Master's degree thesis

LOG950 Logistics

A Comparative Study of Antecedents to Contracting Practice in Buyer-Seller Relationships in Egypt and China

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Number of pages including this page: 164

Molde, 22/05/2017

Molde University College
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Acknowledgement

All praises to almighty God. We are so grateful to God for helping us to reach this stage and many more other blessings. We would not have made it without his guidance and continuous grace upon us, we would not have gone thus far, once again we thank you.

Special thanks and appreciation go to our dear supervisor, Professor Arnt Buvik for his constant support and tireless guidance throughout this research work. Working with Professor Buvik has brought out the best in us and we owe it all to him. He shaped our thinking and broaden horizon in the field of logistics and business researches. We also applaud him for his pivotal role in this study and it was a joy to work with him. Special thanks to him for his academic guidance and support which is highly appreciated and valuable; and a cornerstone to the success of this work. God bless him.

We also would like to extend our heartfelt appreciation to the Norwegian Government represented in Norwegian State Education Fund and Molde University College for the opportunity advanced to us to embark on this interesting and worthwhile academic pursuit.

Furthermore, we want to thank key players and stakeholders in the textile industry in Egypt and Chins who agreed and willingly gave us valuable data and important information which makes this study comes into fruition and a success.

Mahmoud Hammad: My sincere thanks go to my lovely family. Special gratitude to my dad, Ahmed Hammad, thanks for your prayers, inspiration and support. My mom, I would like to acknowledge with gratitude, the support and love from you. Exceptional appreciation goes to my young brothers, Mohamed and Mostapha Hammad for supporting me. To my uncles and their families thank you very much. To my little baby, best friend, second mom, my only sister and all my life (Lola) the past, present and future, I love you so much. God, bless you all.

In Egypt, I am grateful to my institution Arab Academy for Science, Technology and Maritime Transport, my teachers Dr. Islam Elnakib, Dr. Sara Elzarka, Dr. Mostapha Rashed, Sahar Elbarqi and Dr. Ahmed Shoala, to my friends Mr. Sobhy Mostapha and his family, Mr. Tarek Nader, Mr. Hammdy, Mr. Ahmed Mahmoud, Eng. Elbery, Eng. Serag, and all my colleagues. In Norway, I would like to express the deepest appreciation to my supervisor, Professor Arnt Buvik, who has the gratitude and the substance of a genius, and my brothers Mr. Mohamed and Eng. Tarek Rashed and their families.

I

Table of Contents

List of Tables

List of Figures

List of Abbreviations

AMOS:	Asset Management Operating System.
AVE:	Average Variance Extracted.
CFA:	Confirmatory Factor Analysis.
CFI:	Comparative Fit Index.
CR:	Composite Reliability.
ECES:	The Egyptian Center for Economic Studies.
EFA:	Exploratory Factor Analysis.
GDP:	Gross Domestic Product.
IFI:	Incremental Fit Index.
KMO:	Kaiser-Meyer-Olkin
ML:	Maximum Likelihood.
MSA:	Measure of Sampling Adequacy.
OLS:	Ordinary Least Square.
RCT:	Relational Contracting Theory.
RDT:	Resource Dependence Theory.
RMSEA:	Root Mean Square Error of Approximation.
SEM:	Structural Equation Model.
SPSS:	Statistical Package for the Social Sciences.
TCA:	Transaction Cost Analysis.
TOI:	Textile Outlook International.
UNECA:	United Nations Economic Commission for Africa.
US$:	United States Dollar.
VIF:	Variance Inflation Factor.

Abstract

Purpose: The aim of this thesis is to find out the differences in buyer-seller relationship between Egypt and China and how the cultural factors influence the contracting practice between these two countries.

Theoretical Framework: Transaction cost analysis, relational contracting theory and resource dependence theory are the main three theories applied in this study. From the cross-cultural perspective, Hofstede's cultural dimensions theory is used to study the effects of culture on business. Based on the three theories above and considerations of culture influence, three hypothesizes were formulated to assess the impacts of independent variables on the dependent variables. Questionnaires were designed for collecting data for the evaluation of business behavioral differences between these two countries.

Findings: Formal contracts are utilized in Egypt much more often than China. Specific investments and environmental uncertainties were found to have significant impacts on the contracting practices of Egypt and China. The findings show that when the size of the buying firm increases, the association of supplier specific investments and formal contracting becomes much more enforced in Egypt. Whereas, the association between environmental uncertainties and formal contracting was found to be statistically significant and higher in China than Egypt.

Theoretical Implications: The empirical findings indicate the importance of culture influences behind contracting practice in business relationship in the two countries. The emphasis on laws and regulations by Egypt society gravitate Egyptian businesses in preference toward formal contracts in business interactions. While the negotiation fluidity and behavioral flexibility of Chinese culture makes Chinese businesses less dependent on formal agreements than the Egyptians.

Managerial Implications: Globalization makes it much more pertinent for business managers and executives to understand the cultural differences and their influences on contracting practice. In order to establish and manage the long-term relationship between exchanging partners, understanding of the cultural environment is also necessary. Comparing textile industries in each country, this study provides general insights into the relation between cultural factors and contracting practice.

CHAPTER ONE
THE PROBEM AND ITS CONTEXT

Chapter One
The Probem and Its Context

1.1 Background

The textile industry has made significant contributions to industrial development in the history of human beings. The rise and development of textile industry liberated mankind from hunger and cold, refined human spirit and raised civilization, plays an irreplaceable role in the prosperity of global economy and greatly pushes the development of productivity technology. Textile is not only used in the clothing we wear, but it also influences the interior and exterior decoration and significantly changes the appearance of our living spaces. Furthermore, it is also utilized as high-tech materials in sports, leisure, aircraft, automotive, computer, civil construction, engineering, medicine, etc. In general, textile industry has improved the living conditions of the world while supplying new styles of life and culture for human in the world.

1.1.1 Chinese Textile Industry

China has a huge textile industry and its market plays an important role in the world textile trading business. The textile industry is vital for Chinese economy in increasing foreign trade and domestic employment. In considering contributing factors and international competitive advantage, the development of the textile industry is determined by labor costs and technology (S. Q. Luo, 2016). Chinese textile industry shows apparent scale economy and cost effectiveness in material supply, labor costs, product qualities, compatibility between up and down stream, which contributes to its vigorous export competitive advantage (Fei, Chen, Cai, Fang-Mi, & Lin, 2015; Shen, 2016).

In 2016, despite global economic depression and the low level of market demand, the Chinese textile industry achieved steady growth throughout last year. It focused on the further transformation and upgrading, actively implementing structural reforms, stable profitability as well as the continuous improvement of operational quality. However, the cost burden of enterprises is still heavy and the industry is facing greater pressure for developing (CTEI, 2017).

According to the data from National Bureau of Statistics, for the year of 2016, the textile industry above-scale enterprises industrial added value increased by 4.9%, lower than the same period last year by growth rate of 1.4 percentage points. It achieved business income of 1,062.8 billion US dollars, with an increase of 4.1% from previous year. The total profit

was 58 billion US dollars, with an increase of 4.5%, the growth rate slowed 0.9 percentage points over the same period last year; fixed assets investment is 1861.36 billion US$, with an increase of 7.8%, the growth rate compared to the same period of last year decreased by 7.2 percentage points. The annual exports of textiles and clothing was 271.02 billion US dollars, fell 7.2% year-on-year, down by 2.4 percentage points over the same period last year. The profit margin of textile enterprises above designated size was 5.5%, the total asset turnover was 1.6 times / year, which was comparable with the same period last year (CTEI, 2017; Institute, 2017; Statistics, 2017).

1.1.2 Egyptian Textile Industry

On the other side, Egypt is home to the largest and most productive cotton and textile clusters in Africa in terms of export value. The Egyptian textile industry is considered as the third-largest Egyptian exports by value, it provides 1.2 million Egyptian workers and engineers who presented about 30% of the overall industrial labor force. Long and extra-long staple cotton are the main core competency for the Egyptian textile industry.

The Egyptian textile industry is the third contributor to the GDP and a major foreign exchange earner in the Egyptian economy (El-Haddad, 2012). According to the United Nations Economic Commission for Africa (UNECA, 2013), Egypt is home to the only fully vertically integrated textiles industry in the Middle East and Africa, starting from the cultivation of cotton up to finished products which assured buyers of short lead times.

However, over the last 30 years, the Egyptian textile industry has been in decline and faced serious problems as: lack of renovation, limited skilled labor, high input prices, and high tax and finance costs (Verdonk & Hamza, 2016). Moreover, the exports of the Egyptian textile and clothing fell from 3.437 million US$ in 2011 to 2.758 million US$ in 2015, which was resulting from the decline in exports of raw cotton, synthetic fibers, cotton yarn and cotton textiles to most foreign markets. In contrast, the imports of the textile and clothing have been increased to 4.221 million US$ in 2015 from 2.492 million US$ in 2011, representing 6% of the total volume of imports in the country. Also, according The Egyptian Center for Economic Studies (ECES, 2017) and Textile Outlook International (TOI, 2016), Egypt was producing 12 million quintals of cotton/year and now produces only 2 million quintals/year.

1.2 Research Problem

This study focuses on the practice of business contracting in two textile industries. China and Egypt are the objects of this comparison study. This paper is to compare whether the

contracting practices in Egypt and China is different and tries to explore the effects of culture on buyer and supplier relationship. In order to conduct this study, specific analysis of the buyer-supplier relationship based on transaction cost theory, relational contracting theory, resource dependency theory and cultural dimension theory with combination of the practical investigation in fabric sector would be studied.

There have been considerable researches with regards to the contracting practice in buyer and supplier relationship. According to Williamson (1985), in regards to transaction cost analysis, this kind of exchange issue is closely related to the contracting problem. Due globalization of trade, the effect of culture on global business has been given more and more attention in recent years. From the perspective of cross-cultural comparison, the extent of researches are limited, and most of which only conducted the comparison between the developed and less developed areas, especially the comparison of Western countries and Asian countries (Umar, 2009). However, very few studies have carried out research focusing on the comparison of cultural effects between emerging markets.

The emerging markets play an increasingly significant role in business under the globalization, especially within the manufacturing industry. Thus, it has become necessary to understand the role of culture in buyer-seller relationship between emerging markets. Based on the above reasons, the textile industry, as one of the typical manufacturing industries is decided as the emphasis of business area in this paper. Considering the history and importance of textile industry in the two countries, Egypt and China are determined as the objects of the comparison in this study.

In general, this thesis focuses on the following issues:

1. Is there any difference in contracting practices between Egypt and China?
2. What is the effect of specific investments and environmental uncertainty on contracting practices in Egypt and China? Is there any difference?

1.3 Objectives of the Study

According to the literature, there is a current trend to emphasize the buyer-seller relationships within the supply chain. Umar (2009) has conducted the comparison study with regard to the business relationship between Asian-Western and Asian-Asian countries. Dwyer, Schurr, and Oh (1987) have constructed the framework for buyer and seller relationships. Hsiao, Purchase, and Rahman (2002) studied the relationship between the performance of supply chain and buyer and supplier relationship. Therefore, investigation

of the buyer-supplier relationships has become an area of interest in the field of purchasing. The textile industry is becoming the important business nowadays, many actors have decided to take part and participate in the value creation for the end users. According to this, various participants took part in procurement, purchasing, warehousing and other logistical services and activities e.g. (Hill, McGowan, & WhiteMcGloin, 1999; Holtgrave, Nienaber, & Ferreira, 2016; Hsiao et al., 2002; Lau, Moon, Zhang, & To, 2005; Talay, 2015). It is possible to denote certain level of dependence and cooperation between these participants and it is increasingly important to have the complete picture on the correlation within the different levels of such supply chain values.

Therefore, this thesis focuses on the textile industry in eastern Egypt and China related to the cultural perspective. The purpose of thesis is to study the framework of buyer-seller relationships in fabric producers under textile industry in China and Egypt, and to find out the culture differences influencing the contracting practice between the buyer and supplier. This paper will be conducted as a comparison study between China and Egypt in textile industry.

1.4 Justification for the Study

Textile industry plays a significant role in the national economy of both Egypt and China. Chinese textile industry plays an irreplaceable role in paying for profits and taxes, exporting, accumulating construction funds, creating jobs (around 170 million people are engaged in textile industry) (Xiaoyi, 2015), prospering urban and rural markets, promoting the development of agriculture and other related industries. Chinese textile industry has made great contributions toward industrial development and improving the quality of people's living standard (Gao, 2014). However, due to the continuously increasing labor cost in China, strict internationally limitation policy for textile exporting countries as well as the intense global competition between the textile producing countries, the textile industry in China has been facing huge pressure in recent years.

Although Egyptian textile industry is the biggest textile industry in Africa and the Middle East area, the recent political uncertainty in the country has negatively affected the development of textile industry. This led to the workers strikes and protests, operational inefficiencies, lower productivity, higher production and transaction cost and other problems in textile industry. With globalization, Egyptian textile industry is also facing the harsher competition from other countries.

While the textile industry is still being developed in both countries, globalization brings to both countries new challenges and opportunities. Nonetheless, there is not sufficient researches explored the buyer and supplier relationship from the cross-cultural perspective in textile industry. Therefore, in-depth understanding of the business relationship in textile industry in different culture under the comparison of emerging markets is the biggest incentive for this paper.

1.5 Scope of the Study

This study encompasses the area of eastern part in China and Egypt. More specifically, this research is mainly conducted in Shanghai, Jiangsu and Zhejiang in China as well as from Cairo the capital of Egypt. This study is conducted from buyer's perspective, it focuses on the relationship between fabric producers (suppliers/sellers) and clothing manufacturers (buyers) in China and Egypt respectively. In addition, the relationships between small private textile firms and their suppliers are also emphasized in this research. Due to the restricted time and resources, the scope of our study is limited to the presented level.

1.6 Organization of the Thesis

This thesis contains nine chapters in total. Chapter one gives the brief introduction of this study, the background of textile industry in Egypt and China is shortly presented as well. Chapter two emphasize the reviewing the literatures with respect to transaction cost analysis relational contracting theory and resource dependency theory. Chapter three discusses the culture difference in business between Egypt and China, the cultural dimension theory is taken as the basic method in culture comparison. Chapter four illustrates the research model and the variables, three hypotheses based on the model are also given. Chapter five discusses the details of research methodology and questionnaire design. Chapter six states the operationalization of the variables in previous model chapter. Chapter seven expresses validation and reliability. Chapter eight shows the testing of the hypotheses. Chapter nine makes the conclusion of this study and also includes implications, limitations and future research topics.

1.7 Chapter Summary

This chapter gives a brief introduction of the textile industry in China and Egypt as well as the form of the study. It also gives the description of research problem, purpose, scope and the organization of the study. Through the introduction of Chapter one, the emphasis of this

study is explicated as the buyer and supplier relationship in China and Egypt. In the following chapters, the details of the study would be given out.

CHAPTER TWO

LITERATURE AND THEORETICAL REVIEW

Chapter Two
Literature and Theoretical Review

2.1 Introduction

The aim of this chapter is to discuss the origins and the ideas of transaction cost analysis, relational contracting theory and resource dependence theory, all of which are the foundations of the study in this thesis.

The main idea of transaction cost analysis (TCA) is to minimize the transaction cost between business partners. According to the transaction cost analysis, there is an important assumption regarding to the governance modes within business, the organization of specific governance structures can economize the transaction cost better than others (Williamson, 1981).

Relational contracting theory (RCT) focuses on influences of the history on the business relationship, in which the opportunism can be minimized by the relational norms and trust, the buyer and seller relationship will be organized and safeguarded, therefore the ex-ante and ex-post transaction costs are reduced (Bradach & Eccles, 1989; Granovetter, 1985; Heide & John, 1992). Relational contracting theory is used as the supplement and extension for transaction cost analysis for a long time. One of the main reasons is the weakness of transaction cost approach, which is the lack of time in the discussion of the business relationship (Rindfleisch & Heide, 1997).

Transaction cost analysis and relational contracting theory were integrated by Heide and John (1992), it indicates that there is limitation to the transaction cost framework. Transaction cost theory only considers the governance between the firms in the relationship with certain assumptions. These assumptions based on Williamson (1975) may confine general framework of transaction cost analysis. Relational norms are the conditions, based on it, there is the positive effect of the specific assets on the safeguard.

Resource Dependence Theory (RDT) expresses the core idea that all organizations rely on resources within their environment. Organizations have to depend on each other for exchange and survival (Fadare, 2013). However, internal self-sufficiency with resources is almost impossible for organizations due to the uncertainty of the market environment. Organizations need to restructure their exchange relationship by building formal or semiformal links with others in order to reduce the uncertainty and manage the dependence (Heide, 1994).

The purpose of our study is to analyze the influences of transaction factors on inter-firms relationship in different businesses. In order to better understand observation and investigation, it is important to include transaction cost analysis, relational contract theory as well as resource dependence theory into this study. Hence, the next sections discuss the theoretical background of these theories.

2.2 Transaction Cost Analysis (TCA)

2.2.1 The Development of TCA

The term "transaction cost" was originally introduced in the paper "The Nature of the Firm" by Ronald Coase in 1937, where he states that the transaction cost is one of the reasons why the enterprises exist. He also pointed out the outsourcing decision by firms - if the transaction cost through the market exchange is higher than the cost of organization within firms, then it is better to make in house, otherwise, outsourcing would be a better choice (Coase, 1937, 1960).

Building upon the foundation of Coase's transaction cost theory, Williamson took it a step further to develop the transaction cost theory framework. The framework considers transaction as the unit in this theory. The purpose of transaction cost theory is to minimize the transaction costs within the organization. Williamson (1975) indicated that six sources of transaction costs exist, including bounded rationality, opportunism, uncertainty and complexity, small number, information asymmetry and asset specificity. In the transaction process, on account of people's bounded rationality and opportunism are the basic behavioral assumptions, which are also affected by the complexity of the environment. Hence, it is difficult to observe and measure transaction costs (Masten, Meehan, & Snyder, 1991).

Transaction cost economics (or transaction cost analysis, as it is generally called in marketing) has been described by Williamson (1998) as a research program that unpacks the ramifications of developing a theory of the firm as a governance structure. The empirical work has progressed rapidly in many fields, including marketing, as noted in comprehensive reviews (e.g., Rindfleisch and Heide, 1997).

2.2.2 Transaction Dimensions

The six main dimensions of transaction complications are: Bounded Rationality, Opportunism, Uncertainty / Complexity, Small Numbers Exchanges, Asset Specificity, Information Asymmetry and they are presented as follows:

- **Bounded Rationality**

In the work of Williamson (1975), the main reasons which cause the bounded rationality are given. One of these reasons is the limit of physical methods, which is most noted with information processing of human; the error caused during the information handing by human is inevitable. Another reason is language and expression. It is hard to exchange the knowledge or feelings at the equal level between individuals. In other words, precise idea expression and mutual understanding are nearly impossible.

Williamson (1985) described the bounded rationality as the limiting factor related to business communication. Individuals and firms assumed that they are rational and they all intended to be rational, however, the fact is that they are limited by their human conditions. The more precise definition of the bounded rationality refers to "behavior that is intendedly rational but only limitedly so; it is a condition of limited cognitive competence to receive, store, retrieve, and process information. All complex contracts are unavoidably incomplete because of bounds on rationality" (Williamson, 1996).

- **Asset Specificity**

Regarded as the most significant dimension, asset specificity, is a specialized investment that cannot be redeployed to alternative uses or by alternative users except at a loss of productive value (Williamson, 1996). Asset specificity has huge impact on the transaction cost. It is also related to the make or buy decisions, the purpose of the decision is to weight what can lead to smaller transaction cost. In addition, this dimension plays the key role in inter-firms relationship, the choice of proper governance structure, the detailed contract, the long-term business and bilateral dependency often therefore incurs.

According to (1985); Williamson (1996) there are several types of asset specificity:

1. **Physical asset specificity:** refers to one or both parties making investments in equipment and machinery in the transaction cost economy. This involves design characteristics specific to the transaction and which have lower values in alternative uses.
2. **Human asset specificity:** the development of specific human capital, as the consequence of learning by doing, makes it possible for the employees to produce goods and services more efficiently. This type of asset specificity allows both of suppliers and buyers benefit from it in the long-term perspective of transaction cost. In this study, when the author investigated by questioning the respondents, the human asset specificity is included in the term of specific investment.

3. **Site specificity**: refers to mutually beneficial location of asset sited for the buyers and sellers such that it minimize inventory and transportation costs.

4. **Intangible assets:** such as brand name capital, the brand name loyalty that could be an attribute to the asset specificity.

5. **Dedicated assets:** refers to general investments that would not normally take place if not for the prospect of selling a significant amount of product to a particular customer. If the contract is terminated prematurely, it would leave the supplier with significant excess capacity and a lowered value product to support the investment.

- **Opportunism**

Opportunism is the other behavioral assumption according to Williamson (1985). The explanation of opportunism is "self-interest seeking with guile", it is the behavior regarding to "the incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse". Opportunism, like the bounded rationality, most likely can cause the ex-ante and ex-post transaction costs to rise. The ex-ante screening of agents and ex-post governance are where most costs arise. Due to human behavior, the opportunistic behavior inevitably occurs in the business. Without this behavior, the ex-ante cost would not be incurred, since no unexpected behavior will happen. In a perfectly honest transaction, both parties would follow the contract clauses and no extra transaction costs would be needed. Furthermore, opportunism as an assumed behavioral certainty is dependent on bounded rationality. In order to deal with ex-post opportunistic behavior, safeguards are necessary to be built before the transaction (Williamson, 1985).

- **Uncertainty**

Uncertainty is a key element that significantly affects transaction cost and governance structure. Williamson (1975) defined uncertainty as a circumstance where the event is very costly, even to the point where it is impossible to describe the complete decision tree. There are two types of uncertainty in transaction cost theory: behavior and environment. Behavioral uncertainty is caused by the opportunistic behavior such as distortion of information by one party or more. In order to keep this kind of uncertainty under control and control the transaction cost, comprehensive contract and specific governance structure are necessary.

Unlike the behavioral uncertainty of human behavior, environmental uncertainty is the occurrence of external disturbances such as market changes, political factors and etc. Only

when the environmental uncertainty exists can behavioral uncertainty be able to make influences on the transactions. Due to the instability of the environment, the business parties may need to make changes or modifications after the transaction. The original contract may not fit the new requirements, the transaction would become complicated and in the end it costs a lot to reorganize the governance structures (Williamson, 1985).

- **Frequency**

Another dimension in transaction cost theory is the frequency and it refers to the transaction frequency. It is often related to the asset specificity - the high frequency with low asset specificity leads to the scale of economy where the transaction cost is relatively low. For the high frequency with high specific asset, in order to minimize the cost, keeping product making in-house would be a better choice (Williamson, 1985).

- **Small Numbers Exchange**

The dimension of small number exchange is related to the phenomenon of market monopolies. Some assets are proprietary and can only be processed by one or few companies. In this situation, the alternatives for the customers are very limited, so the opportunistic behavior by such companies occurs. Therefore, as discussed above, both ex-ante and ex-post transaction cost occur.

- **Information Asymmetry**

Information asymmetry denotes that in any transaction in could happen that at least one party has the relevant advantageous information while other party(s) does not. This imbalance of information exists to some extent in most transactions. The asymmetry information makes opportunism possible and inevitable. One party takes the advantages over the other party's disadvantages due to the difference in information. The transaction cost occurs when one party, usually the buyer, try to reduce the transaction difficulty in order to conduct more research and monitor the process.

2.2.3 Contracting

At first, contract is considered as the discrete-oriented relation where the relational factors in transactions are excluded. Transactions are independent, the exchange parties' behavior rely on the economic interest and contractual duties (Heide, 1994). There is very limited communication level and narrow content in the discrete transaction. The parties to the transaction and relations have been ignored (Dwyer et al., 1987).

Based on Macneil (1980), in discrete contract, no relationship exists, only simple exchange of goods occurs. He also described discrete transactions as: *"Discrete transactions are non-primary relations. They involve only a small part of personality, are very limited in scope, are non-unique in personal terms, and hence can be transferred readily"*.

Formal contracting as transactional governance relies on formal rules and terms. This involves obligations, duties, procedures, as well as ways to deal with relevant future situations by both parties in the transaction. By transactional mechanism, formal agreements are used and made as complete as possible. As Williamson (1985) pointed out in transaction cost analysis that formal contracting is taken as the contractual safeguards in order to reduce exchange hazards. These exchange hazards mostly come from asset specificity and uncertainty by which opportunism is generated. The ultimate purpose of this act of safeguarding is to minimize the transaction cost (Heide, 1994).

The contract plays an important role in buyer and supplier relationship as the formal structure to which the transaction parties can lower risk and potential threats (Yu, Liao, & Lin, 2006). Therefore, business relationship is governed by the transactional mechanism, a detailed and specified formal contract is regarded as an effective implementation to protect transaction economically, especially from the opportunistic behavior. Formal contracting with the aim to mitigate opportunism is also indicated by Williamson (1985) as "an appropriate legal framework for the transactions".

2.2.4 Egypt-Formal Contracting

Contracts are primarily arrangement in the commitments and responsibilities. They are the primary instrument(s) for facilitating exchange and interaction between persons on the local and international levels in the Egyptian laws. This is strictly organized and detailed in the Egyptian civil and commercial laws (Nashmi, 2014). The Egyptian civil law requires written statement to prove transactions for more than 50 US Dollars and undefined values. Comparatively, in addition to writing we can prove transactions using others evidence in the commercial law (Alkalioubi, 2015). Katz (2006) stated that, oral agreements are not binding under the Egyptian law. Also, the Egyptian business men understand the role of contracts very well. Written contracts are usually kept to capture the primary aspects, terms, and conditions of the agreement. In addition, personal honor is highly valued in Egypt, making formal contracts usually dependable. However, Egyptians believe that the primary strength of an agreement lies in the partners' commitment not only as written documentation, and but also as a way to keep their commitments.

2.3 Relational Contracting Theory (RCT)

The basic assumption of relational contracting theory is that with the repeated business on going, the inter-firm relationships emerges due to long-term relationship of exchange. The general motivational assumption underlying this theory is that relational elements (e.g. norms and trust) are necessary conditions for building sustainable relationships and for projecting a broad scope of inter-firm exchange processes into the future. In addition, relational contracting theory indicates stronger relational norms will be established as relationships develop over time. As relationships evolve historically, social structures and shared values can be expected to emerge and the opportunistic behavior will be reduced when the more relational norms are built.

The original relational contracting theory was introduced by Macaulay (1963) as non-contractual relations. Macaulay's research showed that when facing with transactional conflicts, businessmen prefer not to use legal sanctions or contracts to settle the disputes, because that may cause undesirable and unnecessary consequences. Instead, the occupational roles held by individuals have a greater effect on solving the dispute.

There are two major classes in relational contracting theory: one is the norms-based approach; the other is the organizational economists' study of incomplete contracts. The norms-based approach addresses the role of norms in determining the manner in which commercial exchanges operate in practice. It also introduced the concept that individual transactions lie in a spectrum ranging from 'discrete' to 'relational'. The organizational economists' study of incomplete contracts recognizes that absent vertical integration some forms of contract are needed between a supplier and a customer (Mouzas & Blois, 2008).

Based on Macaulay's findings, Macneil (1978a) and Macneil (1980) supplemented the relational contract theory. They pointed out that besides the economic aspect, social exchange perspective also should be taken into consideration. Relational norms were proposed to further study in this theory, and these norms are considered to have considerable effects on the interpersonal exchange. Dwyer et al. (1987) described the framework for ongoing relationship and confirmed the impact of relational norms in the work of Macneil (1983).

2.3.1 Relational Norms

Relational contracting theory states that with increased strengthening of buyer and supplier relationship new relational norms would emerge. This norm would function as the tool to

protect against opportunistic behavior and safeguard the relationship (Buvik & Halskau, 2001). Due to the safeguarding ability of relational norms, the relational governance may serve as the compensation for the transactional governance. In some literature, the relational governance has even been considered as the substitute for the formal contracting mechanism. According to Dwyer et al. (1987), the nature of relationship is dependent on relational norms.

Duration is one of the most critical elements in building and maintaining the inter-firm relationship, since the relational norms are being influenced continuously rather than in a discrete orientation. Business relationship between parties might only held for a very short time and end at the very initial stage of the cooperation. Conversely, the parties can go through the specific period time of coordination and then get into the relative stable relationship.

Macneil introduced and identified twenty eight norms that describe the contractual way the exchange parties behave (Macneil, 1980). However, some of these norms are overlapped in the meaning or forms. Due to the complexity of the norms in Macneil's work and other literatures, this study takes the reference of Ivens (2002) and Burki (2009), ten relational norms that are particularly relevant, which are (Ivens, Campbell, Haynes, & Heide, 2002):

- o Long term orientation,
- o Role integrity,
- o Planning behavior,
- o Mutuality,
- o Solidarity,
- o Flexibility,
- o Information exchange,
- o Conflict resolution,
- o Restraint in power,
- o Monitoring.

According to Burki (2009) and Cannon (2000), flexibility, solidarity and information exchange are the most important elements. In the perspective of relational contracting, these norms can be viewed as the foundation of the relational governance. Relational norms build the safeguard mechanism to curb the opportunism in order to achieve the mutual interest. In our study, relational contracting shares the meaning with the relational governance, it also refers to the lower level of contracting.

3.2.2 China-Relational Contracting

3.2.2.1 Emerging Market

China, as an emerging market exhibits characteristics such as undeveloped market institutions, weak legal enforcement, limited infrastructure as well as political and economic uncertainty (Hoskisson, Eden, Lau, & Wright, 2000). This is the bases for one of criticism to Williamson's transaction cost economies, whose application to the western developed management and mature market may not fit to the emerging economies perfectly (Y. Luo, 1997). In addition, formal contracting relies heavily on the enforcement of legal agreements, which is embedded in the good and sound institutions (North, 1990). Emerging market lacks the right legislation system, which is less reliable in China as well (Zhou, Poppo, & Yang, 2008). Apart from the economic and institutional perspectives, culture is another important reason why the business governance in China is not like the transaction market described by Williamson. China as an Confucian culture values long-term relationships more highly than maximization of profit (Dore, 1983).

In addition, about 70-80% of Chinese companies are small and medium size firms (Hofstede). These firms are influenced by Confucian and Yin Yang theory to a great extent. Besides, the Chinese emerging market includes its uncertain informal institution environment (Shiraki, Harada, Ogaki, Kume, & Kume, 2010). Due to above reasons, along with the Chinese unique culture attribute, this study views that social relations domain in Chinese business.

3.2.2.2 Informal Institution

In aspect of transaction cost analysis, transaction cost is the focus of business. The reason that transactional mechanism, or formal contracting does not prevails in Chinese business is that transaction cost is much higher if Chinese businessmen completely rely on the formal contracts. Weak legal institutions leads to uncertainty which causes the increased risk of opportunistic behavior which in turn leads to the consequences of high transaction costs (Y. Luo, 1997). The higher the transaction cost of the formal contracting, the more the business partners turn to the informal mechanism (North, 1990).

The small and medium Chinese companies do not prefer to make the complete contracts in detail, because they think that formal safeguards for the specific investment against the opportunism fails most of the time. They lack confidence in equality of the court when dealing with the termination of the contract (Zhou et al., 2008). This situation is proved in

the survey by Zhou et al. (2008), in whish Chinese manufacturers are objects. Through the investigation, they found relational contracting is the main governance used to deal with transaction in business instead of formal contracts. The shared norms and trust between the buyer and the supplier contribute to the preference of relational contracts.

However, things are beginning to change the other way. China, with the institutional reforms and proceedings experiences that more and more firms are moving toward to the formal contracting (M. Peng, 2003). For these firms, social relation usually plays the critical roles at the early stage of business transactions. It acts as the instrument to establish the trust between the parties at the very beginning; Zhang and Keh (2010) put forward that as the enterprises and institutions make progresses in the future, businesses would orient to the formal contracting long term.

3.2.2.3 Guanxi

The Chinese world "guanxi" literally means relationship. The idea of Guanxi embedded in Chinese society has huge influence on Chinese life and its business dealings. This word can be explained as "social connection". With creation of the business network around them, firms take part in a wider business guanxi networking. Trust and favor exchange are established based on a series of guanxi and informal agreements. The above makes it the significant role of coordination of economic exchange (Y. Luo, 1997; Zhou et al., 2008). Guanxi, from the respect of business relationship, includes plenty of relational elements such as mutual obligation, governance, assurance, understanding and long-term perspective (Y. Luo, 1997).

Chinese prefer "guanxi" over legal contracting laws; guanxi contracts are the main method for people making deals. In addition to cultural traditions, institutional environment is another key factor. All of the unstable institution, poor property rights, weak legal system, unhealthy market structure and etc. attribute to the uncertain and costly business transaction (Y. Luo, 1997). Compared to formal contracting, with the potential of guanxi, the transaction cost could be reduced by decreasing opportunistic behavior (Y. Peng, 2004). Therefore, it is reasonable that the small and medium firms would likely seek relational contracting (represented by personal exchange) to solve business problems. These reasons contribute to the outcome that personal connection and loyalties are more critical than legal system and formal institutions in China (Y. Luo, 1997). Furthermore, Y. Luo (1997) confirmed the important position of guanxi as "no company can go far unless it has extensive guanxi in its setting." In China, Guanxi as personal connection has been taken as the vital substitute or

supplement for weak legal system and institution governance in order to solve the dispute (Douma & Schreuder, 2008; M. Peng, Wang, & Jiang, 2008).

2.4 Resource Dependence Theory (RDT)

Resource Dependence Theory has been used for explaining the behavior of organizations for a long time (Hillman, Withers, & Collins, 2009). The basic foundation of resource dependence theory comes from the exchange-based power theory in 1962 by Emerson. Emerson (1962) indicated that actor A will depend on actor B to the degree that B has power over A, because B controls the resources that A values, and the resources are not available elsewhere. Moreover, this kind of power is not unilateral, A and B both can both have power over each other, which makes A and B interdependent.

Benson, Pfeffer, and Salancik (1978) published The External Control of Organization, in this book, resource dependence theory was further developed. The power and dependence are not the only points described, but the ways to manage them are covered within this chapter. Heide (1994) further conducted the inter-firm governance research and considered resource dependence theory viewing governance as one way of strategy in order to deal with the consequence of uncertainty and dependence.

The basic assumptions in resource dependence theory is to ensure the survival of organization (Jeffrey Pfeffer & Salancik, 1978). In order to survive, the organization needs resources, but the organization itself usually cannot produce these resources, the organization must interact with and depends on factors such as other organizations in the surrounding environment. Organization's survival is build based on the ability to control its relationship with other organizations. The core hypothesis of resource dependence theory is that the organization needs to survive by acquiring resources in the environment, no resources should be organized and self-contained, all of them should be exchanged with the environment.

Resource dependent theory holds that the resources between enterprises are highly differentiated and cannot be exchanged completely free due to the external uncertainty (Buvik, 2001). Many resources cannot be traded in the market through pricing. Factor such as organizational talent is based on the practice as the measurement, which may bring more long-term competitive advantage in the market than the tangible resources such as machinery and equipment. At the same time, with evolving goals for the enterprise, no enterprise can have all the resources that are needed, and there is always a strategic gap

between resources and goals. Therefore, the enterprise interacts with other organized entities within the context in which the recourses are controlled. In general, an organization as a open system depends on input and output resources to achieve their goals (Buvik & Gronhaug, 2000).

Due to the environmental uncertainty and lacking of sufficient resources, organizations may pursue more resources in order to protect their own interests, as well as reduce and avoid the impact of environmental changes (Jeffrey Pfeffer & Salancik, 1978). The theory argues that the objectives of organization should focus on the characteristics of resources and the strategic elements of the market. It explains the sustainable advantages of the enterprise and the differences between each other. Corporate decision-making on resource selection and accumulation is considered to be an economic rational subjected to limited information, cognitive bias and uncertainty. It is also the effective use and rational identification for such valuable resources that leads to the excess profits of organizations and their differences between each other. The resources of environment are limited and inadequate, the organizations that can acquire more resources can have greater autonomy and can influence other organizations that lack resources (Jeffrey Pfeffer & Salancik, 1978).

The choice and accumulation of resources is a function of internal decision-making and external strategic factors. It is also consisting the basic premise in RDT, when the organizations face the external uncertainty, it will establish the inter-organizational arrangements as strategic response to environmental uncertainty and inter-firm dependence (Buvik & Gronhaug, 2000), such arrangements include joint ventures contracting and mergers (Buvik, 2001; Buvik & Gronhaug, 2000; Heide, 1994).

2.5 Chapter Summary

In this chapter, the basic assumptions of transaction cost analysis are discussed. The transaction cost generated due to the bounded rationality and opportunism. In addition, asset specificity, uncertainty and frequency are the key dimensions that are not only interdependent with each other, but also impact the transaction cost. However, the transaction cost theory only takes contract and market into the consideration. From the social perspective, the relational contracting theory is the necessary supplemental tool to manage the business relationship. The specific way of governance between organizations is established when confronting with environmental uncertainty. Therefore, transaction cost analysis, relational contracting theory and resource dependence theory would act as the important tools to find out how the business relationship works in different culture

background. Combining the three theories, we can conclude the general view about the transaction mechanism in the two countries. Chinese market situation, weak legal system and informal institutions combining with the "guanxi" embedded business environment make the Chinese small firms rely on the relational contracting more than formal contracting. Meanwhile, the high value for law makes Egyptians prefer to formal contracting.

CHAPTER THREE

THE CULTURAL PERSPECTIVE

Chapter Three
The Cultural Perspective

3.1 Introduction

This chapter discusses the culture and it affects business affairs in specific countries. The first section gives a brief introduction about the definition of culture, follow by elaboration on Hofstede's culture study. This lays the basis for the comparison of results in culture dimensions between China and Egypt. Lastly, the remaining sections emphasize the comparing of specific cultural characteristics in these two countries.

3.2 Culture Definition

It is hard to give culture a complete and perfect definition. There are plenty of definitions related to culture in past literatures. In the work of Kroeber and Kluckhohn (1954), a collection of over one hundred definitions of culture has been displayed. He also summarized the feature of culture explanations with review that there is a set of pattern within the core values and ideas shared by culture.

Griffin and Pustay (2004) also stated that culture distinguish societies by its collection of values, habits, beliefs and attitudes. Some researchers consider that culture is a system of learned knowledge and behavior shared by a specific group with specific language (Keesing & Strathern, 1981; Triandis, 2005). Language is also viewed as an influencer of culture, as well as the organization of society by specific group (Bhasin, 2013).

Culture reflects the sense of identity of different cultural groups like tribe, ethnicity, religion, communities, nations and also for higher group as civilizations (Huntington, 1996). Leung, Bhagat, Buchan, Erez, and Gibson (2005) interpreted that individuals who belong to the same context share the same culture, on the contrary, the group individuals live a different way of life and experiences a different culture (Adler, 1986).

In the contemporary world, the most well-known and accepted definition of culture is introduced by Hofstede (1984). Hofstede described culture as a collective programming of minds that differentiates the members of a human group from one another. In summary, we can extract two common attributes of culture from the above views. Firstly, culture is different from groups to groups, the categories of groups are varies in both abstract and geographical perspectives are included. Secondly, it compasses the shared beliefs and values reflected by human behavior.

3.3 Culture Dimensions with the Results of China and Egypt

There are plenty of researchers that have produced and conducted variety of methodologies in order to study culture. For instance, Rokeach (1973) emphasized human values in the fields of psychology and sociology. He developed the Rokeach Value Survey, a rank-order scales of 36 values in order to measure personal and social values. Nancy and Ahuvia (1998) illustrated the cultural factors with respect to business that distinguish East Asian from Western cultures. Hall (1977) proposed the new global culture as transcultural culture based on Five-Is (information, immediacy, interaction, intelligence, and Internet).

Perhaps the most comprehensive methodology for comparing and grasping cultural differences between countries has been developed by Hofstede (1980). His research focused on ways of measuring cross cultures and how these measures work differently in different contexts (Hofstede, 1980). Hofstede' model contains four dimensions at the beginning, it is then developed to six in subsequent revisions. These six dimensions are power distance, individualism/collectivism, uncertainty avoidance, indulgence, masculinity/femininity as well as long-term orientation. According to Hofstede (1980), the application of the model includes business, human behavior, politics, religions and families. Hence, this section discusses and compares in details the six dimensions of culture in China and Egypt (see Figure 3.1).
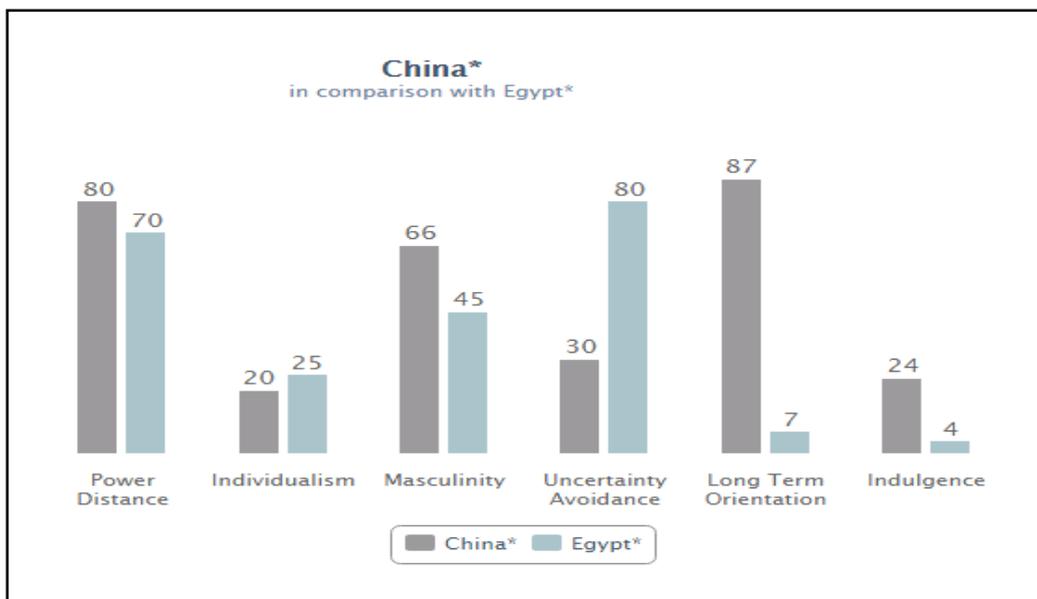
Figure 3.1: Cultural Dimensions' Comparison between China and Egypt

Source: itim.org

- **Power Distance**

Hofstede (1980) defined power distance as "*the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally*".

This dimension measures the tolerance and expectation of social inequalities among the different cultures. In business perspective, it elaborates the type and preference of relationship between people who do not have the same status, such as the relation between bosses and subordinates.

For a score of higher power distance it usually is associated with higher status, levels of wealth and possession. People belong to the culture of high power distance have high level of tolerance of social inequality and have a sense of superiority. On the contrary, people with low power distance tend to perceive the notion that everyone should be equal.

In terms of PDI, China (80) and Egypt (70) both sit in the high rankings. This indicates that inequalities are mostly accepted by people with formal authority and sanction having big effect on the individuals. But the result shows that Chinese culture is able to accept slightly higher degree of inequalities than Egypt.

- **Individualism and Collectivism**

Individualism is *the degree of interdependence a society maintains among its members. The fundamental issue addressed by this dimension is the difference between cultures where ties are loose. In individualist societies people look after themselves and their direct family only. In collectivist societies, people are integrated and acts in groups, people are "in group" that take care of them in exchange for loyalty* (Hofstede, 2001).

This dimension emphasizes an individual's interaction with others. People who belong to individualism culture care more about their personal interests than the group, while for collectivism culture it is the contrary. In addition, business success is measured by the group results or values rather than personal within the collective culture.

In regards to degrees of individualism, China (20) and Egypt (25) both represented highly collectivist culture, people in both countries values the group more than themselves. Comparing between these two cultures, Chinese culture is shown as more collective than Egypt. This can be explained by the fact Chinese values personal relationships more importantly than Egypt. The reason behind the scores will be interpreted in detail in the next

section. The Chinese closer in-group characteristic is related to the family value, kinship in aspect of Guanxi, the Confucian influence as well as traditional Yin and Yang theory.

- **Masculinity and Femininity**

A short description of Masculinity/Femininity is *what motivates people, wanting to be the best (Masculine) or liking what you do (Feminine)*. Hofstede (2001) then added more details about this dimension, such as for masculine culture, males are *"expected to be tough, assertive and self-reliant"*, *"more concerned with economic and other achievements"*, while females should be *"more tender and nurturing"*, *"taking care of people in general and children in particular"*.

Therefore, a high score of masculinity demonstrates that the society will be driven by work goals (earnings, advancement) and assertiveness. The pursuit of success and being a winner is highly sought after under such culture. In addition, the gender roles are more distinguished in such culture.

Low score of masculinity represent femininity society that emphasize personal goals (friendly atmosphere, getting along the boss and others) and nurturance. Otherwise, the gender roles are similar in such culture.

In the dimension of masculinity, China achieves a score of (66), which is higher than Egypt (45). The Chinese society preferred a more success-oriented and driven life, the superior work status and exam results are highly valued for Chinese people. However, Egyptian culture is considered to be a comparative feminine society. The quality of work and live shares the same importance to Egyptian. Well-being is the emphasis, so does the free time and flexibility.

- **Indulgence**

Indulgence is a new dimension proposed in recent years. The definition of indulgence *describes the extent to which people try to control their desires and impulses.* This dimension reflects to how the small children are socially brought up in their culture. The relatively high score of indulgence dimension can be described as the restraint culture, relatively low score represents the indulgent culture.

China's score of (24) states that it should be a restrained society, but when compared to Egypt, it is not. In Egypt, an extremely low score of (4) manifests a very restrictive culture. Where as Chinese society is restrained by social norms, Egyptian has very strict religious

norms embedded in their society. Due to the influence of Islamic values and practices, some of these norms are indisputable and must be followed.

- **Uncertainty Avoidance**

The score of uncertainty avoidance reflects *the extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid*.

At the organizational level, Hofstede (1980) studied extensively about the rules and strategies embedded in the situation of uncertainty. A lower score of this dimension means the truth and rules are valued, therefore, the people prefer the flexible rules and laws in order to adapt to the specific situation. The higher the score, the more value on rules and laws.

At the dimension of uncertainty avoidance, huge difference is represented between the results of China (30) and Egypt (80). Due to its cultural history, ambiguity and paradox are comfortable for Chinese people, they are also very adaptable and entrepreneurial. In order to explain this attribute, Yin and Yang theory could be the source. On the contrary, however, Egypt society shows a very high preference for avoiding uncertainty. Rules and laws are very necessary in people's mind and ambiguity and paradox are intolerable. The sense of security is a priority and very important towards an individual's motivation in life. Egypt is characterized by a state of uncertainty, especially in the recent years, due to the political and economic uncertainty. Hence, people try to avoid the uncertainty by planning everything carefully and consider all aspect of a problem. Moreover, Mostafa (2005) reported that risk aversion is deeply rooted in the Egyptian culture and the Egyptian managers are risk avoiders and tend to be resistant to change and innovation. Furthermore, Egyptian people prefer well-structured environments for change with detailed plans and regulations to avoid ambiguity and anxiety in day-to-day operations (Hegazi, 2015).

- **Long Term and Short term orientation**

This dimension illustrates that *how every society has to maintain some links with its own past while dealing with the challenges of the present and future*.

This dimension was added based on the Confucian philosophy, in order to understand eastern culture of thinking *"perseverance, thrift and regard for the future"* (Hofstede, 2001). Therefore, the high scores of this dimension reflects to the long-term oriented culture in which thrift and perseverant efforts are encouraged. Meanwhile, short-term oriented culture associated with low scores demonstrates preservation of time-honored traditions and norms.

For the perspective of orientation, China (87) and Egypt (7) manifests the greatest difference. As a long-term oriented culture, China is considered as very pragmatic society. Chinese society values working hard, saving money as well as achievement are highly valued. However, Egypt, as the short-term society values quick results, present live as well as traditions are emphasized.

3.4 Chinese Culture

The 5000 years of Chinese history cultivates its own unique culture which reflects into Chinese society and embedded into Chinese behavior. Consequently, businesses in China are inevitably affected profoundly by its culture. In addition, China has been on a continuous path of modernization since 1978, the result of which forces Chinese society and business behavior to change continuously for almost four decades after its "open-door" policy. However, there are traditional attributes deeply rooted in Chinese culture that remains still today.

3.4.1 Yin Yang Philosophy

Yin Yang philosophy is considered the most significant cultural feature in assessing Chinese people's capability of managing paradoxes (Faure & Fang, 2008). This philosophy can be traced back to ancient times in book of I Ching. The basic idea being that everything in universe contains the two aspects Yin and Yang, which are both uniform and opposite in perpetual interactions with each other. This kind of interaction is the origin of all motion and variation (Ching, 1967). Therefore, there are three characteristics embedded in Yin Yang philosophy: opposition, interaction and unify.

This paradoxical thought of Yin Yang demonstrated the complexity of Chinese core value, which dominates Chinese behavior and society for thousands of years. In order to obtain a better understanding of Chinese culture, Chinese language is a useful mirror to reflect the Chinese thought.

In the last section, we can see from the results of Hofstede's culture dimensions for China, that "ambiguity" is an appropriate word to describe those five dimensions of China. In Chinese language, there are plenty of words that are fuzzy and contradictory. A classic example is the word "thing" or "dongxi" in Chinese. It combined two Chinese characters: east and west. When these two opposite oriented words are put together, the things are generated (Faure & Fang, 2008). There are lots of words like the above "dongxi", such as "zhaoxi", "zongheng" and so on. "Zhaoxi" has two explanations, one represents all the

time and the other indicates a very short moment, this word consists of day and night. As for "zhongheng", which implies "free and without barriers", encompasses the word vertically and horizontally. Therefore, the culture dimensions are confusing to the Chinese people, in their thought, there is no absoluteness, nor "either-or", the most common sense is "both-and" (Fang, 2003).

Yin Yang culture fits with the results of the culture dimensions very well, and it also give the culture scores a good explanation. Especially for the dimensions of "uncertainty avoidance" and "long term orientation", comparing to the Egypt results, those dimensions show a very conspicuous gap. Due to the familiarity, the idea of paradox and ambiguous are acceptable for Chinese people. What reveals in their behavior is that they are very adaptable to the practical situation. Hence, the uncertainty avoidance score is relatively low to China.

3.4.2 Long-term Orientation

The dimension of long-term orientation was referred to the Confucianism (Hofstede, 2001). The low level of uncertainty avoidance can also be explained in the attribute of long-term orientation of Chinese people, because they tend to think long-term in order to prepare for the future, thus, uncertainty for the future may not that important. In Chinese culture, history is likened to a long and endless river. Time and life are considered from the long-term and continuous perspective, which are usually measured by series of events, seasons and turning point (Faure & Fang, 2008).

3.4.3 Thrift

Another attribute, which indicates the great difference from Egyptian culture, is that Chinese tradition values the quality of being thrifty (P-Jun, 1987). In Chinese culture, thrifty is considered a virtue. On contrary, wasting is viewed as shameful. This is embedded in the Chinese values of family and long-term orientation. People live simple and thrifty life because they need to prepare for the future, such as the retirement and health. For children, they need to be fed and raised, and saving up for a good education is considered necessary. For older parents, it is the children's responsibility to take care of them based on the Chinese traditional norms and value of family (Faure & Fang, 2008).

3.4.4 Respect for Moral Norms

For Chinese culture, people's perspectives to the law and regulation are quite different than Egypt. It does not mean that Chinese people ignore the rule of law however. Based on Confucian philosophy, which is taken as the core of orthodox ideological system for

governing the country for thousands of years, rule of virtue domains the Chinese ideology. Morality is highly valued for Chinese people and was used as the moral mechanisms for leadership for a very long time in ancient history of China. Nowadays, the Chinese behavior is still influenced by these moral norms (Fang, 1999).

3.5 Egyptian Culture

3.5.1 Islam, Religious Faith and Fatalism

Egypt, like China, is one of the oldest and most influential countries in the world. It has at least 5,000 years of recorded history. Currently Egypt is a Muslim country, more than 90% of the Egyptian people are Sunni Muslims, and hence Islam is a critical component in the Egyptian life. Islam's tenets guide the daily conducts of the Egyptians and affect decisions made on personal, political, economic, legal and business level. Fatalism is a concept that is closely linked to Islam, and this approach is often significant in the decision-making process of many Egyptians (Goldschmidt, 2008). Leat and El-Kot (2007) suggested that the influence of Islam may be significant in explaining dominant values and attitudes. In addition, Egyptian culture is similar to what one would expect in the other Arab cultures in the Middle East due to the common denominator in geography, language, religion, values, historical background and some psychological aspects.

One of the main traits for Egypt is its religious faith. Hence, no understanding of Egyptian identity or culture is possible without first grasping its spiritual heritage of Islam. Egyptians do not perceive a separation between the Islam and the rest of their lives. One of the ways that has been affected by Islam not only in Egyptian culture but in Arab culture is the perpetuation of a hierarchical society through teaching the submission and obedience to a higher being.

Arabs have a concept of fatalism and a belief that they are at the mercy of their environment rather than in control of it. This entrenches the assumption that success is not always the result of good planning or hard work, but rather it is the result of fate. This fatalistic view of life comes from the cultural influence of Islam. In addition, Arab and Egyptian Muslims believe that the destiny and events of their life are in the hands of God. The phrase "Inshallah or if God wills" which indicates the believe that one cannot influence the future.

Collective society is an important aspect of the nature Islamic religion. The word Islam means "submission to God" and "the one who submits" is a Muslim. One of the main beliefs of Islam involves sacrificing one's individual interests or needs for the greater good.

Therefore, we consider Egypt as group-oriented culture with much of the focus falling on religion and family. Honor is another aspect for Arabs, which means that they try to avoid being shamed and "saving face" in public. Hence, an honor's person could be damaged not living up to one's responsibilities. Thus, a lot of cultures and actions of the Egyptians and Arab people are integrally connected to their identity as Muslims (Riel, 2015).

3.5.2 Short-term Orientation

Egypt is a short-term oriented society, it has strong concerns in establishing the absolute truth and they are normative in their thinking. They also emphasize on great respect for traditions and focus on the present live and achieving quick results as well as exhibit a relatively small propensity to save for the future (Hofstede, 2001). Moreover, Egyptian and Arabic belong to the polychronic culture, which means that it is natural to do multiple things at the same time. Hence, they tend to have less urgency about immediate achievement and less regimented time orientation. In addition, Egyptian see life in a longer spans of time than others and they are more interested in preserving the past than in changing the future (Riel, 2015). All this reflects the high level of uncertainty avoidance of Egyptians people.

3.5.3 Respect for Law and Regulations

In cultures with high uncertainty avoidance, such as Egypt, tends to trend more toward respecting and adherence to the laws and written rules in order to reduce uncertainty. Egyptians tend to be more emotional and to prefer implementing rules and regulations. Egyptians also more often feel constrained by existing rules and regulations not moral norms. This means Egyptians have a high preference for avoiding uncertainty by adhering to strict regulations and are not particular toward innovation and new ideas (Hegazi, 2015).

3.5.4 The Weakness in Business

The business structure in Egypt has a strong focus on business hierarchy culture. Rank and social status are of great importance in the structure of Egyptian companies. The highest senior person usually makes the final decisions in all matters. However, corruption, bribery and nepotism are very common in the public and private sectors in Egypt. Egyptian business people employ a "Polychronic" work style during the negotiating and haggling, and they often take a holistic approach and may jump back and forth between topics rather than addressing them in sequential order in an environment dominated by the buyer. Therefore, negotiations take slow and protracted pace with using some deceptive techniques and

asymmetric information in order to obtain concessions (Katz, 2006). Table 3.1 below, summarizes the main differences between the Egyptian and Chinese cultures.

Table 3.1: Comparison between Egyptian and Chinese Culture

Aspect	China	Egypt
Cultural Essence	Yin Yang	Islam
Power Distance	Higher acceptance for inequalities.	Lower acceptance for inequalities.
Collectivism	Family, Kinship, Guanxi, Confucian.	Family value.
Masculinity	Success oriented; Value work and results.	Work and live; Well-being.
Indulgence	Restrained society; Emphasis on moral norms.	Strict and normative society; Islamic values.
Uncertainty Avoidance	Ambiguity and paradox; Adaptable and entrepreneurial.	Value rules and regulations; Great emphasis on law.
Long-term Orientation	Long-term oriented; Pragmatic society; Working hard, Thrift.	Short-term oriented; Value present live.

3.6 Chapter Summary

This chapter discusses the difference between China and Egypt from the perspective of culture. Hofstede's study of culture dimensions was used as the tool in order to analyze their distinctions. Through the six cultural dimensions, we can find that the biggest difference existing in the respects of uncertainty avoidance and long-term orientation. China represents the characteristics of low level of uncertainty avoidance and long-term oriented culture. The origin of basic Chinese culture went back to the ancient philosophy with Yin Yang and Confucianism. Meanwhile, the Egyptian national culture demonstrates relatively high power distance, strong uncertainty avoidance, moderately collectivism and short-term orientation. This was supported by the influence of the Islamic religion and its principles.

CHAPTER FOUR

RESEARCH MODEL AND HYPOTHESIS DEVELOPMENT

Research Model and Hypotheses Development

4.1 Introduction

This chapter elaborates on the research model and the developed hypotheses. The emphasis of this study is on the buyer-seller relationship between China and Egypt, Theoretical background of our model and hypotheses has been reviewed with regard to transaction cost analysis, relational contracting theory and resource dependence theory in Chapter 2. Based on culture dimensional theory, China and Egypt have been discussed by the culture difference in Chapter 3.

4.2 The Research Model
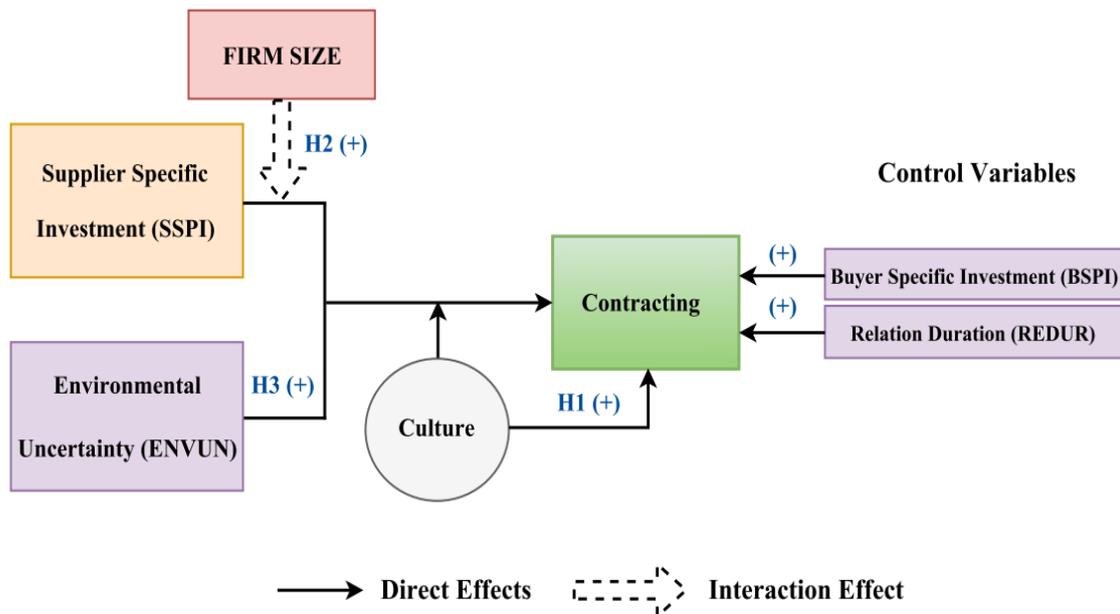
Figure 4.1: Research Model

Our study develops a research model to examine the effect of different elements on buyer and supplier relationship in textile industry between China and Egypt. The model illustrates the relationship between the dependent variables, which is formal contracting, and independent variables, which are specific investments and environmental uncertainty. Formal contracting is explained as the contracts with legal enforcements in this study (Macneil, 1978b). Geographical Location (dummy variable) defines the culture differences

present between China and Egypt in the textile industry. As the dummy variable, "0" refers to the Chinese buyer and "1" refers to the Egyptian buyer.

Two control variables are included in this model: Buyer specific investments and Relationship duration. The amount of buyer specific investment and the length of relationship have the potential influence on contracting. Relationship duration refers to the time length of the exchange relationship between the textile producer and manufacturer, which is measured by the number of years both sides have been involved in the exchange relationship. Buyer specific investment refers to the investment from the manufacturer, which is measured by using Seven-point Liker Scale.

Our conceptual model assumes that the formal contracting practice is influenced by cultural differences (H1) (see Figure 4.1). The two key assumptions based on the dependent variable are that a higher level of formal contracting is existed in Egyptian business relationship due to highly valuing for law and regulations. On the contrary, because of the paradoxical culture and tradition, the lower level of contracting presents in Chinese business relationship, in other words, the "guanxi" based tradition contributes to the relational contracting as the major governance in China (Chapters 3 and 4).

On the other hand, hypothesis 2 (H2) concerns the interaction between firm size and supplier specific investment on contracting. The positive association proposed due to the reason that as the firm size increases, combined with the increase of supplier specific investment, the enforcement of formal contract is strengthened. Due to the "value for law" tradition in Egypt, when this circumstance happens, contracting is more enforced in Egypt than in China.

Furthermore, hypothesis 3 (H3) concerns the influence of environment uncertainty on contracting. Since higher level of environment uncertainty contributes to higher level of contracting, a positive association is proposed. Compared to the Egypt, which always relies on the formal contracts, China, with the special function of relational governance, has forced contracting practice under the greater uncertain environment. Therefore, the higher level of environmental uncertainty has more influence on China than Egypt.

4.3 Research Hypotheses

The research hypotheses are formulated based on interplay between the cultural differences and determined factors on buyer-seller relationship. The relationship between dependent variable (Contracting) and independent variables (Supplier specific investments, Environment uncertainty) in the research model will be discussed in more detail within the formulated hypotheses below.

4.3.1 The Association Between Culture and Contracting

According to Meryem (2011), governance is "a multidimensional phenomenon which encompasses the initiation, termination, and ongoing relationship maintenance between a set of parties". When the concept of contact is considered as governance mechanism, it becomes the tool used to arrange any exchange relationship, the relationship between buyers and suppliers need to rely on formal contracting or relational contracting governance. Formal contracting emphasizes on legal enforcement and incentive systems. On the other hand, relational contracting governs business exchanges through relational norms and trust. Therefore, in this study, we define contracting as formal governance mechanism, more details have been reviewed in Chapter 2.

According to the previous studies such as by Umar (2009) and Buvik and Andersen (2002), in order to verify the influence of culture characteristics on business relationship, dummy variables are used in their researches. E. Anderson and Gatignon (1986) indicated that culture and geographical distance make performance measurement difficult in business relationship. Thus, in this paper, culture difference is measured by the dummy variable, which represents the geographical location of the two countries as China and Egypt.

As the different geographical location, culture has a great impact on the contracting governance. This has been proved by a number of former researches, for instance, Nisbett (2004) elaborated that in Western countries, the formal legal governance is preferred in managing the business relationships, while on the contrary, Asian countries tend to rely on the relational governance when deal with exchange partners. Furthermore, the influence of culture on the business relationship even distinguishes at different location in Asia. For example, China and Japan, both of them share the high-context culture, but Japanese culture is more contextual than Chinese culture. Moreover, Japan has a higher tacit and more group-centered culture, while China is more explicit and with more individualism. The above differences contribute to the differentiations in Japanese and Chinese business (Li, 2007).

In Chinese culture, one of the main characteristics in business relationship derived from Confucian philosophy is "Guanxi," this can be defined as the personal connections. This attribute has been elaborated in Chapter 2, with the respect of contracting, "guanxi" within buyer and supplier relationship can be implied as an implicit psychological contract, in which, the transaction behaviors need to be abided by the related relational norms (e.g. trust, commitment, obligation and etc.) (X. P. Chen & Chen, 2004). Chinese society is affected deeply by the harmony in Confucian philosophy, the moral rules as the personal relationship

as "guanxi" gradually become the dominant governance with resources exchange in Chinese business (Khan, Liang, & Shahzad, 2015). Y. Luo (1997) also emphasized that China prefers the guanxi-based business connections, and it seems to be the lifeblood of the Chinese business community, people prefer to rely on the contacts of personal connections and loyalties rather than the impartial justice as organizational affiliations or legal standards.

The significance of law for Egypt has been reviewed in Chapter 2 and 3. From cultural perspective, Egyptians sees doing business as synonymous with making deals with formal communication in written contracts and the idea of a covenant is fundamental to the culture (Hooker, 2008). Foster (1992) pointed out that, Egyptians believe that agreements are reached through a logical framework and based on legal and official system. Furthermore, Egyptian society is characterized by high uncertainty avoidance and short-term oriented (Hofstede, 1980). Hence, formal governance and contracts clearly specifies the obligations rights of each party and how to face future situations. I.e. contracts make the relationship between the parties explicit and clear. Thus, Egyptians buyers and suppliers can avoid uncertainty through behavioral boundaries and legal forces (Meryem, 2011).

From the business side, Egyptian business people are shrewd negotiators and the negotiations take slow and protracted pace to reach an agreement. They often use some deceptive techniques and asymmetric information, where information is rarely shared freely, because they believe that privileged information creates bargaining advantages in order to obtain concessions (Katz, 2006). Radwan (2012) noted that, decision making and signing a contract in the Egyptian market usually begin with a long series of negotiations that culminates by careful drafting of the contract. Moreover, the commitment of buyer and supplier by the contract terms is one of the most important criteria for evaluating each other and establishing their reputation.

Therefore, it is logical to assume that the main governance in China is relational contracting mechanism, which we consider it is at the lower level of contracting. For Egypt, it is formal contracting governance mechanism, which we consider as higher level of contracting.

Based on the above argument, the hypothesis can be proposed as the following:

H1: The level of contracting is significantly higher in Egypt than in China.

4.3.2 The Association Between Supplier Specific Investments, Firm Size and Contracting

Specific investment or asset specificity is defined by (Williamson, 1985) as *"durable investments that are undertaken in support of particular transactions, the opportunity cost*

of which investments is much lower in best alternative uses or by alternative users should the original transaction be prematurely terminated". In which, he also indicated that there is a mutual interest in perfecting the contracting for the asset-specific exchange. In other word, based on the literature review in Chapter 2, TCA suggests that formal contracting should be taken as the safeguard for specific investment when it becomes substantial. Joskow (1988) interpreted that specific investment may increase the use of formal contracts. However, the relational contracting theory holds the view that relational norms as well as trust are able to safeguard the exchange hazards such as opportunism leaded by specific investment. In general, this study can assume that the higher specific investment contributes to the need of higher level of contracting.

Firm size has been taken as the control variable in most researches. In this paper, the investigated firms are limited to small and private firms. Due to the large number of small textile firms under different conditions between two countries, the different size of small firms are measured in this study. (Abdulai & Birachi, 2009) found that interaction between specific investments and firm size influence on the choice and design in contracts between producers and the processing firms. De Vita, Tekaya, and Wang (2011) propose that firm size should be taken into account when analyze the transaction cost, because this is an indicator of power relationship between the buyer and the supplier. According to the resource dependence theory, then the specific investment made by small firms related to the large party, the dependence generated (Heide & John, 1988). This argument has been discussed by Porter (1980), whose core assumption is that buyer's bargaining power is influenced by the relative size of the parties. When the purchase volume of buyer increases, the importance of buyer to supplier increases. Bragelien and Impink (2014) put forward that size has the impact on dealing with relationship-specificity, especially with respect to writing contracts, safeguarding them, and settling disputes. Moon and Phillips (2014) confirmed that purchase contract decisions vary strongly with firm size. The association between contract intensity and firm size were also tested in their research, the result is that firms which prefer to use contracts are usually larger firms. Therefore, it is reasonable to assume that firm size has the positive association with contracting.

Zhou and Poppo (2005) pointed the formal contracts in not widely used in small firms exchange in China, instead, a social institution as relational governance have been generally applied well between the small-size of transactions. When it comes to the medium and big firms in China, usage of formal contracting becomes the majority. Specific investment is acted more as the commitment in relationship, which motivates the trust and long-term

relationship building (E. Anderson & Weitz, 1992). Geyskens, Steenkamp, and Kumar (2006) states that many studies confirmed the incorporation of relational governance, especially when asset specificity grows relational governance is rather preferred than market governance. However, as discussed with normative culture in Chapter 3 and the importance of law and regulation in Chapter 2, Egypt always has high intention to avoid the uncertainty and safeguard the specific investment by strict law and regulation. Therefore, when supplier specific investment increases, the contracting enforced by Egypt would still at the higher level than by China.

Based on above reasons, the following hypothesis is proposed as:

H2: When the size of the buying firm increases, the association between supplier specific investments and contracting becomes significantly more enforced in Egypt than in China.

4.3.3 The Association Between Environmental Uncertainty and Contracting

Environmental uncertainty has been reviewed in Chapter 2, this concept focuses on market turbulence. It is divided into two types, one is the external uncertainty, this kind of uncertainty contains the economic background, government policy, technological and volume changes etc. The other is the internal uncertainty, which is related to the production, sales and material. (Spekman & Stern, 1979).

- **Environmental uncertainty increases opportunism in both countries, that is higher incentives for contracting in both countries**

Opportunism is the factor that links between environmental uncertainty and contracting. According to TCA, uncertain environment is related to the adaptation issues, combined with bounded rationality, making contracts cannot cover all the unexpected contingencies in exchange relationship. Hence, it would increase the potential of opportunistic behavior by exchange partners by allowing information asymmetries to develop between the buyer and the supplier (Klein et al., 1990). Thus, higher environmental uncertainty leads to the higher level of opportunistic behavior (Lee, 1998). There are a number of empirical researches have studied and confirmed this argument that there is the positive association between environmental uncertainty and opportunism in business. In the context of emerging economy, Y. Luo (2007) confirmed that environmental uncertainty, particularly in the aspects of information verifiability and law enforceability, leads to increasing the opportunistic behavior. In terms of market turbulence, Mysen, Svensson, and Payan (2011)'s finding was consistent and extended with Williamson (1985)'s transaction cost theory, and

he argued that when market condition changes are so fast and unforeseeable, the manufacturers feel challenged in changing the perception of supply and demand accurately. At this time, negative information asymmetry develops, which could entice suppliers' opportunistic behavior. Skarmeas, Katsikeas, and Schlegelmilch (2002) focused on the international buyer and supplier relationship, they found because of the environmental volatility, importers are not able to forecast the demand and market changes, and the exporters can interpret the ambiguous contingencies in their own favor, which encourage overseas suppliers to engage in opportunistic behavior and vice versa. It has been proved that the more environmental volatility causes the more opportunism. The above studied has further validated the theory of TCA, which is, in general that greater environmental uncertainty leads to the greater opportunism.

Due to the other party's opportunistic behavior, the problem of safeguarding emerges for its partner. Gurcaylilar-Yenidogan and Windsperger (2014) found that formal contracts could improve relationship performance by decreasing the risk of opportunism and adaptation problems under high environmental uncertainty. Therefore, according to Daft, Murphy, and Willmott (2010), formal contracting is able to deal with the problems associated to the environmental uncertainty via legal terms. For instance, in order to handle the situation of unstable demand, contracts could provide the security through specified amounts and prices. They pointed out that through the specific agreements of obligations and responsibilities, formal contracts would act as the safeguard to deal with the environmental uncertainty. From the above we can tell that in both countries when the environmental uncertainty rises, the formal contracting increases as well.

- **The difference is the ability to increase or implement contracting WHEN environmental uncertainty increases**

A) Higher relational norms in China increase the ability to implement contracting:

In China, generally, in order to provide the security when confronting environmental turbulence, the exchange partners prefer to use trust and personal relationship as the safeguards (Lam & Yeung, 2010; Paswan, Dant, & Lumpkin, 1998). In Chapter 3, Hofstede's dimension results showed a very low level of Uncertainty Avoidance for China, which indicates the high level of acceptance of ambiguity and unknown, and Chinese people are comfortable and good with the uncertainty.

However, Chinese business environment is much more complicated than Egyptian's, one of the major reasons is that relational governance prevails in Chinese business relationship.

There are different arguments with regard to the modes of mechanism governance. Among the arguments, the main topic is the relationship between relational governance and transactional mechanism (or formal contracts) e.g.(Ghoshal & Moran, 1995; Heide & Rokkan, 2007; Laura Poppo & Zenger, 2002).

Due to the relative weaker legal institutions (compared to developed countries) of China, along with its emerging markets, the detailed contracts alone are not effective enough in reducing opportunism. The institutional structure in China is not stable enough for the enforcement of contracts, instead, particularism and personal accommodation are the dominant drivers for law enforcement (Zhou & Poppo, 2010). In the situation of absent strong legal enforceability, exchange partners prefer to depend on the relational mechanisms to assure the business is developed and maintained in good order. By means of relational governance, with establishing relational norms, exchange partners are able to evolve the shared identity so they can find the strong motivation to abide by the normative practice (Uzzi, 1997). Under the relational governance, social obligations generated, which contributes to forcing the exchange parties to respect and honor the content of the formal contracts. In China, there are seriously punitive consequences of breaching the relational norms, such as losing reputation and being rejected by other potential partners. What is worse, the violator would be expelled from this network or industry (Johnson, Mcmillan, & Woodruff, 2002). As elaborated in Chapter 2, according to the TCA, opportunism is derived from human nature, and the reason for building specific contracts is to reduce the opportunism. The assumption of TCA above is not consistent with Chinese culture to some extent, particularly in the aspects of guanxi and mianzi (Chapters 2 and 3), which makes Chinese highly value the prestige, honor and reputation when develop and maintain the business relationship (S. H. Park & Luo, 2001). From the Chinese perspective, contractual terms in detail may imply the distrust to the exchange partner (Jap & Ganesan, 2013). Thus, the negotiation of drafting a contract may cause harm to the upcoming business relationship. However, with the strong relational norms between buyers and suppliers, both of them are more willing to highly accept and respect to contracting, since with the foundation of relational norm, now the contract refers to a sign of commitment (Zhou & Poppo, 2010). Therefore, the function of relational governance is to act as an agent for legal institutions to enforce contract implementation.

Zhou and Xu (2012) found that relational governance complements detailed contracts in curbing opportunism in Chinese market. Moreover, the research also indicated that under Chinese business environment, if the relational assurance is absent, the business would

become worse as the detailed contracts not only fail to reduce the opportunism but also cultivate this behavior. Relational governance works as the liability for formal contracting in Chinese market. This view is consistent with the work of Zhou and Poppo (2005), in which the relationship between relational governance and contracts are complementary. The purpose of operating relational governance is to bring the assurance for enforcing the contracts so it can help build a framework for adaptation. This also suggests that it is the contract that governs the market exchanges. The results of this research also proved that, under Chinese context, when relational governance increases in business relationship, there is no evidence that formal contracts would be abandoned nor weakened. On the contrary, the levels of relational governance become higher when the uncertainty increases which in turn leads to the greater contract customization. A coherent finding by their further study in (2008) showed the direct and positive association between customization of contracts and uncertainty in Chinese market. To sum up, whether managers prefer more detailed contracts or customized contracts when facing greater environmental uncertainty, the purpose is to increase the contractual complexity so it can mitigate opportunistic behavior (Laura Poppo & Zenger, 2002). Therefore, the higher relational norms in China increase the ability to implement contracting.

B) *The "institutional factors" in Egypt make it difficult to enforce contracting WHEN environmental uncertainty increases:*

Egyptian markets are characterizes by a high level of instability and uncertain environment. In addition, according to the culture dimension by Hofstede which has been reviewed in Chapter 3, with the dimension of Uncertainty Avoidance, Egypt is remarked for a score of 80. Such high scores indicate that Egyptian people feel a great level of threatening and intolerance by ambiguous and unknown situations. In order to avoid this kind of uncertainty, they value the rigid codes, rules as well as related norms to achieve the security.

Although the preference of avoiding uncertainty is at a high level in Egyptian culture, it is difficult to conduct the formal activities to reduce the uncertainty within business in real situation. As Elbanna and Alhwarai (2012) stated, despite improving the Egyptian economic conditions it still faces a number of difficulties such as poor governmental policies and corruption. Moreover, according to EU's Country Strategy Paper in Egypt (ENPI, 2007), the manufacturing performance has been constrained by the persistent weaknesses in the business environment. For example, due to the weaknesses inherent in the institutions regulating the economy, Egypt is not capable of enforcing new economic legislation

effectively. Especially for the private sectors, they are facing the uncertain commercial law system, in this business environment, the level of transparency and competition is relatively low. Furthermore, the enforcement of contracts in business is far from enough and satisfactory. For Egypt, improving corporate governance is another important challenge to develop business relationship.

In summary, although Egyptians prefer to avoid uncertainty by contracting in business, it is hard for them to enforce formal contracting when envrionmental uncertainty increases due to the legal weaknesses in business environment.

In general, Chinese businesses employ both relational networks and more formal contracts of firm control (Yeung, 2006). Relational governance provides the assurance and enforces the implementation of formal contracts (specially the detailed and customized contracts) when the environmental uncertainty increases. Therefore, notwithstanding that there are the weaknesses in legal institutions for both countries, compared to Egypt, which only relies on the uncertain and unsatisfactory legal systems, China apparently has the more effective and powerful tool as relational governance to impose on contracting when environmental uncertainty increases (see Fig 4.2).
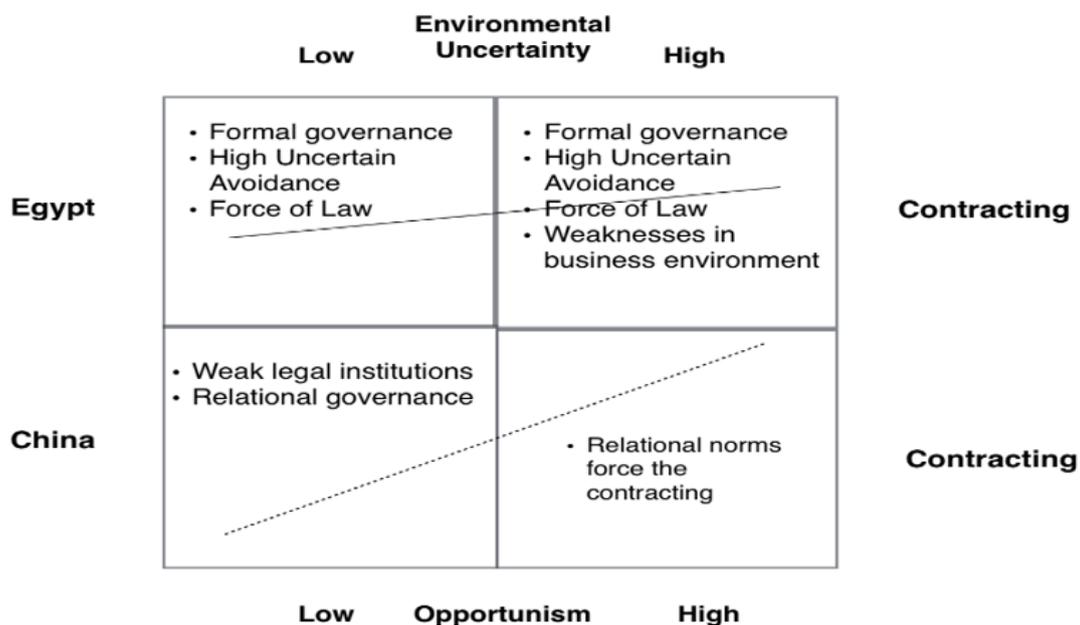
Figure 4.2: The Association Between Environmental Uncertainty and Contracting in China and Egypt

Resulting from the above, it can be proposed logically:

H3: The effect of environmental uncertainty on contracting is significantly more positive in China than in Egypt.

4.4 Chapter Summary

According to the discussion and initial literatures in the previous chapters, the research model and three hypotheses have been developed and elaborated in this chapter. The data collection and analysis based on the model and hypotheses will be operated in the following chapters.

CHAPTER FIVE

RESEARCH METHODOLOGY

Chapter Five
Research Methodology

5.1 Introduction

Research is defined by Based on Grinnell (1993) as "*a structured inquiry that utilizes acceptable scientific methodologies to solve problems and creates new knowledge that is generally acceptable*". On the other side, the research methodology refers to "*a way to systematically solve the a research problem or understand a phenomenon*" (Kothari, 2004). According to Degu and Yigzaw (2006), research can be done through a systematic collecting, analyzing and interpretation of data to solve a problem, add new knowledge or answer a question. Therefore, selecting and using the proper research methodology is very important to the research process and the quality of its findings (Mouton & Marais, 1990). The current chapter presents the research method and the methodology, in more details, that applies in this study. This also chapter includes the research design, the population and sample selection, and data collection techniques relevant to the study. In addition to discuss the stages of questionnaire development.

5.2 Research Context

This thesis is a cross-cultural or cross-national research; thus, the study has used a comparative research as a research methodology to make a comparison between two different countries or cultures. The main objective of comparative analyses is to find out the similarities and differences between two different cultures. The researchers used the TCA, RDT, RCT and cultural dimension theory to predict the contracting mechanism by investigating the similarities and differences between Egypt and China (Harkness, 2006).
To do the comparative research the researchers have followed the guidelines provided by Roger (1998) regarding comparative research methodology, where only two countries have been selected, in different geographical locations and different cultures. Moreover, the researchers have certain degree of knowledge about China and Egypt concerning how each country does its businesses, the aspects of the social life, traditions and cultures, as well as the impact of these aspects on the analyses of aggregate-level contextual variables, individual-level independent and dependent variables.

5.3 Research Approach and Method

Research method or approach has been defined by Kothari (2004) as *"a method, tool or technique the researcher use in performing the research project"*. Whereas, Creswell (2013)

defines the research approaches as *"the plans and the procedures of the research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation*". According to Churchill and Brown (2004), there are three research approaches or methods; qualitative (inductive), quantitative (deductive), and mixed methods. The main difference between the two basic types of research methods is that the qualitative research is defined in terms of using words i.e. narrative data, while the quantitative research is framed by using numbers or numerical data (Creswell, 2013).

Quantitative research is the kind of research that uses deductive reasoning to create meaning, establish, confirm, or validate the relationships between variables to provide generalizations that contribute to a theory. Therefore, the quantitative research starts with a research problem and uses a theory to formulate a hypothesis then analyze the quantitative data to confirm and generalize the findings. There are three categories of quantitative research as: descriptive, experimental and causal comparative (Churchill & Brown, 2004; Williams, 2007).

Although the processes of the qualitative and quantitative methods are similar, the qualitative methods are dissimilar approaches than the quantitative researchers in scientific inquiry. Qualitative methods are the type of researchers that rely on text and image data, and unique steps in data analysis to get in-depth understanding and explanation of the phenomenon understudy by using the inductive reasoning (Creswell, 2013). Leedy and Ormrod (2010) assert that, qualitative research is less structured than quantitative research in description because it starts with an observation and then form a pattern to build new theories. According to (Williams, 2007), qualitative researchers involve five designs; ethnography study, case study, grounded theory study, phenomenological study and content analysis. The third approach is the mixed methods which combine the qualitative and quantitative researches.

Sousa, Driessnack, and Mendes (2007) stated that, using the combined or mixed research method became more common for investigators within the same study. Thus, based on the objectives of this study, the study has applied the mixed methods approach to benefit the strengths of both qualitative and quantitative approaches, understand its problem and answer its questions. Quantitative aspects have been used to examine the relationship among the independent variables and dependent variable, as well as few qualitative aspects were adopted to understand the cultural issues and business environment aspects within the Egyptian market and Chinese market. Semi-structure interviews through the telephone and face-to-face have been conducted to obtain the qualitative aspects, while the quantitative data were gained by using a questionnaire with close ended questions, refer section 5.5.

5.4 Research Design

According to Williams (2007), there are several categories of quantitative research method namely; descriptive, experimental and causal comparative. The descriptive research approach is a basic research method that focuses on examining the current situation as it exists in the current state. This approach uses the observational and exploration bases to identify the attributes a phenomenon or correlation between the phenomena. Whereas in the experimental (intervention) research, the investigator studies the treatment of an intervention into the study group and measures the outcomes of the treatment. During the causal comparative method, the researcher examines cause and effect relationships between the variables. Accordingly, this research follows the descriptive method.

Research design refers to the structure of the research inquiry, to ensure that the data and evidences obtained are good enough to solve the research problems or questions without unambiguously. Therefore, research design deals with the logical problems rather than the logistical problems. Moreover, we should clearly distinguish between the research designs as the logical structure of the enquiry and the methods that use to collect the data (Rwegoshora, 2016).

A research question can be answered by one or more than one research designs, because each research design has its advantages and disadvantages. Thus, all types of designs are always possible for a particular study but researcher has to select the most appropriate design(s). Since this study can be classified as descriptive research, the researchers used the correlational design to examine the association between the variables. In addition to that a cross-sectional survey has adopted in this study to provide us with a snapshot of what is happening in that group at one time in order to establish the degree of association between variables. A guide for research methods and designs has been offered by Williams (2007) includes all research methods, as we can see in Figure 5.1, has been used to select the appropriate designs for this study.
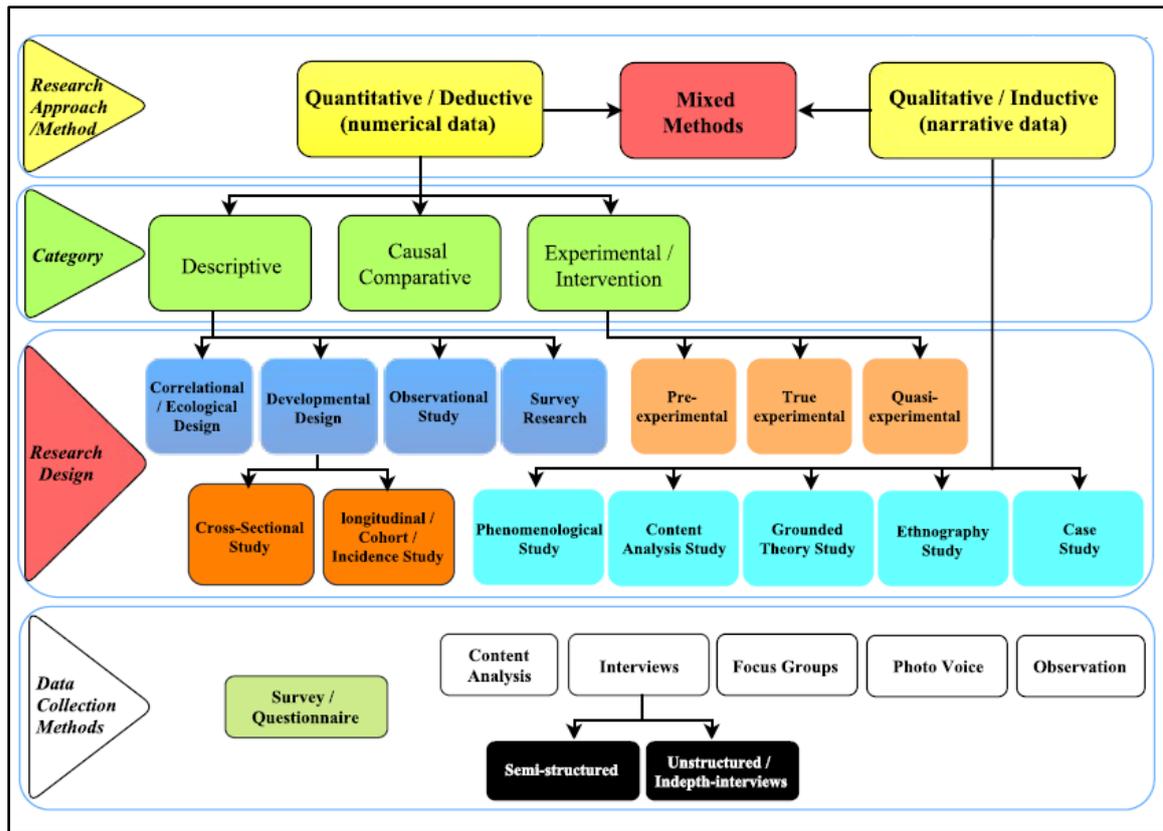
Figure 5.1: Research Methods and Designs

Source: Adapted by the researchers from (Williams, 2007)

5.4.1 Correlational Study

The correlational design is defined by Creswell (2013) as a form of non-experimental researchers which uses the correlational statistic to measure the association between two or more variables. Curtis, Comiskey, and Dempsey (2015) pointed out that, the correlational research is a method can be used to determine relationships among variables in order to predict events from current knowledge. Correlational design studies the differences between one or more characteristics of a study group in order to reveal the gap to which the characteristics vary together by using a statistical analysis (Simon & Goes, 2012).

The statistical analysis of the correlation can be conducted through the regression analyses to get the Pearson Correlation Coefficient Factor *"r"* and to measure the strength of the relationships among variables (Williams, 2007). Through Pearson correlation coefficient factor *"r"* the relationships will be given if r is statistically significant. These relationships have a degree and a direction. Where the relationship direction can be determined by the sign before r, the relationship is negative if the sign (-) while the relationship will be positive if the sign (+). The correlation coefficient of relationship explains to which degree the

variables are related. This coefficient is usually expressed as a number between +1 and -1, as the correlation coefficient moves toward either +1 or -1 the relationship gets stronger. Whereas, if we have zero correlation that indicates no relationship. This means that correlation doesn't imply causation (Simon & Goes, 2012). Correlational research has several advantages: it is straightforward to use, it is relatively inexpensive, it is useful to summarise the data collected by using the descriptive statistics, it is quick method and it provides a useful starting point for investigators to explore the phenomenon for the first time (Curtis et al., 2015). Therefore, it is highly important to use correlational design in this study to measure the association between the independent variables and the dependant variable.

5.4.2 Cross-Sectional Study Design

Cross-sectional study design is one of the most well-known and common study designs (Olsen & George, 2004). A cross sectional study is based on observations to examine the sample members at single point in time (one time) (Salkind, 2010). Williams (2007) reported that, during the cross-sectional design, the investigator can compare two or more different groups within the same parameters. In a cross sectional study, the researcher aims to obtain a representative sample by picking a cross section of the population (Sedgwick, 2014). Based on Silva (1999), cross-sectional surveys can be useful in assessing attitudes, beliefs, practices and knowledge of a population regarding a particular event.

Cross-sectional study can be done based on two steps: first, set selection criteria and recruit a sample from the whole population. Second, measure the current values of predictor and outcome variables supported by the relevant historical information (Hulley, Cummings, & Newman, 2013). The main advantages of cross-sectional studies are quick, easier to conduct than other individual-based studies, relatively simple and can be used to investigate multiple outcomes, but they do not provide much information about changes in over time (Salkind, 2010). Hence, the reasoning behind using the cross-sectional design in this study is to provide a snapshot about its variables at a specific point of time, while the selected sample represents the whole population of the study. It is also useful to identify the degree of the relationships among the variables of the study (Churchill & Brown, 2004). Therefore, the researchers adopted the cross-sectional survey, correlational design techniques to examine and establish the associations between variables, and later to analyze the quantitative data and test the validity of the hypotheses, as applied in chapters 7 and 8 (Malhotra & Birks, 2006).

5.5 Data Collection Methods

After a research design has been drawn, the task of data collection come into the picture. The methods of data collection are the instruments that are used to collect the information and depend on the problem that is investigated (Chao, 2014). During select the method of data collection to be used for the study, the researcher should take into consideration two types of data; secondary and primary data. The secondary data are the data which have already been collected before by someone else. These data can be obtained from books, articles, conferences, references, reports, periodicals and the web, whereas, the primary data are the data which are collected for the first time. Therefore, the investigator should decide which type of data would be used for the study in order to start the data collection and to pick the proper method(s) of data collection (Kothari, 2004). However, there is no evidence about using specific method of data collection with a certain research design, but data for any research design can be obtained by using any data collection method. Although questionnaires are the most frequently equated with cross-sectional surveys or studies, and case studies are often used with participant observations (Vaus, 2001).

Accordingly, this study focuses on the buyer-supplier relationships of textile industry and in particular the clothing manufacturers in Egypt and Eastern China. The data collected reflect the buying side of the relationships. To address the research problem and test hypotheses of this study the researchers have used the primary and secondary data. The secondary data have been gathered from an extensive literature research in books, scholarly journal articles and conferences papers relevant to the area of this study, which address the cross-cultural, international marketing and the relationships between buyers and suppliers to capture the full domain of the constructs in the research model (Churchill, 1979). In addition to, the reports and documents from the local and international bodies such as; World Bank, United Nations, etc., have been obtained through internet web. Furthermore, these sources have been used to corroborate empirical findings as well as developing the infrastructure to establish the theoretical framework for this study. Regarding the primary data and since this study applied the mixed methods approach, the researchers used semi-structured interviews to collect the relevant qualitative data. Whereas, they developed a questionnaire to gather the quantitative data using cross-sectional survey.

5.5.1 Semi-Structured Interviews for Qualitative Data Collection

The interview is one of the most-known and commonly used methods of data collection. An interview has been defined by Polit and Beck (2014) as a method of data collection in which

an interviewer asks questions of a respondent(s), it can be conducted either face-to-face or by telephone. Interview is a way to collect data as and gain knowledge from individuals. There are four main types of interviews; structured, semi-structured, unstructured and non-directive interviews (Kajornboon, 2005). In structured or standardized interview, the researcher asks the same questions for all respondents which are frequently used with the questionnaires method to generate quantitative data not qualitative data (Whiting, 2008). While unstructured interview is non-directed, casual and more flexible method, i.e. there is no need to follow a detailed interview structure. In non-directive interviews, the researcher doesn't control the interviews, but the interviewer follows what the interviewee has to say, where the interviewee who leads the conversation (Kajornboon, 2005).

Semi-structured interviews, on the other hand, interviewer/researcher has control over the interview. This type of interviews is frequently used in qualitative rather than quantitative analyses (Whiting, 2008). Edwards and Holland (2013) noted that, investigator does not do the research to test a hypothesis but he has a list of questions about series of topics to be covered in the interview. In semi-structured interviews the researcher is freer to conduct the interview than structured interviews and he can take notes or record the interview. One of the main strengths of semi-structured interviews is that the researcher can probe and prompt deeper into the given situation (Kajornboon, 2005).

Hence, in the initial stages of the study, a preliminary semi-structured interview had been conducted by telephone to determine the variables that were relevant to study. In addition to some semi-structured face-to-face interviews with a few general and purchasing managers in the Egyptian and Chinese textile and clothing companies. The purpose behind these interviews was to understand and gain practical insight about buyer-supplier relationship and the way of doing the businesses within the Egyptian and Chinese markets. In addition to obtain more insight about the cultural and businesses environment aspects. Such interviews gave the researchers more information about the factors that affect in contracting governance between buyer and supplier, especially in case of presence some levels of investments and uncertainty in the market. Furthermore, such discussions helped the researchers to develop question items that reflect the current practices in the industry.

5.5.2 Questionnaire for Quantitative Data Collection

A questionnaire is defined as a data collection form that is used to ask questions of research participants. The questionnaire is one of the most common instrument used for gathering the

appropriate information to analysis from people, which can be used combined with the other methods (Olsen & George, 2004).

Based on Acharya (2010), there are three types of questionnaires; structured, quasi-structured and unstructured questionnaire. The structured questionnaire includes pre-coded and well-defined closed ended questions, and most of the quantitative data are collected by using structured questionnaires and interviews. These questionnaires are: easy to administrated, consistency in answers and easy for the data management. Whereas unstructured questionnaire contains open ended and vague opinion-type questions, this type of questionnaires is frequently adopted with focus group studies. In quasi-structured questionnaire, the investigator can use the structured questions mixed with some unstructured questions. Thus, this study adopted the structured questionnaire with closed ended questions to obtain the quantitative data from Egypt and the eastern part of China, which includes the provinces of Shanghai, Jiangsu and Zhejiang.

5.6 Questionnaire Development

Developing the questionnaire is not just building and formatting questions (Giesen, Meertens, Vis-Visschers, & Beukenhorst, 2012). Acharya (2010) stated that, construction or development of the questionnaire is one of critical activities for a research, where a bad questionnaire, a bad coverage of samples and a bad administration of questionnaire will lead to less valid data. If the questionnaire is far from the real situation, it will collect an inappropriate data and futile conclusion and recommendations. Hence, the efficiency of a research depends on the excellence of the questionnaire.

To develop the questionnaire for this study, researchers have followed the steps given in the guidelines of "Handbook of Recommended Practices for Questionnaire Development and Testing in the European Statistical System" by (Brancato et al., 2006) and have linked it with the literature. Based on (Brancato et al., 2006), to develop questionnaire there are five steps have to be covered, as we can see in Figure 5.2. These steps show the questionnaire development process, where the information from each step in the process use as inputs for the following step.
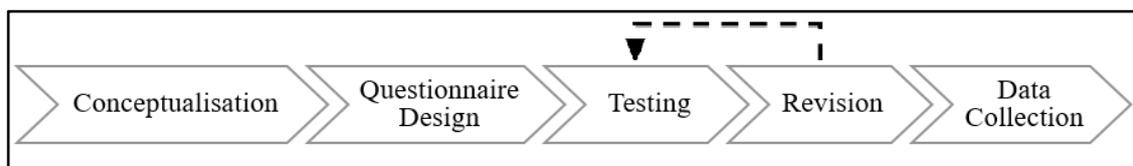

Figure 5.2: Questionnaire Development Steps

Source: (Brancato et al., 2006)

5.6.1 Conceptualization

Before start thinking about wording the questions or design the questionnaire the researcher should define the conceptual basis of the questionnaire (Brancato et al., 2006). Harlacher (2016) indicates that, in this initial phase the goals of the questionnaire and information needed to address each goal must be defined. In addition to, this step includes defining the subject, the research goals and the variables to be measured (Giesen et al., 2012). Therefore, the researchers in this phase reviewed an extensive literature to define the research goals, develop the conceptual model, determine the variables and formulate the hypotheses.

5.6.2 Questionnaire Design

After defining the conceptual bases, the questionnaire design has been started and a first draft questionnaire has been designed (Brancato et al., 2006), where the researchers started wording the questions to translate the target variables into concrete questions. Based on research design, requirements of the data collection method and contents of the questionnaire, the questionnaire through three phases has been defined. Firstly, some basic information about the respondents (clothing manufacturers) in both countries was obtained. The second phase was to use multi-items seven-point Likert as a rating scale from 1= strongly disagree to 7= strongly agree. Finally, the researchers generates the questions (guided by previous questionnaires) which were designed to reflect the different aspects of buyer-supplier relationship within clothing manufacturers sector (Harlacher, 2016).

5.6.3 Questionnaire Testing and Revision

Testing and revision the questionnaire are two linked phases (Brancato et al., 2006). In these steps researchers tested and reviewed the questionnaire many times to ensure that it aligns and achieves the study goals (Harlacher, 2016). Brancato et al. (2006) recommend to repeat two or more phases of questionnaire testing i.e. if the questionnaire has involved changes after the testing; a new round of testing is indispensable. Thus, the researchers have conducted a pilot survey of three questionnaires from the field before starting data collection to ensure that all items are clear and understandable (Churchill, 1979). In addition to, the feedbacks from the supervisor and experts were critical factors to develop the final questionnaire.

5.6.4 Data Collection

By this step the questionnaire has been developed, but it just needs to be organized and formatted in a proper way to match the administration method and the data collection

(Harlacher, 2016). In the phase the researchers dedicate more time to translate the questionnaire from English into Arabic and Chinese in order to be able to collect the data from Egypt and China. The proper translation must reflect the conceptual equivalence across cultures; semantic equivalence across languages and normative equivalence to the source language or survey (see Appendix 5; B) and C). A well-translated survey instrument is quite critical for cross-cultural research (Harkness, 2006). Once the questionnaire has been finished, it can be used to collect the data from the field (see Appendix 5; A). After finishing the questionnaire one of the researchers travelled to Egypt and the other one travelled to China to collect the data, which took 5 weeks. The task of questionnaire development is not finished yet, it is important to keep our eyes on what happens during data collection, to monitor and evaluate the questionnaire. Although extensive testing and revision, it may happen that small adjustments are needed to limit the consequences of the problems that occurred during data collection. Accordingly, the researchers have considered the outputs of data collection and data analysis processes. Moreover, they maintained the contacts with the questionnaire's respondents in case if they need them (Giesen et al., 2012).

5.7 Population and Sample

5.7.1 Population and Target Population

Polit and Hungler (1999) defined the population as: the total number of all the objects, subjects or individuals of interest that conform to a set of specifications and characteristics, and through which data can be collected and analysed. The textile and clothing industry in Egypt includes approximately 4,500 company and plant, while about 10,000 in Eastern China in all fields according to non-official statistics in 2017.

Typically, obtaining data about all members of a population is not available and very difficult. Thus, we should define a target population; the group to whom the study applies or who are in a position to answer the questions and apply the survey results. Therefore, the target population in this thesis was only manufacturers sector under the textile industry in both countries (Kitchenham & Pfleeger, 2002).

5.7.2 Sampling Frame

Sampling has been defined by Polit and Hungler (1999); LoBiondo-Wood and Haber (1998; 2014) and Burgess (2001) as a process of taking a representative selection for a portion of the population for data collection and research information. The investigators should take into consideration selecting a valid sample which represents the subgroup of a target

population, so that they can make valid generalizations for the results (Kitchenham & Pfleeger, 2002) (LoBiondo-Wood & Haber, 1998; 2014).

A key issue concerning the selection of the sample is to ensure that our sample is representative for the entire target population (Poppo & Zenger, 2002). Whereas Burgess (2001) defines a sampling frame as: a list that contains all the objects of the target population. Thus, the sampling in this study involved all registered and licensed clothing manufacturers sector within Egypt, in particular Cairo city where majority of these companies are located and some of them have branches in other cities in Egypt, and Eastern China (Kitchenham & Pfleeger, 2002).

- **Sampling Methods and Techniques**

The main goal for selecting a sample is to save the time, money and other resources by narrowing down the area of research (Burgess, 2001). According to Barreiro and Albandoz (2001), there are three categories of the sampling method; *probability sampling, non-probability (purposive) sampling and no-rule sampling*. In probabilistic or random sampling methods; each object of a target population in the study has the same and a known probability of being chosen for the sample. There is no zero probability in the probabilistic sample; the main aim of this sample is to eliminate subjectivity and bias. We have different methods of the probabilistic sampling; simple random sample (equal probability of being chosen), stratified random sample (identify specific subgroups or strata), systematic sampling (selecting every n^{th} member from a population list) and cluster sampling (cluster or group-based) (Kitchenham & Pfleeger, 2002).

On the other hand, non-probabilistic or non-random sampling method, implies that not every item of the target population has an opportunity for being chosen for the sample and it is gathered based on convenience. This method of sampling is more common than probability sampling and it is a good method for the pilot studies (Latham, 2007). A non-probability samples are less vigorous, accurate and representative than probability samples, where they are adopted when respondents are already chosen due to the easy accessible. Also, non-probability sample introduce more vulnerable to the risk of bias because the researchers may choose non-representative sample of the target population. Therefore, it is difficult to draw strong inferences and valid generalizations from such samples. Non-probabilistic sampling includes several methods; convenience sampling, snowball sampling, quota sampling and focus groups (Kitchenham & Pfleeger, 2002). According to Barreiro and Albandoz (2001), there is a third type of the sampling methods is called no-rule sampling; in which the

researcher can select a sample without any rule. This method is useful when the target population is homogeneous, then the sample is representative without selection bias.

Respecting the above, a convenience non-random sampling technique was adopted in this study. Despite the fact that every company of the clothing manufacturers sector in Eastern China and Egypt had the same probability to be included in this representative sample, but data was not easily available about such companies in Egypt and China (Dornyei, 2007). Hence, only some of the registered and licensed clothing producers were available and easily accessible, and they were considered in the sample under study but other manufacturers were not easily accessible.

- **Sample Size**

A sample is subgroup of a target population selected to provide data for a study project, as a fraction of the whole. We should consider a major issue when sampling is determining the appropriate sample size. The sample size is very important because if the sample size is inadequate we cannot come to a reasonable conclusion or generalize to the target population. A general rule of thumb is to choose the largest possible sample, where the larger the sample the more representative for the population it will be, and vice versa (Kitchenham & Pfleeger, 2002). Moreover, the rule of generalization suggests that as the sample size increases, the sampling error can be reduced (Watt & Berg, 1995; 2002b).

According to Israel (1992), there are three main criteria can be used to determine the appropriate sample size additionally to the purpose of the study and population size. These three criteria are: the level of confidence, the precision level to be achieved and the degree of variability in the measured attributes. Hox and Bechger (1998) reported that structural equation model (SEM), a cross-sectional statistical modelling technique, is one of powerful technique for testing the models with complex factors or variables. However, determining sample size requirements for (SEM) is a very big challenge for investigators (Wolf, Harrington, Clark, & Miller, 2013). Despite this, Wolf et al. (2013) have provided several examples for rules-of-thumb such as; Boomsma (1982; 1985) who suggested a minimum sample size of 100 or 200 objects with the structural equation model. While (Bentler & Chou, 1987), recommended to select a sample size of 5 or 10 observations per estimated parameter. Also, Nunnally (1967) advocated to use 10 observations per variable.

As mentioned above, this study has used a convenience selected sample of clothing manufacturers sector in Egypt and Eastern China. Since this study includes seven variables

or constructs, the minimum of the random sample size is 7 x 10 = 70 based on the rule-of-thumb of Nunnally (1967).

5.8 Chapter Summary

This chapter discussed the research methodologies used in this study. Where, mix of qualitative and quantitative methods has been adopted as a research approach, also correlational and cross-sectional designs were applied in this descriptive study. The chapter also touched to using semi-structured interviews and questionnaire to gather the relevant data to achieve the research objectives. Furthermore, this chapter has introduced the proceedings used for developing the questionnaire, and provides an explanation of population and sampling procedures.

CHAPTER SIX
CONCEPTUALIZATION, OPERATIONALIZATION AND MEASUREMENT OF VARIABLES

Chapter Six

Conceptualization, Operationalization and Measurement Of Variables

6.1 Introduction

This chapter discusses the operationalization and measurement of the model and relevant variables included in this study. It defines the vague concepts and elaborates the different constructs in the study. It also explains how the variables have been measured. All the perceptual items used in this study have operationalized on a seven-point Likert scale, whereas a single-item scale has been used to measure the non-perceptual items.

6.2 Conceptualization, Operationalization and Measurement

Conceptualization, operationalization and measurement are sequential and interrelated steps, according to Figure 6.1. The idea behind these steps is to move from a vague idea or concept about what we would like to study to make this concept less vague, which is called "operationalization", in order to be able to measure this concept in the real world. There are three categories of things that researchers measure: directly observables which can observe simply and directly, indirect observables that can be subtler and complex, and third category is to construct theoretical creations based on observations (Babbie, 2002; 2013).

Figure 6.1: The Progression of Measurement Steps

Source: (Babbie, 2002; 2013)

The conceptualization is the first step in the measurement process, Blackstone (2012) defines the concept as the image or notion that can be conjured up when we think about cluster of related observations or ideas. Whereas Babbie (2002; 2013) noted that, conceptualization is a process through which we can come to some agreement about the meaning of concepts or terms we use in a research. This step includes identifying the concept's indicators to determine the absence or presence of the concept we study, and describe the different aspects or facets of this concept, which called dimensions (Babbie, 2002; 2013).

The second step is to operationalize the concept, operationalization can be defined as a process of describing the procedures of how this concept will be measured or observed (Blackstone, 2012). Therefore, conceptualization and operationalization are intimately linked, where conceptualization refers to specifying the abstract concepts and operational-ization indicates to developing specific research operations for those concepts in the real

world. Researchers have a variety of interconnected choices when it comes to operationalizing a concept such as; range of variation, variations between the extremes, defining variables and attributes, dimensions, and levels or scales of measurement (Babbie, 2002; 2013).

The third process is the measurement; which is a fundamental activity of science and a foundation of any scientific inquiry. We acquire knowledge about people, objects or anything by observing them, and to give sense for these observations we should measure and quantify them (DeVellis, 2003; 2016). Blackstone (2012) gave a definition for the measurement term as the process of describing and ascribe meaning to the key concepts, facts, or other phenomena that we investigate. Another definition provided by Sarle (1995; 1997), measurement of a set of objects is the process or the assignment of numbers or other symbols to the objects or events, in a way that makes the relationships of these symbols or numbers reflect relationships of the attribute being measured. The variables must be quantified in order to be able to analyse them; this means that measuring is to give values and scale. Hence, researchers should define the theoretical concepts and the variables at the operational level in order to test the hypotheses and measure the observations they want to study (Kaur, 2013).

However, defining the variables and determining how to measure them may look simple but, vaguely defined variables make the measuring very difficult (Kaur, 2013). There are several levels and scales of measurement, each level of measurement provides varying amount and kinds of information about the theoretical constructs within a study. Moreover, a measure must be enough at the minimal level to provide the ability to detect the absence or presence of this theoretical construct (Watt & Berg, 1995; 2002a). According to Sarle (1995; 1997), Babbie (2002; 2013), Lammers and Badia (2004) and Price, Jhangiani, and Chiang (2013; 2015), there are four scales or levels of measurement that involve of the numbers or symbols that constitute the measurements, as the following:

1. **Nominal Measure:** this scale is used for categorical variables; two objects are assigned the same symbol or number if they have the same attributes. It simply labels the objects based on gender, religious affiliation, college major, e.g. male = 1 and female = 2.

2. **Ordinal Measure:** for the variables and things with attributes that we can logically rank-order, whether ascending or descending. Original numbers are assigned to place objects in order. Examples include the levels of grading system (A, B, C, D and F).

3. Interval Measure: when we can specify the actual distance between the attributes or events, we have an interval scale. The interval differences between the attributes composing some variables are meaningful, but no absolute zero - for example, score on a Likert-type scale.

4. Ratio Measure: objects are assigned numbers such that ratios between the numbers reflect ratios of the attribute. Ratios can be determined because we have an absolute and true zero point. Examples: age, income and length in centimetres.

Thus a variable can be measured at different levels and the investigators should use the highest level of measurement adequate to that variable to capture the greatest amount of information. Choosing the appropriate level of measurement relies on its quality, which can be measured based on four criteria; accuracy, precision, validity and reliability (Babbie, 2002; 2013). Slavec and Drnovšek (2012) argue that, developing the measurement scale that would lead to valid and reliable results not an easy task and it takes time and reflection. Therefore, choosing the effective measurement is a cornerstone of scientific research and assessment of latent variables.

Accordingly, the researchers have followed the guidelines suggested by Churchill (1979) to develop and design good measures for the latent constructs and variables used in this study. These guidelines are applicable only for multi-item scales which we used in the questionnaire, hence these process is linked to the process of questionnaire development in Chapter 5. Churchill's guidelines consist of eight sequential or consecutive steps to develop a good scale as presented in Figure 6.2. Thus, the study applied the following steps: firstly, the domain construct has been clearly specified through an extensive review of the relevant literature. Secondly selecting and generating the items; the researchers generated the measurement items from the relevant previous studies after adapted them to fit with the purpose of this study. The study basically adopted the multi-item scales to operationalize constructs in order to increase the reliability and reduce the measurement errors (Churchill, 1979), as well as some single-item scales have been used too. After generating and developing the items, our supervisor, academic stuff and experts from the industry have reviewed them before stating data collection. Then, a pilot survey of three questionnaires have been conducted from the field to ensure that all items are understandable and clear.
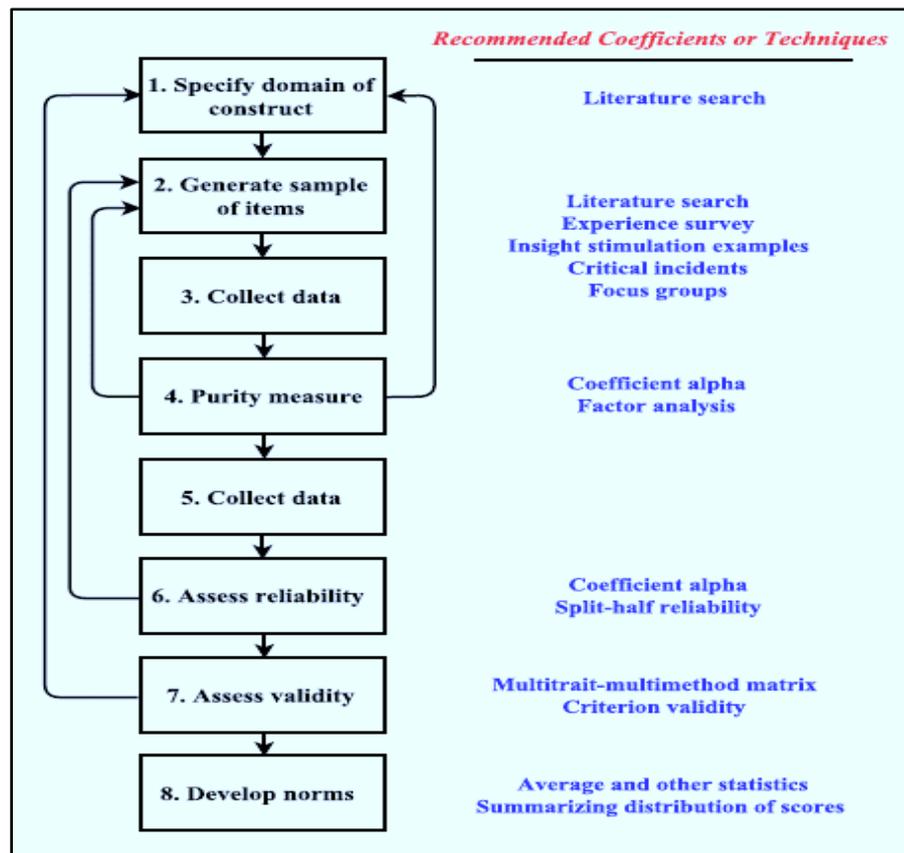
Figure 6.2: Procedures of Developing Better Measures

Source: (Churchill, 1979)

In the fourth step, the researchers have checked if there any adjustments are needed to purify and eliminate them. After that, they started the data collection for the entire sample. Finally, preliminary analysis has been done to test the extent of reliability and validation before running the regression analysis and other analyses, the final reliability, validation and results of measurements is displayed in detail in Chapter 7.

6.3 Measurement Model

The main goal of social science is to provide and offer theoretical explanations of behaviour (Peter, 1981). The validation of construct is a necessary condition for testing, because it reflects the degree of correspondence between constructs and their measures (Jarvis, MacKenzie, & Podsakoff, 2003). Bagozzi (1981); J. C. Anderson and Gerbing (1982) stated that, it is very important to distinguish between the structural model which specifies relationships between different constructs and the measurement model describing the relationship between the constructs and their measures or indicators.

Thus, considering a clear specification of the measurement model is necessary before assigning the meaning or performing the causal analysis of the structural model. This paid increased attention to construct validity and more firm assessments of the measurement properties of constructs, especially during developing the procedures of latent variable structural equation modelling (SEM). These latent constructs or variables may lead to the observed variation in the measures (Jarvis et al., 2003).

Latent variables or constructs refer to theoretical phenomena which cannot be directly observed but can be assessed by manifest measures which are observable (Diamantopoulos, Riefler, & Roth, 2008). Based on Avila et al. (2015); K. Bollen (1989; 2014); Jarvis et al. (2003), the observed indicators of a construct that are used to measure unobservable construct in the SEM can be either reflective (effect indicators) or formative (causal indicators). In other words, the measurement model which studies the relationship between constructs and indicators, can be measured by two approaches reflective or formative measurement models. In this context, if the direction of the relationship from the indicators to the construct, then it is reflective measurement. Whereas, if the direction of the relationship from the indicators to the construct this means formative measurement (Diamantopoulos et al., 2008).

Understanding the difference between reflective (principal factor) and formative (composite latent variable) measurement models is highly important during the development of a measurement tool (Avila et al., 2015). The key features of the comparison between these two models are summarized in Table 6.1 (Jarvis et al., 2003).

Table 6.1: Comparison between Reflective and Formative Measurement Models

Source: Adapted From (Jarvis et al., 2003)

Feature	Principal Factor (Reflective) Model	Composite Latent Variable (Formative) Model
Direction of Causality Flow	From construct to measure or indicator.	From measure or indicator to construct.
Internal Consistency Reliability	Measures expected to be correlated (measures should have internal consistency rel-iability).	Measures are not correlated (internal consistency relia-bility is not implied).
Changing the Meaning of the Construct	Dropping an indicator from the measurement model doesn't change the meaning of the construct.	Dropping an indicator from the measurement model may change the meaning of the construct.
Measurement Error	Considers the measurement error at the item level.	Considers the measurement error at the construct level.
Construct Meaning	Construct possesses surplus meaning.	
Scale Score	Scale score doesn't adequately represent the construct.	

Reflective measurement model is the most commonly used in social sciences for latent variable measurement, and it is directly based on classical test theory (Diamantopoulos et al., 2008). In this model, covariation among the measures is caused by, and therefore reflects, variation in the underlying latent factor. As we can see a path diagram of the reflective or effect model in Panel 1, Figure 6.3, where each unidimensional construct are represented by a circle (η) with three arrows emanating from it to a set of indicators (X_1, X_2 and X_3). The direction of causality is from the construct to the indicators, i.e. any change in the underlying construct causes achange in the indicators (Jarvis et al., 2003). Also, the errors pointing to each indicator refer to the effect of measurement error on the observed variables. Thus the measures are referred to as effects or reflective indicator, where the latent variable influences the indicators which and can be measured by this general equation; $X_i = \lambda_i \eta + \varepsilon_i$ (1), where; X_i is the *i*th indicator, η is the latent variable that influences the indicator, ε_n is the measurement error for the *i*th indicator, and λ_i is the coefficient giving the expected effect of η on X_i (Diamantopoulos et al., 2008).
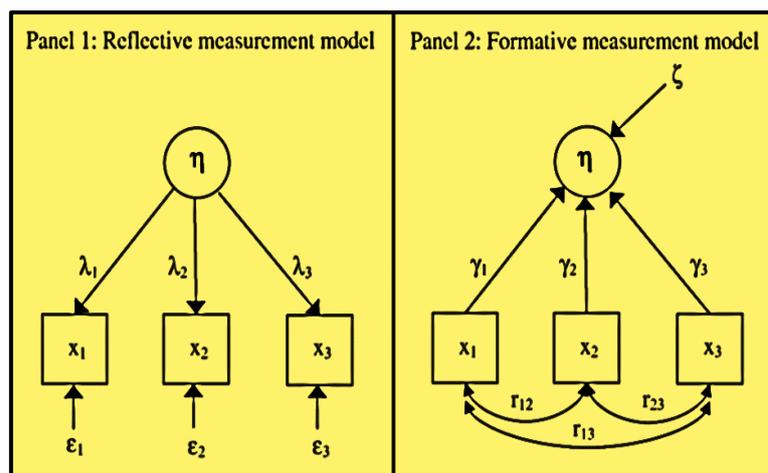
Figure 6.3: Reflective and Formative Measurement Models

Source: (Diamantopoulos et al., 2008)

The second form of specification is formative or causal indicators (K. Bollen & Lennox, 1991). Unlike the reflective model, this model can be used to assume that the all measures have an impact on (or cause) a single construct, not to assume that the measures are effected (or caused) by a single underlying construct (Jarvis et al., 2003). The formative measurement model, in Figure 6.3, Panel 2, can be expressed by the following equation:

$$\eta = \sum_{i=1}^{n} \gamma_i x_i + \zeta \qquad (2)$$

Whereby ζ is a disturbance term and γ_i the coefficient capturing the effect of indicator x_i on the latent variable η. The latter involves all remaining causes of the construct which are not represented in the indicators and are not correlated to the latter, hence we should consider the assumption that COV $(x_i, \zeta) = 0$. Furthermore, the main differences between formative (model, indicators or equation) and reflective are that in the formative model; there are no specific expectations about patterns or magnitude of intercorrelations between the indicators, no individual measurement error terms and the indicators are not interchangeable (Diamantopoulos et al., 2008).

A researcher has to specify clearly reflective and formative constructs to avoid type I error and type II error, and to achieve valid scientific results. Type I error happens when the research study requires a formative operationalization, while the researcher applied a reflective operational-ization instead. In contrast, when the researcher adopts a formative operationalization while the research study required a reflective operationalization, that is type II error (Diamantopoulos & Siguaw, 2006). Accordingly, this study has operationalized all constructs as latent variables, where all variables have been measured as reflective scales (see Appendix 2).

6.4 Measurement Process

In this section, the researchers have defined all variables, and all question items that make up a particular latent construct have listed. This study includes one dependent variable; contracting (CONT), and four independent variables: supplier specific investments (SSPI), environmental uncertainty (ENVUN), firm size (FIRMSIZE), and culture differences (NAT) as an independent dummy variable. There are also two control variables: buyer specific investments (BSPI) and relationship duration (REDUR). The researchers adapted the measurement items from previous literature to fit the context of this study as well as the practical data gathered in the field during the initial data collection process. The answers perceived by the buyers (clothing manufacturers).

6.4.1 The Dependent Variable (Y)

- **Contracting (CONT)**

Contracting is the dependent variable which is influenced by the independent and control variables explained below. This construct is made up of seven items anchored from 1= strongly disagree to 7= strongly agree. Combined with the practical data gathered during the initial data collection process, the researchers picked some measurement items from the

previous literatur e.g. Buvik and Reve (2002a); Chao (2011, 2014); Chao and Kato (2014) to develop the following items:

CONT1: Written contracts regulate our firm's rights to insight and documentation of production costs at this supplier.

CONT2: Formal contracts regulate all issues concerning property rights with this supplier.

CONT3: Firm agreements stipulate all aspects concerning the exchange of information about prices and market condition between our firm and the supplier.

CONT4: Written contracts stipulate all aspects regarding parties' tasks and influence in quality assurance.

CONT5: Firm contract stipulates all aspects regarding the tasks and influence of the parties in the quality control of the products we purchase from this supplier.

CONT6: Written contracts stipulate all aspects regarding the selection of sub-suppliers for the products we order from this supplier.

CONT7: Our firm has set up formal limits for shrinkage ratio of the products with this supplier.

7.4.2 The Independent Variables (Xs)

- **Supplier Specific Investments (SSPI)**

Supplier specific investments as a latent construct was measured by using 7-point Likert scale anchored from 1= strongly disagree to 7= strongly agree. This construct was adapted from the previous works of (Babbie, 2002; 2013; Pollitte, 2008; Rokkan, Heide, & Wathne, 2003; Stump & Heide, 1996). Hence, the following items have been used to measure specific investments from the supplying side (fabrics producers):

SSPI1: This supplier has dedicated special human resources that are necessary to deal with our firm.

SSPI2: This supplier has developed a specific quality assurance system to verify if the products meet our requirements.

SSPI3: This supplier has made significant investments in developing specific materials linked to the products delivered to our firm.

SSPI4: This supplier has made many important investments dedicated to fulfill the orders of our firm.

SSPI5: This supplier has carried out considerable product/service adjustments in order to meet the requirements from our firm.

SSPI6: This supplier has made large commitments of time and money dedicated to handle our product requirements.

SSPI7: This supplier has developed specific procedures and routines for handling the relationship with our firm.

- **Environmental Uncertainty (ENVUN)**

This construct is made up of four items anchored from 1= strongly disagree to 7= strongly agree based on Buvik and John (2000); (Pollitte, 2008). The following items were used to measure the environmental uncertainty:

ENVUN1: The demand for our end products varies continuously.

ENVUN2: Our most important competitors are regularly carrying out product adjustment and development of new product.

ENVUN3: The demand conditions for our supplier's products are very irregular.

ENVUN4: There is often deviation in demand condition between the actual and planned situations.

- **Firm Size (FIRMSIZE)**

This independent variable has been measured by using a single-item scale to indicate the size of the firm based on the number of employees, which adapted from Meladi, Glavee-Geo, and Buvik (2017), as follows:

What is total number of employees?　　　Approximately: …………… employees.

- **Dummy Variable (NAT)**

Trochim, Donnelly, and Arora (2016) define the dummy variable as the numerical variable that use in regression analysis to represent subgroups of the sample or to distinguish different treatment groups in a study. Dummy variables are independent variables which take only one of two values either (0 or 1) which are used for analysing a qualitative factor a logical proposition. Moreover, the dummy variables play an important role to analysis and represent the categorical data such as: male or female, smoker or non-smoker, etc. Dummy variables are useful in a regression model beacuse they enable us to use a single regression equation to represent multiple groups, in which the value of 1 of a dummy variable causes the coefficient to function as a supplemental intercept. In converse, value of 0 will cause its coefficient to disappear from the equation (Garavaglia & Sharma, 1998). Accordingly, this

study has applied one dummy variable to measure the cultural differences between Egypt and China, whereby Egypt has given "1" and China "0". This variable was identified by asking the the responders the following question:

What is the nationality of company owner?   …………………………………

6.4.3 The Control Variables

Control variables include all other variables of the experimental variable. The researcher can use these variables to explain the relationships between these variables and the dependent variable (Kaur, 2013).

- **Buyer Specific Investment (BSPI)**

This variable has been measured by using a 7-point Likert scale from 1= strongly disagree to 7= strongly agree, adapted from prouvise researchers such as: Babbie (2002; 2013); Rokkan et al. (2003). Thus, the following 7 items have been used to measure specific investments that made by the buyers (clothing manufacturers):

BSPI1: Our firm has invested a lot in order to adapt to this supplier's customized products features.

BSPI2: Our firm has invested a lot in specific production equipment to handle the tailored products from this supplier.

BSPI3: Our firm has made substantial commitments of time and money in training our employees to deal with this supplier.

BSPI4: Our firm has developed special business procedures and guidelines that are particularly adapted to this supplier.

BSPI5: Our firm has spent significant resources in reorganizing/adjusting our own organization in order to deal with this particular supplier.

BSPI6: Our production system has been specifically tailored to the product design of this supplier.

BSPI7: Our firm has spent significant resources to ensure that our specifications of the products we buy from this supplier fit well with this supplier's production capabilities.

- **Relationship Duration (REDUR)**

The question used to measure this control variable was adapted from Buvik and Andersen (2002b); Buvik and Haugland (2005); Meladi et al. (2017) as follows:

How long has your company been dealing with this chosen supplier?   .... years.

6.5 Chapter Summary

This chapter has defined all constructs and variables that were used in this research study as well as determining their respective measures. Furthermore, operationalization and measurement of variables were discussed. Measurement model and question items that used to measure the dependent variable and independent variables were presented.

CHAPTER SEVEN
DATA EXAMINATION, DATA VALIDATION AND
MEASUREMENTS ASSESSMENT

<center>**Chapter Seven**</center>

<center>**Data Examination, Data Validation and Measurements Assessment**</center>

7.1 Introduction

Data examination and data validation are required procedures to test and assure the quality or power of a study. Hence, this chapter discusses in full details the assessment of data reliability and validation to ascertain the credibility of the data collected for further analyses in the study. In this chapter the researchers performed a series of descriptive statistics, reliability and validity tests to ensure that the data set meets the parametric assumption of the regression analysis. Moreover, the results of factor analysis, validity and scale reliability tests are presented and discussed.

7.2 Preliminary Data Screening and Cleaning

Before going forward with the sophisticated statistical analyses, a researcher must examine the quality of collected data to ensure that the data set are clean data "without out-range values" and ready to be used (Meyers, Gamst, & Guarino, 2006). Pallant (2001; 2011) pointed out that it is important before starting data analysis to check the data set. Omitting this stage would definitely affect the quality of an output and the correctness of an analysis (Abdulwahab, Dahalin, & Galadima, 2011). Therefore, this section provides an overview about the accuracy of data file, outliers assessment and normality check using skewness and kurtosis, as well as reliability and validity tests of the study.

7.2.1 Data Assessment and Missing Data

According to Pallant (2001; 2011), it is essential to check for errors of data set before running any analysis because it is very easy to make a mistake during data entry. Thus, the researchers have checked if there are any missing data and verified that the available data were correctly collected and entered. This is due to the proper way of data collection and the method that were used, where the researchers self-administered the distribution and collection of the questionnaires to make sure that all questions have been completely and correctly filled by the respondent. In addition to that, the researchers were giving the respondents a synopsis about the study to make them fully understanding the purpose of the study which was reflected in their responses.

7.2.2 Descriptive Statistics

After making sure that the data were correctly entered and no data were missing, the descriptive statistics have to be run in order to provide the graphical and numerical representation of data (Pallant, 2001; 2011). Shafer and Zhang (2012) stated that, descriptive statistics is that branch of statistics that devotes to display, describe and summarize the basic features of data set in a study. Hence, the main goal of descriptive statistics is to present the numerical and graphical results of analysing data set. Therefore, it is good for a researcher to run the descriptive statistics on data set to test the measures of central tendency and other measures such as; standard deviation, variance, outliers, and normality in order to be confidant and certain that the data are as expected in terms of mean, standard deviation, outliers and normality (Garson, 2012). Accordingly, the Tables 7.1 and 7.2 below show the outputs of the descriptive statistics for the data of the study.

Table 7.1: Descriptive Statistics of Sample Characteristics

Descriptive Statistics*					
Variable	N	Minimum	Maximum	Mean	Std. Deviation
1. FIRMSIZE	140	6	1300	145.90	192.032
2. REDUR	140	1	25	5.48	4.028
*. Valid N (listwise)	140				

Table 7.2: Descriptive Statistics of Constructs

Descriptive Statistics*					
Variable	N	Minimum	Maximum	Mean	Std. Deviation
1. CONT	140	2	7	5.53	1.232
2. SSPI	140	2	6	4.08	1.578
3. FIRMSIZE**	140	2	7	4.39	1.090
4. ENVUN	140	2	7	4.06	1.582
5. SSPI X (FIRMSIZE**)	140	5	37	17.61	7.710
6. BSPI	140	2	6	3.65	1.573
7. REDUR**	140	0	3	1.53	.566

*. Valid N (listwise)   140

**. Transformed variables into natural logarithm, which is Ln(FIRMSIZE) and Ln(REDUR).

Another way for presenting summary information about the data is the frequency tables or frequency distributions. The frequency of an event refers to the number of observations the event occurred in the study. Hence, frequency tables provide a complete picture about the distribution of data for a variable (Colwell & Carter, 2012). Table 7.3 below, provides the percentage frequency for each variable under study within the two countries. This table measures the responses regarding factors of each dimension of them with a scale from 1 "strongly disagree" to 7 "strongly agree".

Table 7.3: Frequencies of the Variables Under Study

		Frequency						
Variable		Strongly Disagree	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree	Strongly Agree
		1	2	3	4	5	6	7
Egypt	CONT	-	-	-	1.4%	4.3%	81.4%	12.9%
	SSPI	-	25.7%	40.0%	12.9%	15.7%	5.7%	-
	ENVUN	-	21.4%	37.1%	11.4%	12.9%	14.3%	2.8%
	BSPI	-	27.1%	37.1%	18.6%	11.4%	5.7%	-
China	CONT	-	17.1%	2.9%	-	22.9%	57.1%	-
	SSPI	-	22.9%	-	-	28.6%	48.6%	-
	ENVUN	-	18.8%	10%	1.4%	17.1%	52.9%	-
	BSPI	-	44.3%	1.4%	-	20.0%	34.3%	-

7.2.3 Assessment of Outliers, Skewness, Kurtosis, and Normality Test

- **Assessment of Outliers**

After assessment the data and checking the missing data, the researchers identified the outliers in the data set in order to avoid the extreme values and biased results. Hawkins (1980) defined an outlier as an observation that deviates and varies so much from other observations raises doubts that it was generated by a different mechanism which may affect the data analysis adversely. Outliers are inconsistent observations or values with others in a data set which tend to effect on the outcome of any statistical analysis such as; regression coefficients and ANOVA, which may cause Type I and Type II errors (Ben-Gal, 2005). Badara and Saidin (2014) mentioned that, outliers usually caused by missing values, incorrect data entry, and the population or sample of the study. Hence, outlier detection is a primary step of data analysis.

Based on Seo (2006), there are two major approaches to detect and treat outliers: formal tests and informal tests. Formal tests or tests of discordancy that need test statistics for hypothesis testing are used to test whether the target extreme value deviates from the assumed distribution or not usually. Some of formal tests use for a single (univariate) outlier and others for multiple (multivariate) outliers. The selection of these tests depends on the number of observations in the data set, type of data distribution, and number and type of target outliers. Iglewicz and Hoaglin (1993) provided a comprehensive comparison through simulations between five selected formal tests which are valid for the normal distribution, such as the Box plot rule, Extreme Studentized Deviate (ESD), Dixon-type tests, Shapiro-Wilk and Kurtosis statistics. Whereas most informal tests or outlier labeling methods can be used to generate an interval or criterion for outlier detection instead of hypothesis testing where any observations outside this interval is considered as an outlier. Outlier labeling methods are used to discover the extreme values away from most the data regardless of the distribution or to find possible outliers as a screening device before conducting a formal test. In addition to, labeling methods can be applicable to detect outliers for the large data set when it is difficult to identify a proper distribution of the data.

Generally, any observation with standard deviation greater than 3 from the mean are treated as outliers. However, if the outlier must be used in the study, the researchers can treat this outlier to a value that equals the extreme scores that lie between 3 standard deviations from the mean. Alternatively, they can run the formal or informal tests to detect the outlier (Garson, 2012; Kline, 2011). Moreover Pallant (2001; 2011) noted that, the outliers can be identified by using a histogram and box plot and looking for the points that are sitting on their own out in the extreme.

A rule of thumb, for small samples with 70 or fewer observations, outliers typically can be defined as cases with standard scores of 2.5. Thus, the researchers checked the outliers by using SPSS 22 software to detect the cases with standard deviation equal or greater than 2.5, and no outliers have been detected in this study (Appendix 1) (Badara & Saidin, 2014; Hair, Black, Babin, & Anderson, 2006; 2010). Moreover, the researchers ran the box plots for all variables and only 6 items in contracting variable of the Egyptian data set have been detected as outliers. However, by using of 5% Trimmed Mean function which check the significance of the outliers, the researchers found out that these outliers had no significant impact to the mean, where the mean of contracting was 6.06 and its 5% Trimmed Mean was 6.08. The function of 5% Trimmed Mean shows how much of a problem the outlying cases can affect the analysis, where if there is a big difference between the Mean and the 5% Trimmed Mean

of the variable, then, the data cases need to be investigated deeply, however when the difference is small they can be retained in the data set (Pallant, 2001; 2011). Therefore, the researchers decided to keep them.

Furthermore, to test the outliers for the actual values of relationship duration (REDUR) which ranged between 1 and 25 years, and firm size (FIRMSIZE) which ranged between 6 and 1300 employees, the researchers have transformed these values mathematically into natural logarithm to ensure normality (Kline, 2011; Tabachnick & Fidell, 2007). The transformations resulted into scores ranging between 0 and 3 for REDUR; and between 2 and 7 for FIRMSIZE, as we saw in Tables 7.1 and 7.2 above.

- **Skewness and Kurtosis for Normality Check**

Many of the statistical analyses such as regression, correlation, t-tests and variance analysis are basically based on the assumption that the data follows a Gaussian distribution or normal distribution which reflects that the samples and its populations are normally distributed. Hence, normality assumption should be taken seriously, because it is impossible to draw accurate or reliable conclusions about reality if this assumption not available (Ghasemi & Zahediasl, 2012). H. M. Park (2002; 2006) states that there are two methods to conduct the normality tests: graphical methods and numerical methods. Graphical approaches display the distributions of variables by using stem-and-leaf plot, box plot or histogram, while numerical approaches can calculate summary statistics that measure skewness and kurtosis. Despite graphical methods are easy to interpret, but numerical methods provide more objective ways of checking normality.

In general, a perfectly normal distribution or symmetric distribution should give a score of zero for skewness and kurtosis (Rose, Spinks, & Canhoto, 2015). However, a distribution can be skewed if the observations higher or lower than the mean. A negative skewness (to the left) when the mean is lower than the median and positive (right) skew when the mean is greater than the median. Kurtosis measures how peaked or flat a distribution is, whether it is too high or too low became flat (Gaur & Gaur, 2009). Kleinbaum, Kupper, Nizam, and Muller (2007) claimed that, to measure the skewness and kurtosis through using SPSS we can apply a simple rule of thumb that suggests that a variable is reasonably close to normal if its skewness and kurtosis have values between ±3, while Kline (2011) recommended that the acceptable range is 3 for skewness indices and within 10 for kurtosis indices. Thus, the researchers assessed the skewness and kurtosis for the all observations under study and all values fall within the acceptable range of ±3 by Kleinbaum et al. (2007), as we can see in

Appendix 1. Further analysis for checking normality using graphical method was provided next Chapter, Section 7.3.1 titled by the assumption of normality.

7.3 Reliability and Validity Testing

Reliability and validity are tools of a basically positivist epistemology (Winter, 2000), and lie at the heart of any effective and competent study (Thanasegaran, 2009). Carmines and Zeller (1979) gave a broad distinguish between reliability and validity, the reliability is an empirical issue and focusing mainly on the performance of empirical measures. In contrast, validity is usually a theoretically oriented issue because it tries to answer the question; valid for what purpose? According to Noble and Smith (2015), assessing the reliability and validity of a research findings requires the researchers to provide judgements about the soundness and the quality of the study in terms of the application, completeness and appropriateness of the methods used and the integrity of the final conclusions. (Heale & Twycross, 2015) stated that researcher who wants to be able to judge quantitative research must not consider only the results of the study, but also the quality and rigor of the study. This can be achieved through measurement of the validity and reliability. Hence, in this section the researchers assess the reliability and validity of data scale that has been used for their analysis.

7.3.1 Scale Reliability

Reliability is the ability to measure consistently (Black & Champion, 1976) or precision and accuracy of a measuring instrument (Kerlinger, 1964) to yield consistent and stable measurements (Johnston & Pennypacker, 1980) in a quantitative study (Noble & Smith, 2015). Thus, the instrument is considered reliable if a measurement procedure consistently estimates relatively the same responses to individuals with equal values each time the test is completed. The reliable instruments can introduce less error within the statistical measurements and resulting analyses (Thanasegaran, 2009).

There are three attributes for reliability estimation are: (1) The repeatability over time or stability of measures and it can be measured with the test-retest method, where the results are consistent with repeated testing e.g. IQ tests. (2) The homogeneity or internal consistency; gives an estimate to which degree all the items on a scale measure one construct, which can be measured by using either the alternate-form method, item-to-total correlation, split-half method, Kuder-Richardson coefficient or Cronbach's alpha method (Kimberlin & Winterstein, 2008). (3) The equivalence: measures the consistency among

alternate forms of an instrument, or among responses of multiple users of an instrument (Heale & Twycross, 2015).

According to Heale and Twycross (2015); Kimberlin and Winterstein (2008); Tavakol and Dennick (2011); Thanasegaran (2009), the most widely and commonly used method to estimate the internal consistency reliability of an instrument is Cronbach's coefficient alpha (α). This is since it is the simplest and easiest method to test in comparison to other estimates, as it only requires one test administration (Tavakol & Dennick, 2011). Heale and Twycross (2015) concluded that, Cronbach's alpha is the average of all correlations or all the possible split-half reliability estimates of an instrument. Cronbach's alpha has be defined by Thanasegaran (2009) as; a reliability coefficient that estimates the degree of internal consistency between variables or inter-items measuring one construct. The Cronbach's α coefficient is expressed as a number between 0 and 1, with higher results indicating higher levels of reliability (Kimberlin & Winterstein, 2008). However, the recommended and acceptable reliability estimate is 0.7 and greater (Heale & Twycross, 2015; Nunnally, 1967). Based on that, the researchers measured the internal consistency for all the variables used in this study by using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) techniques, and all the Cronbach's α coefficient values exceed 0.7, see Table 7.4. This indicates that there is high degree of internal consistency between variables, and therefore, high level of reliability (Thanasegaran, 2009).

Table 7.4: Construct Reliability Scores

Construct	Items	No. of Items	Cronbach's alpha (α)*	Composite Reliability (CR)**
CONT	CONT 1-7	7	.92	0.967
SSPI	SSPI 1-7	7	.94	0.970
ENVUN	ENVUN 1-4	4	.90	0.914
BSPI	BSPI 1-7	7	.93	0.965

*. SPSS Outputs; Appendix 6.

**. (Sum of standardized factor loadings)^2 / [(Sum of standardized factor loadings)^2 + (Sum of indicator measurement error)]. Indicator measurement error can be calculated as 1- (standardized loading)^2, i.e. CR = $(\sum \lambda_i)^2 / [(\sum \lambda_i)^2 + \sum(1 - \lambda_i^2)]$.

7.3.2 Validity

The reliability of an instrument is closely related with its validity (Tavakol & Dennick, 2011). In other words, an instrument cannot be valid unless it is reliable, but an instrument can be reliable without being valid (Kimberlin & Winterstein, 2008). Validity can be defined as the extent to which a test or an instrument measures what it is supposed to measure

(Kimberlin & Winterstein, 2008) accurately (Lehner, 1979) in a quantitative study (Noble & Smith, 2015), or how truthful and realistic the research results are (Golafshani, 2003). From these definitions, we can conclude that validity cares about two strands: whether the means of measurement are accurate, and whether they measure what they are supposed to measure. We can also summarize that the definition of validity could be that of accuracy, while the definition of reliability that of replicability. Furthermore, validity shows the relationship between the variable being measured and the use of the measurement being used. This is useful to evaluate whether the instrument measures what it proposed to measure (Winter, 2000).

Based on Thanasegaran (2009), violations of instrument validity have a directly impacts on the function and functioning of a testing instrument. Hence, validity inadequacies produce more serious consequences on an instrument than its reliability counterpart. Moreover, the effective validity studies require the integration of multiple sources of evidence and the continuity over time, i.e. the measure cannot be deemed valid in a simple case of study but multiple studies must be implemented over different cases. Therefore, comprehensive literature reviews on measure-ment approaches are critically needed as guide for the selection of measures and measurement instruments (Kimberlin & Winterstein, 2008). According to Carmines and Zeller (1979); Heale and Twycross (2015), there are three categories of validity, as following:

1. **Content validity:** this category addresses whether the research instrument adequately covers all items of a content that it should with respect to the variable. Kimberlin and Winterstein (2008) mention that, due to the difficulty to find a statistical test to determine whether a measure covers the entire content area related to a variable, content validity usually depends on the experts' judgment in the field. Face validity presents a subset of content validity, where experts are asked their opinion - just by the look of the concept - whether an instrument measures the concept intended.

2. **Construct validity:** this type refers to the extent to which we can draw inferences from the results of the concepts being studied. It is directly concerning with the theoretical relationship of a variable to other variables (Thanasegaran, 2009), and to which degree the research instrument measures the intended construct. Kimberlin and Winterstein (2008) state that, construct validity is mainly a judgment based on the accumulation of evidence from abundant studies. There are three types of evidence that can be hired to

prove a research instrument has construct validity: homogeneity, convergence and theory evidence.

3. **Criterion-related validity:** a criterion refers to any other instrument that measures the same variable. Hence, this type of validity provides an evidence about the correlations between the different instruments that measure the same variable, i.e. to which extent a research instrument is related to other instruments for the same variable. Criterion validity can be measured by three ways: convergent validity, discriminant validity and predictive validity.

Thus, determining how rigorously the validity has been addressed is an essential component in a study and affecting the implement of the study findings in practice. This rigour is determined by evaluating the validity of the instruments used in the study. A good quality study is the one that provides evidences of how the validity and the validity instruments have been treated (Heale & Twycross, 2015). An important issue to evaluate the validity of a study, is to test the actual relationship between the two variables (construct validity). In addition to, comparable measure-ment issues that affect the validity i.e. the correlations between two different instruments (criterion-related validity). Consequently, the researchers adopted three ways to measure the validity in this study: construct validity to test the relationship between the variables and measure the intended construct, also, convergent and discriminant validity have been applied to measure the correlations between the different instruments that measures the same variable.

7.3.2.1 Construct Validity

Construct validity focuses on the hypothesis testing of theoretical concepts and the validity of empirical measures (Thatcher, 2010). Carmines and Zeller (1979) stated that, construct validity is interested to measure the extent to which a certain measure relates to other measures coherent with theoretically derived hypotheses regarding the concepts that are being measured. According to Brown (2008), there is no single best way to test or study the construct validity, but in most cases, it should be demonstrated from numerous perspectives. Hence, the more convincing perspectives and evidences the researchers used to demonstrate the validity of a test, the more confidence test they have in the construct validity of that test. That means, the construct validity of a test should be proved by an abundant accumulation of evidence.

Moreover, construct validity is vital for undertaking studies that use convergent and discriminant validity, where convergent and discriminant validity are essential to ensure that

the specifics of construct validity are adhered to (Thatcher, 2010). Therefore, the researchers studied many perspectives and literature reviews to develop the questionnaire, provide the theoretical evidences and demonstrate the construct validity in this study. Also, they took into consideration the views of the experts and stakeholders in the field about the construct of the instrument measure (questionnaire) used to collect the data and the extent to which this questionnaire is consistent (Parker, Taylor, & Bagby, 2003; Thatcher, 2010).

7.3.2.2 Discriminant Validity

Discriminant validity describes the extent to which the operationalization of a latent variable does not correlate (discriminate) with the operationalisations of the other latent variables (Farrell & Rudd, 2009) that are theoretically supposed not to correlate (Zait & Bertea, 2011). Mello and Collins (2001) pointed out that, discriminant validity involves demonstrating the lack or different characteristics among different constructs. Discriminant analysis is run primarily to predict relationship between two or more mutually exclusive groups (George & Mallery, 2016). Mentzer and Flint (1997) stated that, in discriminant validity, all items relating to the same construct are loaded in one factor component to discriminate them against all the other items of a different construct that are loaded into a different factor component. Hof (2012) noted that, the validity of a questionnaire can be tested by using the factor analysis. If all questionnaire's items together represent the underlying construct, then the questionnaire considered valid. Osborne (2015) stressed that, exploratory factor analysis (EFA) is one of the most commonly statistical tools used for many purposes such as; establishing intelligence as unitary or multidimensional construct, dimension reduction tool, explore the psychometric properties of a scale or instrument. Hence, EFA examines all the pairwise relationships between individual variables e.g. scale's items, and aims to detect the latent factors from the measured variables.

Accordingly the researchers conducted the exploratory factor analysis with Varimax rotation, the most commonly used orthogonal rotation in SPSS, in order to measure both discriminant and convergent validity in this study (Guo, Boliang, Aveyard, Fielding, & Sutton, 2008; Osborne, 2015). Pallant (2001; 2011) saw that, to consider that the data have a good validity, the factor analysis test (Bartlett's test of sphericity) should be significant i.e. $p < 0.05$ and the Kaiser-Meyer-Olkin (KMO) "which measure of sampling adequacy" should be at the minimum value of 0.6. Thus, the EFA revealed sufficient evidence for discriminant validity where all the factor loadings above 0.50 the recommended threshold by Hair et al. (2006; 2010), which means that the factor loading for one construct is higher

than the factor loadings of the other constructs. The result of EFA shows that the four-factor solution whose factor loadings range between 0.755 and 0.895, as we see in Table 7.5. Moreover, the KMO delineation value was 0.87 which indicates that common factors could describe inter-firm correlation as well as the Bartlett's sphericity is highly significant (Bartlett's test: 3014; $p < 0.01$) in this study i.e. Chi-square value of 3014 at the degree of freedom 300, as shown in Table 7.6 below.

Table 7.5: Exploratory Factor Analysis (EFA) ($n = 140$)

Rotated Component Matrix[a]				
Items	**Component / Factor**			
	SSPI	**BSPI**	**CONT**	**ENVUN**
SSPI7	**.882**	.129	.107	-.021
SSPI3	**.861**	.236	-.137	.279
SSPI4	**.851**	.075	.135	.065
SSPI1	**.833**	.248	-.083	.260
SSPI5	**.824**	.206	-.069	.178
SSPI6	**.812**	.025	.036	.125
SSPI2	**.802**	.241	-.070	.108
BSPI7	.097	**.864**	.129	-.037
BSPI3	.197	**.836**	-.137	.094
BSPI4	.003	**.830**	.102	-.010
BSPI5	.059	**.817**	.120	.133
BSPI2	.279	**.807**	-.078	.118
BSPI6	.202	**.803**	.032	.110
BSPI1	.342	**.799**	-.179	.181
CONT3	.111	-.052	**.860**	.037
CONT4	-.016	.100	**.855**	-.061
CONT7	-.111	-.004	**.837**	-.023
CONT1	.101	.064	**.837**	.127
CONT5	-.123	-.055	**.812**	-.140
CONT6	.002	-.020	**.808**	-.021
CONT2	.010	.033	**.755**	.115
ENVUN3	.167	.107	.006	**.895**
ENVUN1	.232	.166	-.116	**.861**
ENVUN2	.184	.043	.002	**.827**
ENVUN4	.091	.092	.142	**.825**
Eigen Value	**7.98**	**4.95**	**3.29**	**2.41**

	AVE	0.419	0.400	0.410	0.727

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Table 7.6: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.873
Bartlett's Test of Sphericity:	Approx. Chi-Square	3014.134
	df	300
	Sig.	.000

Another method to assess discriminant validity is by examining the average variance extracted (AVE) for the construct, which developed by Fornell and Larcker (1981). AVE shows the amount or percentage (Shyu, Li, & Tang, 2013) of variance captured by the construct in relation to the amount of variance due to measurement error (Fornell & Larcker, 1981) of its indicators (Dean, Fahsing, Gottschalk, & Solli-Saether, 2008). Hence, the more AVE is, the larger indicator variance could be interpreted by the latent variables, while the smaller measured error is (Shyu et al., 2013). According to Ghadi, Alwi, Bakar, and Talib (2012), AVE can be used to measure both discriminant and convergent validity. AVE values can be obtained and computed by using the equation of AVE $= \Sigma \lambda_i^2 \div n$ [1] (Fornell & Larcker, 1981). In convergent validity, the values of AVE should be equal or greater than 50% to be acceptable, as recommended by Hair et al. (2006; 2010), refer section 7.3.2.3. Whereas, in discriminant validity, the level of square roots of AVE should be greater than the correlations involving the constructs (Fornell & Larcker, 1981). Dean et al. (2008) concluded that, the AVE of a given construct should be greater than the variance between other constructs and this construct.

Accordingly, the researchers have run factor analysis in SPSS 22 to obtain the AVE as shown in Table 7.5 above. Then they calculated the square roots of AVE to measure the discriminant validity. All AVE values are higher than the correlations between constructs or variables under study, as shown in Table 7.7. The AVE of this study ranges from 0.63 to

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[1] AVE = (Sum of standardized factor loadings)^2 / Number of factors.

0.85 for CONT, SSPI, ENVUN and BSPI, which found to be greater than the correlations involving the variables or constructs (Fornell & Larcker, 1981).

Table 7.7: Discriminant Validity; Inter-Construct Correlation (r) and Square Roots of Average Variance Extracted (AVE)

Variables	1	2	3	4	5	6	7	8	9	10	11	12
						Correlations***						
1. CONT	1	-.02	.17	.11	.18*	.43**	.42**	.26**	.42**	.28**	.04	.12
2. SSPI		1	-.13	.31**	.15	-.46**	-.17*	-.21*	-.20*	-.08	.40**	-.12
3. FIRMSIZE			1	.06	.90**	.18*	.18*	.82**	.25**	.78**	.08	.43**
4. ENVEN				1	.19*	-.32**	-.067	-.047	.033	.076	.26**	.036
5. SSPI X FIRMSIZE					1	.08	.17*	.69**	.24**	.75**	.22**	.41**
6. NATIONALITY (Egypt/China)						1	.89**	.49**	.88**	.45**	-.21*	.05
7. NAT X SSPI							1	.45**	.95**	.52**	-.00	.02
8. NAT X FIRMSIZE								1	.51**	.94**	-.02	.06
9. NAT X ENVEN									1	.57**	.08	.04
10. NAT X SSPI X FIRMSIZE										1	.09	.03
11. BSPI											1	.02
12. REDUR												1
√AVE****	.64	.65	--	.85	--	--	--	--	--	--	.63	--

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

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

***. For $n = 140$.

****. The level of square roots of AVE: CONT = 0.410, SSPI = 0.419, ENVEN = 0.727, and BSPI = 0.400.

Furthermore, it was also necessary for the researchers to run CFA in AMOS 22 to compute the AVE from standardized factor loadings and compare the AVE with inter-item squared correlations and all the AVE values were found to be higher than the squared multiple correlations among the different constructs in each case. This accentuates proof for discriminant validity in this study in line with Fornell and Larcker (1981); Suhr (2006).

7.3.2.3 Convergent Validity

Convergent validity examines the degree to which a measure/operationalisation is correlated (converged on) with other measures/operationalisations that it is theoretically predicted to correlate with (Donnelly & Trochim, 2005). Hence, the researchers assessed the convergent validity by using the Eigenvalues extracted from the EFA in the Table 7.5 above. The Eigenvalues for all factors/ constructs were; 7.98 for supplier specific investments (SSPI), 4.95 for buyer specific investments (BSPI), 3.29 for contracting (CONT) and 2.41 for environmental uncertainty (ENVUN), and all of them exceed the recommended threshold

value of 1.0 (I. J. Chen & Paulraj, 2004; Hair et al., 2006; 2010). Also, the researchers assessed the convergent validity using SPSS 22 and the outputs detected that the AVE values ranging between 68% and 77% surpassing the recommended 50% or greater criterion threshold by Hair et al. (2006; 2010), where CONT was 68.11%, SSPI was 75.25%, ENVUN was 77.08% and 71.28% for BSPI. Thus, this provides a strong evidence of convergent validity for all the constructs under study.

Table 7.8: Measurement Model Confirmatory Factor Analysis (CFA) Results ($n = 140$)

Construct	Factor Loading (t- value) [b]		Seven-point Likert-scale type-items with end points strongly disagree and strongly agree
Supplier Specific Investments (SSPI): 7 items $p = 0.000$, $CFI = 0.97$ [c], $IFI = 0.97$ [d], $RMSEA = 0.12$ [e], $α = 0.94$ $CR = 0.97$ [f].	.901 [a]		SSPI1: This supplier has dedicated special human resources that are necessary to deal with our firm.
	.799	(12.679)	SSPI2: This supplier has developed a specific quality assurance system to verify if the products meet our requirements.
	.932	(18.439)	SSPI3: This supplier has made significant investments in developing specific materials linked to the products delivered to our firm.
	.802	(12.798)	SSPI4: This supplier has made many important investments dedicated to fulfill the orders of our firm.
	.858	(14.815)	SSPI5: This supplier has carried out considerable product/service adjustments to meet the requirements from our firm.
	.764	(11.762)	SSPI6: This supplier has made large commitments of time and money dedicated to handle our product requirements.
	.833	(13.739)	SSPI7: This supplier has developed specific procedures and routines for handling the relationship with our firm.
Environmental Uncertainty (ENVUN): 4 items $p = 0.000$, $CFI = 0.99$, $IFI = 0.99$, $RMSEA = 0.0$, $α = 0.95$, $CR = 0.91$.	.880 [a]		ENVUN1: The demand for our end products varies continuously.
	.788	(11.335)	ENVUN2: Our most important competitors are regularly carrying out product adjustment and development of new product.
	.903	(14.209)	ENVUN3: The demand conditions for our supplier's products are very irregular.
	.761	(10.977)	ENVUN4: There is often deviation in demand condition between the actual and planned situations.
Buyer Specific Investments (BSPI): 7 items $p = 0.000$, $CFI = 0.93$, $IFI = 0.93$, $RMSEA = 0.17$, $α = 0.93$, $CR = 0.965$.	.860 [a]		BSPI1: Our firm has invested a lot to adapt to this supplier's customized products features.
	.832	(12.497)	BSPI2: Our firm has invested a lot in specific production equipment to handle the tailored products from this supplier.
	.854	(13.383)	BSPI3: Our firm has made substantial commitments of time and money in training our employees to deal with this supplier.
	.754	(10.542)	BSPI4: Our firm has developed special business procedures and guidelines that are particularly adapted to this supplier.
	.786	(11.150)	BSPI5: Our firm has spent significant resources in reorganizing/adjusting our own organization to deal with this particular supplier.
	.798	(11.687)	BSPI6: Our production system has been specifically tailored to the product design of this supplier.

	.819	(11.935)	BSPI7: Our firm has spent significant resources to ensure that our specifications of the products we buy from this supplier fit well with this supplier's production capabilities.
	.827 [a]		CONT1: Written contracts regulate our firm's rights to insight and documentation of production costs at this supplier.
Contracting (CONT):	.711	(9.181)	CONT2: Formal contracts regulate all issues concerning property rights with this supplier.
7 items	.849	(12.357)	CONT3: Firm agreements stipulate all aspects concerning the exchange of information about prices and market condition between our firm and the supplier.
p = 0.000,			
CFI = 0.91,	.824	(11.308)	CONT4: Written contracts stipulate all aspects regarding parties' tasks and influence in quality assurance.
IFI = 0.92,			
RMSEA = 0.17,	.762	(10.044)	CONT5: Firm contract stipulates all aspects regarding the tasks and influence of the parties in the quality control of the products we purchase from this supplier.
α = 0.92,			
CR = 0.967.	.769	(10.273)	CONT6: Written contracts stipulate all aspects regarding the selection of sub-suppliers for the products we order from this supplier.
	.799	(10.789)	CONT7: Our firm has set up formal limits for shrinkage ratio of the products with this supplier.

a. Fixed variable.
b. Standardized loadings significant at $p < 0.05$.
c. CFI: examines the discrepancy between the data and the hypothesized model (Gatignon, 2014).
d. IFI: an alternate index for CFI but it is relatively unaffected by sample size (Willmott, 1995).
e. RMSEA: analyses the discrepancy between the hypothesized model, with optimally chosen parameter estimates, and the population covariance matrix (Byrne, 1998).
f. CR: refers to the amount of variation a theoretical latent construct explains in the observed variables to which it is related (Hair et al., 2006; 2010).

Moreover, Jöreskog (1967) stressed that, to assess convergent validity in a structural equation modelling it is common to use confirmatory factor analysis (CFA). Therefore, CFA has been run using AMOS 22 to measure the convergent validity in this study. The outputs of the CFA reveal that all factor loadings of observed variables for each latent construct are significant and surpassed the criterion limit of 0.5 (S. F. Chen, Wang, & Chen, 2012), with t-values are > 2 (I. J. Chen & Paulraj, 2004; Hair et al., 2006; 2010). Furthermore, the composite reliability (CR) for the constructs in this study all are greater than 0.60 the recommended criterion threshold (Hair et al., 2006; 2010; Yen & Hung, 2013), refer to Table 7.8 above. Thus, this strongly confirms convergent validity in the study.

7.4 Assessment of the Hypothesized Measurement Model

The researchers have performed the confirmatory factor analysis (CFA) using AMOS 22 to estimate how well the hypothesized model fits the data and ensure unidimensionality (Ullman, 2006). The CFA outputs proved adequate fit of the model to the data, based on Table 7.8 above, whereby all standardized loadings were quite significant at $p < 0.01$.

Moreover, all the parameters resulted as expected regarding their associations and signs (see Appendix 2). The overall model fits and meets the acceptable threshold criteria considering various fit statistics. Although the significance of Chi-square statistic (Chi-square = 658 at degrees of freedom = 269 and p = 0.000), which indicates problems with the fit, but this significant p-value resulting from the sensitivity of Chi-square to sample size (Hair et al., 2006; 2010; Kline, 2011). In addition to, the normed Chi-square ratio (CMIN/DF) give a ratio of 2.4:1 which below the acceptable criterion threshold of 3:1 by Hair et al. (2006; 2010); Ullman (2006). Furthermore, other fit indices such as; comparative fit index (CFI) and incremental fit index (IFI) provide 0.867 and 0.868 respectively, fulfilling the minimum threshold of 0.85 (K. A. Bollen, 1990) and very close to 0.90 (Hair et al., 2006; 2010). Also, the root mean square residual error of approximation (RMSEA) value was 0.1 equal to the recommended criterion 0.1 (Browne & Cudeck, 1993). Respecting the above statistics, we can conclude that the model robustly fits with the hypothesized model and supports the further analysis of the conceptualized theoretical relationships.

7.5 Chapter Summary

In this chapter data screening and cleaning, descriptive statistics of the sample, outliers' assessment and normality test have been presented and explained. It was also described the measurement of validity and reliability test results of the data as well as some arguments and evidence concerning reliability and validity issues have been discussed. Finally, the researchers assessed the hypothesized model by carrying out regression analysis to ensure that it fits with the actual model.

CHAPTER EIGHT
HYPOTHESES TESTS AND EMPIRICAL FINDINGS

Chapter Eight

Hypotheses Tests and Empirical Findings

8.1 Introduction

This chapter should be considered as an extension of the previous chapter. Therefore, it includes further detailed analysis that was mentioned already in the preceding chapter. It also presents the result of the regression analysis and hypotheses tests developed in this study. Furthermore, the findings from empirical tests of the hypotheses are presented below.

8.2 Regression Model

Regression analysis is a statistical technique to determine the linear relationship between two or more variables. Regression analysis is mainly used for prediction and causal inference by studying the dependence of one variable on one or more variables (Dan & Sherlock, 2008). There are two types of regression model: simple/bivariate regression model to study the relationship between only a pair of variables (one dependent variable with single independent variable), and multivariate/multiple regression model which is designed to study the relationship between one dependent variable and several independent variables (Gujarati & Porter, 2008).

Based on Cohen, Cohen, West, and Aiken (2003); Pallant (2001; 2011), there are three types of multiple/multivariate regression: standard or simultaneous multiple regression, sequential or hierarchical multiple regression and stepwise multiple regression. In the standard regression, all independent variables are entered in the analysis simultaneously and each independent variable is assessed according its predictive power on the dependent variable. Whereas, in the hierarchical regression analysis the variables are inserted in an equation in order or sequence as decided by the researcher. The stepwise regression is used as an exploratory analysis, where the program decides which variables to be entered and in which order, and it is used with large sets of predictors. Thus, in this study the researchers have applied the hierarchical multiple regression approach.

Furthermore, multiple regression analysis can be estimated by using two techniques: ordinary least squares (OLS) and maximum likelihood (ML), however, OLS technique is extensively used approach in the literature due to the simplicity of interpret its results in line with Gujarati and Porter (2008). Hence, the researchers adopted the OLS regression model technique to estimate the relationships between the independent variables and the dependent variable as well as the interaction effect (Buvik, Andersen, & Gronhaug, 2014). In short, the study has used the hierarchical multiple regression approach employing the OLS regression

model to assess the main effect of supplier specific investments (SSPI), environmental uncertainty (ENVUN), culture differences (NAT) and interaction effect of supplier specific investments and firm size (SSPI x FIRMSIZE) together with buyer specific investments (BSPI) and relationship duration (REDUR) as control variables on contracting mechanism (CONT) as illustrated in the study's conceptual research model. Therefore, the researchers applied the following OLS regression model to test the hypotheses of the study:

$$CONT = b_0 + b_1 \text{ SSPI} + b_2 \text{ FIRMSIZE} + b_3 \text{ ENVEN} + b_4 \text{ (SSPI x FIRMSIZE)} + b_5 \text{ NAT} + b_6 \text{ (NAT x SSPI)} + b_7 \text{ (NAT x FIRMSIZE)} + b_8 \text{ (NAT x ENVUN)} + b_9 \text{ (NAT x SSPI x FIRMSIZE)} + b_{10} \text{ BSPI} + b_{11} \text{ REDUR} + \varepsilon.$$

…. Equation (8.1)

Where:	CONT = contracting,	dependent variable
	SSPI = supplier specific investments, FIRMSIZE = the natural logarithm of firm size, ENVUN = environmental uncertainty,	independent variables
	NAT = nationality (Egypt "1" against China "0"),	independent dummy variable
	NAT x SSPI, NAT x FIRMSIZE, NAT x ENVUN, SSPI x FIRMSIZE, NAT x SSPI x FIRMSIZE,	interaction terms
	REDUR = the natural logarithm of relationship duration, BSPI = buyer specific investments,	control variables
	b_0= constant, b_1: b_{11} = regression coefficients, and ε = error term.	

To assess the effect of interaction terms between the independent variables in the OLS regression, Equation 8.1 above, the researchers have taken the partial derivative for them in line with Buvik et al. (2014); Rokkan et al. (2003).

8.3 Further Data Analysis and Assumptions

Multiple regression analysis relies on assumptions, and violations on such assumptions are not tolerated (Pallant, 2001; 2011). Hence, the researchers have checked that the variables meet all the underlying assumptions before running the regression analysis and estimating

the results. The assumptions of normality, multicollinearity and homoscedasticity were identified as primary concern in this study, which have been defined and tested in this section.

8.3.1 Assumption of Normality

Normality assumption is a prerequisite and sensitive for many statistical tests in multiple regression analysis (Tabachnick & Fidell, 2007). X. Chen, Ender, Mitchell, and Wells (2003) stated that, one of the assumptions of multiple regression analysis is that the residuals should perform a normal distribution. The normality assumption of the residuals is the assumption that the difference between expected and predicted values are normally distributed (Field, 2013). According to Tabachnick and Fidell (2007), normality can be assessed through numerals using skewness and kurtosis, and graphs like; a histogram, normal P-P plots or scatterplot. Measuring the normality through a scatterplot scheme, the graph will show a pile up of residuals at the centre of the plot if the data are normally distributed. Whereas, in a normal probability plot (P-P), the points lie in a reasonable straight diagonal line from top right to bottom left when the data distribute normally (Pallant, 2001; 2011). Ghasemi and Zahediasl (2012) added that, to judge whether data is normally distributed or not by a histogram, we can check if the distribution normal curve is bell-shaped then the data are normally distributed with take in account that data can be a lot messier in the practical world. Numerically, normality can be measured by using skewness and kurtosis, where skewness displays symmetrical distribution and kurtosis describes the peakedness (Hair et al., 2006; 2010; Tabachnick & Fidell, 2007).

As presented in Chapter 7, the normality of this study has been checked and all observations were fall within the acceptable range of ±3 for skewness and kurtosis based on Kleinbaum et al. (2007), see Appendix 1. In addition to, the graphical results of normality test in shown in (Appendix 3; A, B and C) demonstrate that the data are normally distributed. Furthermore, Elliott and Woodward (2007); Pallant (2001; 2011) believe that, the violation of the normality assumption should not cause major problems with large enough sample sizes ($n >$ 30 or 40). This implies that the parametric procedures can be used regardless of the shape of the data and either the data are normally distributed or not. Hence, the researchers considered the data as normally distributed because the sample size is 70 observations from each country which achieves the rule of data is large is enough.

8.3.2 Assumption of Multicollinearity

The main purpose of the regression analysis is to estimate the parameters of a dependency relationship, not an interdependency relationship. In other words, when two or more of the explanatory/independent variables in a regression model overlap, a multicollinearity problem may appear (Farrar & Glauber, 1967). Hair et al. (2006; 2010) noted that, multicollinearity describes the situation when two or more independent variables are highly correlated to each other, in such it is difficult to fully distinguish the direct effect of a single independent variable on a dependent variable or even isolate their independent influence due to interrelationships between them. According to Hair et al. (2006; 2010); Pallant (2001; 2011), we can expect the problem of multicollinearity when the correlations "r" among the independent variables is 0.90 or higher. Hair et al. (2006; 2010) said that, multicollinearity problem is very harmful for the regression analysis because it can lead to estimation error of the regression coefficient and suppress the R^2. In this sense, multicollinearity is a sign of poor experimental design and a threat to produce inaccurate estimate for the relationship that the regression analysis seeks to establish, which violates the assumption that explanatory variables must be independent of each other (Farrar & Glauber, 1967).

Based on Buvik and Andersen (2002b), the likelihood of a multicollinearity problem arises when a large number of interaction terms is involved in a model. Hence, this study faces a potential problem of multicollinearity due to the interaction term and the dummy variable used in its regression model as we see in Equation 8.1 above. To overcome the potential problem of multicollinearity Hair et al. (2006; 2010); Pallant (2001; 2011); Voss (2004) see that, we can use two methods: variance inflation factor (VIF) and tolerance values. Tolerance method is applied by computing a Pearson's correlation coefficient for each independent variable and then subtracting them from one (Hair et al., 2006; 2010), this method indicates how much of the variability of a specific independent variable is not explained by the other independent variable (Pallant, 2001; 2011). Thus, the greater the tolerance value, the lower is the potential for the existence of multicollinearity problem. The acceptable threshold criterion for tolerance value is greater than or equal to 0.10 to indicate the absence of multicollinearity (Hair et al., 2006; 2010; Rencher, 2002). Whereas, VIF method is the inverse of the tolerance, the extant literature recommends any value equal to or less than 10, as criterion threshold for VIF, to indicate the presence of multicollinearity (Hair et al., 2006; 2010; Pallant, 2001; 2011).

Therefore, to cope with the potential problem of multicollinearity in the study the researchers centered the scales of the independent variables, except for the dummy variable, to avoid the multicollinearity among independent variables in its model according to Buvik and Andersen (2002b); Rokkan et al. (2003). Centering of independent variables enhances a more meaningful interpretation of the results (Robinson & Schumacker, 2009). The correlation matrix with descriptive statistics and collinearity diagnostics values, in Table 8.1 below, presents the level of multicollinearity in the model of the study, which reveals acceptable VIF and tolerance measures for all variables (Buvik & Andersen, 2002b).

Table 8.1: Correlation Matrix, Descriptive Statistics and Collinearity Diagnostics

Correlations [c]												
Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. CONT	1	-.02	.13	.07	.03	.43	-.11	.12	-.05	.05	.04	.16
2. SSPI		1	-.17	.34	-.01	-.46	.67	-.06	.51	.16	.40	-.20
3. FIRMSIZE [b]			1	.03	.00	.24	-.07	.70	.04	-.37	.08	.58
4. ENVEN				1	.13	-.32	.58	.04	.69	.11	.26	.05
5. SSPI X FIRMSIZE					1	.10	.1	-.31	.06	.61	.16	.11
6. NATIONALITY (Egypt/China)						1	-.4	.18	-.24	-.07	-.21	.2
7. NAT X SSPI							1	-.03	.79	.25	.47	-.12
8. NAT X FIRMSIZE								1	.11	-.54	.02	.12
9. NAT X ENVEN									1	.15	.46	-.04
10. NAT X SSPI X FIRMSIZE										1	.16	-.19
11. BSPI											1	.02
12. REDUR [b]												1
Mean values	5.53	.00 [a]	.00 [a]	.00 [a]	-.29	.50	-.36	.13	-.25	-.07	3.65	1.53
Std. deviation	1.23	1.58	1.09	1.68	1.60	.50	.91	.74	1.06	.99	1.57	.57
Collinearity diagnostics — Tolerance		.48	.23	.45	.49	.65	.26	.27	.26	.42	.69	.46
Collinearity diagnostics — VIF		2.11	4.44	2.23	2.01	1.53	3.84	3.68	3.83	2.41	1.44	2.18

a. Mean-centered variables.
b. Transformed variables into natural logarithm.
c. For $n = 140$.

8.3.3 Assumption of Homoscedasticity

Homoscedasticity is the assumption when the variance of the residuals about the predicted dependent variable scores are equal for all predicted scores. The homoscedasticity assumption seems to be similar with normality assumption, where the presence of heteroscedasticity indicates that the data are not normally distributed (Tabachnick & Fidell, 2007). Pallant (2001; 2011) stated that, the homoscedasticity can be assessed through the normal probability plot (P-P) of the regression standardized residual, where if the residuals are distributed at the center of the graph then the data have homoscedasticity. Hence, the

researchers inspected residuals for hete-roscedasticity using the normal probability plot (P-P), and the points appear to be scattered around the center forming a rectangular shape (see Appendix 3; C) and achieving the assumption of homoscedasticity (Buvik & Andersen, 2002b).

8.4 Regression Analysis

As the starting point, recall that all the independent variables, except for the dummy variable, were mean-centered in order to cope with possible multicollinearity problems (Buvik & Andersen, 2002b). Whereby, both VIF and tolerance values were fell within the recommended criterion threshold of VIF < 10 and tolerance > 0.10 (Hair et al., 2006; 2010). Moreover, further data analyses were conducted to confirm the validity of assumptions of normality, multicollinearity and homoscedasticity before running the multiple regression model.

8.4.1 Hierarchical Regression Analysis

This study involves two main, an interaction and control effects as well as one dummy variable in its regression analysis. Pallant (2001; 2011); Robinson and Schumacker (2009) see that, applying a hierarchical regression model clearly delineates the interpretation of the main and interaction effects that may not be offered by a single regression model containing main, interaction and control terms. Moreover Jaccard and Turrisi (2003) stated that, we can use a moderated regression analysis method to test a regression model or hypotheses with interaction effects. This method will be regarded as a conservative method for identifying the interaction effects, where the interaction terms cannot be used for significance test without estimating the main effects of the independent variable. However, the interaction effect is only significant if it increases explanatory power to regression model. Hence, to delineate the effects of independent variables, interaction terms and control variables in the overall predictive power of the research model of the study, the researchers have run a hierarchical regression model using SPSS 22 (Faraway, 2002).

To elaborate this further, the researchers made a clear comparison between two separate regression models. The first one consisted of the independent variables, the three two-way interactions of the dummy variable, and the control variables (Model 1). Whereas, the second model (Model 2) included the independent variables, the three two-way interactions, in addition to the three-way interaction (NAT x SSPI x FIRMSIZE) and the control terms. Then, the researchers used the values of F-change statistic and the difference in R^2 in order

to measure and compare of the strength of the two models, as we see in (Appendix 4; A and B) (Jaccard & Turrisi, 2003).

In Model (1), the contracting (CONT) between buyer and supplier was regressed on supplier specific investments (SSPI), environmental uncertainty (ENVUN), culture differences (NAT) and firm size (FIRMSIZE) meanwhile controlling of buyer specific investments (BSPI) and relationship duration (REDUR). This Model provides sufficient explanation and robust prediction for contracting between buyers and suppliers by offering 32% variance, with $R^2_{Adj} = 0.27$ and $F(9,130) = 6.82$, indicating the presence of significant two-way interaction effects at $p < 0.01$ (Buvik & Andersen, 2002b).

On the other side, Model (2) incorporates contributions of the interaction term between variables of supplier specific investments and firm size (SSPI x FIRMSIZE). The goodness of fit for the estimated regression Model (2) was significant for the three-way interaction at $p < 0.01$, with 35% variance, $R^2_{Adj} = 0.296$, and $F(11,128) = 6.31$. Thus, Model (2) gives an adequate and robust explanation for the variation in contacting level contacting with an explanatory power of 35%. This good fit in Model (2) indicates that this model gives an adequate and exhaustive description of the data set (Buvik et al., 2014; Faraway, 2002). In summary, incorporating the interaction term in Model (2) further enforced the overall explanatory power of the model by 3.0%, which justifies using both main effect and interaction term in the model of this study. The impact of the interaction term can be tested through the value of F-change statistic, which in this case F-change $(2,128) = 3.04$, with $p < 0.05$, as we can note in (Appendix 4; A). This indicates that the estimated model of this study adequately predicts the interaction effect between supplier specific investment and firm size on the contracting. However, the F values for Model (1) and (2) are significant at the $p < 0.05$, which means that the independent variables and interaction terms explain the variations in the contracting sufficiently. Therefore, we can conclude that our model fits the data sufficiently (Jaccard & Turrisi, 2003).

8.4.2 Regression Estimation

To obtain the statistical coefficients that use to estimate the regression model and test the hypotheses in the study, the researchers have examined three separate regression models. The first model represents the entire sample and includes all the variables and interaction terms. Then they deducted from this complete model two models; one for the Egyptian market and the other for Chinese market, as we can see in Table 8.2, to be easier to compare between the buyer-supplier relationships within the two countries.

Table 8.2: Regression Analysis: Entire Sample, Egyptian and Chinese Buyer-Supplier Relationships (Dependent Variable: Contracting)

Variables[a]	a) Entire Sample $(n^c = 140)$			b) Egyptian Relationships $(n = 70)$			c) Chinese Relationships $(n = 70)$		
	Coefficients B	t-Value	p	Coefficients B	t-Value	p	Coefficients B	t-Value	p
Constant (b_0)	3.640	7.808	<.01	5.242	13.61	<.01	3.706	4.545	<.01
SSPI (b_1)	.242	2.996	<.01	.040	.513	n.s.	.240	2.179	<.05
FIRMSIZE (b_2)	-.088	-.522	n.s[b]	.170	2.800	<.01	-.060	-.212	n.s.
ENVEN (b_3)	.326	3.936	<.01	-.029	-.459	n.s.	.330	2.888	<.01
SSPI x FIRMSIZE (b_4)	-.151	-1.956	<.05	.184	3.821	<.01	-.152	-1.438	n.s.
NAT (b_5)	1.454	6.722	<.01	--	--	--	--	--	--
NAT x SSPI (b_6)	-.233	-1.241	n.s.	--	--	--	--	--	--
NAT x FIRMSIZE (b_7)	.247	1.093	n.s.	--	--	--	--	--	--
NAT x ENVEN (b_8)	-.373	-2.253	<.05	--	--	--	--	--	--
NAT x SSPI x FIRMSIZE (b_9)	.319	2.341	<.05	--	--	--	--	--	--
BSPI (b_{10})	.114	1.709	n.s.	.049	.565	n.s.	.121	1.259	n.s.
REDUR (b_{11})	.334	1.461	n.s.	.395	3.086	<.01	.273	.609	n.s.
Model Fit	$F_{(11,128)} = 6.309$, $p < .01$, $R^2_{Adj} = .296$, $R^2 = .35$			$F_{(6,63)} = 4.797$, $p < .01$, $R^2_{Adj} = .248$, $R^2 = .314$			$F_{(6,63)} = 2.527$, $p < .01$, $R^2_{Adj} = .117$, $R^2 = .194$		

a. Dependent variable = Contracting (CONT),

b. n.s. = Not significant,

c. n = Sample size.

The overall goodness-of-fit for entire model (a) is; $F_{(11, 128)} = 6.31$, with $R^2_{Adj} = 0.296$ and $p < 0.01$. Whereas, the model fit of the Egyptian buyer-supplier relationships (b) was; $F_{(6, 63)} = 4.797$ and $R^2_{Adj} = 0.25$ with $p < 0.01$. In the third model (c) for the Chinese buyer-supplier relationships, the model fit was; $R^2_{Adj} = 0.12$, $F_{(6, 63)} = 2.527$, and significant at $p < 0.01$, showing that the model fits the data set better in Egypt than in China by 13% (Buvik & Andersen, 2002b).

8.5 Test of Hypotheses

By substituting the yields of regression coefficients for the entire sample model (a) in Table 8.2 above, we can reformulate the regression Equation (8.1) as the following:

CONT =   3.46 + 0.242SSPI − 0.088 FIRMSIZE + 0.326 ENVEN − 0.151 (SSPI x FIRMSIZE) + 1.454 NAT − 0.233 (NAT x SSPI) + 0.274 (NAT x FIRMSIZE) − 0.373 (NAT x ENVUN) + 0.319 (NAT x SSPI x FIRMSIZE) + 0.114 BSPI + 0.334 REDUR + ε.

…Equation (8.2)

The regression model in Equation 8.2 depicts the nature of relationship between the contracting (CONT) as a dependent variable and; (1) the independent variables; supplier specific investments (SSPI), environmental uncertainty (ENVUN), firm size (FIRMSIZE) and culture differences (NAT), whereby we gave "1" for the Egyptian buyer-supplier relationships and "0" in case of Chinese relationships. (2) The interaction term of supplier specific investments with firm size (SSPI x FIRMSIZE). (3) The control variables: buyer specific investments (BSPI) and relationship duration (REDUR).

H1: The level of contracting is significantly higher in Egypt than in China.

This hypothesis involves the difference in the level of contracting between the Egyptian and Chinese buyer-supplier relationships. This level of contracting should positive and significant, and the empirical findings support this prediction by ($b_5 = 1.454$, $t = 6.722$; and $p < 0.01$, refer Table 8.2), showing that the contracting level are significantly higher in Egypt that in China. Hence hypothesis H1 is supported.

H2: When the size of the buying firm increases, the association between supplier specific investments and contracting becomes significantly more enforced in Egypt than in China.

Hypothesis H2 deals with the interaction term of the three-way interaction (NAT x SSPI x FIRMSIZE). The researchers expected that there will be more positively shaped relationship between contracting and the firm size of the buyer in Egypt than in China when supplier specific investments are substantial. This means that the interaction term b_9 in Table 8.2 (a) above should be positive. Furthermore, if we checked the two separate models for Egypt and China, Table 8.2 (b and c), we can see that the interaction effect of supplier specific investments and frim size (SSPI x FIRMSIZE) on contacting is significantly positive ($b_4 = .186$, $t = 3.821$; and $p < 0.01$) in the Egyptian buyer-supplier relationships. Whereas, in the Chinese buyer-supplier relationships this interaction effect of (SSPI x FIRMSIZE) on contracting is absent ($b_4 = -.152$, $t = -1.438$). In short, the regression model in Table 8.2 (a) reveals that b_9 is significantly greater than zero ($b_9 = .319$, $t = 2.341$; and $p < 0.05$). This indicates that effect of supplier specific investments on contracting is significantly more enforced in the Egyptian buyer-supplier relationships when buyer size (buyer power) increases compared to the Chinese relationships. Thus, hypothesis H2 was supported.

H3: The effect of environmental uncertainty on contracting is significantly more positive in China than in Egypt.

This hypothesis involves the interaction term of the two-way interaction (NAT x ENVUN). We expected that is a positive relationship between contracting and environmental uncertainty higher in the Chinese buyer-supplier relationships than in the Egyptian

relationships. Thus, we can note that the relationship between environmental uncertainty and contacting is significantly positive in the Chinese model (Table 8.2, c) (b_3 = .33, t = 2.888; and $p < 0.01$), while in the Egyptian model (Table 8.2, b) it is negative and insignificant (b_3 = -.040, t = -.459). Moreover, when combining the two models of Egypt and China and adding the interaction effects in the entire sample model (Table 8.2, a), we see that the effect of environmental uncertainty on contracting becomes significantly reduced when we compare the Egyptian and Chinese relationships (b_8 = -.373, t = -2.253; and $p < 0.05$).

In order to develop this furthermore, as pointed out earlier, the researchers centered the scales of the independent variables, except for the dummy variable, to overcome the potential problem of multicollinearity as recommended by Hair et al. (2006; 2010). Thus, by mean-centering we avoid the artificial results, where the main effect of a variable constituting the interaction terms is taken when the variable with which it interacts is at their mean level (Buvik et al., 2014). Therefore, to assess the effect of this interaction effect the researchers performed a partial derivative of contracting (CONT) with respect to environmental uncertainty (ENVUN) in the presence of the nationality of the owner (1 = Egyptian and 0 = Chinese). We have estimated the derivative equations below based on the regression model Equation 8.2 and Table 8.2.

$$\frac{\delta CONT}{\delta ENVUN} = b_3 + b_8 \ (NAT \ x \ ENVUN) \qquad \text{... Equation (8.3)}$$

$$\frac{\delta CONT}{\delta ENVUN} = 0.326 - 0.373 \ NAT \qquad \text{... Equation (8.4)}$$

Thus, we can obtain the results for both the Egyptian and Chinese markets by substituting the nationality (NAT) by 1 for Egypt and 0 for China, as the following:

$$\frac{\delta CONT}{\delta ENVUN} (Egypt) = 0.326 - 0.373 = -0.047 \qquad \text{... Equation (8.4a)}$$

$$\frac{\delta CONT}{\delta ENVUN} (China) = 0.326 \qquad \text{... Equation (8.4b)}$$

Likewise following the result presented in Equations 8.4 a and b, we can clearly note that environmental uncertainty (ENVUN) is more positively related to contracting (CONT) in Chinese buyer-supplier relationships than the Egyptian relationships. This indicating that, the influence of environmental uncertainty on contracting in the Egyptian buyer-supplier

relationships less than in the Chinese relationships. Thus, we conclude that hypothesis H3 is supported. Furthermore, the control variables b_{10} and b_{11} in the study have no significant effect on contracting, however they demonstrate the expected sign.

8.6 Chapter Summary

This chapter has discussed the ordinary least square (OLS) regression technique that utilized to generate the estimated regression model used in this study. The chapter presented the outcome of a hierarchical regression analysis of the estimated contracting mechanisms in the Egyptian and Chinese buyer-supplier relationships and subsequent tests of hypotheses. All the hypotheses (H1, H2 and H3) in this study have been given a robust empirical support.

CHAPTER NINE
DISCUSSION OF FINDINGS, IMPLICATIONS AND FUTURE RESEARCH

Discussion of Findings, Implications and Future Research

9.1 Introduction

Since this is the last chapter of this study, it is the culmination of the foregoing discussion in the previous chapters. It brings together the summary discussions of the previous chapters regarding the relevant theories used in this work. This chapter also presents the key findings of work based on the objective and the research questions of the study. Furthermore, the chapter offers the theoretical and managerial implications of the study, with its limitations, and areas for further studies.

9.2 Summary of the Findings

The primary objective of this study was focused on examination and comparison of the influence from cultural differences on contracting mechanism. This was achieved by examining factors contributing in textile and clothing industry within two different countries, Egypt and China. Nonetheless, this study was interested in knowing the moderating effect of supplier specific investments at the different size of firms with respect to the level of contracting between the buyers and suppliers in an exchange relationship. The findings of this study can help the stakeholders such as: decision makers and management practitioners, to better understand and coordinate buyer-supplier relationships, especially in the international market and cross culture levels, due to the complexity and ever-changing in the business environment relationships. This will improve the integration and cooperation between firms, and therefore it will increase the coherence within the supply chains and enhance the businesses.

The regression model analysis in Table 8.2 and the key findings in Equation 8.2 above show the results of this study, and depict the overall goodness of fit for the model; $R^2_{Adj} = 0.296$, $F(11, 128) = 6.31$, with $p < 0.01$, and $n = 140$. Therefore, $R^2_{Adj} = 0.296$ indicating that almost 30% of contracting mechanisms can be explained by the model, while the remaining percentage (70%) can be explained by other factors not included in the research model. As pointed out in the previous chapter, the empirical findings provided significant and strong support for the three hypotheses (H1, H2 and H3) that have been formulated to be tested in this study. The three hypotheses conformed to relevant theoretical reasoning and had expected signs.

The findings highlight the fact that the level of contracting mechanism was found to be more positive in Egypt than in China and was statistically significant. In other words, the Egyptians tend to use the formal transactional mechanisms which emphasize legal conditions and incentive systems, whereas the Chinese prefer the relational mechanisms that govern exchanges through moral control and trust in the relationships between the buyers and suppliers.

Also, the study found that the association between supplier specific investments and contracting becomes significantly more enforced in Egypt than in China when the size of the buying firm increases. This means that transactional governance mechanisms are very important in restraining opportunism in economic exchange, especially when we have some levels of supplier specific investments and big firms.

Furthermore, contracts have a control effect on buyer-supplier relationships in case of unanticipated eventualities. Therefore, the partners can respond to the environmental uncertainty and deal with unpredicted problems by having both formal and relational mechanisms. Thus, Chinese firms try to adjust their strategies to respond to changes in the environment by increasing contracting in case of environmental uncertainty more than Egyptian firms. Meaning that the third hypothesis was also significant implying that China tend to increase contracting in case of environmental uncertainty higher than Egypt.

9.3 Discussions and Implications

9.3.1 Theoretical Implications

• **Culture Logic**

The purpose of this study is to show the empirical evidence of cultural influences on contracting practice from buyer-seller relationship, specifically the textile industry in Egypt and China. Considering Transaction Cost Analysis, Resource Dependence Theory, Relational Contracting Theory as well as Cultural Dimensions Theory, the study analysed the contracting practice in these countries and further developed the research model with hypotheses. The empirical findings indicate the significance of culture factor, specific investment and environmental uncertainty in business relationships.

From the aspect of cultural logic, the comparison of cultural dimensions by Hofstede (1980) between these two countries shows the difference of Egypt and China. The greatest difference exists in long-term/short-term orientation and uncertainty avoidance - China has the typical long-term orientation culture, which is influenced by Confucianism (Faure &

Fang, 2008; Hofstede, 2001). On the contrary, Egypt has a short-term oriented society, Egyptian people value the present rather than the future (Riel, 2015). Due to the Yin and Yang theory embedded in Chinese society, Chinese have the high level of acceptance with ambiguity and paradox (Faure & Fang, 2008), which contributes to the low score of uncertainty avoidance. On the other hand, Egypt achieves the very high level of uncertainty avoidance, according to Mostafa (2005) one of the roots in Egyptian culture in the risk aversion. Ambiguity and paradox are intolerable for Egyptian people, they prefer the detailed plans and regulations instead (Hegazi, 2015). The dominant values and attitudes in Egypt could be explained by the significant influence of Islam, after all, over 90 percent of Egyptians are Sunni Muslims (Goldschmidt, 2008). In general, based on the elaborating the core cultural characteristics in China and Egypt, along with the previous researches by Hofstede (1980); (2001), Chinese culture shows the attributes of flexibility, ambiguity, contradictoriness and long-term orientation. Egypt shows the value of rules and regulations as well as the present life.

The finding of this thesis is consistent with cultural logic between China and Egypt, where Egypt has the higher level of contracting than China. The emphasis on laws and regulations by Egyptian society makes people rely more on the formal contracts in business. However, the ambiguity and flexibility of Chinese culture makes Chinese people less dependent on formal agreements than Egyptians, instead, they prefer the relational governance when dealing with the business relationship. This finding is also in line with the Relational Contracting Theory, as the evidence has been provided by M. Peng and Luo (2000), relational characteristics are the lifeblood of Chinese culture.

- **Specific Investments**

From the perspective of specific investments in business relationship between these two countries, the finding shows the predicted assumption when the size of the buying firm increases. The association between supplier specific investments and contracting becomes significantly more enforced in Egypt than in China. This is in line with the RCT, TCA and RDT. With respect to Transaction Cost Analysis, the formal contracting is useful tool to safeguard the specific investment when it becomes substantial. According to Resource Dependence Theory, when the firm sizes of buyers are increased, interplayed with the specific investment, the buyer's bargaining power increased and the dependence generated (Heide & John, 1988; Porter, 1980). This finding is consistent with the evidence by Bragelien and Impink (2014), where it is shown the impact of firm size on the association

between specific investments and contracting. Compared to Egypt which rely on laws and regulations heavily, China shows less enforcement of formal contracting on the same condition. This result consists with Relational Contracting Theory that relational norms especially the trust would safeguard the specific investment rather than contracts. In aspect of China, the positive association between interaction with firm size and specific investment and contracting also confirms the evidence by Zhou and Poppo (2005), where the author pointed out the increase of firms contribution to the higher level of formal contracting.

- **Environment Uncertainty**

As predicted regarding the impact of environmental uncertainty, the association between environmental uncertainty and contracting was found to be more significant in China than in Egypt. This finding is consistent with TCA, when the level of uncertainty grows too high, it increases opportunism in both countries, in order to mitigate the hazards related to unforeseeable scenarios, the assurance such as legal contracting is highly required in both countries (Williamson, 1985). In addition, it confirms the arguments by Willmott (1995) and Daft (2010) where they have indicated that formal contracts could act as the safeguard to deal with the associated problems when environmental uncertainty increases. The difference between these two countries is the ability to implement contracting when environmental uncertainty increases. Unlike the Egypt, due to the institutional factors, it is hard to them enforce contracting when the uncertainty becomes greater. However, because of relational governance, China can enforce formal contracting when the external uncertainty increases to a higher level. A plausible explanation combined with TCA and RCT could be that under high level of environmental turbulence, ambiguous expectations and misunderstandings will arise, relational norms such as trust cannot be formally codified, but contracts can overcome the limitations of trust with the formal specifications. Therefore, contracts are helpful to develop of trust, trust is also significant for the enforcement of contracts (Wang, Yeung, & Zhang, 2011).

9.3.2 Managerial Implications

Through the comparison of culture differences in buyer-seller relationship between China and Egypt, this study presents useful findings for business managers to pay more attention to cultural logic behind the business when manage the business relationships in other countries. Due to the global market, it is important to understand the local perceptions and expectations embedded in exchange parties' needs.

The findings of this study reveal that when conducting business with Egypt, it is necessary to realize the influence of its religion (Islam) on business relationships. The most significant characteristic of Egyptian society is that Egyptian people put a high value on rules and regulations, which is also the attribution to the Islamic culture. On the other hand, there is no dominant religion in China, but the development and management of business relationships are neither the same as Egypt nor as any Western country. When managers deal with the Chinese partners, it is helpful to understand the Confucianism embedded culture, such as relation (guanxi), kinship and family along with contradictoriness, such as ambiguity and paradox which prevail in Chinese society, which is derived from Yin and Yang philosophy. The higher value for moral norms rather than legal rules and regulations as well as the weak formal institutions contribute to the less dependent on formal governance than Egypt and Western countries. This also gives a good insight for managers to understand the importance of cultivating the relational ties when deal with the business exchange partners in China.

It became significant for both business managers and executives to understand the cultural differences and influences on business relationships. Understanding the cultural environment is very necessary to establish and manage the long-term relationships between exchange partners. Observing the textile industry in China and Egypt, this study provides the general insight of the relations between cultural factors and contracting practices in these countries.

9.4 Limitation of the Study

Although the study has a potentially significant contribution to the literature of cross-culture studies, theoretical and managerial implications, it has some limitations that can open avenues for future directions and researches. One of the main limitations of this work is the collected sample size of 70 field survey from each country. The literature that advocates concrete sample sizes states that this is a small data set in respect to the factor analysis, which results to lower factor loadings due to small standard errors. Since the extant literature suggests a sample size of 100 and greater to adequate factor analysis, and avoid exposure to non-convergent and improper analysis (MacCallum, Widaman, Zhang, & Hong, 1999).

Another constraint is scope of survey coverage. The researchers collected samples from the clothing manufacturers in the eastern part of China and Cairo in Egypt only, despite most of these textile manufacturers have headquarters in Cairo or branches in Shanghai, Jiangsu and Zhejiang of China. Moreover, this study is based on cross sectional design that implies the

hypotheses tested only once at a time, which provides limited longitudinal evidence on exactly how the long-term relationships or relational mechanisms between buyers and suppliers influence on contracting.

Furthermore, the study was limited to analysis only a single industry (textile industry) in Egypt and China. Using a single industry provided the researchers higher degree of internal validity and helped them to find out more accurate and detailed information to be familiar with the nature of the industry and relationships between buyers and suppliers in the industry within the two countries. However, it limited the ability to generalize the results and obtain high external validly of the findings, and therefore it is difficult to apply the findings of the study in other industries and countries.

9.5 Future Directions

In the light of these limitations, this study has provided a road map of promising avenues for further researches. There is much work left, for example, future investigation may involve other countries like United States and Western countries and other industries might be introduced, to highlight more knowledge about cultural differences of international relationships between buyers and suppliers.

Since this study discussed only the buying side and focused on the specific investments made by the suppliers, therefore there is a room for further research to be conducted by gathering information from the supply side or adapting a dyadic approach (buyer-supplier dyad) with emphasize on the buyer specific investments. Besides, new dependant and independent variables need to be tested.

This work employed cross sectional design, which assesses the industry in a snapshot. Thus, it is difficult to demonstrate causality. Causality can be expressed using longitudinal research design. Therefore, further research could be done by using a longitudinal research design, because cross-sectional study means the hypotheses are only valid for a specific point in time, but longitudinal study will show the continuity trend and explain the causal processes of the exchange relationships between the buyers and suppliers within the two countries.

Further research could be done by increasing the sample size for more accuracy and reliability of the data in terms of reducing the size of standard error. In addition to, further research can be conducted on the exchange relationships across different actors within the supply chain of textile and clothing industry.

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Appendices

Appendix 1: Descriptive Statistics of Constructs, Skewness and Kurtosis Testing (n = 140)

Items	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SSPI1	140	1	7	3.69	1.968	-.035	.205	-1.433	.407
SSPI2	140	1	7	4.52	1.562	.017	.205	-.793	.407
SSPI3	140	1	7	3.59	2.084	.000	.205	-1.562	.407
SSPI4	140	1	7	3.99	1.705	-.013	.205	-.979	.407
SSPI5	140	1	7	4.09	1.750	-.209	.205	-1.082	.407
SSPI6	140	1	7	4.20	1.513	-.131	.205	-.562	.407
SSPI7	140	1	7	4.27	1.696	-.219	.205	-.857	.407
ENVUN1	140	1	7	3.87	1.941	-.086	.205	-1.282	.407
ENVUN2	140	1	7	4.30	1.822	-.107	.205	-.959	.407
ENVUN3	140	1	7	4.10	1.772	-.248	.205	-1.142	.407
ENVUN4	140	1	7	3.99	1.666	-.223	.205	-.758	.407
BSPI1	140	1	7	3.19	2.141	.500	.205	-1.196	.407
BSPI2	140	1	7	3.73	1.704	.291	.205	-.892	.407
BSPI3	140	1	7	3.76	1.749	.220	.205	-1.034	.407
BSPI4	140	1	7	3.50	1.638	.045	.205	-.898	.407
BSPI5	140	1	7	3.73	1.708	.037	.205	-.982	.407
BSPI6	140	1	7	3.64	1.718	.138	.205	-.884	.407
BSPI7	140	1	7	4.02	1.781	-.025	.205	-1.008	.407
CONT1	140	1	7	5.14	1.381	-1.125	.205	1.516	.407
CONT2	140	1	7	5.74	1.354	-1.392	.205	1.845	.407
CONT3	140	1	7	5.53	1.406	-1.382	.205	1.674	.407
CONT4	140	1	7	5.17	1.536	-1.308	.205	1.469	.407
CONT5	140	1	7	5.66	1.381	-1.270	.205	1.267	.407
CONT6	140	1	7	5.56	1.395	-1.312	.205	1.645	.407
CONT7	140	1	7	5.64	1.435	-1.381	.205	1.557	.407

Appendix 2: Confirmatory Factor Analysis (CFA) Model Fit (n = 140)
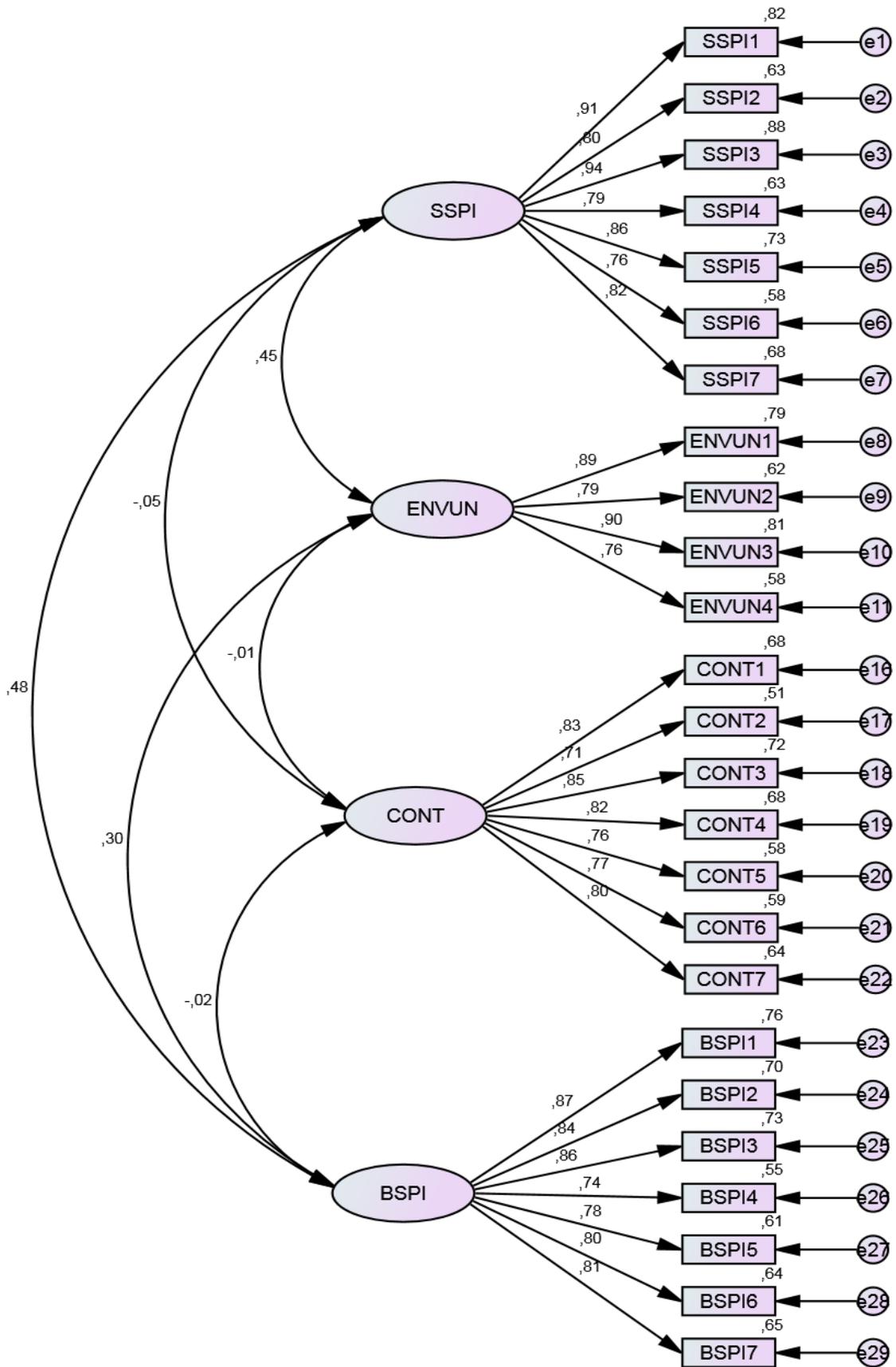
Appendix 3: Normality and Homoscedasticity Assumptions

A) Residual Distribution Chart

Histogram
Dependent Variable: CONT

Mean = 4.42E-16
Std. Dev. = 0.963
N = 140
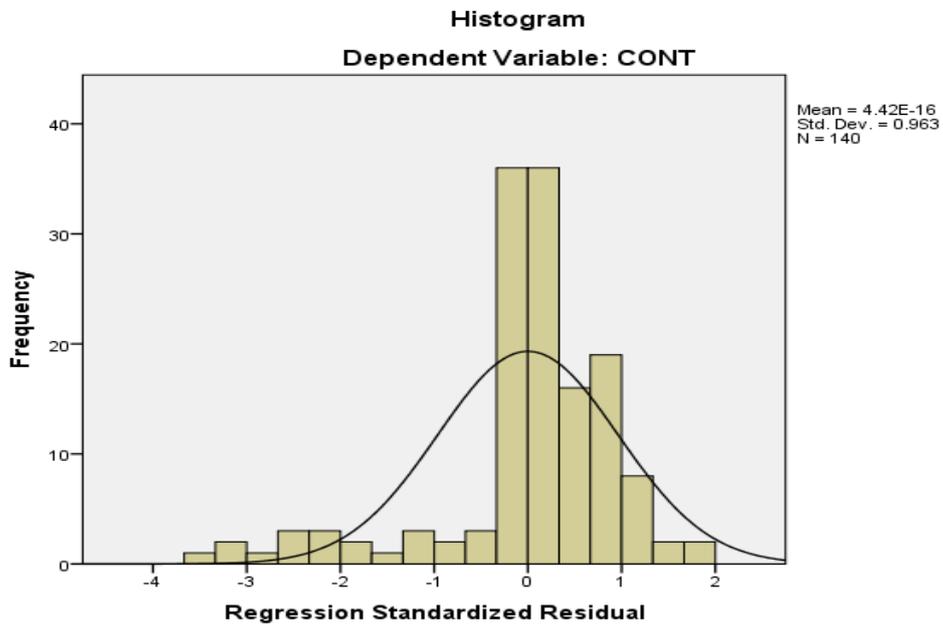
B) Normal Probability Plot for Normality Assessment

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: CONT
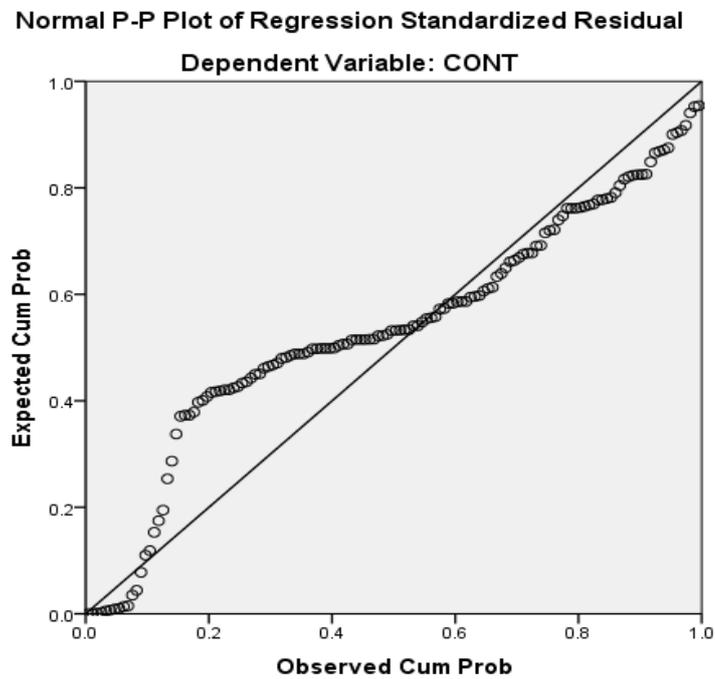
C) Graphical Portrayal of Heteroscedasticity

Scatterplot

Dependent Variable: CONT
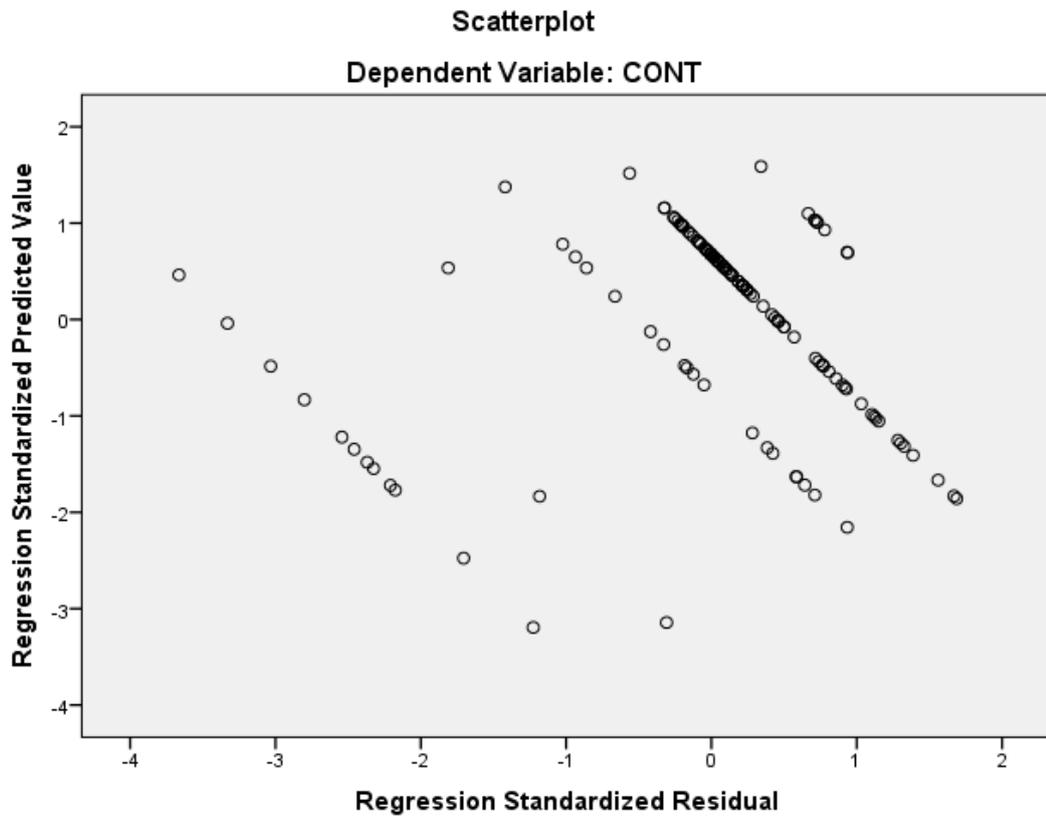
Appendix 4: Hierarchical Regression

A) Hierarchical Regression Analysis Summary

Model Summary [c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.566 [a]	.321	.274	1.050	.321	6.821	9	130	.000
2	.593 [b]	.352	.296	1.034	.031	3.043	2	128	.051

a. Predictors: (Constant), REDUR, BSPI, NATXSSPI, ENVEN, SSPI, FIRMSIZE, NATXFIRMSIZE, NATXENVUN, NAT.

b. Predictors: (Constant), REDUR, BSPI, NATXSSPI, ENVEN, SSPI, FIRMSIZE, NATXFIRMSIZE, NATXENVUN, NAT, SSPIXFIRMSIZE, NATXSSPIXFIRMSIZE.

c. Dependent Variable: Contracting.

B) Analysis of Variance (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.641	9	7.516	6.821	.000[b]
	Residual	143.245	130	1.102		
	Total	210.886	139			
2	Regression	74.142	11	6.740	6.309	.000[c]
	Residual	136.744	128	1.068		
	Total	210.886	139			

a. Dependent Variable: Contracting.

b. Predictors: (Constant), REDUR, BSPI, NATXSSPI, ENVEN, SSPI, FIRMSIZE, NATXFIRMSIZE, NATXENVUN, NAT.

c. Predictors: (Constant), REDUR, BSPI, NATXSSPI, ENVEN, SSPI, FIRMSIZE, NATXFIRMSIZE, NATXENVUN, NAT, SSPIXFIRMSIZE, NATXSSPIXFIRMSIZE.

A) English Questionnaire

RE: A Comparative Study of Antecedents to Contracting
Practice in Buyer-Seller Relationships in Egypt and China

Dear Respondent,

We are master's degree researchers in logistics at Molde University College, a specialized university in logistics at Molde, Norway. This is a survey to fulfill our master thesis entitled buyer-supplier relationships within the textile industry as a comparison study between China and Egypt under the supervision of Professor Arnt Buvik.

The textile industry is one of the most important industries all over the world. Both China and Egypt have long history in textile industry that has a significant contribution in the GDP, exports and employment in both countries.

Written master thesis for academic purposes will be provided as an output of this survey as well as a practical summary of findings and implications which may be provided to you upon your request. Also, information involved in this questionnaire is robustly confidential and no individual respondent will be specified as a rebuttal to each question will be aggregated to assist in the final analysis of the information provided in this questionnaire, therefore it is not possible to assign information given in the survey to individual respondents.

Therefore, kindly take a few moments to complete the questionnaire below by answering all questions accurately reflecting the real situation regarding your relationship with your major supplier, especially with respect to the contracting issues.

Thank you in advance for taking time to answer the questionnaire. Your response is highly appreciated.

Sincerely,

Mahmoud A. E. Hammad	Yi Cheng Gao	Professor: Arnt Buvik
Molde University College	Molde University College	(Supervisor)
P.O. Box 2110, 6402 Molde	P.O. Box 2110, 6402 Molde	Molde University College
Norway.	Norway.	P.O. Box 2110, 6402 Molde
mahmoud.a.e.e.hammad@stud.himolde.no	yi.c.gao@stud.himolde.no	Norway.
+201114628846	8618951058289	arnt.buvik@himolde.no
+4799768999	+4745153286	+4771214235

A: Company background and general information:

1. Company name:	……………………………………………………………………………
2. The nationality of company owner:	……………………………………………………………………………

3. Is your company:	☐ Domestic	☐ Multinational?	
4. Total number of employees:	Approximately: …………… employees.		
5. The total annual sales:	Approximately: …………… US$.		
6. Your current position:	☐ Director ☐ Sales Manager	☐ Operations Manager ☐ Other: ……………...	☐ Purchasing Manager
7. How many years have you been working in this position?			For .... years.
8. How many years have you been working for this company?			For ....years.

B: Suppliers information:

1. How many suppliers does your company deal with?   Approximately: ……………
   suppliers.

2. Please choose one the most important supplier that you are dealing with:

1. Name of the supplier:	…………………………………………………………………………...
2. Nationality	…………………………………………………………………………...

3. How long has your company been dealing with this chosen supplier?	.... years.
4. What is the total annual purchasing from this supplier?	Approximately: ……. US$.

C: The factors influence on contracting mechanism between your company and its supplier:

Based on the supplier you have identified above, please use a seven point Likert scale to respond the closely and properly answers from your perception. The scale from 1 to 7, where the value 1 represents "strongly disagree" and the value 7 represents "strongly agree". Kindly circle the number that best reflects your answer regarding the following statements, remember that there is no wrong or correct answer.

1. To which extent do you agree or disagree with the following statements regarding make some specific investment from your view on the supplier side?								
Item Distribution		**Strongly Disagree**	**Disagree**	**Tend to Disagree**	**Neutral**	**Tend to Agree**	**Agree**	**Strongly Agree**
SSPI1	This supplier has dedicated special human resources that are necessary to deal with our firm.	1	2	3	4	5	6	7
SSPI2	This supplier has developed a specific quality assurance system to verify if the products meet our requirements.	1	2	3	4	5	6	7
SSPI3	This supplier has made significant investments in developing specific materials linked to the products delivered to our firm.	1	2	3	4	5	6	7
SSPI4	This supplier has made many important investments dedicated to fulfill the orders of our firm.	1	2	3	4	5	6	7
SSPI5	This supplier has carried out considerable product/service adjustments in order to meet the requirements from our firm.	1	2	3	4	5	6	7
SSPI6	This supplier has made large commitments of time and money dedicated to handle our product requirements.	1	2	3	4	5	6	7
SSPI7	This supplier has developed specific procedures and routines for handling the relationship with our firm.	1	2	3	4	5	6	7

2. To which extent do you agree or disagree with the following statements regarding specific adaptations by your firm to this supplier?								
Item Distribution		**Strongly Disagree**	**Disagree**	**Tend to Disagree**	**Neutral**	**Tend to Agree**	**Agree**	**Strongly Agree**
BSPI1	Our firm has invested a lot in order to adapt to this supplier's customized products features.	1	2	3	4	5	6	7
BSPI2	Our firm has invested a lot in specific production equipment to handle the tailored products from this supplier.	1	2	3	4	5	6	7

		Strongly Disagree	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree	Strongly Agree
BSPI3	Our firm has made substantial commitments of time and money in training our employees to deal with this supplier.	1	2	3	4	5	6	7
BSPI4	Our firm has developed special business procedures and guidelines that are particularly adapted to this supplier.	1	2	3	4	5	6	7
BSPI5	Our firm has spent significant resources in reorganizing/adjusting our own organization in order to deal with this particular supplier.	1	2	3	4	5	6	7
BSPI6	Our production system has been specifically tailored to the product design of this supplier.	1	2	3	4	5	6	7
BSPI7	Our firm has spent significant resources to ensure that our specifications of the products we buy from this supplier fit well with this supplier's production capabilities.	1	2	3	4	5	6	7

3. To which extent do you agree or disagree with the following statements concerning the environmental uncertainty in the market and its effect on the contracting mechanism with this supplier?

	Item Distribution	Strongly Disagree	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree	Strongly Agree
ENVUN1	The demand for our end products varies continuously.	1	2	3	4	5	6	7
ENVUN2	Our most important competitors are regularly carrying out product adjustment and development of new product.	1	2	3	4	5	6	7
ENVUN3	The demand conditions for our supplier's products are very irregular.	1	2	3	4	5	6	7
ENVUN4	There is often deviation in demand condition between the actual and planned situations.	1	2	3	4	5	6	7

	Item Distribution	Strongly Disagree	Disagree	Tend to Disagree	Neutral	Tend to Agree	Agree	Strongly Agree
	4. To which extent do you agree or disagree with the following statements concerning the contracting mechanism in your company with this supplier?							
CONT1	Written contracts regulate our firm's rights to insight and documentation of production costs at this supplier.	1	2	3	4	5	6	7
CONT2	Formal contracts regulate all issues concerning property rights with this supplier.	1	2	3	4	5	6	7
CONT3	Firm agreements stipulate all aspects concerning the exchange of information about prices and market condition between our firm and the supplier.	1	2	3	4	5	6	7
CONT4	Written contracts stipulate all aspects regarding parties' tasks and influence in quality assurance.	1	2	3	4	5	6	7
CONT5	Firm contract stipulates all aspects regarding the tasks and influence of the parties in the quality control of the products we purchase from this supplier.	1	2	3	4	5	6	7
CONT6	Written contracts stipulate all aspects regarding the selection of sub-suppliers for the products we order from this supplier.	1	2	3	4	5	6	7
CONT7	Our firm has set up formal limits for shrinkage ratio of the products with this supplier.	1	2	3	4	5	6	7

Thank you for cooperation,

استقصاء لدراسة ومقارنة الممارسة التعاقدية في العلاقات بين البائع والمشتري في مصر والصين.

أعزائي السادة المشاركون في الإستبيان،

تعتبر صناعة الغزل والنسيج واحدة من أهم الصناعات في العالم، كما أن كلاً من الصين ومصر لديهما تاريخ طويل في صناعة الغزل والنسيج؛ حيث أن هذه الصناعة تلعب دوراً محورياً للغاية في الإقتصاديين المصري والصيني حيث أنها تساهمة بشكل كبير في حجم الصادرات وتوفير فرص العمل في كلا البلدين.

وحيث أنني باحث بدرجة الماجستير في إدارة اللوجستيات بجامعة مولدي -جامعة متخصصة في اللوجستيات- بمملكة النرويج. وهذا الإستبيان هو جزء من رسالة الماجستير الخاصة بي؛ لدراسة العلاقة بين البائع والمشتري في صناعة الغزل والنسيج بالمقارنة مع الصين. لذلك أتشرف بدعوة شركتكم كشركة تصنيع وتفصيل الملابس الجاهزة للمشاركة ومساعدتي في هذه الدراسة.

يشمل هذا المسح عينة من قطاع تصنيع الملابس الجاهزة في كل من الصين ومصر. لذلك؛ أرجو من سيادتكم اعطاء بعض الوقت لملء هذا الإستبيان والإجابة على جميع الأسئلة بدقة وبالشكل الذي يعكس الوضع الحقيقي بشأن علاقة شركتكم مع الموردين الرئيسيين لها، وخاصة فيما يتعلق بقضايا التعاقد والإتفاق.

نتائج هذا الإسبيان ستستخدم للأغراض الأكاديمية والعلمية فقط، حيث أن جميع المعلومات الواردة في هذا الإستبيان سيتم التعامل معها بسرية تامة مع عدم تحديد هوية الأفراد المشاركون. علماً بأنه سوف تُجمع إجابتكم مع إجابات المشاركين الآخرين للإستخدام في أغراض التحليل الإحصائي والمناقشة العامة في الرسالة، مع توفير ملخص بالنتائج لسيادتكم عند طلبها.

شكراً جزيلاً علي حسن تعاونكم ولسيادتكم كل الإحترام والتقدير،،

محمود حماد
باحث بدرجة الماجستير، جامعة مولدي، مملكة النرويج.
البريد الإلكتروني:mahmoud.a.e.e.hammad@stud.himolde.no
تليفون:99768999 47+ /01114628846 02+

القسم الأول: بيانات ومعلومات عامة عن الشركة

1. اسم الشركة	....
2. جنسية مالك الشركة	....
3. هل الشركة	☐ محلية ☐ متعدد الجنسيات؟
4. إجمال عدد الموظفين في الشركة	.... موظف تقريباً
5. إجمالي المبيعات السنوية للشركة	.... دولار تقريباً
6. المنصب الذي تشغلونه سيادتكم	☐ الرئيس ☐ مدير إدارة العمليات ☐ مدير المشتريات ☐ مدير المبيعات
	☐ أخري: ....
7. كم عاماً توليتم سيادتكم هذا المنصب؟	لمدة .... عاماً
8. ماهي مدة عمل سيادتكم بهذه الشركة؟	لمدة .... عاماً

القسم الثاني: بيانات ومعلومات عن المورد

1. كم عدد المودريين الذين تتعامل معهم شركتكم؟ .... مورد تقريباً.

2. برجاء إختيار مورد واحد فقط من بين أهم الموردين لديكم للإجابة علي الأسئلة التالية:

أ) اسم الشركة الموردة التي تم اخيارها	....
ب) جنسية الشركة الموردة التي تم اخيارها	....
ج) ما هي مدة العلاقة التجارية بين شركتكم والشركة الموردة التي تم اختيارها؟	.... عاماً
د) ما هو إجمالي المشتريات السنوية لشركتكم من هذا المورد؟	.... دولار تقريباً

القسم الثالث: العوامل التي تؤثر علي آلية التعاقد بين شكرتكم وهذا المورد

يرجي من سيادتكم استخدام مقياس التفضيل المكون من سبع نقاط -تتراوح من 1:7- والتي تمثل درجات مختلفة من الموافقة؛ حيث تمثل القيمة 1 **"الرفض بشدة"**، بينما تمثل القيمة 7 **"الموافقة بشدة"**. يرجي وضع دائرة حول درجة الموافقة التي تعبر عن رأيكم، مع العلم بأنه لا يوجد إجابة صحيحة أو خاطئة.

	أوافق بشدة	أوافق	أميل للموافقة	محايد	أميل للرفض	أرفض	أرفض بشدة	وصف البند	
	7	6	5	4	3	2	1	كرس المورد بعض الموارد البشرية المتخصصة والمدربة اللازمة للتعامل مع شركتنا.	SSPI1

1. إلى أي مدى تتفق أو تختلف مع العبارات التالية بشأن تنفيذ بعض الإستثمارات المخصص من قبل هذا المورد تجاه شركتكم؟

SSPI2	طبق المورد نظام متخصص لضمان وتوكيد الجودة لكي يتحقق أن منتجاته تلبي متطلباتنا.	1	2	3	4	5	6	7
SSPI3	انفقت الشركة الموردة استثمارات كبيرة لتوفير المواد ذات الصلة بالمنتجات التي تشتريها شركتنا.	1	2	3	4	5	6	7
SSPI4	نفذ المورد العديد من الإستثمارات الهامة والمخصصة لتلبية وتنفيذ طلبيات شركتنا.	1	2	3	4	5	6	7
SSPI5	قام المورد بتنفيذ العديد من التعديلات في المنتجان والخدمات أجل تلبية إحتياجات شركتنا.	1	2	3	4	5	6	7
SSPI6	قدم المورد تضحيات كبيرة من الوقت والمال لتحقيق متطلبات منتجاتنا.	1	2	3	4	5	6	7
SSPI7	نفذ المورد العديد من الإجراءات الخاصة من أجل إنشاء علاقات جيدة مع شركتنا.	1	2	3	4	5	6	7

2. إلى أي مدى تتفق أو تختلف مع العبارات التالية بشأن تنفيذ بعض الإستثمارات المخصص من قبل شركتكم تجاه هذا المورد؟

أوافق بشدة	أوافق	أميل للموافقة	محايد	أميل للرفض	أرفض	أرفض بشدة	وصف البند	
7	6	5	4	3	2	1	استثمرت شركتنا الكثير من الأموال من أجل التكيف والتأقلم مع خصائص المنتجات المشتراه من هذا المورد.	BSPI1
7	6	5	4	3	2	1	انفقنا الكثير في شراء وتخصيص معدات مصممة خصيصاً للتعامل مع منتجات هذا المورد.	BSPI2
7	6	5	4	3	2	1	قدمت شركتنا تضحيات كبيرة من الوقت والمال لتدريب موظفينا للتعامل مع هذا المورد.	BSPI3
7	6	5	4	3	2	1	نفذنا العديد من الإجراءات والمبادئ التوجيهية الصارمة والمخصصة تحديداً للتكييف مع هذا المورد.	BSPI4
7	6	5	4	3	2	1	خصصنا موارد كبيرة لإعادة تنظيم وهيكلة شركتنا من أجل التعامل مع هذا المورد بالتحديد.	BSPI5
7	6	5	4	3	2	1	أجرينا تعديلات كبيرة في نظام الإنتاج لتنفيذ وإنتاج التصميمات الخاصة بمنتجات هذا المورد.	BSPI6
7	6	5	4	3	2	1	أنفقت شركتنا موارد كبيرة للتأكد أن مواصفات المنتجات التي نشتريها من هذا المورد تنسجم تماماً مع القدرات الإنتاجية لهذا المورد.	BSPI7

3. إلى أي مدى تتفق أو تختلف مع العبارات التالية بشأن حالة عدم التأكد البيئي في السوق وتأثيرها علي آلية التعاقد مع هذا المورد؟

أوافق بشدة	أوافق	أميل للموافقة	محايد	أميل للرفض	أرفض	أرفض بشدة	وصف البند	
7	6	5	4	3	2	1	الطلب على المنتجاتنا النهائية يتغير بشكل مستمر.	ENVUN1
7	6	5	4	3	2	1	المنافسون في السوق دائمي التغيير والتطوير في المنتجات الجديدة.	ENVUN2
7	6	5	4	3	2	1	ظروف وحالة الطلب على منتجات هذا المورد غير منتظمة ودائمة التغيير.	ENVUN3
7	6	5	4	3	2	1	غالبا ما يكون هناك إنحرافات في حالات الطلب بين ما تم تنفيذه فعلياً وما كان مخطط له.	ENVUN4

4. إلى أي مدى تتفق أو تختلف مع العبارات التالية بشأن آلية التعاقد بين شركتكم وهذا المورد؟

أوافق بشدة	أوافق	أميل للموافقة	محايد	أميل للرفض	أرفض	أرفض بشدة	وصف البند	
7	6	5	4	3	2	1	هناك عقود مكتوبة تضمن وتنظم حقوق شركتنا في معرفة تكاليف الإنتاج مع هذا المورد.	CONT1
7	6	5	4	3	2	1	عقود رسمية تنظم جميع المسائل المتعلقة بحقوق الملكية مع هذا المورد.	CONT2
7	6	5	4	3	2	1	هناك إتفاقات صارمة تنظم جميع الجوانب المتعلقة بتبادل المعلومات حول الأسعار وحالة السوق بين شركتنا وهذا المورد.	CONT3
7	6	5	4	3	2	1	تربطنا عقود صارمة مع هذا المورد تنص علي جميع الجوانب المتعلقة بمهام الأطراف وسلطاتهم فيما يتعلق بضمان وتوكيد الجودة.	CONT4
7	6	5	4	3	2	1	شروط جادة تنظم مهام الأطراف وسلطاتهم فيما يتعلق بمراقبة جودة المنتجات التي نشتريها من هذا المورد.	CONT5
7	6	5	4	3	2	1	هناك إتفاقات تنظم الجوانب المتعلقة بإختيار الموردين الفرعيين للمنتجات التي نشتريها من هذا المورد.	CONT6
7	6	5	4	3	2	1	هناك إتفاقات رسمية مع هذا المورد للحدود المسموح بها لنسبة إنكماش المنتجات وغيرها من الجوانب الفنية الأخرى.	CONT7

شكراً جزيلاً لحسن تعاونكم،،،

基于纺织业的买方与供应商关系研究的调查

尊敬的答题者，

这份问卷的设计目的在于了解和研究纺织业中买方与其供应商之间的关系，该主题是我们硕士研究论文的重点，中国是世界上最大的纺织品服装生产和出口国，纺织业在国内制造行业中具有一定的代表性，从而选取其作为供应链中买方与供应商关系研究的对象。所有的调查结果和调查信息，我们将严格保密，不会泄漏相关信息。

希望此研究可以对中国制造业尤其是纺织业供应链发展有所帮助，感谢您百忙之中抽出时间帮助调查，感谢您对此研究的支持！

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A：公司背景和基本信息：

1. 公司名称：	……………………………………………………		
2. 公司法人国籍：	……………………………………………………		
3. 请问你的公司属于：	□ 国内公司	□ 跨国公司？	
4. 员工人数：	约：……………人。		
5. 年销售额：	约：………… 美元。		
6. 您当前的职位：	□ 主管 □ 销售经理	□ 运营经理 □ 其它：…………	□ 采购经理
7. 您在这个职位工作了多少年？			……年。
8. 您在这个公司工作了多少年？			……年。

B: 供应商信息：

1. 您的公司大约有多少供应商？　　　　约：………… 供应商。

2. 请选择一个对您公司最重要的供应商填写信息：

A. 供应商名称：	……………………………………………………	
B. 国籍：	……………………………………………………	
C. 您的公司和这个供应商合作了多久？	………… 年。	
D. 请问和这个供应商的总计年采购额多少？	约：………… 美元。	

C：您的公司和该供应商在合作机制方面的影响因素：

下面请在1-7 等量级表上帮助我们回答以下问题，1表示非常反对，7表示非常同意，分数越高代表越同意。

1. 您在何种程度上同意或不同意以下关于从您对供应商角度的具体投资及其对您公司的合同机制的影响的陈述？								
问题		非常反对	反对	有些反对	中立	有些同意	同意	非常同意
SSPI1	该供应商有专门的人员负责与我们公司的业务往来。	1	2	3	4	5	6	7
SSPI2	该供应商已经开发了一个特定的质量保证系统，以验证产品是否符合我们的要求。	1	2	3	4	5	6	7
SSPI3	该供应商在开发用于我们公司的产品相关的特定材料方面进行了重大投资。	1	2	3	4	5	6	7
SSPI4	该供应商已经做了许多重要的投资，致力于完成我们公司的订单。	1	2	3	4	5	6	7
SSPI5	该供应商已经进行了相当多的产品/服务调整，以满足我们公司的要求。	1	2	3	4	5	6	7
SSPI6	该供应商投入了大量的时间和金钱，致力于完成我们的产品要求。	1	2	3	4	5	6	7
SSPI7	该供应商已经制定了具体的固定程序来处理与我们公司的业务关系。	1	2	3	4	5	6	7

	问题	非常反对	反对	有些反对	中立	有些同意	同意	非常同意
	2. 关于您的公司对这个供应商的具体适应性，在何种程度上您同意或不同意下列的阐述？							
BSPI1	我们公司投入了大量的资金，以适应这个供应商的定制产品功能。	1	2	3	4	5	6	7
BSPI2	我们公司投入了大量的具体生产设备来处理这个供应商的定制产品。	1	2	3	4	5	6	7
BSPI3	我们公司已经投入了大量的时间和金钱，培训我们的员工来专门和这个供应商打交道。	1	2	3	4	5	6	7
BSPI4	我们公司制定了特别适用于该供应商的业务程序和指南。	1	2	3	4	5	6	7
BSPI5	我们公司花费大量资源重组/调整我们自己的组织，以便和这个特定的供应商做生意。	1	2	3	4	5	6	7
BSPI6	我们为该供应商的产品设计特别开发了专门的生产系统。	1	2	3	4	5	6	7
BSPI7	我们公司花了大量资源，以确保我们将从这个供应商处购买的产品的规格符合该供应商的生产能力。	1	2	3	4	5	6	7

3. 您在何种程度上同意或不同意以下关于市场中的环境不确定性及其对该供应商对合同机制的影响的陈述？

问题		非常反对	反对	有些反对	中立	有些同意	同意	非常同意
ENVUN1	我们的终端产品的需求不断变化。	1	2	3	4	5	6	7
ENVUN2	我们最重要的竞争对手经常进行产品调整和新产品的开发。	1	2	3	4	5	6	7
ENVUN3	我们供应商的产品的需求情况非常不稳定。	1	2	3	4	5	6	7
ENVUN4	实际和计划情况之间的需求状况常常有偏差。	1	2	3	4	5	6	7

4. 您在何种程度上同意或不同意以下关于您公司与该供应商的合同机制的陈述？

问题		非常反对	反对	有些反对	中立	有些同意	同意	非常同意
CONT1	书面合同规定了我们公司对供应商的生产成本的了解和记录的权利。	1	2	3	4	5	6	7
CONT2	正式合同规定了所有与该供应商有关的产权问题。	1	2	3	4	5	6	7
CONT3	协议规定了我们公司和供应商之间关于价格和市场状况信息交换的所有方面问题。	1	2	3	4	5	6	7
CONT4	书面合同规定了双方在质量保证方面的所有义务与责任。	1	2	3	4	5	6	7

CONT5	合同规定了双方在从该供应商处购买的产品的质量控制方面的所有义务与责任。	1	2	3	4	5	6	7
CONT6	书面合同规定了我们公司从该供应商订购的产品的子供应商的选择方面的条款。	1	2	3	4	5	6	7
CONT7	根据合约条款，我们公司已经为该供应商设定了产品的收缩率的范围限制	1	2	3	4	5	6	7

感谢您的配合,

Appendix 6: Factor Analysis and Reliability (Cronbach's Alpha)

A) Contracting (CONT)

Communalities

	Initial	Extraction
CONT1	1.000	.705
CONT2	1.000	.588
CONT3	1.000	.743
CONT4	1.000	.728
CONT5	1.000	.656
CONT6	1.000	.648
CONT7	1.000	.700

Reliability Statistics

Cronbach's Alpha	N of Items
.922	7

B) Supplier Specific Investments (SSPI)

Communalities

	Initial	Extraction
SSPI1	1.000	.809
SSPI2	1.000	.712
SSPI3	1.000	.857
SSPI4	1.000	.714
SSPI5	1.000	.762
SSPI6	1.000	.654
SSPI7	1.000	.760

Reliability Statistics

Cronbach's Alpha	N of Items
.944	7

C) *Environmental Uncertainty (ENVUN)*

Communalities

	Initial	Extraction
ENVUN1	1.000	.816
ENVUN2	1.000	.729
ENVUN3	1.000	.832
ENVUN4	1.000	.706

Reliability Statistics

Cronbach's Alpha	N of Items
.900	4

D) *Buyer Specific Investments (BSPI)*

Communalities

	Initial	Extraction
BSPI1	1.000	.756
BSPI2	1.000	.734
BSPI3	1.000	.752
BSPI4	1.000	.645
BSPI5	1.000	.677
BSPI6	1.000	.696
BSPI7	1.000	.729

Reliability Statistics

Cronbach's Alpha	N of Items
.932	7