Orientation** and please circle the appropriate number for all statements based on your firm perspective

37	All our firm departments are integrated in serving the needs of our target markets	1	2	3	4	5	6	7
38	All our managers understand how everyone in our firm can contribute to creating customer value	1	2	3	4	5	6	7
39	Our firm has proactive dialogues and mutual relationships with customers	1	2	3	4	5	6	7
40	Business strategies are driven by the goal of increasing customer value	1	2	3	4	5	6	7
41	We respond rapidly to competitive actions	1	2	3	4	5	6	7
42	Our firm frequently take advantage of targeted opportunities to benefit from competitors' weaknesses	1	2	3	4	5	6	7
43	Our firm encourages internal sharing of market information to understand consumer or competitor behaviors	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Firm internal strategic orientation continued...

Please circle the appropriate number based on the below scale

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

Questions 44 to 49 are related to **Alliance and Networking** and please circle the appropriate number for all statements based on your firm perspective

44	Our firm has proactive relationships with partners, suppliers and sub-contractors	1	2	3	4	5	6	7
45	Our firm works closely with its customer in exploring and developing new concepts	1	2	3	4	5	6	7
46	Our firm has membership in local and / or international business and industry associations	1	2	3	4	5	6	7
47	Our firm systematically identifies possible strategic partners to explore new knowledge and technology in order to improve resources and capabilities	1	2	3	4	5	6	7
48	Our firm has collaborative agreements with other firms to in / outsource research and development activities	1	2	3	4	5	6	7
49	Our firms has proactive networks with other firms to share innovative benefits and risks	1	2	3	4	5	6	7

Questions 50 to 56 are related to **Organizational Learning and Knowledge Management** and please circle the appropriate number for all statements based on your firm perspective

50	The firm has developed systems to nurture knowledge management	1	2	3	4	5	6	7
51	Researches in collaboration with universities or vocational schools or research centers are conducted to explore the future potential and to gain knowledge	1	2	3	4	5	6	7
52	The experience owned by firm's experts is shared / adopted to contribute to others within the company	1	2	3	4	5	6	7
53	The employees inform / update each other regularly on the positive experiences and successful working methods	1	2	3	4	5	6	7
54	Experts are encourage to publicize / advertise openly about the methods they use in product / service development	1	2	3	4	5	6	7
55	The firm has developed operation procedures to guide its activities and help employees and groups to work efficiently	1	2	3	4	5	6	7
56	Managers basically agree that our firms' ability to learn is the key to our competitive advantage	1	2	3	4	5	6	7

Section E: Innovation Practices

Questions 57 to 66 indicate how your firm has performed with respect to **innovation practices** relative to most other firms in the industry in the last 3 years. Please circle the appropriate number for the statements using the scale below.

Much Below	Moderately Below	Slightly Below	No Difference	Slightly Above	Moderately Above	Much Above
1	2	3	4	5	6	7

57	Our firm frequently tries out new ideas	1	2	3	4	5	6	7
58	Our firm introduces number of new products, services, processes, or organization/ management systems	1	2	3	4	5	6	7
59	Our firm is first to market with new products or services	1	2	3	4	5	6	7
60	Our management seeks out new ways to do things	1	2	3	4	5	6	7
61	Our firm is creative in its methods of operation	1	2	3	4	5	6	7
62	Our firm uses up-to-date technologies	1	2	3	4	5	6	7
63	Our firm develops new market segments	1	2	3	4	5	6	7
64	Our firm uses new marketing methods	1	2	3	4	5	6	7
65	Our firm develops new ways of establishing relationships with customers	1	2	3	4	5	6	7
66	Our firm spends resources on research and development for new products, services or processes.	1	2	3	4	5	6	7

Section F: Firm Performance

Question 67 to 78 indicates how your firm has performed with respect to **business growth performance indicators** relative to most other firms in the industry in the last 3 years. Please circle the appropriate number for the statements using the scale below.

Much Below	Moderately Below	Slightly Below	No Difference	Slightly Above	Moderately Above	Much Above
1	2	3	4	5	6	7

67	Our firm's capacity to develop new products, services or processes	1	2	3	4	5	6	7
68	Our firm's ability to adapt to market needs	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

69	Our firm's customer satisfaction	1	2	3	4	5	6	7
70	Our firm's innovation patent award	1	2	3	4	5	6	7
71	Our firm's sales growth	1	2	3	4	5	6	7
72	Our firm's sales growth of innovative products or services	1	2	3	4	5	6	7
73	Our firm's profit growth	1	2	3	4	5	6	7
74	Our firm's profit growth of innovative products or services	1	2	3	4	5	6	7
75	Our firm's return on investment (ROI)	1	2	3	4	5	6	7
76	Our firm's return on investment (ROI) of innovative products or services	1	2	3	4	5	6	7
77	Our firm's market share	1	2	3	4	5	6	7
78	Our firm's staff capability has improved	1	2	3	4	5	6	7

Section G: General comments / Suggestions

Please provide any comments or suggestions regarding innovation practices in the Large and Medium Textile and Garment sector in Ethiopia.

Thank You

Appendix B: Survey questionnaire with cover letter in Amharic version

ጥቅምት 30 ቀን 2013 ዓ.ም.

ዮዲት ገ/ዮሐንስ

አዲስ አበባ ዩኒቨርሲቲ

ቢዝነስና ኤኮኖሚክስ ኮሌጅ

ኢሜል:- yodit.gyohannes@gmail.com

ስልክ:- +251 911 197744

የተከበራችሁ የጥናቱ ተሳታፊዎች

ጉዳይ:- በአዲስ አበባ ለሚገኙ ትልቅ እና መካከለኛ ጨርቃ ጨርቅ እና ልብስ ድርጅት ላይ ለሚደረግ ጥናት የተዘጋጀ መጠይቅ።

እኔ ስሜ ከዚህ በታች የተጠቀሰው በአዲስ አበባ ዩኒቨርሲቲ በቢዝነስና ኢኮኖሚክስ ኮሌጅ በፈጠራ አመራር እና ስራ ፈጠራ የድህረ ምረቃ ትምህርቴን እየተማርኩ እገኛለሁ። በአሁኑ ወቅት የድህረ ምረቃ የሚሟደው ጥናት በዚህ ርዕስ ላይ እየሰራሁ ነው “የፈጠራ ሥራ በድርጅቱ አፈጻጸም ላይ ያለው ውጤት፣ በአዲስ አበባ የሚገኙ ትልቅ እና መካከለኛ ጨርቃ ጨርቅ እና ልብስ ዘርፍ ድርጅቶችን እንደ ምሳሌ በመውሰድ”።

የዚህ ጥናት ውጤት እና በፈጠራ አመራር እና ንግድ ስትራቴጂዎች የሀሳብ (theoretical) ፅሁፎች ላይ አስተዋጽኦ ያደርጋል፣ እንዲሁም የፈጠራ ሥራዎች በድርጅቱ አፈጻጸም ላይ ስላለው ውጤት ተጨባጭ ማስረጃ ይሰጣል።

ስለሆነም ድርጅትዎ በዚህ ዘርፍ ላይ ተሳታፊ ስለሚገኝ በጥናቱ ላይ እንዲሳተፉና መጠይቁን በታማኝነት እንዲሞሉ በትህትና እጠይቃለሁ። በድርጅቱ በከፍተኛ ደረጃ ላይ ከሚገኙ ባለሙያዎች እና የአመራር አባል ከአራት ክፍል መጠይቅ መሰብሰብ ይጠበቃል። እነዚህም ጠቅላላ አስተዳደር/ኘሮጀክት አመራር ክፍል፣ ገበያ እና/ወይም ሽያጭ ክፍል፣ ንድፍ/ምርት ክፍል እና ጥናት እና ምርምር ክፍል ናቸው።

መጠይቁን ለመጨረስ ከ15-20 ደቂቃ የሚወስድ ሲሆን በእርስዎ ፍላጎት መሠረት በኢሜል ወይም በአካል ቀርቦ መሰብሰብ ይቻላል።

በጥናቱ ላይ ትብብር ስላደረጉ በማመስገን የሰጡት መረጃ ሚስጥርነቱ የተጠበቀ እና ለዚህ ጥናት ብቻ የሚውል መሆኑን ላረጋግጥሎት እወዳለሁ። በመጨረሻም እርስዎ ትክክለኛ እና እውነተኛ መልስ ለመስጠት የሚያደርጉት ጥረት አስተማማኝ መረጃ ለማግኘት እና ለጥናቱ ስኬት የላቀ አስተዋጽኦ እንዳለው ላስታውሱ እወዳለሁ።

በቅድሚያ ለትብብር አመሰግናለሁ

ከሠላምታ ጋር

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

አዲስ አበባ ዩኒቨርሲቲ

ድህረ ምረቃ ት/ቤት

ቢዝነስና ኤኮኖሚክስ ኮሌጅ

ፈጠራ አሞራር እና ሥራ ፈጠራ ክፍል

ማስታወሻ

- ከዚህ መጠይቅ የተለያዩ ከፈጠራ ጋር የተያያዙ ተግባሮች በተመሳሳይ ክፍል ተመድበው ይገኛል። ለጥናት ተሳታፊዎች ግልጽ ለማድረግ ለተወሰኑ ቃላቶችና ሀረጎች ማብራሪያ ተሰጥቷል።
- ለባክዎ ከጥያቄዎቹ በላይ የሚገኙትን መመሪያዎች በማንበብና በመረዳት በመመሪያው መሠረት መልስዎትን ያስቀምጡ።

ክፍል 1:- የመልስ ሰጪ አጠቃላይ መረጃ

ለባክዎ በሚፈልጉት በአንዱ ምርጫ ትይዩ ሳጥን ወስጥ ምልክት በማድረግ መልስዎትን ያስቀምጡ።

1. ጾታ ወንድ ሴት

2. ዕድሜዎ ስንት ነው?
 ከ21 ዓመት በታች 45 - 54 ዓመት
 21 - 34 ዓመት 55 - 64 ዓመት
 35 - 44 ዓመት 64 ዓመት በላይ

3. የመጨረሻው የትምህርት ደረጃዎ ምንድን ነው?
 መሠረታዊ ትምህርት አልተማርኩም
 አንደኛ ደረጃ ክፍል 1 እስከ 4
 አንደኛ ደረጃ ክፍል 5 እስከ 8
 ሁለተኛ ደረጃ
 የሙያ ትምህርት
 የመጀመሪያ ዲግሪ/ቢ.ኤ. ዲግሪ
 ሁለተኛ ዲግሪ / ማስተርስ ዲግሪ
 ሦስተኛ ዲግሪ/ Ph.D ዲግሪ
 ሌላ እስከባክዎ ይገለጹ -----

4. በመስሪያ ቤትዎ በየትኛው የስራ ክፍል ውስጥ ነው የሚሠሩት?
 ጠቅላላ አስተዳደር /ኘሮጀክት አመራር
 ገበያ እና/ወይም ሽያጭ
 ንድፍ፣ ምርት እና/ወይም ጥራት
 ጥናት እና ምርምር
 ሌላ እስከባክዎ ይገለጹ -----

5. የፕሮጀክት የሥራ ድርሻ ምንድን ነው?

- የመምሪያ ዳይሬክተር፣ ጠቅላላ ሥራ አስኪያጅ፣ ባለቤት
- ዳይሬክተር፣ ሃላፊ፣ የበላይ ስራ አስኪያጅ
- ተቆጣጣሪ፣ ሥራ አስኪያጅ
- ዋና/የበላይ አፈሰር
- አፈሰር፣ ኤክስፐርት
- ሌላ ስያሜ ይጻፉ

6. በዚህ ድርጅት ውስጥ ምን ያህል ጊዜ ሠርተዋል?

- ከሁለት ዓመት በታች
- 3-5 ዓመት
- 6-10 ዓመት
- 11-15 ዓመት
- ከ15 ዓመት በላይ

ክፍል 2:- የድርጅቱ አጠቃላይ መረጃ

ስያሜዎን በሚፈልጉት በአንዱ ምርጫ ትይዩ ሳጥን ውስጥ 'X' ምልክት በማድረግ መልስዎን ያስቀምጡ።

7. ድርጅትዎ በየትኛው ዘርፍ ላይ ይሠራል?

- የጥጥ መዳመጫ
- የጥጥ ፈትል
- የተቀናጀ የጨርቃ ጨርቅ ስፊት
- ሽመናና፣ ሹራብ ሥራ
- ጨርቃ ጨርቅ ማጠናቀቂያ ሥራ (ሕትመት፣ ቀለም)
- የጅ ሥራ
- ጋርመንት ልብስ
- ብርድ ልብስ
- ሌላ ስያሜ ይጻፉ -----

8. የድርጅቱ ሕጋዊ አስተዳደር

- ሙሉ በሙሉ ሀገር በቀል
- ኢትዮጵያንና የውጭ ዜጎች በጋራ የሚያስተዳድሩት
- ሙሉ በሙሉ በውጭ ዜጋ የሚተዳደር
- ሌላ ስያሜ ይጻፉ

9. በአሁኑ ወቅት በድርጅትዎ ስንት ሠራተኛ አለ?

- 1-19
- 20-90
- ከ 100 በላይ

10. ድርጅትዎ የተመሰረተው መቼ ነው?

- ከ2 ዓመት ባነሰ ጊዜ ውስጥ
- 3-6 ዓመት
- ከ 15 ዓመት በላይ
- 7-10 ዓመት
- 11-14 ዓመት

11. በአሁኑ ወቅት የድርጅቱ የገበያ ትኩረት የት ነው? (ትክክለኛ መልስ ለሆኑት ሁሉ ላይ ምልክት ያድርጉ::)

- የሀገር ወስጥ ገበያ
- አፍሪካ
- መካከለኛ ምስራቅ
- በኢስያ
- አውሮፖ
- አውስትራሊያ፣ ነውዚላንድ
- አሜሪካ፣ ካናዳ
- መካከለኛው፣ ደቡብ አሜሪካ
- Online በመጠቀም
- ሌላ ስብከት ይግለጹ

ክፍል 3 የድርጅቱ የፈጠራ ስትራቴጂ

ስብከት በሚፈልጉት በአንዱ ምርጫ ትይዩ ሳጥን ውስጥ ምልክት በማድረግ መልስዎን ያስቀምጡ

12. ለድርጅቱ ተስማሚ የፈጠራ ስትራቴጂ የሆነው የቱ ነው?

- ቀዳሚ መሆን (ፈጣን)
- ምላሽ የሚሰጥ (የሌላውን ፈጠራ ተከትሎ ምላሽ መስጠት)
- በንቃት የማይሰራ (ፈጣን ያልሆነ)

13. ላለፈው ርስት ዓመታት የሮስዎን ድርጅት የፈጠራ ዓይነት የሚገልጸው የትኛው ዓረፍተ ነገር ነው?

- ትንሽ ልዩነት ያለው ፈጠራ:- በትንሹ የተሻሻለ ወይም የተቀየረ ምርት፣ የአመራረት ወይም አቅርቦት ሂደት፣ አደረጃጀት ወይም አመራር ስርዓት እና የገበያ ስርዓት፣ ለድርጅቱ አዲስ የሆነ ፈጠራ ሲሆን ለኢንዱስትሪው ግን አዲስ ላይሆን ይችላል
- አዲስ ፈጠራ:- ለድርጅት ሆነ ለኢንዱስትሪ አዲስ የሆነ ምርት፣ የአመራረት ወይም አቅርቦት ሂደት፣ አደረጃጀት ወይም አመራር ስርዓት እና የገበያ ስርዓት ማስተዋወቅ
- ሁለቱም የፈጠራ ዓይነቶች:- ትንሽ ልዩነት ያለው ፈጠራ እና አዲስ ፈጠራ
- ለውጥ የሌለው ምርት፣ አመራረት ወይም አቅርቦት ሂደት፣ አደረጃጀት ወይም አመራር ስርዓት እና የገበያ ስርዓት ሲተገብር ቆይቷል::

4ኛውን ምርጫ ላይ ምልክት ካደረጉ ስብከት ወደ ጥያቄ ቁ 18 ይሂዱ አለበለዚያ ግን ከጥያቄ ቁ. 14 ይቀጥሉ::

14. የመልሱ ምልክትዎን ያደረጉት 1 እና 3 ምርጫ ላይ ከሆነ ለባለፈው 3 ዓመት ምን ዓይነት ትንሽ ልዩነት ያለው ፈጠራ ተግባራዊ (ትክክለኛ አማራጭ መልስ ሁሉ ላይ ምልክት ያድርጉ)

- የምርት ፈጠራ:- በትንሹ የተሻሻለ ወይም የተቀየረ ምርት ወይ አገልግሎት መስጠት
- የሂደት ፈጠራ:- በትንሹ የተሻሻለ ወይም የተቀየረ የአመራረት ወይም የአገልግሎት አቅርቦት ሂደት ተግባራዊ ማድረግ
- አደረጃጀት ወይም የአመራር ፈጠራ:- በትንሹ የተሻሻለ ወይም የተቀየረ የአደረጃጀት ዘዴ በውስጣዊ የአሰራር ልማድ፣ አወቃቀር ወይም ውጫዊ ግንኙነት

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

- የገበያ ፈጠራ:- በትንሹ የተሻሻለ ወይም የተቀየረ የግብብይት ዘዴ ስንደ ምርት ማሻሻያ፣ ማስገባቱ ሥራ፣ ዋጋ እና አቅርቦት
- ባለፈው ሦስት ዓመት ምንም ዓይነት ትንሽ ልዩነት ያለው ፈጠራ ተግባራዊ አልሆነም
- ሌላ ስብከት ይግለጹ -----

15. ለጥያቄ ተ.ቁ. 13 የመልስ ምልክትዎን ያድረጉት 2 እና 3 ምርጫ ላይ ከሆነ፣ ድርጅትዎ ምን ዓይነት አዲስ ፈጠራ ለባለፈው ሦስት ዓመት ተግባራዊ አድርጓልን (ትክክለኛ አማራጭ መልስ ሁሉ ላይ ምልክት ያድርጉ)

- የምርት ፈጠራ:- አዲስ ምርት ወይም አገልግሎት መስጠት
- የሂደት ፈጠራ:- የአመራረት ወይም የአገልግሎት አቅርቦት ሂደት ተግባራዊ ማድረግ
- አደረጃጀት ወይም የአመራር ፈጠራ:- አዲስ የአደረጃጀት ዘዴ በውስጣዊ የአሰራር ልማድ፣ አወቃቀር ወይም ውጫዊ ግንኙነት
- የገበያ ፈጠራ:- አዲስ የገበያ ዘዴ ስንደ ምርት ማሻሻያ፣ ማስገባቱ ሥራ፣ የሽያጭ ዋጋ እና አቅርቦት ዘዴ ተግባራዊ ማድረግ
- ባለፈው ሦስት ዓመት ምንም ዓይነት አዲስ ፈጠራ ተግባራዊ አልሆነም
- ሌላ ስብከት ይግለጹ -----

16. ድርጅትዎ ለባለፉት ሦስት ዓመታት ስንት አዲስ ወይም የተሻሻለ ምርት ለገበያ አቅርቧል

- ከ 2 ያነሰ 3 - 5 6 - 10
- 11 - 15 ከ15 በላይ

17. ድርጅትዎ ፈጠራን ተግባራዊ ስንደ ያደርግ እና ስንደ ያገለግላል አበረታች ሁኔታዎች ምንድን ናቸው? (ትክክለኛ አማራጭ መልስ ሁሉ ላይ ምልክት ያድርጉ)

- አስተዳደር ተባባሪ አካላት
- ሠራተኛ ደንበኛ
- የድርጅቱ አሰራር (culture) ግብአቶችን አቅራቢ
- የመንግስት ደጋፊ የገበያ ሁኔታ
- የፈጠራ ሥራ ባለቤትነት ማረጋገጫ ስድገት ለማግኘት
- ውድድር
- ህግ
- ቴክኖሎጂ
- ገንዘብ
- ሌላ ስብከት ይግለጹ

18. ከሚከተሉት በድርጅቱ የፈጠራ አቅም ላይ ሁነኛ ተግዳሮት የሆነው የቱ ነው? (ትክክለኛ አማራጭ መልስ ሁሉ ላይ ምልክት ያድርጉ)

- ከፍተኛ የፈጠራ ወጪ
- የገንዘብ ድጋፍ እና ለመጀመር የሚያስፈልገው ገንዘብ
- የመንግስት ፖሊሲ ስድገት
- የድርጅቱ አሰራር (culture)

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

- በቂ ያልሆነ ጥናትና ምርምር
- የተሰጠው ውስንነት እና የአስተዳደር ችሎታ
- የቴክኖሎጂና እውቀት መሸጋገያ መንገድ
- ግንኙነት ስና ትብብር ያለመኖር
- የግብአት አቅራቢ ተጽእኖ
- የደንበኛ ባህሪ ስና ጠበይ
- የገበያ መረጃ እና ውድድር
- የሀገር ውስጥ ገበያ ውስን መሆን
- ሌላ ስብከት ይገለጹ-----

ክፍል 4:- የድርጅቱ ውስጣዊ ስትራቴጂ አቅጣጫ
ይህ ክፍል ትኩረት የሚሰጠው የድርጅቱ ውስጣዊ ስትራቴጂ አቅጣጫ ለፈጠራ ውጤት ያስገኘውን አስዋግዶ የሚያመለክት ነው።

ስብከት የሚከተሉትን ዓረፍተ ነገሮች ከርስዎ ድርጅት አንጻር በመመዘን በተሰጠው የልኬት መጠን መሠረት በአንዱ ቁጥር ያክቡ

በጣም አልስማማም	በመጠኑ አልስማማም	በጥቂቱ አልስማማም	ለመስማማትም ላለመስማማትም ታርቅቤአለው	በጥቂቱ እስማማለሁ	በመጠኑ እስማማለሁ	በጣም እስማማለሁ
1	2	3	4	5	6	7

ጥያቄ ተ.ቁ 19 - 23 ከአመራር አቅጣጫ ጋር ግንኙነት ያለው ሲሆን ስብከት ከርስዎ ድርጅት አንጻር በመመዘን ትክክለኛውን ቁጥር ያክቡ

19	የኛ አመራር ፈጠራን አንድአንድ ስትራቴጂ ግብ እና የወደፊት የድርጅቱ ምኞት አድርጎ ይመለከታል።	1	2	3	4	5	6	7
20	የድርጅቱ አመራር የፈጠራን ፍላጎት ለማሳካት የረጅም ጊዜ እቅድ ላይ ትኩረት ይሰጣል።	1	2	3	4	5	6	7
21	የድርጅቱ አመራር ከፍተኛ ለገገ ያለውን ንግድ ከርስዎ በመምረጥ አዲስ አጋጣሚ የሚሰጥ አካሄድ ስና አስተሳሰብ ያሳያሉ	1	2	3	4	5	6	7
22	የድርጅቱ አመራር አዲስ ሃሳብ ይዞ በመነሳትና የፈጠራ ንግግራሞች ላይ ይሳተፋል	1	2	3	4	5	6	7
23	የድርጅቱ አመራር የፈጠራ ምርት እና አገልግሎት ለማግኘት አስፈላጊውን ግብዓት ለጥናትና ምርምር ይመድባል	1	2	3	4	5	6	7

ጥያቄ ተ.ቁ 24 - 29 ከድርጅቱ አሰራር (Culture) ጋር ግንኙነት ያለው ሲሆን ስብከት ከርስዎ ድርጅት አንጻር በመመዘን ትክክለኛውን ቁጥር ያክቡ።

24	ድርጅቱ ለተለያዩ አመለካከት እሴቶችን ከፍተኛ በማድረግ አዲስና የውጭ ሃሳቦችን ተቀብሎ ያከናውናል።	1	2	3	4	5	6	7
25	በድርጅቱ ውስጥ የሚሠሩ ሠራተኞች አዲስ እውቀትና ክህሎት	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

	በአግባቡ በማግኘት በመተባበር ይለዋወጣሉ።							
26	ድርጅቱ እንደ ስኬት፣ ውድቀት እና የደንበኛን አስተያየት መረጃ ለውስጥ የመማር ሂደት እንዲውል ለሚመለከተው ሠራተኛ በትክክል ያካፍላል።	1	2	3	4	5	6	7
27	ድርጅቱ በቀላሉ የሚለዋወጥ የአደረጃጀት መዋቅር አለው	1	2	3	4	5	6	7
28	ድርጅቱ ሠራተኛውን በነፃ እንዲያስብ፣ ሃሳብ እንዲያመነጭ፣ የሚፈልጉትን ሃሳብ እንዲከተሉ፣ ከልምድ እንዲማሩ እና ስጋትን እንዲጋፈጡ ያበረባባል።	1	2	3	4	5	6	7
29	የድርጅቱ አሠራር ሃሳብ የማመንጨት እና የፈጠራ ችሎታ ያለውን ባህሪ ይሸልማል ያበረባባል።		2	3	4	5	6	7

ጥያቄ ተ.ቁ 30 - 36 ከቴክኖሎጂ አቅጣጫ ጋር ግንኙነት ያለው ሲሆን እብክዎ ከርስዎ ድርጅት አንፃር በመመዘን ትክክለኛውን ቁጥር ያክቡ።

30	ድርጅቱ ከንግድ ስትራቴጂ ጋር የሚያያዝ የቴክኖሎጂ አስተዳዳሪ መርህ አለው	1	2	3	4	5	6	7
31	የድርጅቱ ፖሊሲ ዘመናዊ ቴክኖሎጂዎችን መጠቀም ነው።	1	2	3	4	5	6	7
32	ድርጅቱ ከተቀናቃኞቹ ወደፊት ለመገኘት ቴክኖሎጂ ገዝቶ ይጠቀማል።	1	2	3	4	5	6	7
33	ድርጅቱ አብዛኛው ጊዜ አዲስ ዘዴ እና ቴክኖሎጂን ለመሞከር ፈርቆ ቀዳጅ ነው።	1	2	3	4	5	6	7
34	ድርጅቱ አዘውትሮ የውስጥ የሥራ ሂደትን እንደ ፍጥነት፣ አስተማማኝነት እና መረጃ አስተዳደርን ያሻሽላል።	1	2	3	4	5	6	7
35	ድርጅቱ ለአዲስ ቴክኖሎጂ እና ወደፊት ለሚቀየሩ ቴክኖሎጂ ገንዘብ መድቦ ይገዛል።	1	2	3	4	5	6	7
36	ድርጅቱ ለቴክኖሎጂ ማሳደግ ያለው ብቃት ከፍተኛ ነው።	1	2	3	4	5	6	7

ጥያቄ ተ. ቁ. 34-43 ከገበያ አቅጣጫ ጋር ግንኙነት ያለው ሲሆን እብክዎ ከድርጅቱ አንፃር በመመዘን ትክክለኛውን ቁጥር ያክቡ።

37	የድርጅቱ የሥራ ክፍሎች በመቀናጀት ላለመው ገበያ ፍላጎትን ለማሟላት ይሠራል።	1	2	3	4	5	6	7
38	በተለያዩ ቦታ ላይ ያሉ የድርጅቱ አመራሮች ለደንበኛ እሴት በመፍጠር ረገድ የሁሉም ሠራተኛ አስተዋጽኦ በሚገባ ይረዳል።	1	2	3	4	5	6	7
39	ደርጅቱ በራሱ ተነሳሽነት ከደንበኛው ጋር ውይይት ያደርጋል፣ የጋራ ግንኙነት ይመሠርባል	1	2	3	4	5	6	7
40	የንግዱ ስትራቴጂ የሚመራው የደንበኛውን እሴት የመጨመር ግብ መሠረት አድርጎ ነው	1	2	3	4	5	6	7
41	ድርጅቱ ለተቀናቃኝ እርምጃ በፍጥነት መልስ ይሰጣል።	1	2	3	4	5	6	7
42	ድርጅቱ አዘውትሮ የተቀናቃኝ ድክመት በመገምገም የባለመ አጋጣሚን በመጠቀም የተሻለ ጥቅም ያገኛል።	1	2	3	4	5	6	7
43	ድርጅቱ የደንበኛን እና የተቀናቃኝ ባህሪዎችን ለመረዳት የገበያን መረጃ ለሠራተኛ ማጋራትን ያበረባባል።	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

ጥያቄ ተ.ቁ. 44-49 በሀብረት ከመሥራት እና ግንኙነት መፍጠር አቅጣጫ ጋር ግንኙነት ያለው ሲሆን እባክዎ ከድርጅቱ አንጻር በመመዘን ትክክለኛውን ቁጥር ያክቡ።

44	ድርጅቱ ከሽርክ አካላት፣ ግብአት አቅራቢ እና በኮንትራክት አብሮ ከሚሰራቸው አካላት ጋር ንቁ ግንኙነት አለው።	1	2	3	4	5	6	7
45	ድርጅቱ ከደንበኞች ጋር በቅርበት በመሥራት አዳዲስ ሀሳቦችን ያስሳል፣ ያሳድጋል።	1	2	3	4	5	6	7
46	ድርጅቱ በሀገር በቀል እና ዓለም አቀፍ የንግድ እና እንደስትሪ ማህበር አባል ነው።	1	2	3	4	5	6	7
47	ድርጅቱ ስትራቴጂካል ሽርኮች በሚገባ በመለየትና በጋራ በመስራት አዲስ እውቀት እና ቴክኖሎጂ በማጥናት ያለውን ሀብት እና ህሎቅ ያሳድጋል።	1	2	3	4	5	6	7
48	ድርጅቱ የትብብር ስምምነት ከሌሎች ድርጅቶች ጋር በማድረግ ጥናትና ምርምር ስራዎችን በድርጅቱ ውስጥ ወይም ፣ ከሌላ ድርጅቶች ጋር ይሠራል።	1	2	3	4	5	6	7
49	ድርጅቱ ከሌሎች ድርጅቶች ጋር ንቁ ግንኙነት በመፍጠር የፈጠራ ስራዎች የሚያስከትሉትን ጠቀሜታዎች ስጋትን በጋር ይካፈላል።	1	2	3	4	5	6	7

ጥያቄ ተ.ቁ. 50-56 ከድርጅቱ የመማር አቅም እና እውቀት አመራር ጋር ግንኙነት ያለው ሲሆን ለባክዎ ከርስዎ ድርጅት አንጻር በመመዘን ትክክለኛውን ቁጥር ያክቡ።

50	ድርጅቱ የውቀት አመራርን ለማሳደግ ስርዓት ዘርግቶ ይሠራል።	1	2	3	4	5	6	7
51	ድርጅቱ ከዩኒቨርሲቲዎች፣ ሞያ ትምህርት ቤት እና የምርምር ማዕከል በጋራ ጥናቶችን በማድረግ የወደፊት ሁኔታዎችን ያስሳል፣ ዕውቀት ያዳብራል።	1	2	3	4	5	6	7
52	የድርጅቱ ባለሙያዎች ያላቸውን ልምድ በማጋራት ወይም በመተግበር ለሌሎች የድርጅቱ ሠራተኞች አስተዋጽዖ ያደርጋል።	1	2	3	4	5	6	7
53	የድርጅቱ ሠራተኞች በመደበኛ ጊዜ ስለአዎንታዊ ልምድ እና ስኬታማ የሥራ ዘዴ በቅርብ ጊዜ ስላለው ሁኔታ መረጃ ይቀያይራል።	1	2	3	4	5	6	7
54	ባለሙያዎች ምርትና አገልግሎትን ለማሳደግ የተጠቀሙበት ዘዴ በነፃ ለማህበረሰቡ ለማስተዋወቅ ይበረታታል።	1	2	3	4	5	6	7
55	ድርጅቱ የሥራ መርህ በመቅረጽ ሥራውን ይመራል ለንዲሁም ሠራተኞች እና ቡድኖች ጊዜና ገንዘብ ሳይባክን ሥራቸውን በሚገባ ለንዲያከናውኑ ይረዳቸዋል።	1	2	3	4	5	6	7
56	አመራሮች የድርጅቱ የመማር አቅም ለውድድር ተጠቃሚነት ቁልፍ መሆኑን ይስማማሉ።	1	2	3	4	5	6	7

ክፍል 5:- የፈጠራ ሥራዎች

ጥያቄ ተ.ቁ. 57 - 66 ላለፉት ስስት ዓመታት የድርጅቱ የፈጠራ ሥራ አፈጻጸም ከሌሎች ድርጅቶች አንጻር ይመዘናል። እባክዎ ከባክዎ ከባች በተገለጸው መመዘኛ መሠረት ለ-ያንዳንዱ ዓረፍተ ገር ትክክለኛውን ቁጥር ያክቡ።

በጣም	በመጠኑ	በትንሹ	ምንም	በትንሹ	በመጠኑ	በጣም
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The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

የበባች	የበባች	የበባች	ልዩነት የለውም	የበላይ	የበላይ	የበላይ
1	2	3	4	5	6	7

57	ድርጅቱ አዘውትሮ አዳዲስ ሀሳቦችን ይሞክራል	1	2	3	4	5	6	7
58	ድርጅቱ በብዛት አዳዲስ ምርት፣ አገልግሎት፣ የሥራ ሂደት ወይም የአደረጃጀት ወይም የአመራር ዘዴን ያስተዋውቃል	1	2	3	4	5	6	7
59	ድርጅቱ አዲስ ምርት ፣ አገልግሎት ለገበያ በማቅረብ ፈር ቀዳጅ ነው።	1	2	3	4	5	6	7
60	የድርጅቱ አመራር በአዲስ መልክ ሥራን ለመስራት የሚያስችል መንገዶችን ይፈልጋል።	1	2	3	4	5	6	7
61	የድርጅቱ የአሠራር ዘዴ ፈጠራን ያማከል ነው።	1	2	3	4	5	6	7
62	ድርጅቱ ዘመናዊ ቴክኖሎጂዎችን ይጠቀማል።	1	2	3	4	5	6	7
63	ድርጅቱ አዲስ የገበያ ክፍል ፈጥሯል።	1	2	3	4	5	6	7
64	ድርጅቱ አዲስ የገበያ ዘዴን ይጠቀማል።	1	2	3	4	5	6	7
65	ድርጅቱ በአዲስ መልክ ከደንበኞች ጋር ግንኙነት ፈጥሯል።	1	2	3	4	5	6	7
66	ድርጅቱ ለአዲስ ምርት፣ አገልግሎት እና የሥራ ሂደት ለሚውል ጥናትና ምርምር ሥራ ገንዘብ ይመድባል።	1	2	3	4	5	6	7

ክፍል 6:- የድርጅቱ አፈጻጸም

ጥያቄ ተ.ቁ. 67 - 78 ላለፉት ሦስት ዓመታት የድርጅቱ የንግድ እድገት አፈጻጸም ከሌሎች ድርጅቶች አንጻር ያመዘናል። እውቀት ከባች በተገለፀው መመዘኛ መሠረት ለግንደግዳ ዓረፍተ ነገር ትክክለኛውን ቁጥር ያክቡ።

በጣም የበባች	በመጠኑ የበባች	በትንሹ የበባች	ምንም ልዩነት የለውም	በትንሹ የበላይ	በመጠኑ የበላይ	በጣም የበላይ
1	2	3	4	5	6	7

67	የድርጅቱ አቅም አዲስ ምርት አገልግሎትና የሥራ ሂደት በመፍጠር	1	2	3	4	5	6	7
68	የድርጅቱ አቅም ከገበያ ፍላጎት ጋር ለመላመድ	1	2	3	4	5	6	7
69	ድርጅቱ የደንበኞችን ፍላጎት በማሟላት እና ማስደሰት	1	2	3	4	5	6	7
70	ድርጅቱ የፈጠራ ሥራን ባለቤትነት የሚያረጋግጥ ሽልማቶች	1	2	3	4	5	6	7
71	የድርጅቱ የሽያጭ እድገት	1	2	3	4	5	6	7
72	የድርጅቱ የፈጠራ ምርት ወይም አገልግሎት ሽያጭ እድገት	1	2	3	4	5	6	7
73	የድርጅቱ የትርፍ እድገት	1	2	3	4	5	6	7
74	የድርጅቱ የፈጠራ ምርት ወይም አገልግሎት ትርፍ እድገት	1	2	3	4	5	6	7
75	ድርጅቱ ሥራ ላይ ላለው ገንዘብ ያገኘው ትርፍ። (Return on investment)	1	2	3	4	5	6	7
76	ድርጅቱ በፈጠራ ምርት ወይም አገልግሎት ሥራ ላይ ለላለው ገንዘብ ያገኘው ትርፍ (Return on investment)	1	2	3	4	5	6	7
77	የድርጅቱ የገበያ ድርሻ	1	2	3	4	5	6	7

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

78	የድርጅቱ ሠራተኞች ችሎታ ተሻሽሏል	1	2	3	4	5	6	7
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ክፍል 7:- አጠቃላይ አስተያየት ወይም ሃሳብ

ገቢዎ በኢትዮጵያ ስለሚሠሩ ትልቅና መካከለኛ ጨርቃ ጨርቅ እና ልብስ ዘርፍ ድርጅቶች ያሉትን አስተያየት ወይም ሃሳብ ይስጡ።

አመሰግናለሁ።

Appendix C: Semi - structured interview questions

a) Semi – structured interview guide questions for managers in large and medium textile and garment sector in Addis Ababa

1. From your view point, what is the innovation performance of the sub-sector in Addis Ababa? Which type of innovation is common radical or incremental; product, process, organization and market innovation?
2. How do you rate the innovation performance of your firm? What are the major innovation practices in the last three years? How is the contribution of innovation practices to firm performance?
3. What are the main enabling factors or drivers of innovation?
4. Does your firm business strategy consider innovation as one of the priorities for business success? What are the strategies adopted by the enterprise to encourage innovation in terms of management practices, organizational culture, technology management, market orientation, knowledge management, alliance and networking?
5. What are the challenges of innovation?
6. What is your suggestion to overcome the challenges of innovation in the sector?

Thank You

b) Semi – structured interview guide questions for ETIDI, MINT, ETGAMA

1. What are the main purpose and objectives of the organization
2. What measures are taken to encourage innovation in the large and medium textile and garment sector? What is the future plan of the organization to promote innovation in the sector?
3. What are the major success achieved to strengthen innovation in the sector
4. What are the challenges to encourage innovation in the sector
5. What is your suggestion to overcome the challenges of innovation in the sector

Thank You

Appendix D: Inter-item and item-to-total correlation

Construct	Number of items	Inter-item correlation	Item - total correlation
Management orientation	5	.566 - .924	.768 - .878
Organization culture	6	.647 - .934	.769 - .895
Technology orientation	7	.745 - .923	.851 - .957
Market orientation	7	.686 - .944	.830 - .912
Alliance and networking	6	.266 - .907	.540 - .811
Organizational learning and knowledge management	7	.406 - .909	.551 - .863
Innovation practices	10	.684 - .940	.840 - .960
Business growth performance	12	.600 - .956	.790 - .925

Appendix E: Respondent characteristics

Measure items		Frequency	Percent
Age	21 to 34	37	16
	35 to 44	105	47
	45 to 54	64	28
	55 to 64	19	8
Role	Managing Director	17	8
	Director	50	22
	Supervisor	78	35
	Chief / Senior officer	41	18
	Officer	39	17
Work period	Under 2 years	31	14
	3 to 5 years	67	30
	6 to 10 years	82	36
	11 to 15	38	17
	Above 15 years	7	3

The Influence of Innovation Practices on the Relationship Between Firm Internal Strategies and Firm Performance: Evidence from the Textile and Garment Industry in Ethiopia

Appendix F: Measurement model cross loadings report

	AN	FP	IP	MKO	MO	OC	OLM	TO
AN1	0.8016	0.6538	0.5736	0.5923	0.4550	0.3661	0.2722	0.6350
AN2	0.8001	0.5899	0.5269	0.4886	0.4203	0.4031	0.2769	0.5619
AN3	0.8216	0.6163	0.4842	0.4437	0.3588	0.3185	0.2161	0.5143
AN4	0.8279	0.5697	0.4755	0.3780	0.3611	0.2484	0.2009	0.4779
AN5	0.8210	0.6438	0.5839	0.4526	0.4560	0.3246	0.2938	0.5734
AN6	0.8160	0.6300	0.5858	0.4779	0.5254	0.3535	0.2630	0.5822
FP1	0.6748	0.8471	0.6505	0.5470	0.5990	0.4304	0.3157	0.6313
FP10	0.5800	0.8169	0.6401	0.5438	0.6010	0.4225	0.2895	0.5982
FP11	0.6309	0.8122	0.6516	0.5892	0.5888	0.4369	0.3529	0.6196
FP12	0.6485	0.8566	0.6771	0.5699	0.5838	0.4571	0.3746	0.6520
FP2	0.6183	0.7871	0.5494	0.4442	0.4037	0.4066	0.2454	0.5154
FP3	0.6128	0.7455	0.5530	0.4615	0.4352	0.3917	0.2452	0.5441
FP5	0.5460	0.7690	0.5385	0.5253	0.4156	0.3151	0.2902	0.5543
FP6	0.5776	0.7968	0.5868	0.5592	0.4840	0.3439	0.3102	0.6228
FP7	0.6133	0.7811	0.5328	0.6256	0.4764	0.3074	0.3211	0.5794
FP8	0.5279	0.7118	0.5115	0.4049	0.4077	0.4905	0.3217	0.5026
FP9	0.6266	0.8408	0.6531	0.5236	0.5737	0.4376	0.3515	0.5995
IP1	0.5945	0.6599	0.8522	0.5551	0.6056	0.5504	0.4710	0.6735
IP10	0.5524	0.6130	0.8272	0.4992	0.6026	0.5036	0.3376	0.6874
IP2	0.5769	0.6514	0.8507	0.5425	0.5820	0.5293	0.4369	0.6249
IP3	0.5446	0.6587	0.8391	0.5096	0.5618	0.4875	0.4429	0.6259
IP4	0.5645	0.6125	0.8367	0.4963	0.5212	0.5486	0.4098	0.6198
IP5	0.5340	0.6270	0.8460	0.4806	0.5454	0.6061	0.4079	0.6551
IP6	0.5082	0.5956	0.7965	0.4372	0.5054	0.5384	0.4034	0.6775
IP7	0.5638	0.6118	0.8377	0.4614	0.5826	0.5819	0.3589	0.6495
IP8	0.5279	0.6010	0.8016	0.4880	0.6415	0.5140	0.3183	0.6261
IP9	0.5537	0.5944	0.8270	0.5231	0.5999	0.5463	0.2612	0.6591
MKO1	0.5175	0.5978	0.5432	0.8524	0.4365	0.3585	0.2089	0.5813
MKO2	0.4780	0.4989	0.4912	0.8694	0.4083	0.3365	0.1910	0.5261
MKO3	0.4829	0.5431	0.4598	0.8591	0.3489	0.3088	0.2681	0.5216
MKO4	0.5388	0.5925	0.5068	0.8654	0.3910	0.2844	0.2605	0.5636
MKO5	0.4856	0.5637	0.5205	0.8937	0.4506	0.3372	0.2186	0.5652
MKO6	0.4982	0.6031	0.5703	0.8862	0.4776	0.3433	0.1757	0.5835
MKO7	0.5527	0.6346	0.5644	0.8829	0.4712	0.3348	0.1987	0.6157
MO1	0.5101	0.6109	0.6533	0.5281	0.8916	0.4789	0.2199	0.6192
MO2	0.4550	0.5834	0.5998	0.4605	0.9057	0.4239	0.1972	0.5382
MO3	0.4377	0.5299	0.5688	0.3670	0.8896	0.3932	0.1598	0.5131
MO4	0.4828	0.5602	0.6042	0.4170	0.9146	0.4098	0.2003	0.5767
MO5	0.4946	0.5873	0.6715	0.4237	0.8938	0.4246	0.2242	0.5939
OC1	0.3545	0.4222	0.5771	0.3295	0.4285	0.8553	0.2711	0.4208
OC2	0.3466	0.4361	0.5814	0.3281	0.4064	0.8848	0.3167	0.4372
OC3	0.4398	0.5187	0.5692	0.3751	0.4206	0.8784	0.2693	0.4668
OC4	0.3588	0.4532	0.6008	0.3375	0.4655	0.8972	0.2256	0.4694
OC5	0.3389	0.4138	0.5278	0.2985	0.3761	0.8895	0.2716	0.4316
OC6	0.3360	0.4129	0.5651	0.3149	0.4023	0.8644	0.2457	0.4605
OLM1	0.2830	0.3744	0.4523	0.2542	0.2576	0.2838	0.8371	0.3661
OLM2	0.3075	0.3778	0.4196	0.2208	0.2381	0.2754	0.8629	0.3172
OLM3	0.2310	0.2653	0.3147	0.1637	0.0806	0.2091	0.8145	0.2247
OLM4	0.2298	0.2977	0.3633	0.2354	0.1114	0.2359	0.8467	0.3317
OLM5	0.2362	0.2869	0.3523	0.1633	0.1752	0.2204	0.8296	0.2808
OLM6	0.2799	0.3412	0.3897	0.1980	0.2118	0.2564	0.8390	0.3215
OLM7	0.2562	0.3228	0.4013	0.2019	0.1974	0.2810	0.8393	0.3135
TO1	0.6017	0.6084	0.6886	0.5759	0.5815	0.4697	0.3363	0.8744
TO2	0.5786	0.5853	0.6422	0.5549	0.5212	0.4373	0.3043	0.8673
TO3	0.6079	0.6273	0.6499	0.5893	0.5368	0.4455	0.2498	0.8725
TO4	0.6392	0.6846	0.6980	0.5894	0.6160	0.4777	0.3017	0.9025
TO5	0.6145	0.6473	0.7153	0.5714	0.5482	0.4384	0.3924	0.8927
TO6	0.6072	0.6916	0.7108	0.5580	0.5514	0.4324	0.3646	0.8879
TO7	0.5885	0.6692	0.7044	0.5674	0.5495	0.4448	0.3338	0.8658