Yasmine El Meladi

The Antecedents and the Consequent Effect of Logistics Outsourcing Performance on the Buyer Logistics Performance

Molde University College
Specialized University in Logistics

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The Antecedents and the Consequent Effect of Logistics Outsourcing Performance on the Buyer Logistics Performance:

An Empirical Study of Textile and Clothing Exporting Companies in Egypt

Yasmine El Meladi

A dissertation submitted to Molde University College – Specialized University in Logistics for the degree of Philosophiae Doctor (PhD)

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Preface

Egypt has to improve its trade logistics in order to boost export competitiveness and to facilitate its international trade. This study is motivated by an interest in increasing awareness of the importance of logistics service providers' logistics capabilities in supporting textile and clothing exporting companies to competitively penetrate international markets. Although the textile and clothing industry is one of the most promising industries in Egypt and is one of the main contributors to Gross Domestic Product, Egypt is threatened by direct intensive competition from the major textile and clothing exporting countries such as: Bangladesh, China, India, Indonesia, Pakistan, and Turkey. Textile and clothing exporting companies need logistics activities for the physical distribution of their textile products and for access to international markets. Outsourcing logistics activities to specialized logistics service providers is an effective way of adding value to textile products that can in turn contribute to differentiating their products or services. Hence, logistics service providers through leveraging their logistics capabilities can improve outsourcing performance, which in turn can helps exporters to enhance their logistics performance.

This dissertation is the result of research undertaken over seven years (September 2008 to 2015) of part-time PhD studies at Molde University College-Specialized University in Logistics (Norway), under the supervision of Professor Arnt Buvik and co-adviser Dr.Iman Ramadan. This dissertation has been evaluated by the PhD committee comprised of Associate Professor Heidi Hogset, Molde University College, Professor Randi Lunnar, BI Norwegian Business, Oslo, Norway and Professor Rodney L Stump, Towson University, Maryland, USA.

Dedication

All praises to Allah

To my dearest mum and dad

My husband and my children

Acknowledgement

All praises to Allah. I am so grateful to Allah S.W.T., the Most Beneficent, and the Most Merciful for helping me to complete my doctoral dissertation.

I am profoundly indebted to my supervisor, Professor Arnt Buvik; this thesis would not have been accomplished without his guidance, patience and support. His knowledge, valuable ideas and constructive comments have enhanced this work. I am also sincerely indebted to Dr.Iman Ramadan, my co-advisor and former Dean, for her guidance, motivation and encouragement throughout my studies.

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To my parents, thank you so much for your endless love and support; no words can express my gratitude to you and to my brothers and all you have done for me. To my relatives, in-laws and friends, thank you all for your encouragement, support and help. May Allah bless you.

My sincerest thanks go to my supportive husband, for being patient and understanding; you have had a major role in what I have achieved. My dearest son Youssef and my lovely daughter Menna, I appreciate your understanding and support and for giving me this chance to complete and succeed in this long journey.

May Allah blesses you all.

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List of abbreviations

AEMLI	Agility emerging market logistics index
AGFI	Adjusted goodness of fit index
AMOS	Analysis of a moment structures.
AVE	Average variance extracted
CFA	Confirmatory factor analysis
CFI	Common fit index
CMV	Common method variance
COMESA	Common market for Eastern and Southern Africa
CR	Composite reliability
DF	Degree of freedom
EFA	Exploratory factor analysis
EU	European Union
FSP	Full service providers
GAFI	General authority for investment
GOEIC	General organization for exports and imports control
GFI	Goodness of fit index
JICA	Japan International Cooperation Agency
KMO	Kaiser-Meyer-Okkin
LPI	Logistics index performance
LSP	Logistics service provider
MENA	Middle East and North Africa
ML	Maximum likelihood
MORSCUR	Common market of Argentina, Brazil, Paraguay and Uruguay
MMR	Multiplicative multiple regression
NCR	Nicher
NNFI	Non-normed fit index (NNFI)
PNFI	parsimony normed fit index
RBV	Resource-based view
RFI	Relative fit index
RMG	Ready-made garments
RMSEA	Root mean square error approximation
RMR	Root mean square residual
SEM	Structural equation modeling
SPSS	Statistical package for social science
SRMR	Standardized root mean residual
PGFI	Parsimonious goodness fit index
QIZ	Qualified Industrial Zone
TCA	Transaction cost analysis
TFF	Traditional freight forwarder
TMR	Transformer
TLI	Tucker-Lewis index
3PL	Third party logistics
UNECA	United Nations Economic Commission for Africa
WTO	World Trade Organization

Abstract

The focus of this research is in the area of logistics outsourcing performance. The study aims to provide valuable insights into the antecedents and the consequent effect of logistics outsourcing performance in the exporting sector of the Egyptian textile and clothing industry. Such a study is important in order to enrich the understanding of the vital role of logistics service providers' logistics capabilities that can enhance the logistics outsourcing performance in the context of the textile and clothing industry in Egypt, which has received little interest in the literature. In addition, the study highlights the hazards raised from logistics service providers' opportunism, especially when opportunism is interacted with logistics capabilities. Moreover, the study examines the influence of logistics outsourcing performance on the logistics performance of textile and clothing exporting companies.

Resource-based view (RBV) and transaction cost analysis (TCA) are important strategic theories for evaluating the outsourcing relationship. This research used RBV and TCA as the theoretical framework for explaining the antecedents of the logistics outsourcing performance. The research model and the development of hypotheses are derived from the lens of RBV and TCA.

In the light of the research objectives, both quantitative and qualitative techniques have been employed in data collection, with more emphasis given to the quantitative methods. This study is based on the cross-sectional survey method; it uses the interviewer-administered questionnaire through face-to-face structured interviews. The empirical analysis of the study is based on primary data collected from the perspective of 153 key informants from Egyptian textile and clothing exporting companies. The present study uses two estimation methods: the structural equation modeling, and the hierarchical multiple regression procedures with product terms using the ordinary least square, to test the proposed research hypotheses. Fourteen hypotheses are formulated and tested. All but three are supported and consistent with the theoretical framework of this study.

The findings from this research provide evidence that the logistics service providers' flexibility, expertise and innovation capabilities are important determinants of the logistics outsourcing performance. In addition, it is very important for logistics service providers to avoid engaging in opportunistic behavior, as it diminishes the logistics outsourcing performance, and accordingly will reduce the value of the established relationship between logistics service providers and their customers. The study affirms that a logistics service provider's expertise is a valuable capability. However, this can be vulnerable when it is associated with opportunism, as opportunism mitigates the effectiveness of the logistics service providers'

capabilities. Furthermore, the study reveals that logistics outsourcing performance enhances the logistics performance of textile and clothing exporting companies in terms of adding value to their products, which is derived from the quality of the logistics services. Hence, the logistics capabilities of logistics service providers can support textile and clothing exporting companies to improve their competitiveness to penetrate international markets. Although the study has potentially significant contributions to the literature on logistics outsourcing performance and its important theoretical and managerial implications, the study has a number of limitations that open up avenues for future research.

Keywords : Logistics performance, goal achievement, goal exceedance, flexibility, expertise, innovation, opportunism, textile and clothing industry, Egypt.

CHAPTER ONE

INTRODUCTION

CHAPTER ONE

INTRODUCTION

1.1 Background information

In today's international business, most worldwide companies have moved their production activities and sources of material to lower cost overseas markets. This demands careful coordination of the physical movement of materials and supplies to different destinations throughout the global supply chain (Anderson et al., 2011; Sum and Teo, 1999). Logistics operations are a cornerstone in the global supply chain processes (Lambourdiere et al., 2013), and an influencing factor of firms' competitiveness (Schramm-Klein and Morschett, 2006). The ultimate goal of logistics operations is to handle a firm's goods and services efficiently and effectively at lower costs and with a higher level of customer service (Bourlakis and Melewar, 2011; Christopher, 2006). Hence, the increasing awareness of the vital role of logistics operations in a complex global supply chain surrounded by the environmental uncertainty of international trade increases the demand for outsourced logistics activities (Hung Lau and Zhang, 2006). Logistics outsourcing is an alternative for companies to bridge the gaps between what they want to achieve with their logistics operations and what they can realize in-house (Sum and Teo,1999).

Logistics operations encompass different logistical activities such as transportation, warehousing, inventory management, logistics coordination, carrier selection, reverse logistics, freight forwarding, rate negotiation, electronic funds transfer, product assembly, customer spare parts, marketing services, customer clearance, project management, and logistics information systems. These logistics activities represent the greater part of the service component of a firm's product/service package (Fawcett and Clinton, 1996).Thus, logistics activities bridge the boundaries among supply chain members and have influence on supply chain effectiveness and performance (Panayides and So, 2005b). According to a global survey carried out by Langley and Capgemini (2014), 72% of shippers are increasing their use of outsourced logistics activities, with an average of 44% of their total logistics expenditures related to transportation, distribution, warehousing, and other value-added activities.

Previous studies revealed that outsourcing logistics activities create value added logistics services for customers through quick delivery, product availability, timeliness, ease of placing orders, and superior customer service that helps customers to become more competitive and profitable (Daugherty and Pittman,1995; Langley and Holcomb, 1992). According to Arvis et al. (2014), the quality of logistics services is fundamental for trade efficiency; logistics performance is highly associated with the reliability of supply chains and the expectedness of service delivery for producers and exporters. Thus, assuring high quality in product delivery is a prerequisite for survival, and the companies that develop the “best” logistics processes achieve a high level of reliability among their customers (Bagchi and Virum, 2000). Competence in logistics activities allows manufacturers to respond more efficiently to special requests from customers and effectively provide a differentiated set of services to meet distinct customers' needs (Fawcett and Clinton, 1996). Hence, there is a trend for business companies to use logistics service providers (LSPs) to fulfill their increasing need for logistics services (Lai, 2004). According to Coyle et al. (1996), Lai, (2004) and Panayides and So (2005b), an LSP is referred to as the provider of logistics services that performs the logistics functions on behalf of its clients. Hertz and Alfredsson (2003, p.140) clarify that LSPs ″are external providers who manage, control, and deliver logistics activities on behalf of their shippers″. They have the competence to perform logistics activities, as it is their core business (Sink et al.,1996). Therefore, they need to have logistics capabilities, as will be highlighted in the next section.

Importance of logistics service providers’ logistics capabilities

Integration of logistics capabilities with global manufacturing is very important for business success in international operations (Lu and Yang, 2010). Firms' logistics capabilities are important differentiators for realizing a competitive edge in the marketplace (Lu and Yang, 2006). The tenets of resource-based view (RBV) theory assure that firms' resources and capabilities enable firms to implement strategies that improve their efficiency and effectiveness (Barney,1991; Lai et al., 2008). These capabilities include skills and knowledge that enable firms to make use of their resources, and consequently improve their firm’s performance (Lynch et al., 2000). LSPs have resources, economies of scope and scale, and experience that allow them to deliver logistics activities more efficiently and effectively than exporters can do in-house (Yang, 2014). Hence, logistics outsourcing provides a potential pathway for firms to have access to specialized capabilities that can enhance their value creation and allow producers/exporters to get benefits from market opportunities (Holcomb and Hitt, 2007). In this concern, the competencies of LSPs are complementary to their customers' core competencies (Halldorsson and Skjott-Larsen, 2004).

The findings of Langley and Capgemini (2014) indicate that users of logistics services continue to select LSPs based on their ability to provide continuous improvement (55%), experience in the logistics user's industry (49%), and an established ongoing relationship (42%) as crucial selection criteria. In addition, Liu and Luo (2012) assert that human resources, quality, and time are among the most significant dimensions of logistics capabilities. The ability of LSPs to provide reliable and consistent services, short delivery lead-time, lower costs, expertise, and flexibility in accommodating changes, is essential for realizing logistics outsourcing performance. Anderson et al. (2011) clarify this by demonstrating that LSPs can win contracts by acquiring unique capabilities and inherent knowledge. Thus, LSPs, through their resources and capabilities, can provide reliable and value-adding supply chain solutions that may enhance their customers' ability to respond and adapt to changing market conditions, and have an access to international markets.

1.2 Research problem and objective of the study

Textiles and clothing is one of the main industries that plays a key role in generating wealth and providing employment for both developed and less developed countries (Bruce et al., 2004). It has a significant role in the economies of the Mediterranean region, particularly in Egypt, Morocco, Syria, Tunisia and Turkey, and to a lesser extent, Jordan and Lebanon (Kheir-El-Din and Abdel-Fattah, 2001). The global textile and clothing supply chain is considered to be a buyer-driven value chain where powerful retailers, marketers and branded manufacturers, such as Wal-Mart, Sears, JC Penney, Liz Claiborne and Gap, become global sourcing companies. These powerful buyers move manufacturing processes to countries with lower production costs and high-speed delivery (Bruce et al.,2004; Gereffi and Memedovic, 2003). These buyers are considered as "manufacturers without factories", and have central roles in setting up decentralized manufacturing networks in various exporting developing countries (Gereffi and Memedovic, 2003). Teng and Jaramillo (2005) pointed out that global textile/clothing sourcing companies base their evaluation of potential suppliers on five areas, which include delivery, flexibility, cost, quality and reliability. There is a fierce competition among exporting countries to be suppliers for those global sourcing companies, and Egypt is one of the potential suppliers.

Generally, the textile and clothing market is characterized by short product life cycle, high level of volatility, low predictability, and small frequent shipments that set quick response as a highly important factor in this industry (Bruce et al., 2004). Thus, it is a challenge for textile and clothing export companies to fulfill and meet the requirements of the global textile and clothing market in terms of high quality products with short lead times, reduced costs, high delivery, and flexibility in adapting to changes (Barutcu et al., 2010; De Martino and Marasco, 2007). Accordingly, logistics services are essential components in the textile and clothing

global supply chain that have a vital role in supporting textile and clothing export companies to compete in today's global markets. The Egyptian textile and clothing industry forms part of global supply chain. According to the United Nations Economic Commission for Africa (UNECA), Egypt is the only country in Africa and the Middle East that has a fully vertically integrated textile industry that includes the entire production process from cotton growing to the production of yarns, transformation to fabrics, and delivery of ready-made garments to end users (UNECA, 2013). The textile and clothing industry is a cornerstone of Egypt's industrial development (Magder, 2005). It accounts for 5% of the total GDP and 26.4% of the industrial production (UNECA, 2013) and contributes to employment, production, and export revenues.

Although Egypt is distinct for its geographical location and has high quality cotton cultivation and textile production, the textile and clothing industry faces substantial challenges in growing into global markets (Magder, 2005). According to the World Bank (2006), Egypt's closeness to European markets does not assure a competitive advantage without state-of-the-art logistics. Several studies indicate that logistics related factors such as lead-time reduction, logistics skills, and logistics handling abilities aiming to deliver reliably and meet time schedules, are among other factors that hinder the Egyptian textile and clothing exporters' ability to move their products to international markets efficiently (El Zarka, 2010; Magder, 2005; World Bank, 2006). Kamal (2014) notes that speed-to-market, labor availability, and higher-value added products and services play a crucial role in determining the international competitiveness of Egyptian textile products. Hence, the ability to compete on the time taken for a product to be manufactured, delivered and serviced is an important source of competitive advantage (Bhatnagar et al., 1999). LSPs play a strategic role in a global supply chain as they have the experience, resources and capabilities to handle the globalized physical flows of goods efficiently and in a timely manner (Lambourdiere et al., 2013). Exporters depend on LSPs' logistics capabilities to support their international supply chains (Stank and Maltz, 1996) and improve their logistics performance. According to Razzaque and Sheng (1998), logistics outsourcing success depends on the LSPs' ability to satisfy their customers' performance goals.

Research gaps in the literature

The prominent role of logistics outsourcing in a complex global supply chain makes LSP–client relationships worthy of academic interest (Panayides and So, 2005b). This is in accordance with the notion stated by Wallenburg et al. (2010, p. 580), that "much remains unknown about the means by which a provider and a user of logistics services maximize the respective and mutual benefits of the business relationship". In addition, Deepen et al. (2008) affirm the importance of understanding the factors that drive successful logistics outsourcing

arrangements, which in turn improves performance. Selviaridis and Spring (2007) also state that gaining external resources and/or capabilities and logistics expertise are usually cited as drivers for logistics outsourcing. However, the authors claim that there have been few theoretical explanations and application of logistics capabilities in logistics outsourcing relationships. Therefore, there is a need for more research to understand the drivers that lead to successful LSP-client relationships based on a theoretical framework.

The Egyptian textile and clothing exporting companies may differentiate themselves from global competitors by acquiring logistics capabilities that allow them to produce and deliver a more competitive product/service package to their customers. Thus, there is a high demand for enhancing logistics performance in the textile and clothing industry to guarantee short lead-time, high quality, high reliability of delivery, and to ensure a never-out-of-stock state (Eryuruk et al., 2011). Despite the importance of the logistics capabilities of LSPs in supporting the textile and clothing supply chain and realizing outsourcing performance, there is little available literature investigating the relationship between LSPs and textile and clothing exporting companies in Egypt.

Drawing from the resource-based view theory, logistics capability is critical for firm performance, where a firm attributes superior performance to organizational resources and capabilities (Bharadwaj, 2000). This study uses tenets of the resource-based view (RBV) theory of the firm to investigate the influence of LSPs' logistics capabilities on logistics outsourcing performance. This research aims to examine logistics capabilities (flexibility, expertise, and innovation) as antecedents of logistics outsourcing performance. From the existing literature, these logistics capabilities are among key criteria for assessing successful outsourcing arrangements and drivers of logistics outsourcing performance. Several scholars suggest further theoretical examination of these logistics capabilities. Ivens (2005) calls for further research on examining the effect of flexibility in the service sector and exploring its outcome. Garver and Mentzer (2000) recommend further investigation of salespersons' logistics expertise in a third-party logistics context. In addition, Flint et al. (2005) and Grawe (2009) point out that logistics innovation has received relatively little attention in logistics research. They recommend further theoretical development studies in logistics innovation.

Although several studies attribute logistics outsourcing performance to LSPs' resources and capabilities, customers usually face challenges in assessing the quality of the delivered services since services are intangible. In this concern, some of the LSPs' capabilities may be subject to market failure. This might be due to the opportunistic behavior of LSPs. According to Williamson (1975) and Amit and Schomaker (1993), opportunism is one of the multiple sources that cause market failure. Drawn from transaction cost analysis (TCA) theory (Rindfleisch and Heide, 1997; Wathne and Heide, 2000; Williamson, 1975:1985) opportunism is

one of the main factors that raises transaction costs and may lead to relationship failure. Thus, the potential for opportunism represents a possible downfall in a supply chain actor's relationships (Ellram, 1991). Although opportunism is one of the underlying risks that is associated with outsourcing arrangements (Dhar and Balakrishnan, 2006) and is detrimental to any logistics outsourcing relationship (Knemeyer and Murphy, 2004), it has received limited interest in logistics outsourcing research (Križman and Ogorelc, 2010). Therefore, the study utilizes transaction cost analysis (TCA) theory to examine the effect of LSP's opportunism on perceived logistics outsourcing performance. In addition, due to the increasing theoretical importance of moderating effects in the logistics outsourcing research context, Maloni and Carter (2006) recommend incorporating moderating variables in examining logistics outsourcing relationships. This study examines opportunism as a moderator variable, and investigates its contingent effect on mitigating the effectiveness of LSPs' logistics capabilities.

Furthermore, successful logistics outsourcing arrangements improve a firm's logistics performance (Gadde and Hulthen, 2009). Thus, the benefits derived and value created from logistics outsourcing can enhance the logistics performance of textile and clothing exporting companies, which may indirectly increase the competitiveness of Egypt's textile and clothing exports. Magder (2005) states that achieving shorter lead-time leads to the increase of profits and of total sales over the season. A study by Abdelsalam and Fahmy (2009) confirms that the delivery operation greatly contributes to the performance of the supply chain operations of the textile/clothing exporting companies in Egypt. Moreover, Kamal (2014) reveals that delivery performance is one of the most important selection criteria used to assess satisfaction level of German[1] buyers, who are sourcing ready-made garments from Egypt.

Hence, exporters can gain a competitive advantage through delivering the right textile products to the right customers with the right quantity with proper order conditions at both the right time and right price with the correct documentation (Barutcu et al., 2010). Concerning this, LSPs with their logistics capabilities can help Egyptian exporters to improve delivery operations in terms of shortening lead-time, and ensuring delivery in good order and condition, which can in turn enhance the logistics performance of the textile and clothing exporting companies in Egypt. Therefore, the improvements that outsourcing have realized must be measured to assess a logistics outsourcing relationship. Accordingly, logistics outsourcing performance measurement provides valuable information in terms of costs and services reflecting whether logistics outsourcing leads to improvements or not (Wilding and

[1] Germany is a major global sourcing buyer of clothing in EU.

Juriado, 2004). Thus, the study explores the influence of logistics outsourcing performance on the logistics performance of textile and clothing exporting companies in Egypt.

Research questions

In the light of the identified gaps in the logistics outsourcing literature as previously discussed and in response to recommendations for further theoretical development and application of logistics capabilities in logistics outsourcing context, this study focuses on three major research issues of interest.

- How do capabilities and behavior of the LSP influence the logistics outsourcing performance in the LSP-client relationship?
- What is the influence of the contingent effect of perceived opportunism on the association between LSP's capabilities and logistics outsourcing performance in the LSP-client relationship?
- Has logistics outsourcing performance played any influencing role in improving buyer logistics performance in the LSP-client relationship?

This study aims to provide valuable insights into the antecedents and the consequent effect of logistics outsourcing performance on the logistics performance of textile and clothing exporting companies in Egypt.

1.3 Scope of the study

The textile and clothing industry is one of the leading sectors in Egypt. The focus on such a single industry was based on the following considerations. First, the textile and clothing industry has a strategic nature for Egypt in terms of its contribution to employment, value added, and foreign exchange earnings (El-Haddad, 2012). Second, the textile and clothing industry is a consumer-driven industry with product demands (e.g., fibers, yarns, and garments), being determined mostly by the demands of the final consumers (Moon et al., 2012). This derived demand results in considering LSP's logistics capabilities as an important factor for the exporters in the textile and clothing sector to facilitate their access to international markets and support them to fulfil their final customers' requirements. Although the logistics and shipping sector has a crucial role in supporting Egyptian textile and clothing exports, there are few contributions focusing on the relationship between textile and clothing exporting companies and LSPs. Therefore, this industry is considered appropriate as the research setting for this study.This study bridges the gaps in the literature by developing and testing a logistics outsourcing performance model in the Egyptian textile and clothing industry using RBV and TCA as the theoretical framework for the study.

The unit of analysis of this research is the relationship between Egyptian textile and clothing exporting companies and their most iamportant LSPs. These relationships are studied from the textile and clothing exporting companies' perspective. Although this study focuses on a single industry which limits the ability to generalize the results, it helps to improve internal validity, reduce error variance, and thus strengthen the power of hypotheses testing (Ittner et al., 2003; Lam et al., 2004).

1.4 Contributions of the study

The purpose of this study is to fill the gaps in logistics outsourcing literature by investigating some of the logistics capabilities that may contribute to improving logistics outsourcing performance and examining the role of logistics outsourcing performance in enhancing customers' logistics performance. In addition, the study aims to derive important insights from the empirical results for exporters of textile and clothing companies and their LSPs.

Logistics outsourcing literature lacks the development of theoretical driven models and hypotheses testing (Maloni and Carter, 2006). This research is based on utilizing RBV and TCA as a theoretical framework for examining logistics outsourcing performance. In addition, Deepen et al. (2008) postulate that there is a lack of empirical studies on logistics outsourcing performance, and call for further empirical research on the logistics outsourcing performance drivers. Therefore, this study contributes to the existing knowledge of logistics outsourcing performance empirical studies by examining the antecedents and the consequent effect of logistics outsourcing performance on the logistics performance of textile and clothing exporting companies.

There is limited research that has examined the influence of potential moderators in the logistics outsourcing relationships (Maloni and Carter 2006). In addition, Verwaal et al. (2009) highlight the importance of examining contingency variables that may moderate the value of resources and capabilities. This study contributes to the existing knowledge of RBV and TCA by examining the contingent effect of opportunism on the association between LSPs' capabilities and logistics outsourcing performance. Furthermore, including the moderator enhances the explanatory power of the logistics outsourcing performance model. In addition, variation in logistics outsourcing performance can be better explained by the interaction effect between LSPs' capabilities and LSPs' opportunistic behavior.

The majority of studies in the logistics outsourcing literature have examined one geographical region, which is generally the United States (Maloni and Carter, 2006). Other studies have provided perspectives from other countries, including Australia, China, Malaysia, New Zealand, Singapore, the United Kingdom (Maloni and Carter, 2006; Selviaridis and Spring, 2007) and Germany (Cahill, 2007; Deepen et al., 2008). Moreover, Sohail and Al-Abdali (2005) examine the

use of the third party logistics in Saudi Arabia and assert that there are few comprehensive studies on logistics outsourcing in the Middle East region. As Egypt has an influential position in the Middle East region, it is an opportunity to expand the geographical coverage of logistics outsourcing research and examine the model of logistics outsourcing performance in the Egyptian context. Finally, conducting an empirical study that targets the Egyptian textile and clothing exporting companies enriches the understanding of the crucial role of LSPs in the textile and clothing export sector, which has received little interest.

1.5 Organization of the study

This study proposes and tests a model of logistics outsourcing performance. It comprises nine chapters. This chapter has outlined the background information, research problem and objectives, scope of the study, expected contribution of the study, and the organization of the study. Chapter Two presents the concept of logistics outsourcing, logistics performance, logistics outsourcing performance and discusses the drivers of the logistics outsourcing performance. Chapter Three presents the theoretical framework of the study. Chapter Four discusses the research model and the development of hypotheses. Chapter Five presents the research methodology for the study. Chapter Six gives an overview of the measurement theory and the operationalization of variables. Chapter Seven presents data examination and tests of the measurement model. Chapter Eight presents model estimations techniques and results. Finally, Chapter Nine discusses the findings, implications, limitations, and recommending areas for future research.

1.6 Chapter summary

This study has been done in response to recommendations for further theoretical development and application of logistics capabilities in logistics outsourcing context. This chapter has outlined the background information of the research and presented the research problem and objectives that aim to fill the gaps in logistics outsourcing performance literature based on a theoretical foundation. In addition, the chapter has discussed the scope of the study, contribution of the research and the organization of the study. The next chapter provides an overview of the concept of logistics outsourcing.

CHAPTER TWO

BASIC CONCEPTS

CHAPTER TWO

BASIC CONCEPTS

2.1 Introduction

This chapter presents an overview of the basic concepts of logistics outsourcing, the role of LSPs, logistics performance and logistics outsourcing performance. It also highlights the importance of measuring logistics performance and outsourcing performance. Some antecedents of logistics outsourcing performance are reviewed and discussed to provide an understanding of the issues that this study seeks to focus on.

2.2 Logistics outsourcing

2.2.1 Definition of logistics outsourcing

Many terms have been used interchangeably to explain the firm's practice of logistics outsourcing, such as ″logistics outsourcing″, ″third-party logistics, (3PL)″,″logistics alliance″and ″contract logistics″(Lieb et al.,1993; Selviaridis et al., 2008; Sink et al., 1996). According to the existing logistics outsourcing literature, the term means that some or all logistics activities which have been previously performed in-house, are outsourced to external companies that specialize in delivering multiple logistics services. These services range from simple services such as transportation and warehousing, to integrated service portfolios (Bagchi and Virum, 1996; Lieb et al., 1993; Razzaque and Sheng, 1998; Selviaridis and Spring, 2007; Selviaridis et al., 2008). It is worth noting that previous logistics outsourcing studies reveal a difficulty in determining a standardized definition of logistics outsourcing (Halldorsson and Skjoett-Larsen 2004; Knemeyer and Murphy, 2005; Selviaridis and Spring, 2007), which has been considered as one of the challenges in evaluating the growing literature on logistics outsourcing (Bolumole, 2003; Marasco, 2008). The following definitions are the most frequently used in the logistics outsourcing literature, and are influenced by the development of the concept of logistics outsourcing.

Generally, Bhatnagar et al. (1999, p.570) refer to third party logistics as “involving the use of external companies to perform some or all of the firm's logistics activities”. Berglund et al. (1999, p.59) define third party logistics broadly as “activities carried out by a logistics service provider on behalf of a shipper and consisting of at least management and execution of transportation and warehousing (if warehousing is part of the process)". They add that inventory management, tracking and tracing and other value-added activities can be included.

Murphy and Poist (1998, p. 26) provide a narrower definition that focuses on building a long-term mutual relationship between LSPs and their clients. They define third party logistics as a "relationship between a shipper and a third party which, when compared with basic services, has more customized offerings, encompasses a broader number of service functions and is characterized by a longer-term, more mutually beneficial relationship".

Moreover, Bagchi and Virum (1996, p. 93) differentiate between simple logistics outsourcing and logistics alliance, where the authors define logistics alliance as a "long-term partnership arrangement between a shipper and a logistics vendor for providing a wide array of logistics services including transportation, warehousing, inventory control, distribution and other value-added activities". According to Knemeyer and Murphy (2005), some definitions of logistics outsourcing are broad and focus on arm's length transactions, and others are narrower and depend on the existence of long-term mutually beneficial relationships. Based on the logistics outsourcing literature, definitions of logistics outsourcing and/or third party logistics tend to cover different aspects of logistics outsourcing arrangements, such as service offered, nature and duration of relationship (Selviaridis and Spring, 2007; Selviaridis et al., 2008).

Bolumole (2003) explains that the relationship between LSPs and their clients is considered as strategic when outsourcing is related to resources and capabilities considerations. Hence, this study is strategic in nature as LSPs' logistics capabilities are acting as a strategic tool for exporters. The researcher adopts Murphy and Poist's (1998) definition because the LSP-client relationship in this study is assumed to be built on a long-term relationship as opposed to transaction-by-transaction. As long-term, interactive relationships are more appropriate for a strategic approach for arguing that LSPs' logistics capabilities are an integral extension of exporters' capabilities, where the exporters' logistics performance can be influenced by the logistics outsourcing performance.

According to Heide and John (1990) and Spekman (1988), the importance of relationships is reflected by the size of the purchases or by the criticalness of the purchased item. From this perspective, the study focuses on only the most important relationships. Therefore, the key informants were requested to select the largest and/or most important LSPs in order to get a consistent picture of one specific important relationship, and to reflect on the strategic importance of these providers to the exporters. Although, the study focuses on only long-term relationships, the variance can be expected between capabilities and performance, because exporters use different LSPs, and these LSPs deliver different logistics activities using different resources. In addition, LSPs are leveraging their capabilities differently, so they will have different performance levels.

2.2.2 Advantages and disadvantages of logistics outsourcing

Several scholars assert that logistics outsourcing has changed from a passive, cost-absorbing function to a strategic factor that provides a distinctive and sustainable competitive advantage (Chapman et al., 2003; Selviaridis and Spring, 2007; Skjoett-Larsen, 2000; Sum and Teo, 1999). According to Bhatnagar et al. (1999), the most frequently achieved advantages of logistics outsourcing are cost reduction, concentration on core business competence, improved service quality levels, increased productivity and time saving.

Bask (2001), Bolumole (2001) and Persson Virum (2001) also confirm several potential advantages of logistics outsourcing, such as a reduction in infrastructure investments, enhancing flexibility, risk sharing, better cash-flow, consolidation of product volume, having access to new markets, providing expertise on international distribution, delivering new services, having an access to skills, facilities and up-to-date technology that is not available in-house. Thus, the effective use of logistics outsourcing enables companies to gain a competitive advantage by adding a measurable value to their products that can in turn boost profit (Razzaque and Sheng, 1998). Accordingly, logistics outsourcing enables firms to fulfill their customers' needs and achieve competitive advantage.

On the contrary, the existing logistics outsourcing literature discusses many causes for relationship failure that hinder the renewal of LSPs' contracts, such as: communication problems, high costs, lack of trust, reluctance to share information, lack of flexibility in responding to customer's demand, financial instability, lack of innovativeness, unrealistic expectations, lack of service provider's expertise, loss of control, inability to handle special product requirements and breaches of the contractual agreement between the involved parties (Boyson et al., 1999; Razzaque and Sheng, 1998; Selviaridis and Spring, 2007; Wilding and Juriado 2004). By analyzing the mentioned causes of relationship failure, they are implicitly reflecting opportunistic behavior in terms of information asymmetry, moral hazards and adverse selection problems. Opportunism is an expected phenomenon in outsourcing that can threaten an outsourcing arrangement and may cause relationship failure (Handley and Benton, 2012; Lai et al., 2012; Tsai et al., 2012). The present study focuses on opportunism, as it is an important research phenomenon (Hawkin et al 2008) that may have an influential effect on logistics outsourcing performance, and may mitigate the effectiveness of LSPs' capabilities.

2.2.3 The role of LSPs in logistics outsourcing arrangements

The LSP's market is growing by 18% to 22% per year, due to an increasing demand for logistics outsourcing (Yang, 2014).There is a need for professional experts to coordinate logistics services across global supply chains, as closer coordination of activities among firms can lead to better performance (Stank et al., 1996). Bask (2001) considers the LSP as a supportive supply chain member, whereas Lambert et al. (1998, p.5) define supportive members as "companies that provide resources, knowledge, utilities or assets for the primary members of the supply chain". LSPs can contribute to supply chain integration and performance because of their ability to cooperate both vertically with supply chain partners and horizontally with other LSPs (Fabbe-Costes et al., 2009). Hence, the success of an LSP mostly depends on how their clients perceive them as adding value to their firms (Rajesh et al., 2010).

The role of LSPs has evolved from providing simple activities such as transportation and warehousing, to higher value-added operations such as light assembly and distribution management of finished products, an integrated package of services, and management of the customers' entire supply chain (Sohail and Sohal, 2003; Sum and Teo, 1999). Berglund et al. (1999) explain that the evolution of a third party LSP's market has been shaped by three waves of entrance. The first wave dates back to the 1980s or even earlier, with the emergence of the traditional LSPs (transportation and warehousing), known as "Prime Asset Providers". The second wave dates back to the late 1980s and early 1990s, where 3PL started to provide physical distribution-related activities to enhance their customer service (Sohail and Al-Abdali, 2005), such as the parcel and express companies DHL and TNT. The third wave dates from the late 1990s, where third party logistics focused on offering more customized and value-added activities (ibid), such as information technology services and management consulting (Selviaridis and Spring, 2007).

By the beginning of the 21st Century, services became more customer oriented and much more advanced to meet customers' needs, and the fourth party logistics provider (4PL) started to emerge (Aghazadeh, 2003). The fourth party logistics provider makes the logistics services provided to their customers part of a partnership through managing and optimizing the whole supply chain (network), at both operational and strategic levels (Aktas and Ulengin, 2005).

Hence, different types of LSPs execute logistics outsourcing arrangements and accordingly, there are varieties of "names" that are used to represent the LSPs[2] (Fabbe-Costes et al., 2009). However, these different names implicitly refer to an external company that performs all or part of a company's logistics functions. Several studies classified LSPs differently, depending on whether they owned assets or not, the type of services offered, and the ability to solve problems. According to Muller (1993) and Razzaque and Sheng (1998, p.94), four different types of LSPs are identified as: (1) Asset-based, where LSPs have their own assets, such as trucks and warehouses, for providing dedicated logistics services. (2) Management-based where LSPs offer logistics management services such as consultancy services. (3) Integrated LSPs, offering a package of services through their own assets as well as subcontracting from providers. (4) Administration-based LSPs who mainly offer administrative services such as freight payment and documentation.

Berglund et al. (1999) divide LSPs into service providers who provide standardized services and solution providers who offer more advanced and complex services. They clarify that every type has different methods of adding value to their customers. Hertz and Alfredsson (2003) categorize LSPs into four groups in terms of their abilities in general problem solving (co-ordination), and the extent to which they can adapt to the client's needs. First, standard providers: performing basics activities such as pick and pack, transportation, warehousing, and distribution. Second, service developers: offering their customers advanced value-added services such as: tracking and tracing, cross docking, specific packaging, providing unique security, and IT solutions. Third, the customer adapters: providing services at the request of the customer. Fourth, the customer developers: integrating with the customer and taking over their entire logistics function.

Moreover, Lai (2004) makes clear that LSPs' service capabilities can be classified into four types as follows: (1) Traditional Freight Forwarders (TFFs) focus on operations efficiency in freight forwarding services. This type positions themselves as a "cost leader" through offering lower rates. (2)TMRs (Transformers) extend their service capability to provide value added logistics services and technology enabled logistics services. (3) NCRs (Nichers) concentrate on a niche market and specialize in value added logistics services and technology enabled logistics services such as tracking and tracing of shipment information.

2 Such as carriers; freight forwarders; forwarding companies; transporters; transportation firms; transport companies; transportation providers; transportation partners; transportation and warehousing providers; third-party transport services; logistics service companies; logistics service providers; logistics service suppliers; subcontracted logistics service partners; logistics partners; logistics operators;. third-party logistics; third-party logistical services; third-party logistics service providers; third-party logistics partners; third-party logistics providers (3PLs); fourth party logistics (4PLs); supply chain service providers; global logistics providers and logistics integrators (Fabbe-Costes et al., 2009).

(4) FSPs (full service providers) consider themselves to be a ″service leaders″. They leverage their service capability to create superior service performance and provide a wide range of services.

This study defines an LSP - in general terms - as an external company that performs all or part of a company's logistics functions on behalf of exporting textile and clothing companies, where it utilizies its resources and capabilities to satisfy their customers' requirements.

2.3 Logistics performance

Outsourcing logistics activities is an effective way of realizing productivity and/or improving the quality of services (Stank and Daugherty, 1997). The delivered product and the quality of customer service influence a firm's corporate image (Ellram and Cooper, 1990). Prominent companies attempt to satisfy or exceed their customers' expectations by delivering unique value-added services (Bowersox et al., 2000) to improve the logistics performance. Logistics performance reflects the firm's performance in terms of its ability to deliver goods and services as requested by a customer in the exact quantities at the right time (Green Jr et al., 2008). Fugate et al. (2010) assert that excellence in logistics operations is significantly associated with higher firm performance. Based on logistics outsourcing literature, most scholars stress the importance of performance measurement, as it is critical for a firm's success. For a company to achieve good financial performance, it must achieve good logistics performance (Huo et al., 2008).

Logistics performance measurement is a competitive tool that leads to better decisions and improvements in the logistical process (Fawcett and Cooper, 1998). Schramm-Klein and Morschett (2006) assert that achieving logistics performance is essential for realizing marketing performance. Similarly, Green Jr et al. (2008) affirm that logistics performance directly influences the marketing performance and indirectly influences financial performance. In addition, they support the positive relationship between logistics performance and firm performance within the manufacturing sector. Their findings are in accordance with Daugherty et al. (1998) and Stank et al. (2003), who claimed that a company's logistics performance could have an influence on the firm's overall performance and its market share.

The definition and measurement of logistics performance are a challenge for researchers because organizations have many and frequently conflicting logistics goals (Chow et al., 1994; Chow et al., 1995). Hence, many logistics researchers conceptualize and examine logistics performance differently (Fugate et al., 2010). Therefore, when measuring logistics performance, it is necessary to identify logistics performance indicators (Sanchis-Pedregosa et al., 2011). Logistics performance can be measured in hard (objective) measures and soft (perceptual) measures (Chow et al., 1994). Due to the difficulty of obtaining hard performance

measures, logistics researchers have shown a great preference for soft measures (Chow et al.,1995). Generally, logistics performance can be viewed as a subset of a firm's performance (Chow et al., 1994). Logistics performance is defined by Chow et al. (1994, p.23) "as the extent to which goals such as sales growth, cost efficiency, keeping promises, low loss and damage, fair prices for inputs, flexibility, on time delivery, social responsibility, profitability, customer satisfaction, and product availability are achieved". Mentzer and Konrad (1991, p.34) define logistics performance as "the effectiveness in which goals are accomplished and efficiency in which resources are fully utilized". In this regard, Langley and Holcomb (1992) add differentiation to extend the definition of logistics performance, in which the services offered are unique and distinctive. Fugate et al. (2010) refer to logistics performance as a multi-dimensional construct consisting of effectiveness, efficiency and differentiation.

According to Stank et al. (2001a), logistics performance signifies a summation of successful achievements through several performance dimensions such as customer satisfaction, delivery speed, logistics costs, delivery dependability, responsiveness, delivery flexibility and advanced shipment notification. Rodrigues et al. (2004) conceptualize logistics performance as the ability of the firm to deliver high value service levels in a timely manner, and to deploy resources efficiently to accomplish service objectives. In addition, Schramm-Klein and Morschett (2006) reveal that logistics performance is associated with a faster and more reliable delivery, higher service quality, quantity, and timeliness, which in turn have a positive impact on a firm's efficiency. Yeung (2006) concludes that a manufacturers' logistics performance is an antecedent of their export performance. It is worth mentioning that logistics outsourcing performance is a significant determinant of logistics performance (Deepen, 2007).

2.4 Logistics outsourcing performance

Logistics outsourcing adds value to the logistics users' firms' performance (Bask, 2001) and this added value needs to be measured. If companies cannot measure the performance of their outsourced activities, they will not be able to manage and assess their relationship with LSPs (Fawcett and Cooper, 1998). Identifying the objectives to be achieved by outsourcing logistics services are essential for measuring performance (Sanchis-Pedregosa, 2011). According to Stank et al. (2003), logistics service performance evaluates the provider's ability to deliver products within the requested delivery time in a cost efficient manner. Knemeyer and Murphy (2004, p. 39) refer to outsourcing performance as the "perceived performance improvements that logistics outsourcing relationship has provided the user". Deepen et al. (2008) also, refer to the outsourcing performance arrangement as the perceived performance of the outsourced logistics activities and the associated responsibilities that have been delegated to an LSP. It is worth noting that several scholars postulate that logistics

outsourcing performance is complex in its nature. Hence, it would be inadequate to measure logistics outsourcing performance as a single construct (Deepen, 2007; Deepen et al., 2008; Karia and Wong, 2013; Knemeyer and Murphy, 2004; Križman, 2009 and Stank et al., 2003). Consequently, logistics outsourcing performance is conceptualized as a multi-dimensional construct in various studies. Stank et al. (2003) formulate three dimensions: operational, cost, and relational performance to measure the logistic service performance of LSPs. The results of their study reveal that relational performance, including responsiveness, assurance, and empathy, is the single most important performance dimension that stimulates customer satisfaction. The authors call for future research that might explore different operationalization of the logistics outsourcing performance constructs. Knemeyer and Murphy (2004) suggest that logistics outsourcing performance is a three-dimensional construct: operation performance, channel performance and asset performance. Operation performance relates to the operational improvements that are delivered by the LSP. The channel performance dimension focuses on the improvements that relate to the members of the supply chain. Finally, the asset reduction dimension is linked to the reduction of either physical or human resources.

However, several scholars (for example, Deepen, 2007; Deepen et al., 2008; Hartmann and De Grahl, 2012; Križman, 2009, Križman and Ogorelc, 2010; Wallenburg et al., 2010) utilize two dimensions for measuring the logistics outsourcing performance: goal achievement and goal exceedance. Deepen (2007) proposes the goal achievement dimension to measure the achievement of goals that have been set forth between LSPs and their customers. The other dimension is goal exceedance, which refers to services that significantly exceed the expected goals. Deepen et al. (2008) demonstrate that goal achievement assesses the accomplishment of the operational excellence that comprises the quality and the cost of the service. However, due to changing environments and customer needs, an LSP can exceed the expectation of the customer by delivering more benefits in terms of service improvement, cost reduction and innovative solutions. These authors assert that goal exceedance is an important performance dimension that considers the dynamic changes of customer requirements, which should be considered when measuring logistics outsourcing performance. Hence, these two dimensions are complementary with each other. According to Deepen et al. (2008) and Wallenburg et al. (2010), these two performance dimensions correspond to the industrial proxies of customer satisfaction and customer delight. They make clear that customer satisfaction is achieved by meeting the agreed outcome while customer delight is realized when the expected outcome is exceeded.

This study follows the call of Deepen et al. (2008) to use this logistics outsourcing performance conceptualization to improve the understanding of these two dimensions of the logistics outsourcing performance and their relevant drivers. Therefore, this study adopts goal achievement and goal exceedance as bi-dimensions of the logistics outsourcing performance.

2.5 Antecedents of the logistics outsourcing performance

It is crucial to understand the drivers of the logistics outsourcing performance to either improve or mitigate the occurrence of problems that may arise and can negatively influence the logistics outsourcing performance. To achieve a successful outsourcing relationship, it is essential that relationships between LSPs and their customers are built on mutually beneficial and sustainable long-term relationships (Murphy and Poist, 2000). Tate (1996) emphasizes that to establish a successful logistics outsourcing relationship, a deep understanding of a partner's business requirements, open communications, commitment, fairness, flexibility and trust are essential. It is worth mentioning that several scholars have examined the antecedents of the logistics outsourcing performance from a relationship marketing perspective. Table 2.1 presents findings of principal studies that have examined links between relationship marketing dimensions and logistics outsourcing performance.

Table 2.1: Findings of principal studies on the links between relationship marketing variables and logistics outsourcing performance.

Author	Relationship marketing variables on performance
Stank et al. (1996)	The findings support information exchange and responsiveness as having a significant effect on an LSP's performance.
Knemeyer and Murphy (2004)	The authors assert that some of the selected relationship marketing dimensions (specific investments, opportunistic behavior, prior satisfaction, reputation, communication, and trust) influence buyer perception of the logistics outsourcing performance.
Morris and Carter (2005)	The authors examine the influence of selected relationship marketing dimensions - such as acquiescence, propensity to leave the relationship, cooperation, functional conflict, and decision-making uncertainty - on supplier logistics performance. The findings suggest that cooperation and uncertainty are significantly related to a supplier's logistics performance, while supplier acquiescence, functional conflict, and propensity to leave the relationship have no significant impact.
Panayides and So (2005b)	The authors affirm that relationship orientation - in terms of communication, empathy, trust, shared values, reciprocity and bonding - can improve supply chain effectiveness and performance through creating a positive climate for learning and innovation.
Deepen (2007)	The author examines the influence of eight relationship variables (trust, commitment, openness, shared values, communication, opportunism, cooperation and proactive improvement) on bi-dimensional logistics outsourcing performance (goal achievement and goal exceedance).
Deepen et al. (2008)	The results reveal that cooperation and proactive improvement positively contribute to logistics outsourcing performance in terms of goal achievement and goal exceedance.
Križman (2009)	The findings assert that early involvement, knowledge sharing, and innovation are some of the most important relationship factors in outsourced services that influence logistics outsourcing performance.

Source: Compiled by the researcher from the extant literature.

However, the focus of the study is to examine the logistics capabilities of LSPs as antecedents of the logistics outsourcing performance. Value is created only when the interaction between the exchange partners' capabilities improve the competitive advantage of one or both partners (Hammervoll, 2012). According to Bask (2001), Rao and Young (1994) and Razzaque and Sheng (1998), LSPs are a source of market intelligence that adds a competitive advantage to their customers and creates added value.

2.5.1 Logistics capabilities of an LSP

Firms have to establish logistics capabilities that encompass delivery speed, quality service, flexibility, cost and innovativeness in order to achieve optimal operations performance at the global level (Fawcett et al., 1997). The capability of LSPs to deploy a bundle of resources empowers them to compete successfully against their competitors (Lai, 2004). Service performance is improved by acquiring high capability in performing different logistics services (ibid). Thus, LSP's capabilities - in terms of service quality, availability of transportation network, financial strength, good reputation, reliability of service, use of latest technology, convenient prices and good relationship with their clients - are among important criteria in the selection process of LSPs (Hung Lau and Zhang, 2006; Razzaque and Sheng, 1998).

According to Sinkovies and Roath (2004), logistics capabilities contribute to improving the performance outcomes because they exhibit dynamic routines that can be recomposed to drive differentiated products and services. Thus in the dynamic and complex logistics industry, it is necessary for LSPs to fully deploy the right logistics resources, transform them into capabilities that can realize logistics performance and sustain a competitive advantage (Karia and Wong, 2013; Wong and Karia, 2010; Yang et al., 2009). Therefore, LSPs can achieve high quality logistics outsourcing relationships with their customers by concentrating their efforts, resources and capabilities on delivering value added services and supporting their customers in achieving their strategic and financial goals (Chu and Wang, 2012).

Generally, customers consider performance measures such as cost performance, product service performance, delivery reliability, and responsiveness in assessing their suppliers' capabilities in order to continue performing at desired levels (Wagner et al., 2011). The global business environment represents a challenge for LSPs to improve their resources and capabilities to enhance their service performance (Yang et al., 2009) in order to support their customers' businesses.

Importance of LSP's capabilities to the exporters

Logistics competence is becoming an important source of sustainable, competitive advantage for many companies (Skjoett-Larsen,1999). Hence, it is essential for exporters to improve their logistics performance in order to deliver their textile products efficiently and effectively to the international market. Exporters can deploy logistics outsourcing as a strategy to develop their capabilities through leveraging the capabilities of LSPs to increase their strengths and benefits. In a rapidly changing environment, flexibility capability enables the LSPs to adapt their logistics operation to cope with exporters' new adjustments. When LSPs have the expertise capability and knowledge of the exporters' requirements and businesses, they can deliver better services and provide efficient logistics operations. In addition, it is important for LSPs to possess the capability for continuous change and innovation, so that they are able to develop new and/or improve existing processes and services. Innovation capability is essential for LSPs'differentiation. Therefore, this study aims to examine logistics capabilities (flexibility, expertise, and innovation) as antecedents of the logistics outsourcing performance. As these three capabilities are considered to be important for exporters; they can enhance their logistics performance through logistics outsourcing

2.5.1.1 Logistics service provider's flexibility capability

Flexibility is one of the critical capabilities that reflect the ability of a firm to respond to changing market demands (Håkansson and Persson, 2004), and this is very much in demand in outsourcing relationships. In buyer- supplier relationships, flexibility is required and considered as an important value-creation initiative (Hammervoll and Toften, 2010). Flexibility capability refers to adaptability to unexpected circumstances (Liu and Luo, 2012). LSP's flexibility is considered a key selection criterion (Stank and Daugherty, 1997). Daugherty et al. (1992) emphasize that one important dimension of performance is the ability of the logistics system to adapt service levels to specific markets or customers. LSPs create value for their customers by being flexible towards their customers' requests and recommending alternative actions when unforeseen problems arise (Lai, 2004), which lead to increased customer loyalty (Hartmann and De Grahl, 2011). According to Sinkovies and Roath (2004), accommodating daily or operational adjustments has significantly contributed to a higher level of logistics and market performance. This study proposes that the flexibility of the LSP is an antecedent of the logistics outsourcing performance.

2.5.1.2 Logistics service provider's expertise capability

The capability of service providers to support their customers with their experience and knowledge is one of the most important drivers in logistics outsourcing (Razzaque and Sheng, 1998). The notion of value creation in the buyer-supplier relationship is reflected in the interaction between exchange parties, which produce value that they would not achieve independently (Hammervoll and Toften, 2010). In this respect, LSPs have a logistics expertise that the customers could not acquire individually (Håkansson and Persson, 2004). LSPs who acquire logistics expertise and are knowledgeable about their customers' industry are considered competent service providers (Sink et al., 1996). The operational performance of the products and services is highly dependent on the quality, the efficiency and the attitudes of the human resources (Brah and Lim, 2006). The study of Karia and Wong (2013) reveals that management expertise resources in terms of experience, knowledge, training and skills allows LSPs to use their best practice expertise to provide innovative ideas, solutions, and manage logistics operations effectively, which in turn leads to a higher logistics performance in terms of service innovation and cost efficiency.

Expertise capability in this study reflects the LSPs' knowledge, experience and skills in their customers' businesses to handle their customers' logistics operations adequately with respect to their customers' products and outsourced logistics activities. Through LSPs' use of their effective communication skills, they can fulfill customers' requirements. Hence, professionalism in terms of logistics expertise is among the key qualities in the selection process of LSPs (Anderson et al., 2011). Several studies confirm that expertise and knowledge of LSPs in the logistics industry and of their customers' businesses are highly considered as a key to successful outsourcing relationship arrangments (Anderson et al., 2011; Hartmann and De Grahl, 2011; Wong and Karia, 2010). This study examines the expertise capability of the LSP as an antecedent of logistics outsourcing performance.

2.5.1.3 Logistics service provider's innovation capability

Most manufacturing firms are pursuing the outsourcing of their logistics activities in order to introduce products and service innovations promptly to their business market (Lai, 2004). According to Flint et al. (2005, p.114), logistics innovation refers to "any logistics-related service that is seen as new and helpful to a particular focal audience. This audience could be internal, where innovations improve operational efficiency, or external, where innovations better serve customers". Hult et al. (2004, p.429) define innovation capability as the "firm's capacity to engage in innovation; that is, the introduction of new processes, products, or ideas in the organization". Innovation capability in this study reflects the degree to which LSPs' customers perceive that their LSPs have the ability to develop new services and /or improve

existing services to cope with new market conditions. Innovation capabilities improve an LSP's logistics service capability, which in turn improves performance (Panayides, 2006; Yang et al., 2009) and enables LSPs to differentiate themselves from other players in the market (Anderson et al., 2011; Cui, 2011). Hence, logistics firms frequently seek new solutions to meet their customers' changing requirements and to adapt to market volatility (Cui, 2011). Thus, LSP's innovation capabilities offer the potential to drive performance improvements (Daugherty et al., 2011). Therefore, innovation is a key issue for logistics firms and their customers (Cui, 2011). Accordingly, an LSP's innovation capability is examined in this study as an antecedent of the logistics outsourcing performance.

Unlike the logistics capabilities that will be examined in this study as positive antecedents of the logistics outsourcing performance, perceived opportunistic behavior of LSPs will also be examined as a negative antecedent of the logistics outsourcing performance.

2.5.2. Logistics service provider's perceived opportunism

Opportunism refers to the behavioral assumption that represents discrete norms wherein the individual parties are expected to remain self-interested and pursue strategies oriented toward their individual goals and personal interest (Heide and John, 1992) while disregarding the interests of their partners when they cannot be detected doing so (Judge and Dooley, 2006). The potential for opportunistic behavior on the LSP side represents a threat for sustaining a long-term mutual relationship with their clients. Several scholars have empirically examined the perception of opportunism and confirmed its negative influence on trust (for example Deepen, 2007; Knemeyer and Murphy, 2004; Morgan and Hunt, 1994). Moore (1998) also asserts that opportunism affects relationship effectiveness negatively. Hence, opportunism can play an important role in the LSP-client relationship, and may influence the logistics outsourcing performance negatively.

Logistics capabilities and opportunism as antecedents of the logistics outsourcing performance are discussed in detail in Chapter Three, the Theoretical Framework, and in Chapter Four, the Research Model and the Development of Hypotheses.

2.6 Chapter summary

This chapter has given an overview of the concepts of logistics outsourcing, logistics performance, logistics outsourcing performance and drivers of logistics outsourcing performance. It concludes with a discussion of antecedents of logistics outsourcing performance. The next chapter discusses the theoretical framework of this study.

CHAPTER THREE

THEORETICAL FRAMEWORK

CHAPTER THREE

THEORETICAL FRAMEWORK

3.1 Introduction

Though reducing cost is the main driving factor for outsourcing, the necessity of having access to valuable external resources and capabilities is another reason for the firms to outsource (Dhar and Balakrishnan, 2006). The following chapter gives an overview of the theoretical framework of this study. Complexities in explaining logistics outsourcing demand a combination of theories (Mclvor, 2009). Thus, resource-based view (RBV) theory (Amit and Schomaker, 1993; Barney, 1991; Day, 1994; Penrose,1959; Wernerfelt, 1984) and transaction cost analysis (TCA) (Rindfleisch and Heide, 1997; Williamson, 1975:1985) are the theoretical foundations for explaining the variables in this study. According to Mclvor (2009), RBV focuses on resources and capabilities, while the focus of TCA is based on choosing an efficient governance mechanism. Researchers acknowledge that RBV and TCA are important strategic theories for evaluating outsourcing relationships. These two theories are relevant to logistics outsourcing practices, and can provide valuable contributions in explaining and understanding outsourcing relationships (Bolumole et al.,2007; Logan,2000). RBV and TCA have been used as complementary theories in various studies (Bustinza et al., 2010; Holcomb and Hitt, 2007; Mclvor, 2009; Olavarrieta and Ellinger, 1997).

In view of this, there is a need to call for a middle range theory. This theory is “intermediate to general theories of social systems which are too remote from particular classes of social behavior, organization, and change to account for what is observed and to those detailed orderly descriptions of particulars that are not generalized at all” (Merton 1968, p. 39). Middle range theory holds a hybrid philosophy by accommodating context-excluded and context-embedded factors jointly under one theoretical framework (Kim et al., 2009). Middle-range theory reflects connections between a set of concepts represented by socio-economic theories applied in several managerial disciplines (Arlbjoern and Halldorsson, 2002; Halldorsson et al., 2007). It is principally used to guide an empirical enquiry (Merton, 1968), and helps to accommodate both theoretical rigor and contextual relevance in the research attempt (Kim et al., 2009). Hence, it is considered as “stepping stones in the middle distance” (Bierstedt 1960; Kim et al., 2009).

This approach has been used by several scholars, for example Heide and John (1988), who use a middle range theoretical approach and extend the TCA model by combining insights from dependence theory with the TCA approach. Halldorsson et al. (2007) have developed and discussed a middle-range theoretical foundation of supply chain management based on different notions of socio-economic theories (transaction cost analysis, agency, resource-based view and network), trying to explain inter-organizational phenomena. Kim et al. (2009) incorporate insights from TCA with the theory of embeddedness, thereby developing the rationale for a middle-range approach on marketing channels to avoid the limitations of "undersocialized" (for example TCA) and "oversocialized" (for example institutional theory) views of economic exchange.

In this study, the capabilities of LSPs are considered as value-creating strategies that are deployed within the LSP-client relationship to examine the logistics outsourcing performance. However, Porter (1996) notes that a single-minded focus on creating value in practices such as outsourcing and benchmarking is not a sufficient basis for strategic analysis if the firm cannot also claim its share of the value. The present study examines the perceived opportunistic behavior of the LSP that can have an influence on the effectiveness of the capabilities being deployed within this exchange relationship. Accordingly, this behavior can affect claims of value. Hence, resource-based view theory alone is considered an incomplete depiction of the logistics outsourcing performance phenomenon. Similarly, TCA's single-minded pursuit of cost minimization provides little insight into strategic marketing choices that are undertaken principally to enhance and or claim value (Ghosh and George, 1999; Zajac and Olsen 1993). Consistent with Kim et al. (2009) a middle range approach complements each theory's limitations when it is considered alone, accordingly, this study takes a middle-range approach for evaluating logistics outsourcing performance in the LSP-client relationship under one theoretical framework that simultaneously takes both strategic and economic factors into consideration.

Resources, capabilities and competences are necessary for gaining competitive advantage (Bolumole et al., 2007). Logistics outsourcing arrangements allow firms to have access to a bundle of external valuable critical resources and capabilities. Thus, firms that lack certain logistics capabilities can have access to complementary capabilities from an external logistics provider (Mclvor, 2009; Olavarrieta and Ellinger, 1997) to sustain competitive advantages and to achieve high performance. Bustinza et al. (2010) reveal that outsourcing enables firms to go beyond their boundaries by enhancing their ability to respond and adapt to the external environmental pressure and changing market conditions. They affirm that outsourcing significantly influences a firm's competitive capabilities, leading to a higher level of performance.

Logistics outsourcing arrangements generate differentiated services that can create value and enhance the competitive capability of the exchange parties; this will consequently improve performance. This study draws on the lens from RBV theory to explain the impact of logistics capabilities (flexibility, expertise, and innovation) acquired by LSPs on the logistics outsourcing performance, which in turn influences buyer logistics performance.

LSP's opportunism is commonly known as a principal risk in an outsourcing arrangement (Handley and Benton, 2012). Hence, LSP's possible engagement in opportunistic behavior represents a potential risk for textile and clothing exporting companies, which could influence logistics outsourcing performance. LSPs are considered opportunistic when they seek their own unilateral gains and interests at the expense of their customers, especially when such behavior is possible, profitable and difficult to be detected (John, 1984; Rokkan et al., 2003). LSP's opportunism is reflected in terms of shirking obligations, withdrawing commitments, withholding and distorting information and failing to meet contractual obligations or fulfill promises (John,1984; Lai et al., 2012). It is worth noting that several scholars examined opportunism in the context of logistics outsourcing (for example Deepen, 2007; Knemeyer and Murphy, 2004; Knemeyer and Murphy, 2005; Križman and Ogorelc, 2010; Lai, et al., 2012; Moore, 1998; Moore and Cunningham, 1999; Tsai, et al., 2012). Opportunism is one of the key assumptions of TCA. Therefore, TCA is utilized in this study to discuss the detrimental impact of perceived opportunism on perceived logistics outsourcing performance.

Recently, empirical studies adopting mid-range theoretical approaches have undertaken contingent resource-based perspectives and call for further studies (Sharma et al., 2007; Verwaal et al., 2009). For example, Sharma et al. (2007) model the contingent effects of uncertainty on the relationship between capabilities and organizational strategy. The present study examines the contingent effects of perceived opportunistic behavior on the association between logistics capabilities and logistics outsourcing performance. Hence, this study presents logistics outsourcing performance model, based on a middle range approach that is derived from integrating variables from TCA and the RBV.

This chapter is divided into two sections: the first displays resource-based view theory and its relevance to logistics practices. The second gives an overview of transaction cost analysis theory, focusing on perceived opportunism in the logistics outsourcing relationship.

3.2 Resource-based view (RBV) theory of the firm

Resource-based view (RBV) is based on the work of Penrose (1959), who described firms as a collection of productive resources and in which resources comprise of a bundle of services. RBV started with Wernerfelt (1984) and other notable contributors such as Amit and Schomaker (1993); Barney (1991); Dierickx and Cool (1989); Grant (1991); Peteraf (1993) and Peteraf and Barney (2003). Wernerfelt (1984) viewed firms in terms of resources and developed an economic tool for analyzing a firm's resource position and examining the relationship between resources and profitability. Wernerfelt showed that identifying types of resources can lead to high profits (resource position barriers). RBV explains the difference in performance among competing firms, which is attributable to the differences in their resources and capabilities (Peteraf and Barney, 2003). The resource-based view asserts that firms gain and sustain competitive advantages by developing, deploying, and exploiting bundles of valuable resources and capabilities that are inelastic in supply (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). According to Amit and Schomaker (1993), a firm's specific resources and capabilities are crucial in explaining its performance. They demonstrated that it is necessary to identify, develop, and deploy resources and capabilities in an efficient and effective manner that leads the firm to sustain competitive advantages and thus achieve profitability.

A firm's resources and capabilities include all of the financial, physical, human and organizational assets used by a firm to develop, manufacture and deliver products or services to its customers (Barney, 1995). Grant (1991) noted that resources and capabilities are the primary source of profit for a firm, and postulated that a firm's most important resources and capabilities are those which are durable, difficult to identify and understand, imperfectly transferable and difficult to replicate. Barney (1991:1995) stated that a firm's strategic resources and capabilities, which hold the potential of a sustained competitive advantage, should meet the following criteria: first, they must be valuable in the sense that they exploit opportunities and neutralize threats, as well as supporting firms to implement strategies that improve firm efficiency and effectiveness. Second, resources and capabilities must be rare, especially among competing firms in the same industry where the demand for these resources and capabilities is greater than their availability. Third, imperfectly imitable, where the resources and capabilities are difficult to imitate. Dierickx and Cool (1989) asserted that imitability depends on the extent to which asset accumulation processes display the following characteristics: time compression diseconomies, asset mass efficiencies, asset erosion, and causal ambiguity. Fourth, not substitutable where these resources and capabilities cannot be strategically substituted (cannot be replaced). Fifth, organized where firms have to be organized in order to be able to exploit the strategic resources and capabilities.

3.2.1 RBV assumptions

RBV, like other theories, adopts the assumption that firms are profit-maximizing entities, and that decision makers are characterized by bounded rationality (Barney and Arikan, 2001).Beside these basics assumptions, Barney (1991)noted that there are two fundamental assumptions in the resource-based view that distinguish it from other theories. The first assumption is resource heterogeneity, where the strategic bundles of resources and capabilities are heterogeneously distributed across the firms. Peteraf (1993) noted that heterogeneity implies that firms acquiring several superior resources and capabilities will economically and effectively produce and satisfy customers better than their rivals. The second assumption is resource immobility, as the resources cannot be traded, they are immobile (Peteraf, 1993). Moreover, Barney and Arikan (2001) noted that immobility means that some resources, at some time, are inelastic in supply, where the demand is greater than the supply. According to Amit and Schomaker (1993), the strategic value of a firm's resources and capabilities is improved when these resources are scarce, durable, not easily traded, difficult to imitate and not substituted, as they can enable a firm to earn more economic rent and generate performance. A main feature of RBV as demonstrated by Peteraf and Barney (2003) is that differences in performance are derived from rent differentials of resources, which have different levels of efficiency.

3.2.2 Resources and capabilities

Resources and capabilities are commonly considered as the basic constructs of RBV. Firm resources are defined by Amit and Schomaker (1993, p.35) as "stocks of available factors that are owned or controlled by the firm". A firm is viewed as a bundle of tangible and intangible assets that can be a strengths or weakness (Wernerfelt, 1984). Grant (1991) asserted that resources are the input in the production process and the source of a firm's capabilities. The strategic importance of capabilities lies in their significant contribution to gain sustainable competitive advantages and achieve superior profitability (Day, 1994), as they are the main source of a firm's competitive advantage (Grant, 1991). Amit and Schomaker (1993, p.35) referred to capability as "the firm's capacity to develop and deploy resources that can improve productivity of its resources using organizational process". Day (1994, p.38) also expanded the understanding of capabilities and referred to them as "complex bundles of skills and collective learning, exercised through organizational processes that ensure superior coordination of functional activities". Moreover, Day (1994) considered capabilities as the glue that held a firm's assets together and enabled them to be deployed professionally.

Capabilities are so inherent in the organizational procedures and practices that they are difficult to trade or imitate, as capabilities involve multi-layered coordination between people and other resources (Day, 1994; Dierkx and Cool 1989; Grant, 1991).

3.2.3 Core competencies, dynamic capabilities and resource management

Core competencies are derived from capabilities that are central, strategic, valuable, and critical to the firm (Grant, 1991; Hafeez et al., 2002). Prahalad and Hamel (1990) highlighted core competencies as being the roots of competitive advantage, as they are the drivers of corporate strategy and diversification. They categorized core competencies as communication, involvement and deep commitment, which include multiple levels of people, as well as all the different functions of working across organizational boundaries. Competencies enable firms to extend and support a wide variety of markets. Gallon et al. (1995) demonstrated that core competencies are combinations of critical capabilities that distinguish a company's strength from that of any other company, where these capabilities have sustainable value in terms of cost reduction, improved service, and entry barrier over their rivals.

It is worth mentioning that RBV has been extended to include dynamic capabilities (Eisenhardt and Martin, 2000; Teece et al.,1997) to explain why some firms have a competitive advantage compared to their competitors in an unpredictable environment that is characterized by rapid changes. According to Teece et al. (1997, p.516), dynamic capabilities is defined as "the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". The strategic value of dynamic capabilities depends on a firm’s ability to modify its resources-base through creating, integrating, recombining and releasing processes to produce new value-creating strategies (Eisenhardt and Martin, 2000). Hence, a competitive advantage can be derived from two aspects: dynamics in terms of acquiring the capacity to renew competences to correspond to new market conditions, and the capability to adapt, integrate, and reconfigure skills and resources to cope with changing environmental requirements (Halldorsson and Skjott-Larsen, 2004; Teece et al., 1997).

In addition, Defee and Fugate (2010) demonstrate that originally, capabilities were explained from a relatively static view that lasted over a long period, where environmental conditions were relatively stable, but today in the era of globalization and the new changing environment, static capabilities have to be replaced by dynamic ones. These authors note that dynamic capabilities are relevant for logistics and the supply chain context, referring to them as the mechanism that logistics firms use to renew and/or substitute static logistics capabilities to adapt to the changing environment.

However, RBV is criticized for its limitations in explaining how resources are managed to create value (Sirmon et al., 2007). The resource management framework is suggested by Sirmon et al. (2007) to explain how resources can be managed to generate superior value for customers, through incorporating three comprehensive processes as follows: (1) structuring the resource portfolio to attain the resources that the firm will use to bundle and leverage capabilities; (2) bundling the resources through integration of the resources to generate valuable capabilities; (3) a leveraging process to utilize a firm's superior capabilities in taking advantage of market opportunities and creating value for customers and wealth for its owner. Hence, managing resources through these three processes will in turn enable firms to gain a competitive advantage.

3.2.4 Resource-based view in logistics context

RBV has the potential to be applied as a theoretical foundation in logistics and supply chain management studies (Olavarrieta and Ellinger, 1997). RBV has been increasingly utilized to examine logistics-related capability, competitiveness, and performance (Lai, 2004; Lai et al., 2008; Liu et al., 2010; Sinkovies and Roath, 2004). Mentzer et al. (2004) state that logistics resources are divided into tangible resources, such as plants, equipment, raw materials, distribution centers, logistics networks in these plants and distribution centers, and intangible resources such as relationships, corporate culture, management skills, logistics expertise and customer loyalty. Wong and Karia (2010) further divide logistics resources into five groups: physical, information, human, knowledge and relational resources.

Hall (1993) identified four capabilities (functional, cultural, regulatory and positional) that can give a competitive advantage. Functional and cultural capabilities are concerned with doing, and are based on competencies or skills, whereas regulatory and positional capabilities are concerned with having, and are related to assets that the business owns. According to Olavarrieta and Ellinger (1997), resources are related to ‘‘having’’, while capabilities are related to ‘‘doing’’, as capabilities leverage resources, making them more invisible. Mahoney and Pandian (1992) note that a firm may achieve superior performance from the manner its distinctive competences/ capabilities leverage its resources. In this concern, LSPs' competitiveness is derived from their valuable capabilities as well as their embedded qualifications in attaining a superior performance compared to their rivals (Liu et al., 2010). A considerable number of empirical studies have employed RBV in the logistics context to examine the effect of logistics-related capabilities on the competitive advantage of LSPs, and on either the performance of LSPs or a customer firm's performance. An overview of principal studies that use RBV in the context of logistics is displayed in Table 3.1.

Table 3.1: Overview of principal studies that use RBV in the context of logistics

Author	Theoretical Framework and Findings
Olavarrieta and Ellinger (1997)	The study uses RBV as a theoretical foundation to examine the relationship between a logistics distinctive capability and performance. The study confirms the positive association between a logistics distinctive capability and superior performance.
Lai (2004)	The author applies an RBV perspective to understand the different unique characteristics of LSP types and examine the relationship between the service capability of an LSP and its performance. The results show that different types of LSPs achieve different service performances according to their service capability.
Shang and Marlow (2005)	The study uses an RBV framework to explore the relationship between logistics capabilities (information-based capability, flexibility, and benchmarking) and performance in the manufacturing industry of Taiwan. The authors find that an information-based capability is the most critical capability, having a direct influence on logistics performance and an indirect influence on financial performance. However, the authors have not found support for the influence of benchmarking capability and flexibility capability on the logistics performance.
Richey et al. (2007)	The authors utilize an RBV perspective to investigate the importance and impact of both technological readiness and technological complementarity capabilities on the supplier logistics service quality and performance. The authors indicate that technological readiness has a positive impact on attaining a superior logistics service quality that significantly contributes to a firm's performance.
Lai et al. (2008)	The study adopts the resource-based view framework to investigate the IT capability in the logistics service provider industry and its impact on the competitiveness of LSPs. The result reveals that the IT capability positively impacts the competitive advantage of LSP firms in terms of cost reduction and improvement of service quality and creation of innovative and customized services.
Daugherty et al. (2009)	The authors utilize an RBV perspective in examining the link between resource, capability and performance through investigating the impact of market/logistics relationship effectiveness (resources) on information capability and integration capability. They examine the impact of the two capabilities on the logistics performance. The result is consistent with previous studies, and confirms that information and integration capabilities lead to an improvement in a firm's logistics performance.
Yang et al. (2009)	The study confirms that RBV can provide a theoretical base for explaining the relationships between resource, innovation capability, logistics service capability, and firm performance in the container shipping service context.
Chen et al. (2010)	The authors use an RBV perspective, to examine the link between resource-collaboration and performance within a Chinese setting. The results of the study reveal that collaboration between LSPs and their customers has a significant positive influence on the performance of customer firms, which reflects the prominent effect of human capital resources on the collaboration between outsourcing partners.
Liu et al. (2010)	The authors investigate LSP's competitiveness based on their capabilities utilizing an RBV perspective. The authors find that service quality is the most critical capability among the 13 firm-specefiic capabilies.
Lu and Yang (2010)	The authors find that firms with a high level of customer responsiveness and innovation capabilities have the highest level of overall service performance.
Wong and Karia (2010)	The authors utilize an RBV to explain the competitive advantage of LSPs that is derived from the strategic logistics resources developed and bundled by logistics service providers.
Liu and Luo (2012)	The study investigates the relationship among logistics capabilities, competitive advantage, and firm performance. The results show that logistics capabilities can be conceptualized as a three-dimensional construct: process, flexibility, and information integration capabilities. The authors find that these capabilities all have significant effects on competitive advantage, and that only process capability has significant effects on a firm's performance.
Ralston et al. (2013)	The authors show that logistics salience is an important resource for firms seeking to offer differentiated services and innovative logistics operations to their clients. The results of the study reveal that both logistics innovativeness and logistics service differentiation have a positive impact on logistics performance.
Karia and Wong (2013	Based on a survey of 123 LSPs in Malaysia, the authors examine the impact of five components of logistics resources and capabilities (technology, physical, management expertise, relational and organizational resources) on logistics performance. They find that each logistics resource is positively associated with logistics performance in terms of customer service innovation and cost leadership.

Source: Compiled by the researcher from the extant literature.

The majority of these studies have found that logistics capabilities have a significant positive impact on their competitiveness and on firm performance. In addition, Hartmann and De Grahl (2011) examine the impact of LSP flexibility capability on customer loyalty in a logistics outsourcing context using an RBV approach. The results confirm that LSPs' flexibility is a valuable and distinctive capability that has a significant positive impact on customer loyalty. Firms that have attained unique and valuable sources of logistics capabilities will be superior performers (Olavarrieta and Ellinger, 1997). These unique logistics capabilities will be their core competence that derives their competitiveness over their rivals. Stank et al. (2001a, p.32) defines competence as "the achievement of a state of affairs that enables firms to gain and maintain select customers", and each competency includes distinctive functional capabilities. Logistics activities provide opportunities to build up distinctive capabilities (Fawcett et al.,1997), as these distinctive capabilities can significantly generate a superior performance (Daugherty et al., 2009; Day, 1994).

In the logistics industry, resources are distributed heterogeneously across different LSPs (Lai, 2004; Wong and Karia, 2010), such as carriers, freight forwarders, and third party providers. Thus, their investments in resources will be different and will acquire different capabilities; consequently, their core competencies will be varied (Cui and Hertz, 2011). For example, carriers have a core competence in transporting products efficiently, and they invest heavily in vessels, trucks, hiring skilled drivers and building terminals. However, third party logistics firms have core competences in providing an integrated solution to their customers, and their investments will be devoted to warehouses, IT systems (tracking and tracing), and delivering value-added services (ibid). Hence, the ability to combine and coordinate various resources (human, physical, and information resources) that are heterogeneously distributed across various functions and are imperfectly mobile leads to a competence achievement (Wong and Karia, 2010).

Many firms focus on acquiring logistics capabilities as a means of generating differentiation (Andersen and Narus, 1995). Sustaining competitive advantage is based on the ability of leveraging[3] logistics services instead of changes in price, promotion and/or the product itself where they can be imitated rapidly (Mentzer and Williams, 2001). Consistently, Esper et al. (2007) indicate that logistics leverage represents "Positional Advantage" for the company. Consequently, logistics capabilities can significantly contribute to overall strategy and performance of a firm through providing differentiated customer value (Morash et al., 1996).

3 Logistics leverage is defined by Mentzer and Williams (2001, p.30) as "the achievement of excellent and superior logistics performance, which when implemented through a successful marketing strategy creates recognizable value for customers".

For example, Daugherty et al. (1996) identified the differences between high-performing firms and those with a low performance in terms of their logistics service capabilities. Several scholars have examined numerous logistics capabilities, and have studied their impact on a firm's competitiveness and performance. The capabilities that are most frequently described in the literature are as follows: customer focused capabilities (Morash et al., 1996; Zhao et al., 2001), supply management capabilities (Morash et al.,1996; Mentzer et al., 2004), integration capabilities (Daugherty et al., 2009; Bowersox et al., 1999), measurement capabilities (Fawcett et al., 1997) and information exchange capabilities (Daugherty et al., 2009; Mentzer et al., 2004; Zhao et al., 2001). In addition, Lynch et al. (2000) examined logistics capabilities through process capability and value-added service, while Daugherty et al. (1996) and Lai (2004) have empirically examined the logistics service capability. Moreover, Esper et al. (2007) examined the logistics learning capability. These studies confirmed that logistics capabilities are a source of competitive advantage, which significantly influences a firm's performance. According to Fawcett et al. (1997), the logistical capability has a twofold role: as a coordinator of international operations and as a foundation of customer service. According to Liu et al. (2010), an LSP can be viewed as a bundle of firm-specific capabilities through which the LSP could realize competitiveness and enhance outsourcing performance.

Using RBV as a theoretical framework, this study examines the impact of LSPs' capabilities on logistics outsourcing performance from the perspective of exporting companies in the textile and clothing industry. The present study focuses on three logistics capabilities acquired by a logistics service provider (flexibility, expertise, and innovation), in a specific logistics outsourcing relationship. This study follows Hall's (1993) classification of the different kinds of capabilities previously mentioned; logistics expertise is relevant to functional capability that is derived from knowledge, skill, and the experience of employees. However, flexibility and innovation capabilities are related to a cultural capability that is based on the ability of an LSP to react to challenges, manage unanticipated changes and have the capability to innovate.

3.3 Transaction cost analysis (TCA) theory

Although logistics outsourcing is a tool for adding value and reducing costs, there are transaction costs associated with the outsourcing decision. According to Williamson (1981, p.552), "a transaction occurs when a good or service is transferred across a technologically separable interface". Transaction costs include the direct costs of managing relationships (such as costs of crafting safeguards, negotiation, coordination, communication, screening, selection, enforcement, and measurement), and the possible opportunity costs of making inferior governance decisions such as failure to invest in a productive asset, maladaptation costs or failure to select an appropriate partner (Rindfleisch and Heide, 1997; Williamson,

1975:1985). There are influencing factors that produce transactional difficulties and raise transactional risks, such as bounded rationality, a small number in bargaining and information asymmetry (Grover and Malhotra, 2003; Mclvor, 2009). These risks increase the hazards of opportunism, which raise the transaction costs. The decision of outsourcing as opposed to that of internalization depends on the transaction costs associated with each governance mechanism (Williamson, 1981).

Transaction cost analysis is based on selecting the most efficient governance mechanism, where governance is the mode of organizing transactions (Williamson and Ouchi,1981) that include elements of establishing and structuring exchange relationships as well as aspects of monitoring and enforcement (Heide, 1994, p.72). Market, hybrid and hierarchy are alternative governance mechanisms for organizing transactions where each governance form employs its own coordination and control system (Heide, 1994; Williamson, 1975:1985). TCA advocates that economic actors select governance mechanism that best mitigate the transaction costs associated with opportunism (Rindfleisch et al., 2010). Transaction costs are related to key dimensions in transaction exchanges (assets specificity, uncertainty, and frequency). These dimensions influence the decision of selecting the cost-efficient governance mode of transaction (Williamson, 1981).

The transaction cost theory rests on two basic behavioral presumptions about the transaction partners involved. The first assumption is bounded rationality, which results from insufficient information and a limitation in management perception, especially in situations of high uncertainty or complexity. This will lead to the second assumption which is opportunism, defined by Williamson (1985, p.47) as "self-interest seeking with guile", which includes behavior such as an incomplete or distorted disclosure of information to mislead and/or confuse.

3.3.1 TCA assumptions

Bounded rationality

Bounded rationality is a constraint on decision makers' cognitive capabilities and a limitation on their rationality (Rindfleisch and Heide, 1997). Decision makers find it impossible to consider all possible future contingencies due to a limited capacity for information processing and an inability to communicate (Skjoett-Larsen, 2000). Bounded rationality becomes more challenging under uncertain conditions. Rindfleisch and Heide (1997) note that bounded rationality will be problematic from two aspects: firstly, ex-ante transaction, when the circumstances surrounding an exchange cannot be specified due to environmental uncertainty, which stimulates complexity in adapting and modifying the contract. This situation leads to an

adaptation problem. Secondly, ex-post transaction, when performance cannot be easily verified due to behavioral uncertainty; this causes a performance evaluation problem. Given bounded rationality, it is difficult to deal with the complexities of executing a contract and anticipating future plan contingencies, thus, contracts are incomplete (Williamson, 1981), which raises opportunism.

Opportunism

Opportunism is an important construct in exchange theory that exists either ex-ante transaction or ex-post transaction (Jap and Anderson, 2003). Opportunistic behavior takes place when such behavior is feasible and profitable (John, 1984). Shirking or failing to fulfill promises and obligations are examples of opportunistic behavior (Jap and Anderson, 2003). Transaction cost analysis distinguishes between ex-ante and ex-post opportunism.

According to Barney and Ouchi (1988) and Berthon et al. (2003), three types of opportunism are identified, which in turn raises three problems:

a) Adverse selection problem (Bergen et al., 1992; Eisenhardt, 1989), that occurs pre-contract, where opportunism exists ex-ante in terms of exploiting asymmetric information about future performance;

b) Moral hazard problem (Bergen et al.,1992; Eisenhardt, 1989), which exists post-contract, where opportunism exists ex-post by exploiting asymmetric information about current performance;

c) Lock-in situation problem (Rokkan et al., 2003), due to the presence of a specific assets investment that stimulates opportunism because specific investment will be of less value outside this specific relationship.

TCA has been criticized for exaggerating the hazard arising from opportunism (Hill, 1990) by “over reliance on the opportunism assumption and undersocialized” view of human motivation (Chen et al., 2012; Ghoshal and Moran, 1996; Granovetter ,1985). TCA does not assume that all social actors are opportunistically inclined, only that some actors behave opportunistically and not all (or most of) the time. Because it is difficult and costly to differentiate opportunists, who may be a minority from non-opportunists ex-ante, the assumption of opportunism is necessitated (Barney 1990; Chen et al., 2002; Rindfleisch and Heide, 1997).

Several scholars discuss the antecedents and consequences of engaging in opportunistic behavior, including Crosno and Dahlstrom (2010) and Hawkin et al. (2008). These authors assert that there are some antecedents that may increase or decrease opportunism,such as level of dependence, specific asset investment on the buyer's and or supplier's sides, degree of existence/non-existence of relational norms, degree of bureaucratization, and level of uncertainty. According to Grover and Malhotra (2003), the presence of opportunism increases the transaction costs in terms of monitoring behavior and safeguarding assets. This is consistent with the findings of Dahlstrom and Nygaard (1999), that opportunism increases ex-post transaction costs (bargaining, monitoring and maladaptation).

Several studies discuss the negative consequences of opportunism, including Gassenheimer et al. (1996), who found that the perception of opportunism negatively affects franchisees' satisfaction and the assessment of system performance within fast food franchises. They concluded that the effect of opportunism might harm the cooperative nature of franchise relationships. A meta-analysis review by Crosno and Dahlstrom (2008) supports the negative association between performance and partner-based opportunism, and found that this effect is more recognizable in single industry studies than multi-industry studies. Consistent with previous studies on the associations between inter-firm opportunism and its consequences, Wang and Yang (2013) highlight the significant negative relationships between inter-firm opportunism and organizational performance, overall satisfaction, commitment, trust, and functional conflict. In addition, they confirm that inter-firm opportunism is positively associated with environmental volatility and relative dependence.

TCA dimensions

According to Williamson (1985), three critical dimensions characterize transactions: asset specificity, uncertainty, and frequency. These dimensions determine which governance structure is most suitable and efficient.

Specific asset investment

Asset specificity is the most important dimension in TCA that raises the risk of increasing transaction costs (Williamson, 1985). It refers to durable investments that are undertaken to support a specific transaction, as these specific investments have considerably less value outside of the relationship in which they are deployed (Williamson, 1985). Specific investments are not easy to transfer and redeploy in another relationship, which creates a lock-in situation for the investor (Rokkan et al., 2003). Specific asset investments are categorized into seven main types (Lohtia et al., 1994; Williamson, 1991; Zaheer and Venkatraman, 1995) as follows:

- Site specificity deals with investments in certain locations. The locations involved are immobile, and thus the cost of their transfer is very high.
- Physical asset specificity refers to investment customized for a certain product (machinery, tools, equipment).
- Dedicated assets refer to investments made to meet a particular need for that customer/ trading partner.
- Human asset specificity refers to the extent to which skill, experience, capabilities, knowledge, and the training of a firm's staff are specific and tailored to fulfill the requirement of the other firm.
- Brand name capital investments refer to investments that can be related to the reputation of the customer.
- Temporal asset specificity refers to the value of timing and coordination required in a transactional relationship.
- Procedural specific investments refer to the degree to which a firm's work flows and processes are adapted in line with the requirements of the other firm.

According to TCA, the high level of the specific asset investment of one party increases the exposure to opportunism by the other party, which causes a safeguarding problem. According to Rindfleisch and Heide (1997), a high degree of specific assets outside the relationship represents sunk costs. Although, specific asset investments are valuable in terms of having value creation properties, they are considered vulnerable in terms of causing a lock-in situation that induces opportunism (Ghosh and John, 1999). For instance, unilateral deployment of specific assets create the problem of asymmetric dependence as specific assets increases the vulnerability of the investing party (Heide and John 1988). Drawing from the resource dependency theory, when dependency is unilateral, one party will have more power over the other (Emerson 1962), and this will induce the opportunistic behavior of the other party against the investing party.

On the contrary, when the exchange relationship is characterized by reciprocal investments, where both parties invest in specific assets, reciprocity is maintained by hostage exposure (Williamson 1983) as "mutual reliance relation" is created (Williamson 1985, p.190). Bilateral dependence reduces opportunistic behavior and minimizes the need for a highly explicit contract to safeguard transaction-specific assets (Lusch and Brown,1996; Williamson 1975, 1981). According to Dwyer et al. (1987), exchange partners in a bilateral dependence relationship are keen to maintain a high quality relationship characterized by strong relational norms. Consistent with Anderson and Weitz (1992), mutual deployment of specific assets is

expected to have a significant influence on the commitment of both parties in the relationship. Hence, opportunism is a potential threat to the degree that a relationship is supported by specific investments devoted to the exchange partner (Stump and Heide, 1996). Consequently, a suitable governance mechanism must be designed to minimize the risk of consequent opportunistic exploitation, and to mitigate against safeguarding problems (Heide, 1994; Williamson, 1985). According to Rindfleisch and Heide (1997, p.44), firms can safeguard their specific assets through "unilateral, bilateral hybrid governance, such as quasi integration, selection procedures and development of relational norms". Previous scholars have applied different safeguarding strategies for mitigating against the hazards of opportunism such as: partner selection, incentive design and monitoring (Stump and Heide, 1996), socialization (Wathne and Heide, 2000), vertical coordination (Buvik and John, 2000), relational norms (Heide and John, 1992), and trust (Morgan and Hunt, 1994). Furthermore, Rokkan et al. (2003) found that the relationship between a specific investment and opportunism changed from positive to negative when there is high expectation of a long-term relationship. They revealed that the likelihood of future interactions reduces the threat of opportunism that is embedded in specific investments. Jap and Anderson (2003) also revealed that goal congruence is an effective safeguard against high opportunism.

Uncertainty

Uncertainty may arise from exogenous sources (the unpredictability of events surrounding a dyadic relationship) and endogenous sources (adverse selection, moral hazard and performance ambiguity) (Joshi and Stump, 1999; Williamson, 1985).

Environmental uncertainty refers to the unanticipated changes in circumstances surrounding an exchange (Noordewier et al.,1990), such as the unpredictability of environment, technology, and demand volume (Grover and Malhotra, 2003). When the decision makers are limited by bounded rationality, they will have a limited ability to plan for unforeseen events in advance and face complexities in modifying contracts (Rindfleisch and Heide, 1997). The primary consequence of environmental uncertainty is an adaptation problem, which arises from the difficulties with adjusting agreements to cope with the changing circumstances. Accordingly, there will be associated transaction costs that include the direct costs of communicating new information, renegotiating agreements, or coordinating activities to reflect new situations and indirect costs due to opportunity costs for maladaptation (Rindfleisch and Heide, 1997). Thus, a high level of environmental uncertainty increases the costs of modifying contractual agreements. In addition, the renegotiation of an agreement may induce one party to act opportunistically in terms of misinterpretation of the contract (Hawkins et al., 2008). Volatility and unpredictability in customer preferences and demands create difficulties for manufacturers in accurately predicting market preferences.

Thus, uncertainty may encourage suppliers to take advantage of this situation by altering the perception of supply and demand for the sake of their interests (Mysen et al., 2011). Hence, environmental uncertainty reduces commitment and increases exposure to opportunistic behavior (Joshi and Stump, 1999) that limits performance (Crosno and Dahlstrom, 2008). It is worth noting that several studies find support for the positive relationship between environmental uncertainty and opportunism, such as Crosno and Dahlstrom (2008) and Mysen et al. (2011). According to Williamson (1991), hybrid arrangements are expected to have an insufficient authority structure to handle inter-firm dependencies when substantial specific asset investment and high environmental uncertainty are present. TCA proposes that the combined presence of high specific asset investment under high environmental uncertainty concerns the performance of hybrid governance (Buvik and Grønhaug, 2000; Williamson, 1991). According to Buvik and Grønhaug (2000), there is a negative association between environmental uncertainty and vertical coordination under a substantial level of specific assets. As environmental uncertainty increases, hierarchical governance mechanism is likely to be chosen (Williamson, 1985).

Contrary to TCA's prediction that greater levels of uncertainty will directs firms toward hierarchical governance mechanism, Dyer (1996) found that the flexibility provided by hybrid arrangements is preferable in coping in a world of increasing technological uncertainty. Similarly,Noordewier et al. (1990) found that when the level of uncertainty is relatively high, increasing the relational governance mechanism improves buyer purchasing performance in an industrial dyadic relationship, However, Schelanski and Klein (1995) assert that high levels of uncertainty could create problems in information-processing in firms that might make market governance mechanism more preferable. According to Lee et al. (2009), environmental uncertainty is a multi-dimensional construct as different dimensions of uncertainty may have contrasting effects in an exchange relationship.

Behavioral uncertainty is viewed as "strategic non-disclosure, disguise, or distortion of information" (Williamson, 1985, p. 57). Rindfleisch and Heide (1997) explain that behavioral uncertainty is raised from the difficulties associated with verifying the performance of exchange partners and evaluating their compliance due to ex-ante and ex-post information asymmetry. Ex-ante information asymmetry is an adverse selection problem in agency theory, which refers to an inability to identify a party's true characteristics before a transaction. Ex-post information asymmetry is a moral hazard problem in terms of hidden action, and the difficulties of knowing whether a party actually fulfilled the agreed obligations or not (Bergen et al., 1992). Behavioral uncertainty creates performance evaluation and information asymmetry problems (Grover and Malhotra, 2003). Thus, behavioral uncertainty increases transaction costs in the form of performance evaluation costs for screening and

gathering information as well as monitoring and performance measurements to determine the actual level of performance (Brouthers et al., 2003; Rindfleisch and Heide, 1997). In a business service setting, behavioral uncertainty has a greater influence on exchange governance than in manufacturing settings (Brouthers and Brouthers, 2003; Vandaele et al., 2007). According to Brouthers and Brouthers (2003), services have different attributes for products, as services are characterized by intangibility, heterogeneity, inseparability of production and consumption and perishability. In addition, the involvement of people who perform the services make it difficult to control and monitor service quality .The authors demonstrate that it is more of a challenge to write complete contracts for service providers than for a manufacturing firm. Vandaele et al. (2007) point out that behavioral uncertainty occurs when the behavior of the exchange partner is unpredictable. Thus, there will be difficulty in evaluating the service delivered, determining product or service standards, and providing goal assessments (Cannon et al., 2000). According to Poppo and Zenger (2002, p.709), "when performance is difficult to measure, parties have incentives to limit their efforts toward fulfilling the agreement". Hence, the problem of performance ambiguity is created due to asymmetry in information about the actual performance that leads to opportunistic behavior. Consequently, the links between effort-to-performance and performance-to-reward expectations are hampered (Bolumole,2003). Kwon and Suh (2004) examine the impact of behavioral uncertainty on trust in supply chain relationships, and find that the perception of behavioral uncertainty decreases the level of trust between parties in supply chain relationships.

Frequency

Frequency of exchange refers to the number of recurring transactions (Geyskens et al., 2006), and is often measured by the annual number of orders (Buvik, 2002). It is an influencing dimension in a transaction exchange that concerns the economics of order quantity that keeps the total costs of inventory carrying and coordination costs at the minimum (Buvik, 2000). TCA postulates that transactions will be internalized when they are characterized by high specific investment, uncertainty and/or frequency. The greater the frequency of transactions, the greater the degree of vertical control (Klein, 1989), which is consistent with Williamson (1985), who said that the more recurrence of transactions, the more likely hierarchical governance is chosen. This is due to the advantages of economies of scale as the administrative cost of hierarchical governance will be easier to recover in transactions that are more frequent. However, a significant relationship between frequency and the degree of vertical integration could not be verified empirically in most transaction cost studies (Rindfleisch and Heide, 1997). The frequency of exchange has implications for the paying of transactions that are associated with a specific investment. Buvik (2002) provides empirical evidence that the association between asset specificity and contractual

governance is contingent on the level of frequency. He found that the effect of asset specificity on a formalized purchase contract is substantial in relationships with high order frequency, while in modest frequency there is no significant association between specific assets and formalized contracts. In addition, he revealed that as frequency of orders increases, the manufacturer's specific assets will be supported by hierarchical governance. Thus, the frequency of exchange characterized by specific investment influences the efficacy of specialized governance arrangements (Buvik, 2000; Williamson, 1985).

Frequent transactions may reduce information asymmetry, as repeated transactions provide buyer and seller information about each other (Hobbs, 1996) and are considered as an incentive for cooperation rather than to defect (Heide and Miner, 1992). According to Skjoett-Larsen (2000) and Williamson (1985), transactions with high frequency and moderate specific investments can be governed by a "hybrid" form. According to Buvik (2000), it is valuable for the trading partners to design and introduce co-ordination routines to enhance coordination efficiency when the frequency of transactions is repeated over time. Although the frequency of exchange is an important determinant of governance efficiency, it has received little attention in empirical TCA-studies (Buvik, 2000; Rindfleisch and Heide, 1997).

3.3.2 TCA in logistics outsourcing context

Logistics activities in most exporting textile companies are considered to be supportive but not core activities, and are usually outsourced. Generally, TCA considers outsourcing logistics activities as a method of reducing internal transaction and production costs associated with in-house logistical activities (Bolumole et al., 2007). Hence, there is a trade-off between the costs raised with performing logistics activities in-house and the investment needed versus service provider's fees (Selviaridis and Spring, 2007). Scholars assert that for reducing transaction costs, outsourcing is considered as a hybrid governance mechanism that combines elements of market and hierarchical governance mechanisms (Bolumole et al., 2007). Following the transaction cost approach, firms will outsource those activities that generate benefit in terms of cost reduction and an increase in income that is greater than the incurred transaction costs (Bustinza et al., 2010).

Several authors have applied TCA theory to logistics outsourcing decisions, such as Aertsen (1993), who asserts that high asset specificity and difficulties in performance measurement lead to keeping distribution in-house. Maltz (1994) also examines the relationship of transaction costs and corporate strategy to the use of third party warehouses. He found that high asset specificity is associated with in-house warehousing, whereas transactions with high frequency are associated with the use of the third party warehouses, which is the opposite of what TCA posits. Furthermore, Skjoett-Larsen (2000) demonstrated that a

company can choose between in-house logistics and a dedicated third party logistics provider depending on the level of specific asset investment, uncertainty and the extent of recurring of transactions. When a transaction is characterized by specific assets investments and associated with low uncertainty, a company can either outsource or keep the transaction in-house. However, a company internalizes transactions that employ a high specific investments and are surrounded by high uncertainty. Hence, the decision of outsourcing logistics activities is based on TCA dimensions (asset specificity, uncertainty and frequency) (Ivanaj and Franzil, 2006).

Generally, a transaction with high specific investment is performed in-house to safeguard against opportunistic behavior. This is because high specific investments on the customer side in an LSP-client relationship creates a lock-in situation, where changing an LSP may generate high switching costs for the customer. Increasing levels of uncertainty causes conflicts between the customers and their LSPs, as both parties want the other side of the contract to absorb the uncertainty (Logan, 2000). Consequently, there will be transaction costs associated with the modification of a contract to cover unforeseen changes. According to Maltz's (1994) findings, there is a tendency to outsource recurring activities. Similarly, Deepen (2007) notes that with more frequent transactions, the customers will pursue longer relationships to gain advantages from economies of scale.

Some scholars use the TCA approach to analyze the problems associated with the risks of outsourcing. For example, Ellram et al. (2008) use the framework of TCA to increase understanding of how firms manage costs and risks of outsourcing professional services offshore. Tsai et al. (2008) also use TCA and RBV to analyze outsourcing risk problems such as asset, relationship and competence risks. They use TCA to highlight the hidden costs that arise from asset, and relationship risks. Asset risks include information risk, employee resistance, loss of control and inactive logistics facilities, while relationship risks involve vendor opportunism, contractual violation, poor communication and lack of shared goals. They also use the lens of RBV to demonstrate competence risk that leads to loss of business due to poor competence in leveraging resources and capabilities, supporting strategic development, supporting customer service as well as protecting resources and capabilities from being imitated.

3.3.3 Opportunism in logistics outsourcing context

This study uses the tenets of TCA to explain perceived opportunism in an LSP-client relationship, given that exporting textile companies and their selected LSPs have already decided upon entering into a relationship. According to TCA, supplier opportunism is at its highest when the buyer firm cannot specify or does not know what it wants and cannot appropriately verify whether the supplier is actually keeping its commitments (Ellram et al., 2008). In a logistics outsourcing context, opportunism may occur where LSPs can exploit the interpretation of the delivery contract, shirking obligations, withdrawing commitment, breaching the contract, not performing as promised, misrepresenting facts, and distorting information to increase their revenues (John1984; Lai et al., 2012; Tsai et al., 2012). Thus, LSP's engagement in an opportunistic behavior in outsourcing arrangements will increase transaction costs in terms of monitoring and controlling costs (Dhar and Balakrishnan, 2006). However, this study does not assume that all LSPs are opportunistic, but that some of them at times behave in an opportunistic way that is difficult to be detected.

It is worth mentioning that several scholars discuss the negative influence of the opportunistic behavior of LSPs in logistics outsourcing relationships. An overview of principal studies that examine opportunism in logistics outsourcing context is displayed in Table 3.2. Based on the findings of these studies, opportunism has a negative influence on performance and other relationship marketing factors such as trust, cooperation and commitment. Hence, engaging in an opportunistic behavior will reduce the value of the relationship and might lead to the relationship's termination. According to Halldorsson et al. (2007), it is important to include safeguards and credible commitments in logistics outsourcing arrangements such as penalty clauses associated with poor delivery performance, joint investments and an exchange of employees between the firms, to reduce opportunistic behavior.

This study examines the impact of opportunism on logistics outsourcing performance and the contingent effect of opportunism in mitigating the effectiveness of LSP's capabilities. Opportunism will be discussed in more detail in the next chapter.

Table 3.2: Overview of principal studies that examine opportunism in a logistics outsourcing context.

Author	Opportunism in a logistics outsourcing relationship
Moore (1998)	The author affirms that opportunism negatively affects the buyer's relationship effectiveness. The results reveal that only equity and trust significantly decreases the level of opportunistic risk.
Moore and Cunningham (1999)	The authors assert that opportunism is an important element of social exchange that influences the effectiveness of an LSP-client relationship. A shipper in effective logistics relationships perceives higher levels of trust, equity and commitment, and lower levels of conflict and opportunism, than that perceived by shippers in less effective relationships.
Knemeyer and Murphy (2004)	The study examines the influence of various relationship marketing dimensions, including opportunism on the perceived logistics outsourcing performance from the buyer's perspective.
Knemeyer and Murphy (2005)	The authors test the effect of opportunistic behavior among other relationship characteristics, and assess its impact on operational performance improvements among other relationship outcomes (customer retention, customer referral, and service recovery).The authors reveal that opportunism among LSPs significantly influences customer referral and service recovery.
Deepen (2007)	The study affirms that opportunism is an important factor that negatively affects the trust between customers and their LSPs, and has an indirect negative influence on cooperation.
Križman and Ogorelc (2010)	The authors propose that opportunism has a crucial influence on cooperation, and on the outcome of the logistics outsourcing performance. However, the results do not find support for the hypothesized negative association between opportunism and cooperation.
Lai et al. (2012)	The study examines the role of relational norms and trust in mitigating the opportunistic behavior in a logistics outsourcing relationship context. The authors find that trust and norms are effective safeguards in reducing the opportunistic behavior of LSPs, particularly in a highly uncertain environment.
Cahill (2007)	The author examines the moderating effects of opportunism on the relationship between customer loyalty and its determinants. The author finds hat opportunism does not appear systematic, and has a very limited conclusive power.

Source: Compiled by the researcher from the extant literature.

3.4 Chapter summary

This chapter reviews the RBV and TCA as the theoretical framework for this study. Each theory is discussed with its relevance to the logistics outsourcing context. These two theories complement each other as a basis for the variables explored in this study. The next chapter discusses the research model and the development of hypotheses of the study.

CHAPTER FOUR

RESEARCH MODEL AND THE DEVELOPMENT OF HYPOTHESES

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4.1 Introduction

The relationship between the logistics service providers and their clients is simply based on the nature of the services provided and not on the quality of products (Stank et al., 2003). The assessment of logistics outsourcing in most common themes is an objective that depends on customer perception of the quality of the services offered by LSPs such as timeliness and responsiveness to customer problems on time with accurate solutions, accuracy, customer service, and flexibility (Panayides and So, 2005a; Panayides and So, 2005b). Fawcett et al. (1997) affirm a strong relationship between a firm's ability to establish logistics capabilities (flexibility, delivery, innovation, quality, and cost) and its ability to achieve a high level of performance. This chapter gives an overview of the research model, and presents the development of the research hypotheses based on the theories discussed in Chapter Three. The research model combines insights from a resource-based view and transaction cost analysis theories.

4.2 Research model

4.2.1 Overview of the model

Logistics outsourcing performance is a central outcome of a logistics outsourcing relationship (Chu and Wang, 2012). This study conceptualizes and measures logistics outsourcing performance in terms of goal achievement and goal exceedance in accordance with several studies (for example Deepen,2007; Deepen et al., 2008; Hartmann and De Grahl, 2012; Križman, 2009; Križman and Ogorelc, 2010; Wallenburg et al., 2010) as discussed in Chapter Two.

This study develops a research model to examine the influence of LSPs' capabilities (flexibility, expertise,and innovation) and perceived opportunism on the logistics outsourcing performance. Hence, four independent variables that might influence the logistics outsourcing performance have been suggested. The study also investigates the association between the perceived logistics outsourcing performance and the buyer logistics performance (textile and clothing exporting companies). In addition, five control variables which may have an effect on the logistics outsourcing performance and the buyer logistics performance are included in the

model. The understudied variables are from the perception of the buyers of the logistics services (textile and clothing exporting companies). The research model is illustrated in Figure 4.1

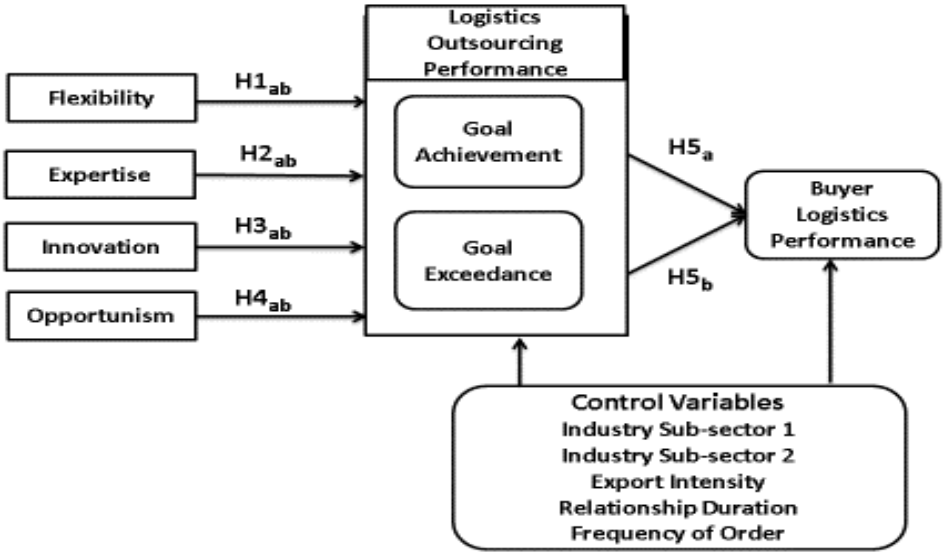

Figure 4.1: Research model for logistics outsourcing performance

Moreover, the study develops a sub-model from the main research model to examine the contingent effect of opportunism on the association between an LSP's capabilities (flexibility and expertise) and the logistics outsourcing performance, as depicted in Figure 4.2.

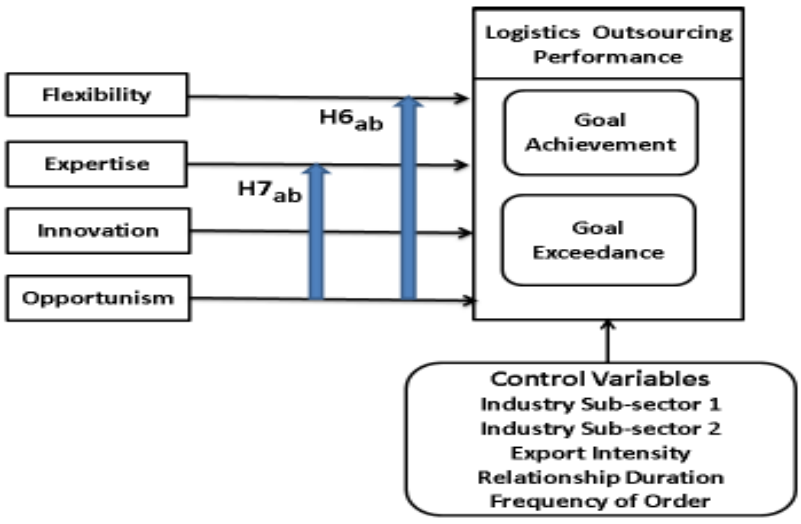

Figure 4.2: Research sub-model for the interaction effects

The next sections present the hypotheses developed on the anticipated effects of LSP's capabilities and perceived LSP's opportunism on the logistics outsourcing performance. In addition, hypotheses are generated on the expected effects of the logistics outsourcing performance on the buyer logistics performance. Moreover, the hypotheses for the contingent effect of the LSP's opportunism on the association between the LSP's logistics capabilities (flexibility and expertise) and the logistics outsourcing performance are presented.

4.3 Research hypotheses

4.3.1 The influence of an LSP's flexibility capability on logistics outsourcing performance

Flexibility is believed to be of crucial importance in LSP-client relationships (Hartmann and De Grahl, 2011; Ivens, 2005), especially when operating in international markets that are more complex and present challenges of access for the manufacturers (Daugherty et al., 1996). The need for flexibility arises due to bounded rationality, and limited available information (Macneil, 1980). Flexibility enables and facilitates adaptation to unpredicted events that surround an exchange (Poppo and Zenger, 2002). Literature in the supply chain and logistics context analyzes flexibility in different forms: as a relational norm, as a behavioral element and/ or as a capability of one party in a specific dyadic relationship (Hartmann and De Grahl, 2011).

This study analyzes flexibility as a capability of an LSP in a specific logistics outsourcing relationship, and examines its impact on logistics outsourcing performance (goal achievement and goal exceedance) using a resource-based theory framework. Flexibility as a capability is defined by Fawcett et al. (1996, p. 172) as "the ready capability to adapt to new, different or changing requirements". The ability to alter operations to meet unforeseen requests signifies an opportunity for LSPs to differentiate themselves and to gain competitive advantage (Daugherty et al., 1996). A customer's view of the success or failure of a relationship is reflected in the LSP's ability to adjust processes in reaction to unexpected circumstances, such as fluctuation in demand and supply (Stank et al.,1996).

According to Barney (1991), not all firm resources have the potential for sustained competitive advantage. The resources of a firm must have four main attributes to achieve a sustained competitive advantage and superior performance. These resources must be valuable in the sense that they exploit opportunities and neutralize threats; are rare; imperfectly imitable; and cannot be substituted (Barney, 1991). Distinctive logistics capability can be regarded as a key strategic resource when it is valuable, scarce, and both difficult

and costly to imitate, thus achieving sustainable competitive advantage and delivering superior performance (Olavarrieta and Ellinger, 1997). Flexibility can be regarded as a valuable capability of an LSP, as the LSPs have the ability to meet a customer's sudden unanticipated needs and modify the logistics operation. This allows logistics service users to exploit market opportunities and respond promptly to their customers' requirements. LSP's flexibility neutralizes threats by coping with environmental uncertainty and making the necessary modifications according to the new conditions. Flexibility has the potential to be a valuable resource as it generates added value for the customer through its adaptability to customer's requirements (Ivens, 2006). According to Olavarrieta and Ellinger (1997), distinctive logistics capabilities include complex processes and combinations that lead to scarcity. Flexibility can be viewed as a scarce resource among different LSPs and one that includes a complex process.

In this study, logistics activities carried out by the selected LSPs are mainly focused on the out bound side relating to distribution, transportation, warehousing, freight forwarding, custom clearance, tracking, tracing and other value added activities. LSPs depend on different resources that need to be combined and used instantly in a complex process. Flexibility is a powerful element in a logistics system (Barad and Sapir, 2003). These logistics systems are more difficult to imitate or substitute than changes in price, promotion, or product policy (Hartmann and De Grahl, 2011; Olavarrieta and Ellinger, 1997). Logistics activities are produced and consumed simultaneously as they are intangible services, so it is costly for the LSPs to endure flexibility as they have to guarantee the availability of resources (Ivens, 2005). Hence, flexibility as a capability in a specific LSP-client relationship is difficult and costly for competitors to imitate.

According to RBV, flexibility as being valuable, rare, and costly to imitate and substitute, fulfills the requirements of a strategic capability that can achieve a competitive advantage and lead to superior performance. In today's turbulent environment, flexibility is an essential strategic logistics capability that firms must hold in order to respond and operate effectively in competitive environments (Esper et al., 2007; Fawcett et al., 1996; Sinkovies and Roath, 2004) as well as to achieve performance. With regard to this, when LSPs have the flexibility capability to respond promptly to their customers' changing needs the performance of their relationship with their customers will be improved.

LSPs' flexibility competence is reflected in the ability to adjust according to their clients' changing needs, such as by accommodating customer delivery requirements at an agreed place and by an agreed mode of delivery (Rajesh et al., 2011). Cannon and Homburg (2001) note that when a supplier presents greater flexibility, a customer's acquisition and operating costs will be reduced. Moreover, the study by Hartmann and De Grahl (2011) confirms that

flexibility represents a source of competitive advantage for LSPs, as it is a valuable and distinctive capability of an LSP that plays a crucial role in logistics outsourcing relationships. Furthermore, Fawcett et al. (1996) reveal that flexibility has a positive impact on the ability of a firm to extend its global reach and boost its performance relative to top industry rivals. They affirm that the relationship between flexibility and firm performance is highly significant. Consistently, Zhao et al.(2001) find that customer-focused capabilities including flexibility have a significant positive influence on firm performance. However, Shang and Marlow (2005) did not find support for the positive association between flexibility capability and logistics performance or financial performance. A study by Stank et al. (1996) confirms that an LSP's responsiveness in a supply chain linkage positively affects the customer's perceptions of LSP's performance. According to Barad and Sapir (2003), increasing flexibility in logistics systems can be regarded as a strategy for enhancing the system responsiveness to modification. Thus, when an LSP displays flexibility to the textile and clothing exporting companies regarding handling changes, responding to short notice requests, and being open to modifying existing agreements to cope with unexpected events, it will positively influence goal achievement; where the performance meets ex–ante the agreed upon outcome.

Based on this reasoning, the following refutable hypothesis is proposed as:

H1a There is a positive association between an LSP's flexibility capability and perceived goal achievement.

Lieb and Butner (2007) carried out an industrial survey that suggests that LSPs considered flexibility as a differentiating factor among their rivals. Goal exceedance refers to services that significantly exceed the goals and expectations set prior in the outsourcing agreement (Deepen et al., 2008). When LSPs are flexible, they generally exceed their customers' expectations, because flexibility generates value that fills the gap between what they have ex-ante agreed upon and the actual behavior (Ivens, 2006). LSPs' flexibility reflects their readiness to modify an existing implicit or explicit agreement according to new changing conditions (Noordewier et al., 1990), which will encourage firms to take part in value creation activities beyond what is specified in the contract (Liu et al., 2009). Hence, LSPs' flexibility capability represents an indicator of commitment towards their customers (Tangpong et al., 2010). Ivens (2005) affirms that flexibility increases the probability that a valuable customer relationship can be maintained. Thus, an LSP's flexibility creates value that exceeds customers' expectations by its readiness to customize its services according to customers' unforeseen needs.

Therefore, the following hypothesis can be formulated as follows:

H1**b** There is a positive association between an LSP's flexibility capability and perceived goal exceedance.

4.3.2 The influence of an LSP's expertise capability on logistics outsourcing performance

In a service supply chain, human resources represent a significant component of the value delivery process (Sengupta et al., 2006). Logistics services involve people who often take orders, deliver products, implement procedures for placing orders and handle problems (Mentzer et al., 2001). Human resources include the experience, skill and knowledge of an employee (Barney, 1991). According to Wright et al. (1994), human resources hold the potential for being a source of sustainable competitive advantage. They are "centric" in the logistics process (Myers et al., 2004). Based on the tenets of RBV, asymmetries in knowledge create performance differences between firms (Conner and Prahalad, 1996). Hence, the skill and knowledge of employees are strategically important because they contribute to a competitive advantage (Chen et al., 2010; Grant, 1991).

Capabilities are based on developing, carrying, and exchanging information through a firm's human resources (Amit and Schomaker, 1993). Consistently, Olavarrieta and Ellinger (1997), state that capabilities depend on the knowledge and the expertise of a firm's personnel to understand their customers' requirements and adapt to the surrounding market conditions. Skjoett-Larsen (2000) asserts that human resources accompanied by reliability, prompt access to information and commitment, are fundamental factors for assessing the success of LSPs. Regarding this, Mentzer et al. (2004) make clear that logistics personnel have a distinct position and key role in coordinating with other functions to accomplish logistics operations efficiently and effectively, which in turn generate customer value. Expertise is defined by Lagace et al. (1991,p.41) "as the extent to which a source possesses the knowledge, experience or skills relevant to a particular topic". Therefore, customers are keen to work with LSPs who are knowledgeable, have expertise in understanding their business practice, and have the ability to support them in solving problems (Mentzer et al., 2001). Chenet al. (2010, p.283) define LSP's expertise "as a 3PL contact person's knowledge/experience, attitude, and communication skills related to a particular logistics outsourcing relationship". Expertise, experience and focus are core competencies for LSPs (Sink et al., 1996). LSPs have the expertise and resources to perform logistics activities more efficiently and effectively than performing these activities in-house (Razzaque and Sheng, 1998; Yeung, 2006).

Logistics expertise is perceived as an intangible, valuable resource that can support a firm in gaining competitive advantage (Garver and Mentzer, 2000; Mentzer et al., 2004) and achieving performance goals. An LSP's expertise is an external resource commitment that is crucial in the LSP-client relationship (Chen et al., 2010) which is hard to imitate and difficult to substitute (Wong and Karia, 2010). Mentzer et al. (2004) demonstrate that it is difficult to transfer a provider's expertise from one company to another, as companies may not have the same resources or methods to enable them to benefit from the transferred knowledge.

According to Wong and Karia (2010), expertise in a customer's operations and business requirements is assumed to be a distinctive capability and a key to a successful logistics outsourcing relationship. Gaining experience, knowledge, and achieving improved practice through LSPs, are driven by the desire of buyer firms to increase their firm's capabilities (Chen et al., 2010). For example, LSPs have the experience and knowledge in arranging on time delivery schedules, expediting and handling emergency shipments, solving logistics problems, and ensuring satisfaction in customer logistics needs (Garver and Mentzer, 2000). Employees' know-how is valued as a key and durable resource that contributes to business success (Hall, 1993).

Mentzer et al. (2001) examine personal quality attributes among nine potential logistics service quality attributes in four customer segments (general merchandise, textile and clothing, electronics, and construction suppliers) for satisfaction. The authors find that the personnel contact quality has a positive effect on perceptions of timeliness in all four segments, and they note that for the textiles segment, timeliness and personal qualities are significant drivers of satisfaction.

When an LSP deeply understands a customer's logistics process and has expertise in handling it, the customer's requirements will be fully met promptly and efficiently (Garver and Mentzer, 2000). Acquiring a good knowledge of the customers' businesses has a significant positive impact on LSP's flexibility and collaboration (Hartmann and De Grahl, 2011). Moreover, a skillful service provider can be essential in supporting customers in overcoming their uncertainties and creating trust (Andaleeb and Anwar, 1996). Chen et al. (2010) reveal that there is a positive impact of an LSP's expertise on the collaboration between a buyer and its LSP. The success of achieving the expected outcome that previously has been agreed upon, and fulfilling the goal of the customers, is based to a great extent on the expertise of an LSP.

Resulting from the above arguments, the following hypothesis can be formulated as follows:

$H2_{\mathbf{a}}$ There is a positive association between an LSP's expertise capability and perceived goal achievement.

Companies always depend on LSPs to carry out their logistics activities, which necessitate in-depth knowledge and expertise in the field of logistics (Boyson et al., 1999). Consistently, distinct knowledge of customers' operations will certainly support LSPs in extending their service contracts (Wong and Karia, 2010). Manufacturers are seeking LSPs who are acquainted with their business, have knowledge and are willing to support their businesses' access to global markets, rather than merely offering low prices (Li, 2011). The expertise of an LSP can transfer the "voice of the customer" inside the firm (Garver and Mentzer, 2000), which increases the ability of the LSP to add value to its customers. According to Chen et al. (2010), when an LSP acquires the specialized knowledge of customers' requirements and operational logistics processes, this enables its customers to avoid expensive and time consuming trial-and-error methods, which in turn improves the efficiency of customers' services. Thus, an LSP's expertise can exceed customers' goals and expectations in terms of handling its logistics operation efficiently and effectively.

Based on the above discussion, it is therefore hypothesized that:

$H2_{\mathbf{b}}$ There is a positive association between an LSP's expertise capability and perceived goal exceedance.

4.3.3 The influence of an LSP's innovation capability on logistics outsourcing performance

In today's dynamic competitive environment, the globalization of manufacturing, demanding customers, short product life cycle, and advanced technology motivate many companies to acquire creative innovative solutions to improve their performance (Higgins,1995). Engaging in logistics innovation is important for firms in order to sustain competitive advantage (Grawe, 2009). Adopting innovation in the logistics operation is essential for LSPs to generate added value that makes their customers' products more attractive. Lieb and Butner (2007) point out that it is very important to top management in LSPs'firms that their services are differentiated from their competitors. Hence, innovation is imperative for LSPs (Chapman et al., 2003), and is crucial to their success (Flint et al., 2005).

Yang et al. (2009, p.7) define innovation capability as "a firm's critical organizational capability that deploys resources with a new capacity to create value". In addition, Daugherty

et al. (2011, p.30) define logistics service innovation capability "as a firm's ability to develop new innovative logistics services". These definitions have a common theme in that innovation is a firm-specific capability to create a new idea, improve and/ or deliver new services that generate value to their customers. Through service innovation, LSPs and their clients can remain competitive and profitable by avoiding the threat of their products and/or services to be turned into commodities and becoming obsolete (Anderson et al.,2011; Wagner and Franklin, 2008).This is due to the fact that with innovation, their ability to achieve a competitive advantage will be sustained. Accordingly, innovation in services is inevitably a value-creating activity that drives market orientation and performance (Chapman et al.,2003; Slater and Narver, 1995).

A service that provides high value today may not be adequate for the customer tomorrow (Wallenburg, 2009). LSPs must possess the capability for continuous change, develop new services, and improve existing processes (Wagner and Sutter, 2012). For example, Federal Express Logistics Company provides an overnight delivery service for documents and parcels. This innovative service has created an entirely new market segment that contributes to significant revenues for Federal Express, in addition to the value added to the customers in terms of shorter and guaranteed deliveries (Wagner, 2008; Wagner and Franklin, 2008). Hence, innovation in logistics services is considered as a catalyst for service differentiation (Ralston et al., 2013) that leads to superior performance.

It is worth noting that several scholars refer to the innovation orientation of LSPs towards their customers in a specific relationship as proactive improvements (Cahill, 2007; Deepen, 2007; Deepen et al., 2008; Križman, 2009; Wallenburg, 2009; Wallenburg and Lukassen, 2011). A proactive improvement refers to the activities utilized by an LSP to improve the customer's logistics processes in terms of a continuous improvement of the service quality and/or cost reductions (Deepen et al., 2008). Wallenburg et al. (2010) note that LSPs' orientation to innovate increase both the functional value and the relationship value for their clients. They reveal that functional value arises from cost reduction (efficiency) and performance improvement (effectiveness) of the delivered service, where the increase in relationship value is raised by the customer's willingness to maintain and expand the relationship with their LSPs based on social exchange theory (Thibaut and Kelley, 1959). Through innovation, a company gains competitive advantage through either relative differentiation or relative low cost position, or an acceptable level of both (Higgins, 1995).

Moreover, Grawe (2009) emphasizes that logistics innovations are important because of their role in reducing cost through optimizing the services offered, which can be hard for

competitors to detect and imitate. In addition, innovation is important to realize differentiation advantage (Panayides, 2006), and is considered as one of firms' critical organizational capabilities (Hall, 1993; Yang et al., 2009). Logistics service innovation is customer-driven (Flint et al., 2008), and often arises from customers' requests as "an ad hoc response" (Wagner and Franklin, 2008). Through innovation, LSPs can offer a wide variety of services that can range from very basic to complex services to meet specific customer's demands, since different customers have different needs (Cui et al., 2009; Flint et al., 2005). Service innovation is realized when the LSPs provide their customers with new or improved services that enhance their customers' performance (Wagner, 2008).

The competitiveness and performance of LSPs depend on their ability to develop innovation in ideas, solutions, and/ or services that generates value to the bottom line of their customers (Panayides and So, 2005b; Wagner and Sutter, 2012). The implementation of innovation is generally considered to contribute to the performance or effectiveness of the firm (Damanpour, 1991). Panayides and So (2005b) find a significant positive influence in an LSP's ability to be innovative in a specific LSP-client relationship on the LSP's effectiveness in the supply chain. They demonstrate that goals are achieved through the LSP's ability to accomplish what is promised, meet standards, and find solutions to problems. A study by Daugherty et al. (2011) also confirms the positive relationship between a logistics service innovation capability and market performance.

The ability to innovate is an important direct driver of performance as it is positively related to business performance (Hult et al., 2004) and supply chain performance (Panayides and Lun, 2009). The empirical findings of Panayides (2006) confirm that LSP's innovation capability has a significantly positive impact on the quality of logistics services, which in turn improves the performance of the LSP firm. Consistently, Yang et al. (2009) note that to gain superior performance, container-shipping service firms have to effectively leverage their resources and develop innovative capabilities to enhance their logistics service capability. Moreover, Deepen et al. (2008) and Križman (2009) have empirically examined the impact of an LSP's orientation towards innovation on logistics outsourcing performance (goal achievement and goal exceedance). These authors assert that proactive improvement has a significant positive influence on logistics outsourcing performance. They illustrate that proactive innovation is a major driver of a logistics outsourcing performance that increases the performance of logistics outsourcing relationships.

Based on these arguments, the following refutable hypothesis is proposed as:

H3**a** There is a positive association between an LSP's innovation capability and perceived goal achievement.

Most services delivered by LSPs need some adaptation over time to remain optimal for the customers (Flint et al., 2005; Wallenburg, 2009). It is through innovation that decision makers create innovative solutions to solve business problems and cope with the challenges that businesses might face. Thus, innovation provides the base for the future survival and success of the firm (Hult et al., 2004). Customers do not always recognize their needs and hence, their LSPs can support them in exploring unanticipated needs (Cui et al., 2009). Innovation in logistics services is a source of customer value (Anderson et al., 2011; Flint et al., 2005 ; Wagner, 2008). Flint et al. (2008) find positive associations among a customer value-oriented logistics innovation process, innovation performance, and overall performance.

Logistics innovation reflects the ability of LSPs to discover new opportunities rather than merely utilizing current strengths (Panayides and Lun, 2009) to meet their customers' unforeseen needs. Daugherty et al. (1996) assert that the LSPs' firms that have the ability to anticipate the future demands of their customers and develop new services to meet those needs are best placed to become the most effective and most profitable logistics firms. Wallenburg et al. (2010) state that the orientation of LSPs to innovate represents a credible commitment which, according to TCA, creates a positive signaling effect. They make clear that customers' uncertainty about the behavior of LSPs will be reduced and the relationship between customers and their LSPs will be strengthened. Hence, LSPs' ability to innovate can add value that exceeds agreed goals and expectations.

Resulting from the above arguments, the following hypothesis can be formulated as:

H3**b** There is a positive association between an LSP's innovation capability and perceived goal exceedance.

4.3.4 The influence of an LSP's opportunism on logistics outsourcing performance

Opportunism is a central assumption of transaction cost analysis theory. It is a main behavioral variable that is assumed to be inherent in any inter-firm exchange and increases transaction costs (Hawkins et al., 2008; John, 1984; Liu et al., 2010; Mysen et al., 2011; Williamson, 1985). In an inter-firm relationship, opportunism can be viewed as passive or active. It is passive when it takes the form of shirking or evasion of obligations, and active when one party engages in behaviors that are either implicitly or explicitly prohibited, such as misrepresenting facts (Mysen et al., 2011; Wathne and Heide, 2000). Opportunism is defined as" self-interest seeking with guile"(Williamson, 1985, p.47). Macneil (1981, p. 1023) defines "guile,"as"taking advantage of opportunities with little regard for principles or consequences". The essence of opportunistic behavior is "the deceit-oriented violation of implicit or explicit

promises about one's appropriate or required role behavior" (John, 1984, p. 279). According to Wathne and Heide (2000), any kind of opportunism probably restricts value creation and causes wealth redistribution. Opportunistic behavior includes activities such as lying, stealing, cheating, shirking, failing to fulfill promises or obligations and calculated efforts to mislead, distort or withhold information, and confuse (Jap and Anderson, 2003; John, 1984; Wathne and Heide, 2000; Williamson, 1985).

Opportunism is an exogenous variable that influences organizational processes and outcomes (Williamson, 1991). However, John (1984) examines opportunistic behavior as an endogenous variable that may be explained by specific antecedent factors. In a logistics outsourcing context, Deepen (2007) proposes that the inclusion of opportunism as an exogenous variable into exchange relationship models promises to have an explanatory value. Hence, the study finds it an advantage to examine the direct effect of opportunism on performance in order to capture the variation in the LSP-client relationship, especially that not all LSPs in this study are assumed to act in an opportunistic manner; some of them are difficult to be detected. For example Deepen (2007); Morgan and Hunt (1994) and Knemeyer and Murphy (2004) treated opportunism as an exogenous variable (explanatory variable) in order to examine its direct effect on trust. According to Deepen (2007), opportunism should not be treated as axiomatic in relationship research, but rather be understood as an independent explanatory variable. Therefore, opportunism is treated in this study as an independent explanatory variable, as engaging in opportunism will have influence on logistics outsourcing performance.

In services supply chains, variation and uncertainties in outputs are higher than in product supply chains because of the human involvement (Sengupta et al., 2006) and the intangibility of services. The presence of opportunism in a specific relationship leads to losing significant numbers of resources that are spent on controlling and monitoring, instead of utilizing these resources in other productive activities (Wathne and Heide, 2000). Thus, there will be an opportunity cost in terms of "valuable deals that will not be done" (Calfee and Rubin, 1993, p.164). Although opportunism might increase outcomes for the opportunistic party in the short term, in the long-term it hinders value creation and decreases revenues for both parties in the relationship, and leads to higher transaction costs (Crosno and Dahlstrom, 2008; Dahlstrom and Nygaard, 1999; Wang and Yang, 2013; Wathne and Heide, 2000).

Several scholars affirm that opportunism has a negative impact on trust (Morgan and Hunt, 1994; Wang and Yang, 2013), satisfaction (Crosno and Dahlstrom, 2008; Gassenheimer et al., 1996), functional conflict and commitment (Wang and Yang, 2013) and performance (Crosno and Dahlstrom, 2008; Hawkins et al., 2008; Lui et al., 2009; Wang and Yang, 2013). Logistics outsourcing arrangements have the potential to be ineffective if one party fails to fulfill

what is agreed upon. In this respect, LSP's opportunistic behavior represents a risk factor that causes failure in logistics outsourcing relationships (Tsai et al., 2012). Hence, opportunism is an important and critical factor in the logistics outsourcing relationship that has practical implications for the customers who outsource logistics activities (Deepen, 2007; Knemeyer and Murphy, 2005). Given self-interest, LSPs can be reluctant to share information with their customers, or may send false information to protect their own advantage (Bergen et al., 1992) thus, information asymmetry is created forcing opportunistic behavior to appear.

In logistics outsourcing arrangements, the most recognizable form of opportunism is the reduction in the level of effort by the service provider, resulting in a lower service quality (Rebernik and Bradac, 2006) as LSPs can benefit from cost saving that arises from quality reduction, and this will be difficult for their customers to detect (Mishra et al.,1998). This situation creates moral hazard problem. Hence, LSPs are considered opportunistic when they perform actions that are costly to be detected and verified, which leads to an increase in the transaction costs (Tsai et al., 2012). Several scholars have examined opportunism in the logistics outsourcing relationship such as Deepen (2007); Knemeyer and Murphy (2004); Moore (1998); Moore and Cunningham (1999) and Morgan and Hunt (1994). These studies reveal that opportunism has a negative influence on trust, which will indirectly decrease the level of relationship commitment and cooperation and may in turn influence performance negatively. Hence, potential occurrences of opportunism in the LSP-client relationship will negatively influence the logistics outsourcing performance in terms of hindering the achievement of goals as agreed.

Resulting from the above arguments, the following hypothesis can be formulated as follows:

$H4_{\mathbf{a}}$ There is a negative association between between LSP's opportunism and perceived goal achievement.

In services businesses, instability and uncertainties are ever increasing, which demands extraordinary performance to account for the dynamic accommodation of customers' needs (Deepen et al. 2008). Drawn from TCA, environmental uncertainty leads to an adaptation problem (Rindfleisch and Heide, 1997), which will increase the exposure to opportunism (Crosno and Dahlstrom, 2008; Mysen et al.,2011). In this concern, the opportunistic LSP will refuse to adapt or might take advantage of this situation for its own interest. When the level of opportunism increases, the return from the exchange relationship decreases below the acceptable level, and the transaction costs will increase (Anderson and Narus, 1984; Dahlstrom and Nygaard, 1999), which will limit performance.

Therefore, the potential for engaging in opportunistic behavior will constrain the interaction between trade partners, yielding dissatisfaction (Crosno and Dahlstrom, 2010; John, 1984) and producing substantial opportunity costs due to maladaptation to customer needs. Morgan and Hunt (1994) highlight that opportunism reduces value creation in a dyadic relationship. Accordingly, the customer will perceive the relationship as ineffective (Moore and Cunningham, 1999) as the performance fall below the expected relationship goals. In addition, Gassenheimer et al. (1996) and Hawkins et al.,(2008) advocate a negative association between opportunism and performance. Consequently, opportunism will negatively influence goal exceedance.

Resulting from the above arguments, the following hypothesis can be formulated as follows:

$H4_{\mathbf{b}}$ There is a negative association between LSP's opportunism and perceived goal exceedance.

4.3.5 The influence of logistics outsourcing performance on buyer logistics performance

The importance of logistics as a source of competitive advantage is grounded on its' ability to influence the performance of a firm (Fawcett et al., 1997). A company's logistics performance focuses outside the manufacturing function, (Green Jr et al., 2008); it focuses on the performance of the logistics services that are delivered to their customers. Hence, companies can differentiate themselves by the quality of their customer services and the services related capabilities supplementing their products, especially if they are working in a market classified by homogeneous products (Daugherty et al., 1998) such as textile products.

According to RBV, a firm can gain a competitive advantage by accessing the resources and capabilities of its suppliers, which in turn can improve its performance (Mclvor, 2009; Yeung et al., 2012). Several studies have mentioned the advantages of outsourcing logistics

activities (for example, Bask, 2001; Bustinza et al., 2010; Persson and Virum, 2001), whereas logistics outsourcing aims to improve the logistics performance of logistics users, by providing flexibility that enables companies to cope with changing environmental needs. In addition, logistics outsourcing assists companies to free their resources for use in other activities, enabling companies' access to new markets.

Moreover, logistics outsourcing reduces logistics users' need for investment, and supports them with cost efficient creative solutions for their logistics problems. Stank et al. (2001b) assert that collaboration with external supply chain members increases internal collaboration, which in turn improves the logistical performance of a firm. According to Razzaque and Sheng (1998, p.102), "Outsourcing is a specifically defined contractual relationship that is dependent on the supplier meeting the buyer's defined performance goals". Deepen (2007) postulates that logistics outsourcing can solely be regarded as of strategic importance to their clients if the logistics outsourcing performance has measurable effects on both a firm's logistics performance and its overall performance. From the extant of logistics outsourcing empirical studies, the performance of logistics outsourcing is crucial to fulfil the challenge of meeting the demands of logistics users' customers in a timely and cost effective manner (Stank et al., 1996).

Hence, improving logistics performance is essential for firms to operate global networks efficiently and effectively (Fawcett and Closs, 1993; Fawcett and Smith, 1995). Logistics outsourcing performance is a major driver for a company's logistics performance (Deepen, 2007). Bustinza et al. (2010) confirm the positive association between the benefits of outsourcing decisions and a company's competitive capabilities that in turn leads to performance improvement. Yeung et al. (2012) also indicate positive relationships among exporters' strategic orientation towards LSPs' capabilities, exporters' competitive advantage, and exporters' export performance. Hence, good logistics performance is reflected in terms of short response and delivery times that allow a company to react and adapt rapidly to market changes, yielding a positive impact on company performance (Schramm-Klein and Morschett, 2006). The study of Power et al. (2007) provides evidence from a customers' perspective that LSPs provide their customers with a tool for competing through displaying greater flexibility, providing innovative solutions and reducing costs, which in turn improve their customers' logistics performance. Chen et al. (2010) empirically confirm that collaboration between LSPs and their customers improves logistics performance of the customers firms.

In addition, Yeung (2006) examines the impact of the LSPs' performance on their customers' logistics and export performance, and provides empirical confirmation that LSP's

performance is central to their customers' logistics and export performance. Yeung, (2006) points out that the LSPs' timeliness of service and pricing are significant drivers in improving their customers' logistics and export performance. Firms can acquire the necessary resources, develop unique assets and achieve superior logistics performance through the logistics outsourcing relationship (Sinkovics and Roath, 2004). In addition, Deepen (2007) examines the impact of logistics outsourcing in terms of goal achievement and goal exceedance on a company's logistics performance, and finds a positive relationship between logistics outsourcing performance, and a company's logistics performance.

Resulting from the above discussion, the following hypotheses can be formulated as follows:

H5**a** There is a positive association between perceived goal achievement and buyer logistics performance.

H5**b** There is a positive association between perceived goal exceedance and buyer logistics performance.

4.3.6 The contingent effect of the LSP's opportunism on the association between the LSP's logistics capabilities (flexibility and expertise) and logistics outsourcing performance

When an exporting firm pursues outsourcing logistics activities, it never can be totally assured that the LSP's capabilities will stay current or better in fulfilling the firm's future needs (Barthélemy, 2001; Verwaal et al.,2009). Hence, it is important to examine contingency variables that may moderate the value of resources and capabilities on the relationship outcome. Sharma et al. (2007) and Verwaal et al. (2009) have recommended further empirical studies to examine the contingent resource-based perspectives. Rindfleisch et al. (2010) recommend further research to examine opportunism as a moderator to enrich the understanding of the nature of this construct. In addition, opportunism is an expected risk in the logistics outsourcing relationship and may influence the effectiveness of LSPs' capabilities. Accordingly, this study examines the contingent effects of perceived opportunistic behavior of LSPs on the association between the LSPs' capabilities and logistics outsourcing performance.

4.3.6.1 The contingent effect of LSP's opportunism on the association between the LSP's flexibility and perceived logistics outsourcing performance

The textile and clothing market is volatile, especially in the apparel industry, where customers' demands change rapidly and the product has a short life cycle, which creates demand uncertainty (Wathne and Heide, 2004). Uncertainty is a challenge for customers when they request their service providers to adjust to unanticipated changes. Similarly, volume uncertainty and variation in demand can be detrimental to an LSP, either because they will not be able to make use of economies of scale, or because of resource constraints in managing fluctuation of demand (Logan, 2000).

Flexibility is a key characteristic in any relationship; it is believed to be one of the crucial requirements for firms to survive and flourish in unstable and volatile environments (Dreyer and Grønhaug, 2004). It is of great importance for exporters in the textile and clothing sector. In this study, LSP's flexibility capability is an external resource for exporting textile and clothing companies, which supports them in adapting to changes and gaining access to opportunities arising from market unpredictability. Bello and Gilliland (1997) found that flexibility has a pivotal role in increasing export performance, as flexibility enhances the required coordination between the trading partners. They assert that flexibility is central to a cooperative export partnership. LSP's flexibility capability is essential for customers in accommodating sudden changes. According to RBV, LSP's flexibility creates value for the LSP-client relationship by making adjustments in the ongoing relationship in accordance with changing circumstances. Flexibility also neutralizes the threats by coping with changes that increase the value delivered to the customers and helping to reduce their costs. As stated by Cannon and Homburg (2001), a supplier's flexibility can have an influence in reducing customers' costs by absorbing the environmental shocks that face customers. Heide and John (1992, p.35) assert that "flexibility represents insurance that the relationship will be subject to good-faith modification if a particular practice proves detrimental in the light of changed circumstance".

Nevertheless, it can be challenging for an LSP to remain flexible in a focal relationship because assuring availability of required resources can be a complex and costly task (Han et al., 2014; Ivens, 2005). Hence, responding to a customer's request for adjustments may create value for the customer while reducing value for the LSP if it has a negative impact on the LSP's operative efficiency or effectiveness (Ivens, 2005). Hence, in some cases, LSPs are afraid of not being rewarded for the extraordinary efforts exerted to meet customers' new requirements that are caused by new market conditions (Logan, 2000). Based on the agency theory, when the principal and agent have different goals, they will be motivated to act

differently, striving for maximizing their utility (Eisenhardt, 1989; Jensen and Meckling, 1976; Lassar and Kerr, 1996). Hence, goal conflict can lead to opportunistic behavior. Rokkan and Buvik (2003) found a positive relationship between the level of goal conflict and free riding behavior. The authors indicate that when the level of goal conflict is low, there will be no strong motive to act opportunistically. Thus, at a low level of goal conflict; the agent probably behaves in accordance with the principal's interest, and are less likely to behave opportunistically and vice-versa.

Hence, when LSPs and their customers have goal conflicts; the LSPs may behave opportunistically and show a lack of flexibility to reduce its costs by failing to exert the required efforts to respond to ex-post adjustments requested by its customers. According to agency theory, the customers will face a moral hazard problem because of the lack of effort in displaying flexibility. Based on TCA, refusal to adapt to a customer's changing needs will lead to an adaptation problem that raises costs in terms of communication, and renegotiation costs, as well as coordination costs. In addition, there will be opportunity costs for failure to adapt (Rindfleisch and Heide, 1997). Masten (1988) and Wathne and Heide (2000) asserted that both parties will lose revenues due to maladaptation. Furthermore, the opportunistic party can force renegotiation to extract concessions, which will raise bargaining and haggling costs. Hence, lack of flexibility leads to the risk of losing the value of an LSP-client relationship, as well as increasing the risk of terminating the relationship (Ivens, 2005). Thus, the opportunistic behavior has a negative impact on flexibility, as displaying lack of flexibility will affect the performance outcome negatively (Han et al., 2014).

Therefore, the increasing the level of opportunism can weaken the positive effect of flexibility on logistics outsourcing performance in terms of goal achievement and goal exceedance.

Based on the above arguments, the following refutable hypotheses are proposed as follows:

H6**a** The association between an LSP's flexibility and perceived goal achievement by the buyer will be less positive when the level of opportunism increases.

H6**b** The association between an LSP's flexibility and perceived goal exceedance by the buyer will be less positive when the level of opportunism increases.

4.3.6.2 The contingent effect of an LSP's opportunism on the association between the LSP's expertise and perceived logistics outsourcing performance

In a service relationship, a higher level of opportunism can be expected, greater than in other inter-firm relationships, because it is more difficult to examine and monitor the quality of services than to monitor physical products (Hawkins et al., 2008). The relationship between textile and clothing exporting companies and their LSPs is an agency relationship, where the textile and clothing exporting companies (the principals) delegate LSPs (the agents) to undertake some logistics activities on their behalf. A successful logistics outsourcing relationship is based on assuring customers that their LSPs will meet or exceed the service level and ensure that the LSPs will be fairly rewarded for their efforts (Logan, 2000).

In a logistics outsourcing arrangement, customers may be afraid that due to their lack of expertise and relative dependence on their providers, they might be exposed to opportunism from their LSPs (Logan, 2000). As LSPs are often more knowledgeable of the details of the task, than their customers, thus, this situation creates knowledge and information asymmetries (Sharma, 1997). Consequently, LSPs may have the motive and opportunity to maximize their interests at the expense of their customers' interests (Lassar and Kerr, 1996). When interests are biased and the goals become incompatible, the information will be possibly hidden and information asymmetry is created (Tate et al., 2010). Several scholars assert that agency problems arise from information asymmetry when it is difficult or costly for the principal to measure the actual performance of the agent, because of the division of labor, goal conflict among parties, and differences in the risk preference of the two parties (Eisenhardt, 1989; Jensen and Meckling, 1976; Lassar and Kerr, 1996; Logan, 2000).

In addition to information asymmetry, Sharma (1997) adds asymmetry of knowledge in the LSP -client relationship. In this regard, Sharma (1997, p.768) notes that "professionals have power over lay principals by virtue of their expertise, functional indispensability and intrinsic ambiguity associated with the services they provide". Hence, LSPs can take advantage of knowledge asymmetry for their own interest by providing inaccurate information about the status of customers' orders, demonstrating insincerity and shirking from obligations. Therefore, customers may not be able to verify whether the LSP has done the task as requested, and has put in maximum effort or not, which indicates a moral hazard problem according to agency theory. Freidson (1983, p. 41) notes that "recipients of expert services are not themselves adequately knowledgeable to solve the problem or to assess the service received", and they are unable to avoid "incompetence, carelessness and exploitation". When there is asymmetric information between a logistics service provider with great expertise in the field of logistics and its customer who has limited information about the handling of a supporting activity, this

situation will increase transaction costs (Ivanaj and Franzil, 2006). For example[4], within the Egyptian textile and clothing exporting companies, one of the exporters is requested to deliver the goods to the importer's warehouse in a foreign state; the former depends on the LSP's expertise in arranging for the inland transportation in the importering country. The LSP may not be honest enough in his dealings with the exporter and add extra-overrated charges, knowing that it is difficult for the exporter to have information about the actual cost. Based on TCA, the inability to monitor an exchange partner's actions (behavioral uncertainty) motivates the potential for engaging in opportunistic behavior, which leads to problems in performance evaluation. In this manner, opportunistic behavior by an LSP can be expected to occur when the logistics service user cannot verify the actual performance of the LSP. Consequently, the opportunistic behavior of LSP will generate a negative outcome on the logistics outsourcing relationship. Moreover, the opportunistic behavior of LSPs can increase costs and/or decrease revenues for the customers.Thus, opportunism will undermine relationship performance (Brown et al., 2009).

Paché (2002, p.55) states that LSPs "may deliberately conceal or distort the information they possess in order to benefit from more favorable trade conditions". For example,[5] an LSP may exploit the exporter's lack of experience in the field of shipping and dealings with the shipping lines. The provider can impose a particular shipping line, and inform the exporter that there are no other alternatives that meet the requirements of the exporter, even though this is not true. The reason being that there is an interest between the LSP and a particular shipping line, where the LSP takes advantages of special freight rates for its own benefit and not for that of the exporter. In accordance with RBV, knowledge is intangible, tacit and firm specific, in that it is created within the firm and is considered as a distinctive and valuable resource (Grant, 1996). Thus, LSP's expertise is tacit knowledge that is embedded in the LSP's firm and is difficult to imitate or transfer without cost (Wong and Karia, 2010). Sharma (1997) notes that expertise capability gives the LSPs' power over their customers, because knowledge (expertise) asymmetry is not a commodity and this makes it difficult to be purchased.As stated by Hill (1990, p.510), opportunism might be promising for the opportunistic party "when the returns from opportunism in a given time period outweigh the discounted present value of future cooperation". According to Boissinot and Paché (2011), opportunism can be sometimes more profitable than showing loyalty.

4 This example was extracted during an interview with a key informant from an exporting textile and clothing company.

5 This example was extracted during an interview with a key informant from an exporting textile and clothing company.

Therefore, when the LSP has expertise capability and at the same time is inclined to engage in an opportunistic behavior, the positive effect of expertise on the logistics outsourcing performance in terms of goal achievement and goal exceedance will be reduced.

Based on this reasoning, the following refutable hypotheses are proposed as follows:

H7**a**. The association between an LSP's expertise and perceived goal achievement by the buyer will be less positive when the level of opportunism increases.

H7**b**. The association between an LSP's expertise and perceived goal exceedance by the buyer will be less positive when the level of opportunism increases.

4.4 Control variables

The research model includes industry sub-sector 1(INDSUB 1), industry sub-sector 2 (INDSUB 2), export intensity (EXPINT), relationship duration (REL), and frequency of order (FREQ) as control variables, in addition to the focal variables. These control variables may have an effect on the logistics outsourcing performance (goal achievement and goal exceedance), and the buyer logistics performance (textile and clothing exporting companies). According to Cannon et al. (2000), control variables strengthen the test of the postulated relationships by accounting for other alternative explanations. Although there are no formal hypotheses, the rationale for incorporating these variables in the research model is briefly discussed below.

4.4.1 Industry sub-sector (INDSUB)

Textile and clothing is one of the industries that is challenged by on time delivery, which is a requirement, especially for the ready-made garment (RMG) and home textile companies which are characterized by the seasonality of products, short life cycle, distant sourcing, and the exporting of products to several markets. A study by Bagchi and Virum (2000) demonstrates that logistics competitiveness is a critical element for textile companies, whereas greater efficiency and superior quality in goods delivery are conditions of survival, especially in highly competitive markets. Wathne and Heide (2004) include a categorical measure of garment characteristics as a control variable in the apparel industry, and find that higher-fashion garments give rise to flexibility in apparel companies in the down-stream market. Burki (2009) also examines the characteristics of textile products in terms of finished and semi-finished products in order to control potential differences in relational governance associated with different types of exported textile products.

The textile and clothing exporters in this study are categorized under three sub-sectors: (1) spinning and weaving, (2) ready-made garments, and (3) home textiles. The industry sub-sector is used as a control variable as it is believed to have an effect on logistics outsourcing performance (goal achievement and goal exceedance) and buyer logistics performance. This variable is divided into two dummy variables (industry sub-sector 1 and industry sub-sector 2) to control potential differences in logistics outsourcing performance and the buyer logistics performance across different sub-sectors.

4.4.2 Export intensity (EXPINT)

Export sales (export value/total sales) is a viable method to indicate a firm's business growth (Cooper and Kleinschmidt, 1985). It is among the most common objective measures for assessing export behavior (Bonaccorsi, 1992) and performance (Cooper and Kleinschmidt, 1985; Rock and Ahmed, 2014). Export intensity can influence the logistics outsourcing performance, especially if the textile and clothing company is exporting alot. Hence, an increase in export intensity reflects an increase in exporting that creates strong demand for outsourcing logistics and transport activities. This is an incentive for LSPs to achieve the agreed outcome, and even to exceed the goals and expectations that are agreed upon in the outsourcing arrangement in order to gain a high market share. Therefore, this study proposes a positive correlation between export intensity and perceived logistics outsourcing (goal achievement and goal exceedance). Dhanaraj and Beamish (2003) revealed that there is a reciprocal causal link between good performance and increased internationalization. Similarly, Guan and Ma (2003) found that reliable delivery and the shortening of lead-times from manufacturing to the commercial market are positively correlated with a firm’s export ratio. They found that the higher the degree of internationalization of a firm, the higher the performance. Hence, it is expected that export intensity is also positively correlated with buyer logistics performance.

4.4.3 Relationship duration (REL)

Relationship duration is among the antecedents that influence relationship magnitude in terms of relationship strength and closeness (Golici and Mentzer, 2005). According to Heide and Miner (1992), interaction over time can be a signal for commitment**.** Knemeyer and Murphy (2005) empirically examine the impact of relationship length as a customer attribute in exchange relationships between LSPs and their clients on relationship outcome (customer retention, customer referral, service recovery, and operational performance improvements). They found that relationship length is a customer attribute that strengthens customer retention and referrals. When LSPs and their clients shared a longer relationship history, they may have a better outlook on the effectiveness of their relationship (Maloni and Carter,

2006). Lai et al. (2012) find a negative association between relationship length and opportunism, which supports the notion that relationship length may act as a safeguarding mechanism against opportunism. De Vita et al. (2010) affirm that relationship length has a positive effect on relationship outsourcing performance. Similarly, Prajogo and Olhager (2012) affirm that long-term supplier relationships have both direct and indirect significant effects on performance. Thus, relationship duration is considered an important contextual factor that can have influence on the logistics outsourcing performance and the buyer logistics performance.

4.4.4 Frequency of order (FREQ)

When transactions are carried out frequently, both buyers and their LSPs will possibly value to repeat transactions and avoid acting opportunistically in order to maintain their reputations (Hobbs,1996). Frequent interactions between trading partners are an incentive to cooperate to increase the likelihood of future transactions rather than to defect (Heide and Miner, 1992; Reeves et al., 2010). In line with Noordewier et al. (1990), the frequency of orders issued by the buyer (exporter) may improve transaction performance. Similarly, when LSP carry out frequent logistics activities on behalf of the exporter, logistics outsourcing performance may improve as increasing levels of occurring transactions lead to economies of scale. Similarly, Deepen, (2007) asserts that customers with frequent transactions will seek longer and closer relationships with their LSPs since economics of scale will reduce the costs per transaction. Accordingly, frequency of orders can have influence on logistics outsourcing performance and buyer logistics performance.

4.5 Chapter summary

This chapter presents the research model for this study that shows the linkages between the antecedents of the logistics outsourcing performance and logistics outsourcing performance in terms of goal achievement and goal exceedance. In addition, the model shows the link between the logistics outsourcing performance and the buyer logistics performance. The hypothesized relationships between independent variables and dependent variables have been defined and discussed. Furthermore, this chapter has discussed the contingent effect of opportunism on mitigating the effectiveness of LSP's logistics capabilities and their related hypotheses. Control variables have been included in the research models to strengthen the test of the hypothesized relationships. The research methodology of the study is delineated in the next chapter.

CHAPTER FIVE

RESEARCH METHODOLOGY

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5.1 Introduction

Research can be defined as "a process of enquiry and investigation; systematic and methodical that increases knowledge" (Amaratunga et al., 2002, p.17). This chapter presents an overview of the research method that is applied in this study. It is divided into five sections: The first section presents a discussion on research design in relation to research philosophies; research methods and validity network schema. The second section gives an overview of the empirical setting of this research.The third section presents the questionnaire development, pilot study and pretesting questionnaire process. The fourth section gives an overview on population, sampling frame and sample size, key informant approach and data collection technique. The fifth section discusses researcher bias in research.

5.2 Research design

Research design is defined by Creswell (2009, p.5) as "the plan proposal to conduct research, which involves the intersection of research philosophy, strategies of inquiry and specific methods". Business research can be classified into three types of research design: exploratory research, descriptive research, and explanatory (causal) research (Saunders et al., 2007). The choice of research design is determined by how much is known about the problem being investigated (Churchill and Brown, 2004).

Exploratory research is qualitative in nature and aims at investigating, discovering new insights and developing a deeper understanding of the research problem (Malhorta and Briks, 2006). The descriptive research design is more formal and structured than exploratory research that describes the characteristics of relevant groups, as well as relationships and patterns in the research phenomena (Churchill and Brown, 2004; Malhorta and Briks, 2006). It is classified into cross-sectional and longitudinal research. In cross-sectional designs, data is collected from any sample of population only once at a single point in time, whereas in longitudinal design a fixed sample of population elements is measured repeatedly (Malhrta and Briks, 2006).

The third type of research design is causal research, which is considered the best design type for understanding which variable is the cause (independent variable) and which is the effect (dependent variable) of the phenomena (Churchill and Brown, 2004). Experimentation is the main method used in causal research (Malhorta and Birks, 2006).

This study utilizes aspects of two research design types to achieve the research objectives. Firstly, exploratory research has been used through semi-structured interviews to explore and gain practical insight into the main capabilities of LSPs that can influence the logistics outsourcing performance in the LSP-exporter relationship. The questions of the semi-structured interviews were drawn from the literature on logistics outsourcing. Based on the data derived from the in-depth interviews and a thorough review of previous empirical research on the logistics outsourcing context, the researcher was able to formulate the research model for the logistics outsourcing performance after having a deep understanding of each of the variables in the study. Secondly, the study uses descriptive cross sectional research design to examine the antecedents and the consequent effect of logistics outsourcing performance on buyer logistics performance.

Cross sectional research design

The rationale for choosing cross sectional design in this study is that it provides a snapshot of the variables of interest at a specific point in time, while the sample selected represents the population of the study (Churchill and Brown, 2004). This design can estimate the prevalence of the outcome of interest for the population at a given time (Levin, 2006). In addition, it is useful in identifying the degree of association between variables of interest. Hence, it is considered an appropriate design. However, cross sectional design is inclined to threaten the validity for survey-based marketing studies (Rindfleisch et al., 2008). Concerns regarding the validity of cross sectional design center on common method variance bias and the inability to identify causal inferences (Rindfleisch et al., 2008). Common method variance bias occurs when both the dependent and focal predictor variables are perceptual measures derived from a single respondent at a single point, which causes systematic method error (Podsakoff and Organ, 1986; Rindfleisch et al., 2008). In this study, the researcher followed the approach of Podsakoff et al. (2003) for reducing the likelihood of common method bias as discussed in Chapter Seven, Section 7.7.

Concerning causal inference, the reliable way to generate causal evidence is to use a randomized experiment, which is often unattainable in social science settings (Antonakis et al., 2010). Three conditions need to exist to assume causality: (1) co-variation where there is correspondence in variation between the value of a predictor and the value of an outcome.

This condition is referred to as association, (2) time order of occurrence of variables where x, the cause, must precede y, the effect, temporally, which is referred to as directionality, (3) elimination of other possible causal factors as the relation between x and y must not be explained by other causes, which denotes isolation (Antonakis et al.,2010; Cook and Campbell, 1979; Rindfleisch et al., 2008). According to Malhotra and Birks (2006) these conditions are necessary but not sufficient to prove causality.

Cross sectional survey collects data at a single point in time (one time) which cannot offer a temporal order of cause and effect (Rindfleisch et al., 2008). Hence, theoretical arguments and logical consideration is used by the researcher in this study to establish the direction of influence and to propose the hypothesized associations between the constructs of the study (Burki, 2009; Glavee-Geo, 2012). Association focuses on the presence of adequate correspondence variances between the predictor and outcome (Rindfleisch et al., 2008), as any changes in an independent variable must be associated with changes in a dependent variable. Cross sectional survey employs observations rather than manipulation. Hence, it relies on covariation as an important causal cue (ibid).

Confirming isolation is impossible to achieve (Bollen, 1989) and this is considered a threat to internal validity (Cook and Campbell, 1979). However, ruling out alternative explanations and confounds which may cause the spurious relationship[6] can be used to obtain some degree of isolation (Bollen, 1989). Hence, to avoid a spurious relationship, relevant control variables that are likely to be associated with dependent and independent variables should be added in the research model (Frankfort-Nachmias and Nachmias, 1996). Hence, this study includes the relevant control variables - industry subsector, export intensity, relationship duration and frequency of order - to eliminate rival explanations, which can reduce threats to internal validity. In addition, selecting a homogenous population can strengthen internal validity (Cook and Campbell, 1979; Frankfort-Nachmias and Nachmias, 1996). Thus, using textile and clothing as a single industry represents a homogenous setting that can improve internal validity but limit the generalization of the findings.

5.2.1 Research philosophies

Research philosophies involve important assumptions about the way the investigator views the world, and these assumptions support the research strategy and the methods selected by the investigator (Saunders et al., 2007). It is worth mentioning that the philosophical

[6] Spurious relationship means a false or misleading relationship which can occur when an omitted variable is added to the research model and change an originally significant relationship into a non-significant one (Hair et al., 2010), which is known as omitted variable bias (Antonakis et al., 2010).

direction of any research is very important, as asserted by Easterby-Smith et al. (2002), because it helps to identify which research design will be used, and to enable the investigator to recognize and even create new designs. There are two main research paradigms or philosophies; these two are positivist and phenomenological. Mentzer and Kahn (1995) state that positivism aims to explain and predict reality, as reality is believed to be objective and tangible, whereas phenomenological aims to understand phenomena, but not to explain or predict. Easterby-Smith et al. (1991, p. 27) present the key features of the two philosophy paradigm alternatives as shown in Table 5.1.

Table 5.1: Key features of positivism and phenomenological paradigms

	Positivism paradigm	**Phenomenological paradigm**
Basic beliefs	- The world is external and objective - The observer is independent - Science is value-free	- The world is socially constructed and subjective. - The observer is part of what is observed. - Science is driven by human interests.
The researcher should	- Focus on facts - Look for causality and fundamental laws - Reduce phenomena to the simplest elements - Formulate hypotheses and then test them	- Focus on meanings - Try to understand what is happening - Look at the totality of each situation - Develop ideas through induction from data
Preferred methods include	- Operationalizing concepts so that they can be measured - Taking large samples	- Using multiple methods to establish different views of phenomena - Small samples investigated in-depth or over time

Source: Easterby-Smith et al. (1991, p.27).

The positivist paradigm deductively tests hypotheses through quantitative and experimental methods, whereas the phenomenological (interpretive) paradigm involves qualitative and naturalistic methods to inductively understand human experience in particular research settings (Amaratunga et al., 2002). Logistics, economic and behavioral orientations have their foundations in the scientific approach of positivism (Mentzer and Kahn, 1995). This study has adopted the positivist view using a deductive orientation, as the focus of the study is on developing and testing hypotheses utilizing TCA and RBV as a theoretical framework.

5.2.2 Research methods

Research methods are associated with different research philosophies (Saunders et al., 2007). Therefore, the type of methodology that has been chosen should reflect the assumption of the research philosophy. Research methodologies range from objective scientific (quantitative) research methods to the subjective, interpretive, and more constructive (qualitative) methods (Creswell, 2009). They involve the forms of data collection, analysis, and interpretation that researchers use for their studies (ibid). According to Mentzer and Kahn (1995), logistics research has been influenced by the economic and behavioral approaches. The economic approach focuses on cost minimization and profit maximization using different methods such as cost analysis, modeling, and simulation, while the behavioral approach focuses on the psychological and sociological aspects of situations, and uses questionnaires, interviews, and case studies.

Based on the research objectives in this study, both quantitative and qualitative techniques have been employed in data collection, with more emphasis being given to the quantitative method. Firstly, qualitative semi-structured interviews have been conducted with export managers and logistics executives in textile and clothing companies. These interviews aim at exploring the important capabilities of the LSPs that may influence successful relationships between the LSPs and their clients. The interviews also identify opportunism as a cause for relationship failure. In addition, the interviews investigate the link between the logistics outsourcing performance and the logistics performance of exporting textile and clothing companies (buyers). Secondly, a cross-sectional survey is used as a quantitative technique to examine and analyze the antecedents of the logistics outsourcing performance and to determine the consequent effect of the logistics outsourcing performance on the logistics performance of exporting textile and clothing companies.

5.2.3 Research validity and validity network schema

The foundation of the logistics research process is based on certifying validity (Garver and Mentzer, 1999). Mentzer and Flint (1997, p. 201) state that "validity in research is actually a hierarchy of procedures to ensure that what we conclude from a research study can be shared with confidence". There are four main types of validity. These are internal validity, external validity, construct validity and statistical conclusion validity.

Internal validity refers to an approximate validity where the relationship between two variables is causal, or that the absence of a relationship implies the absence of cause (Cook and Campbell, 1979, p.37). External validity refers to "the approximate validity with which we can infer that the presumed causal relationship can be generalized to and across alternate measures of the cause and effect and across different types of persons, setting and times"

(Cook and Campbell, 1979, p.37). Construct validity refers to" the degree to which a measure assesses the construct it is purported to measure" (Peter, 1981, p.134). Statistical conclusion validity refers to "whether there is a statistical relationship between two phenomena" (Mentzer and Flint, 1997, p.202). Covariation between hypothesized cause and effect based on statistical evidence is very important to assure statistical conclusion validity. Campbell (1969) and Cook and Campbell (1979) consider statistically conclusion validity as a threat to internal validity. False conclusion about covariation is referred to as “instability”, which is one of the major threats to statistical conclusion validity, which generate unreliable measures and fluctuation in sampling person or components (Cook and Campbell, 1979).

Validity network schema (VNS)

Validity network schema VNS is a framework that describes the domains, stages and validity issues associated with each stage of research and the different paths for conducting research (Brinberg and McGrath, 1985; Hamby et al., 2010). Research involves three interrelated domains: substantive (phenomena that reflect content of interest), conceptual (concepts, model and theory that give meaning to that phenomena) and methodological (methods and techniques or procedures to gather data about the phenomena and concepts / theories). Each of these domains contains three levels: element, relations among those elements and the embedding system to understand the relation among elements. The research process is the “identification, selection, combination and use of elements and relations from conceptual, methodological and substantive domains” (Brinberg and Hirschman, 1986, p.163).

According to Brinberg and Hirschman (1986), the research process in VNS is divided into three main stages[7]. Stage one involves development, clarification and evaluation of elements and relations among the three domains. Stage two is the execution and implementing stage where the researchers combine the elements and relations from each domain through three steps: (a) The researchers choose the primary domain that are of value to them. (b) The researchers combine the primary domain with the element and the relations from a second domain to form a set of hypotheses or observations. (c) The researchers select the elements and relations from the third domain to include it in the model to test the proposed hypotheses/observations and generate empirical findings. In stage three, the researchers evaluate the findings and the generalizability of the findings.

[7] These stages contain several steps. For details, see Brinberg and Hirschman (1986).

Brinberg and McGrath (1985) identified three distinct research paths (experimental, theoretical and empirical) to combine elements and relations from each domain. An experimental path is chosen when the goal of the study is to build a study design that combines elements and relations from the conceptual and methodology domains, and implement this design by applying it on a substantive domain. The theoretical path is selected when the goal of the study is to test theory, which places priority on the conceptual domain and substantive domain to form a set of hypotheses by combining elements and relations from both domains. Then, elements and relations from the methodological domain are used to test the set of hypotheses. The empirical path is used when the priority of the researchers is to collect a set of observations from the substantive domain using elements and relations from the methodological domain. The researchers interpret these observations from elements and relations from the conceptual domain. Accordingly, each path depends on the chosen domain of the researcher's primary interest followed by other domains.

Based on Brinberg and Hischrman (1986), Brinberg and McGrath (1985), and following several studies that have applied a VNS framework (Glavee-Geo, 2012; Hamby et al., 2010; Stol and Fitzgerald, 2013), this study uses the conceptual domain to test transaction cost analysis and resource-based view theories in a logistics outsourcing performance model. The substantive domain for this study is the Egyptian exporting sector in the textile and clothing industry, where choosing one specific industry will improve internal validity. The exporting sector of the textile and clothing industry has an influential role in the Egyptian economy, and it has been selected as the research setting for this study due to its importance.

Therefore, the theoretical path based on a concept-driven system is chosen, as the researcher in this study selected elements and relations from the conceptual and substantive domains to form a set of hypotheses, and then selected the elements and relations from the methodological domain to test those hypotheses. Reliability of the measures and validity are discussed in Chapter Seven. Figure 5.1 illustrates the validity network schema for the logistics outsourcing performance model.

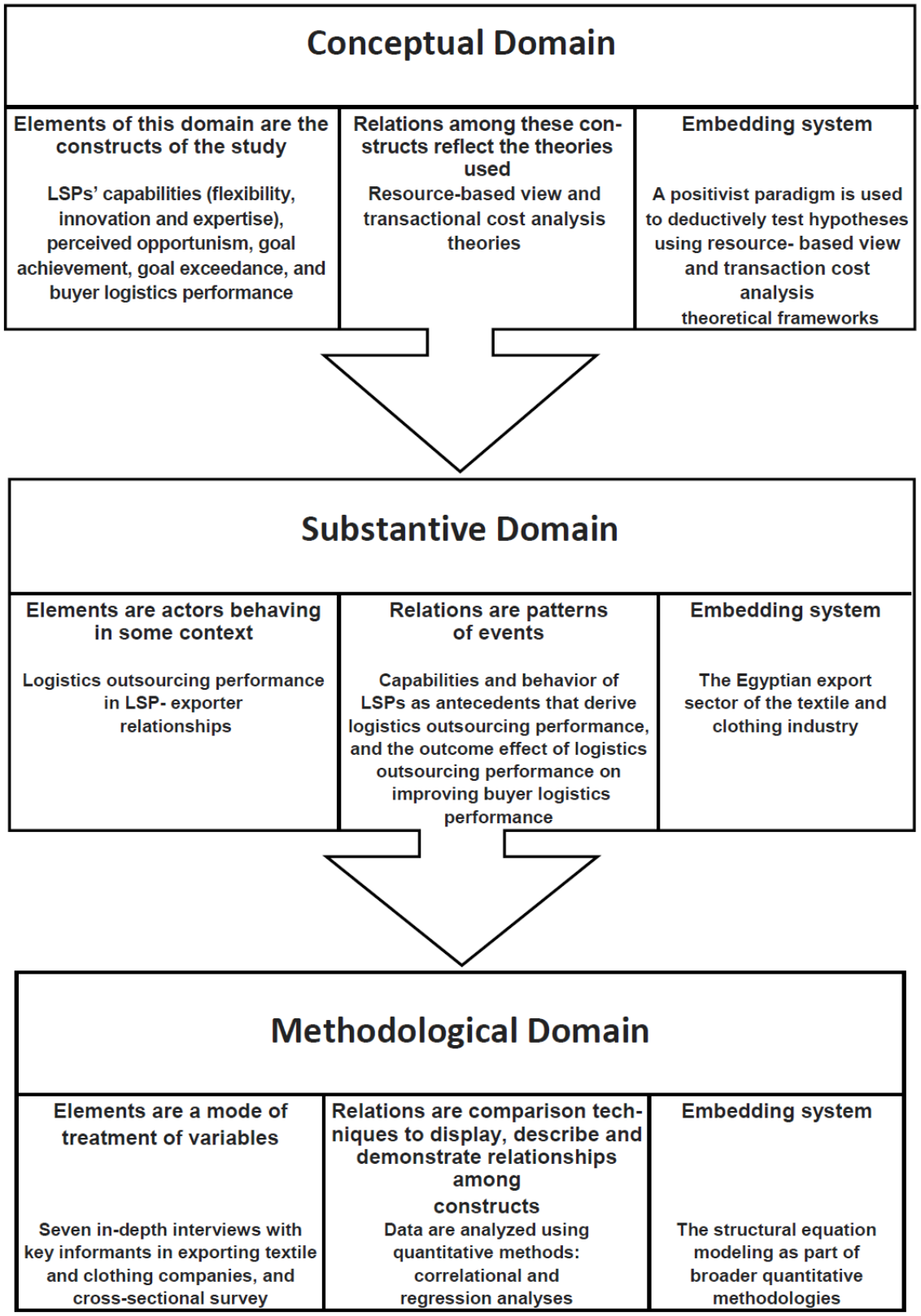

Figure 5.1: The validity network schema for the logistics outsourcing performance model

Source: Field of the study.

5.3 Research Setting

Maritime and related logistical services are particularly associated with exports and imports in a large number of sectors in the Egyptian economy (Ghoneim and Helmy, 2007), and have a significant role in supporting global supply chains. The textile and clothing industry plays an important role in boosting Egyptian foreign trade. Egypt enjoys comparative advantages over other textile producers in the Middle East and North Africa (MENA) region due to the availability of high quality cotton and low cost labor (Abouel-Farag et al., 2012). In the first quarter of 2014, Egypt ranked in the ninth position in the European Union as a major supplier of textiles, with 12.8 million euros in which ready-made garments have the biggest share (Sustexnet, 2014). In addition, Egypt has access to large key markets through various multilateral and bilateral trade agreements in the textile and clothing industry with the USA, European, Middle Eastern and African countries; which secure benefits to Egyptian-based producers supplying these markets (GAFI, 2013). Furthermore, Egypt is one of the most populous countries in Africa and the Middle East region, with a total population of 89.58 millions in 2014 (World Bank, 2015). The Gross Domestic Product is $286.5 billions, with an annual growth rate of 2.2% in 2014 (ibid). The economic, industrial, manufacturing, demographic and political position of Egypt makes it highly influential and significant in the MENA region (Tantawi and Youssef, 2012). As such, Egypt is a good representative of developing countries in the MENA region for this research.

According to the World Trade Organization (WTO), Egyptian exports of textile and clothing represent approximately 9% of total merchandise exports in the economy in 2013 (WTO, 2014). The exporting sector of the textile and clothing industry has been chosen as a research setting for this study based on its economic and social strengths in terms of its contribution to foreign exchange earnings and employment.

5.3.1 Current situation of the Egyptian textile and clothing industry

The textile and clothing industry is one of the most promising industries in Egypt. It represents almost one third of the manufacturing added value (Ghoneim, 2014), and is one of the main contributors to Gross Domestic Product (GDP). Egypt is a market leader in long stable (LS) and extra-long stable (ELS) cottons, with a 30-40% market share of LS and ELS production in the world (Abdallah et al., 2012). According to the General Authority for Investment (GAFI), Egypt exported high quality cotton to about 24 countries in the 2013/2014 season, with India and Germany being the main importers of Egyptian cotton, representing 25.7% and 12.4% of Egyptian cotton exports respectively (GAFI, 2014). Figure 5.2 shows the textile chain that encompasses multiple stages beginning with cotton cultivation and ending with finished textile products.

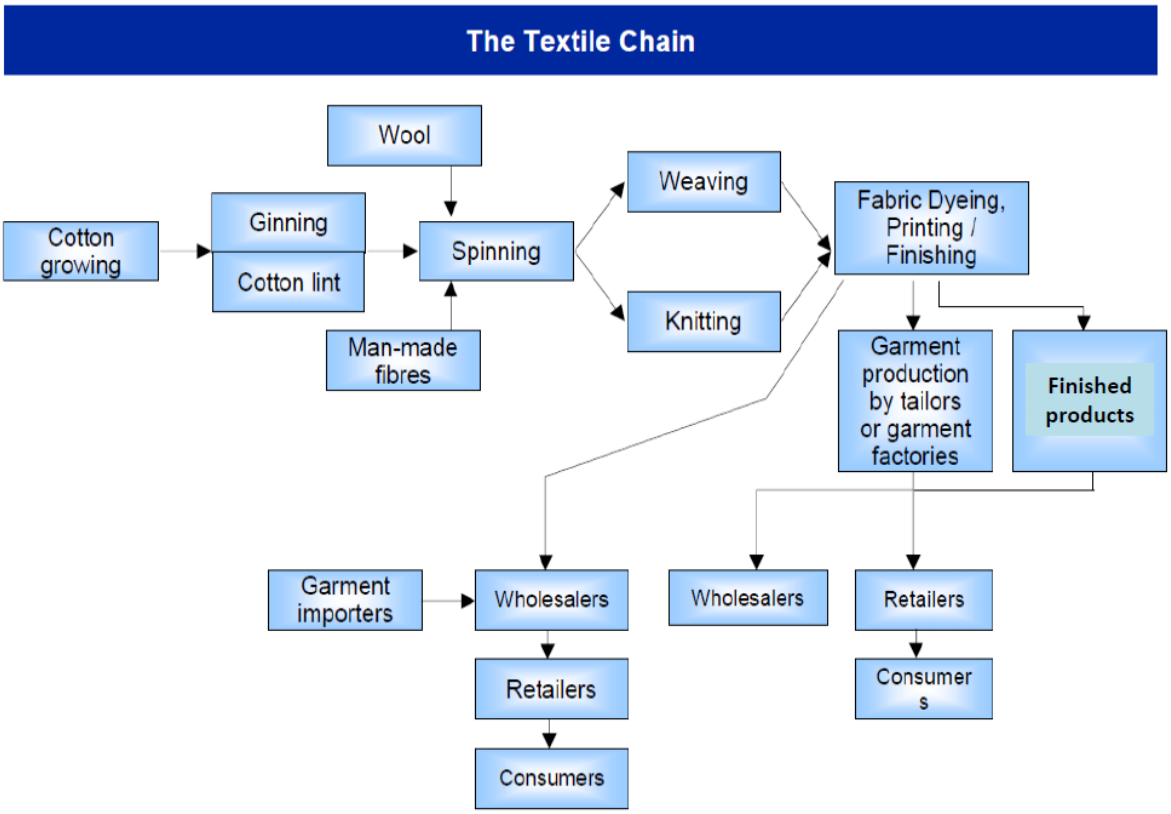

Figure 5.2: The textile chain

Source: Gherzi (2006).

Egypt's textile and clothing industry is presently moving towards higher value added products instead of relying on exporting raw cotton only, and produces a wide range of fiber-based products such as yarns, fabrics, garments and ready-made textiles (UNECA, 2013). The Egyptian textile value chain includes three major players: the growers (cotton farmers), processors (ginning factories, weavers/cloth makers, and ready-made textile producers), and sellers (exporters and retailers) (Abdallah et al., 2012). The dominant market within the sector is ready-made garments (RMG), which constitute 75% of the textile and clothing industry. The remaining 25% of the industry focuses on textile production, where home textiles constitute 12% and cotton yarn 8%, while the remaining 5% of the industry is related to other cotton fabrics and textiles (GAFI, 2014). The public sector dominates the majority of spinning, weaving, yarn and fabric production, while more than 70% of the clothing companies are owned by the private sector (Ghoneim, 2014). The public sector is characterized by its limited responsiveness to consumer preferences, excess of employment, substandard technology, operational deficiencies, and low levels of capital utilization (UNECA, 2013). The textile and clothing export sector is dominated by private sector companies which operate mainly within the export processing

zones or in the newly created qualified industrial zones (World Bank, 2006). Total exports of textiles and clothing[8] reached USD two billions (GAFI, 2014). According to General Organization for Exports and Imports Control (GOEIC), textile and clothing' export sector represents 14% of the non-petroleum export sectors (GOEIC, 2014). Figure 5.3 displays the shares of different Egyptian export sectors, where spinning and weaving represent 4%, ready-made garments account for 7%, and home textiles represent 3% of total nonpetroleum exports sectors (GOEIC, 2014).

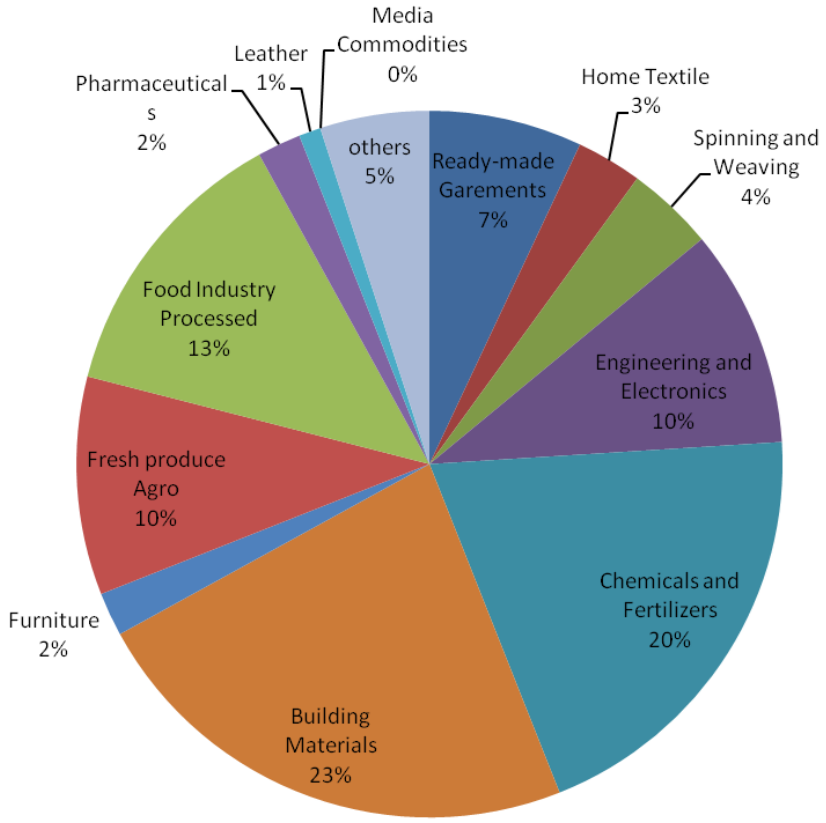

Figure 5.3: Export sectors in Egypt

Source: General Organization for Exports and Imports Control (2014).

[8] The textile and clothing industry includes spinning and weaving, ready-made garments (RMG) and home textiles.

Most textile and clothing products are exported to the European Union and United States of America. Exports are divided as follows; 37% to European Union, 35% to United States of America, 19% to certain Arab Countries and 9% to other countries in the world. Figure 5.4 demonstrates the major markets for the textile and clothing export sector.

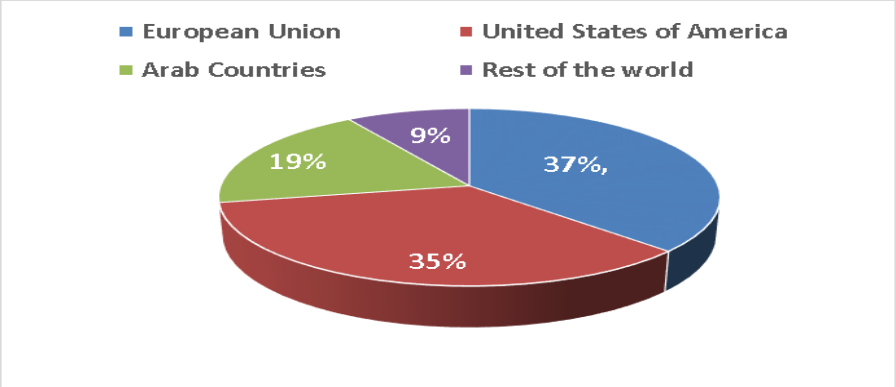

Figure 5.4: Egyptian textile and clothing exports to the major global markets

Source: General Organization for Exports and Imports Control (2014).

The ready-made garments sub-sector (RMG) is the leading contributor to textile and clothing exports, contributing 49% of total exports in the textile and clothing sector. According to GAFI (2014), it produced more than 340.6 million pieces in 2011/2012 for global brands sourcing from and investing in Egypt, such as Marks and Spencer, GAP, Wal-Mart, Levi Strauss, Target, and Calvin Klein. Figure 5.5 displays the percentages of exports of the textile and clothing sub–sectors.

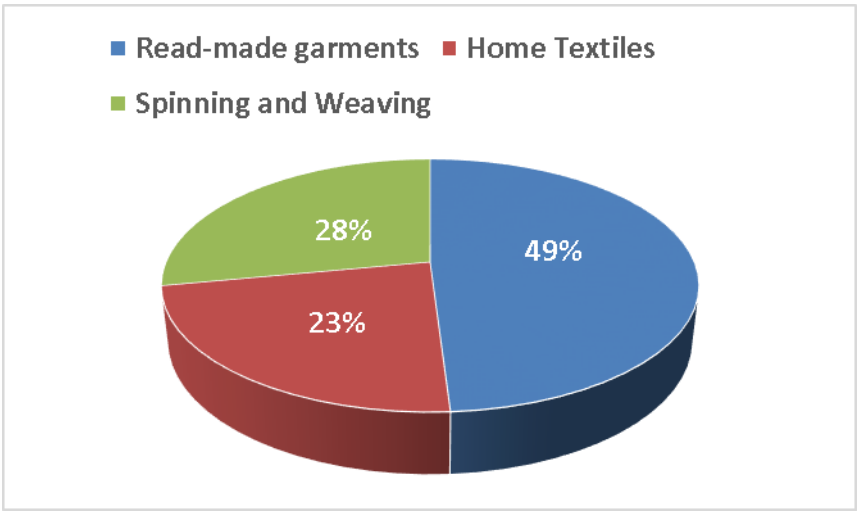

Figure 5.5 Exports of textile and clothing sub-sectors

Source: General Organization for Exports and Imports Control (2014).

The United States' market is considered the largest market for Egypt's exports of ready-made garments, absorbing 53% of ready-made garment exports, due to the QIZ agreement[9]. In addition, 33% of RMG are exported to European Union countries, 4% to Arab countries and 10% to the rest of the world (GOEIC, 2014). Thus, the United States and the European Union markets absorb 86% of the Egyptian clothing exports sector. However, these two large markets have different customer demand preferences; whereas the United States market focuses on standard products on a large scale and the Euorpean Union market follows national and fashion lines (Ghoneim, 2014). Hence, it is important to increase the competitiveness of exporting textile and clothing companies in order to increase their world share. In this concern, LSPs through leveraging their logistics capabilities might support textile and clothing exporting companies to differentiate their textile products and fulfil their customers' requirements.

5.3.2 Strengths and weaknesses of the textile and clothing industry in Egypt

Several studies such as Ecorys (2014), GAFI (2014) and Gherzi (2006) assert that the textile and clothing industry in Egypt enjoys several advantages and has competitive strengths. First, the strategic location of Egypt at the crossroads of Africa, Asia and Europe facilitates the export of textiles around the world. Second, Egypt has a comparative advantage in producing a high quality long staple cotton and has investment areas in multiple textile products such as cotton production, yarn making, spinning, weaving, knitting, dyeing and production of ready-made garments. Third, Egypt has several Free Trade Agreements, including with: the European Union (EU), a common market with Eastern and South Africa (COMESA), a common market with Argentina, Brazil, Paraguay and Uruguay (MERCOSUR), and with the Arab World. In addition, Egypt is a party to the Qualified Industrial Zone (QIZ) agreement with Israel and the United States, which has opened access to new markets for Egypt's exports. Achieving competitive sustainability in the textile and clothing industry is a critical cornerstone of Egypt's export-growth strategy (Kamal, 2014).

Although this industry is one of the strongest industries in Egypt, driving growth through global supply chains, Egypt is still not among the largest suppliers to Europe (Kamal, 2014). Egyptian export products face severe competition in the global market in terms of price competitiveness, quality and timely delivery in the market (JICA, 2008). Several factors have weakened the

[9] Qualifying Industrial Zones (QIZ) are designated geographical areas within Egypt that enjoy a duty free status with the United States. Companies located within such zones are granted duty free access to the US markets, provided that they satisfy the agreed upon Israeli component, as per the pre-defined rules of origin (GAFI, 2014).

competitive position of the Egyptian textile and clothing industry and hindered its capacity to export. For example, Gherzi (2006) addresses some obstacles such as lengthy government procedures and bureaucratic red tape, lack of skilled labor, transportation costs and utility set-up costs. Moreover, Egypt's ability to export textile and clothing was influenced by the end of the quota system in 2005, following the end of the multi-fiber arrangement, where Egypt was threatened by direct intensive competition from Bangladesh, China, India, Indonesia, Pakistan and Turkey (UNECA, 2013). In particular, labor costs in Egypt are higher than in Bangladesh, China, India and Pakistan, in addition to having lower productivity (Ecorys, 2014). The current political and security situation following the aftermath of January 25, 2011 revolution has had a negative impact on the textile and clothing industry (Ghoneim, 2014). There is an increase in the transaction costs that is associated with securing consignments, delays in shipments, lengthy import and export procedures, customs inefficiencies, low port transparency, and high handling costs and port charges which have negatively affected the export sector (El Haddad, 2012; Ghoneim, 2014).

5.3.3 Relevance of logistics outsourcing to the textile and clothing industry in Egypt

Logistics is one of the key milestones for industry development (Arvis et al., 2014). According to Stank and Lackey (1997, p. 93), "logistics has been positioned as one way for firms to differentiate their products or service offerings". Egypt needs to improve its trade logistics to boost export competitiveness and facilitate its international trade (World Bank, 2006). It is worth noting that global sourcing buyers are looking for suppliers with lower production and labor costs, as well as high-speed and on time delivery (EL-Zarka, 2010; Ghoneim, 2014; Gherzi, 2006). Hence, on time shipment in the right order and condition is fundamental in evaluating the supplier’s delivery performance (Koprulu and Albayrakoglu, 2007).

Therfore, logistics management is highly demanded in the textile and clothing supply chain. This chain includes several stages that textile products pass through, from raw materials to finished goods, before reaching the final customers. Logistics activities manage the movement and storage of goods among different parties along the supply chain (Fawcett and Clinton, 1996). The integration of logistics activities along the supply chain is essential to achieving a higher performance (De Martino and Marasco, 2007). Accordingly, textile and clothing exporting companies need logistics activities for the physical distribution of their textile products and access to international markets. According to the World Bank (2006), ensuring high efficiency and low costs in logistics are among the important factors that influence global buyers' investments and sourcing decisions.

Given the intensive global competition and higher customer demand for on-time delivery, reduction of lead-time and flexibility to adapt to the changing business environment, companies are forced to outsource logistics activities to increase their competitiveness (Marasco, 2008; Skjoett-Larsen, 2000). Consistent with Quinn and Hilmer (1994), logistics outsourcing can support firms in leveraging their skills and resources to focus on their core competencies and enhance operational efficiency.

5.3.4 Logistics performance index (LPI) in Egypt

Logistics performance index (LPI) reflects the extent of trade facilitation in countries. According to the World Bank's LPI [10] of 2014, Egypt ranked 62nd out of 160 ranked countries, and is considered the eighth in the Middle East region (Arvis et al., 2014). Egypt's LPI score for 2014 is 2.97, based on a scale of 1 to 5 (where a value of 1 indicates the lowest and 5 indicates the highest score). Egypt's scores are slightly above those of the Middle East and North Africa region, upper middle income, and lower middle-income countries' averages of 2.50, 2.82 and 2.59 respectively, reflecting a favorable climate for trade (Arvis et al., 2014). Egypt's logistics and transportation sector has a significant role in handling logistics activities associated with international trade (GAFI, 2014). Thus, improving the efficiency of shipping and related logistics activities can have a positive and significant influence in boosting trade flows, reducing the costs of imports as well as promoting exports (Ghoneim and Helmy, 2007). Similarly, Abdallah et al. (2012) state that shipping and logistics are considered to be high-functioning clusters, related to the textile cluster, that facilitate exports of Egyptian textiles and clothing products in an efficient way.

The quality of logistics services such as trucking, transportation, warehousing, forwarding, and customs brokerage are fundamental for trade efficiency, and strongly connected to the reliability of supply chains (Arvis et al., 2014). LSPs play a pivotal role in ensuring supply chain effectiveness and enhancing supply chain members' abilities to operate more efficiently (Stank et al., 1996). Consequently, LSPs through their logistics capabilities can have a vital role in supporting exporting companies to meet deadlines, respond quickly to order replenishment, reduce lead-time, minimize delays, and reduce inventory costs.

[10] The World Bank's LPI analyzes logistics performance of the countries based on six components: the efficiency of customs and border management clearance; the quality of trade and transport infrastructure; the ease of arranging competitively priced shipments; the competence and quality of logistics services; the ability to track and trace consignments; the frequency with which shipments reach consignees within scheduled or expected delivery times.

Hence, realizing logistics outsourcing performance is a catalyst for textile and clothing exporting companies to improve their logistics performance. Accordingly, logistics performance might influence the competitiveness of the Egyptian textile and clothing exports to become a privileged supplier to global buyer brands. Therefore, the present study focuses on examining the logistics outsourcing performance in the export sector of the Egyptian textile and clothing industry.

5.4 Questionnaire development

5.4.1 Data of the study

This study utilizes both primary and secondary data. Primary data are collected for the specific purpose of investigating the research problem (Malhorta and Briks, 2006). The two basic means of collecting primary data are communication, which involves questioning the respondents through a questionnaire, and observation, where the subject of interest is observed and the related actions and behaviors are documented (Churchill and Brown, 2004). However, secondary data are collected for a purpose other than the research problem under consideration (Malhorta and Briks, 2006). These data are already gathered from available sources such as academic journals, web sites, governmental publications, and statistical bulletins as recommended by Sekaran (2003). The most significant advantages of secondary data are that they save the researcher both time and money (Churchill and Brown, 2004). Secondary data have been used in this research to explore the topic of interest, define the research problem, develop the literature review, and the theoretical framework for this study. The existing studies, indicates that the textile and clothing industry has always been one of the leading industries in Egypt. However, Egyptian exporters face challenges in moving their products to the international market, where quick turnaround, time delivery, and quality of services are critical issues. Logistics services are a vital component in the textile and clothing supply chain.

The primary data have been collected through personal face-to-face interviews with key informants in the exporting textile and clothing companies, and through a structured questionnaire. The questionnaire has been designed and developed by the researcher after an extensive review of the literature with respect to the focal research issue. The aim of this questionnaire is to collect the necessary data to examine the antecedents and the consequent effect of logistics outsourcing performance on the logistics performance of textile and clothing exporting companies in Egypt.

5.4.2 Preliminary interviews and pilot study for the development of the questionnaire

The unit of analysis of this research is one specific relationship between the textile and clothing exporting company in Egypt and its most important LSP. In order to develop better measurement through generating items that capture the domain of the research constructs as specified by Churchill (1979), a preliminary explorative study was carried out. In this study, seven in-depth semi-structured interviews were conducted with export managers within the textile and clothing companies that have deals with LSPs. The purpose of the interviews was to gain practical insight into different outsourced activities, and explore the relationship between textile and clothing exporting companies and their most important LSPs. Through these interviews, the researcher gained information about the factors that the textile and clothing exporting companies focus on during the selection process of their LSPs such as services reliability, on time delivery, ability to adapt to unforeseen changes and short notice requests, knowledge and communication skills, continuous improvement and trustworthiness. These interviews helped the researcher to investigate the focal research problem and indicate the important capabilities that need to be considered in the study as antecedents of the logistics outsourcing performance.

A questionnaire should not be used in the field survey unless it has been tested to identify and eliminate any problems (Malhorta and Briks, 2006). Hunt et al. (1982) assert that a pilot study generates valuable information regarding ambiguous questions, inappropriate terminology and scaling methods. Hence, the pilot study is an important step for designing a questionnaire. In view of this, a pilot study was conducted in early December 2012 among thirty export/ logistics managers in both local and multinational exporting textile companies, who outsource some or all of their logistics activities to their most important LSPs in Egypt's two largest cities, Cairo and Alexandria. The pilot study was based on face-to-face interviews, and key informants were asked to assess different aspects of the questionnaire, such as its form, content, wording, sequence, and difficulty. The information from these interviews provided important guidelines for designing the structured questionnaire.

The aim of this pilot study is to obtain preliminary tests of scales, and to ensure the reliability and validity of items in order to confirm that the questions asked are relevant to the required data (Brace 2004). Preliminary analysis was conducted such as descriptive statistics where the mean values for all constructs on Likert scale from 1 to 7 are above value 4, except the mean value for opportunism construct, which was 3.2. Cronbach's alpha results for reliability tests are equal to 0.79, 0.82, 0.93, 0.82, 0.77, 0.89, and 0.76 for each of the following variables respectively: flexibility, innovation, expertise, opportunism, goal achievement, goal exceedance and buyer logistics performance.

All Cronbach's alpha' values are greater than 0.7, indicating good scale reliability for every construct (Hair et al., 2010). Similarly, the item-total correlation for all examined constructs exceed 0.5, which ensures scale reliability and internal consistency. In addition, the initial results from correlation and regression analyses indicate significant associations between the main variables of the study. Moreover, initial exploratory factor analysis was performed and unidimensionality was assessed. Therefore, this preliminary exploratory analysis gave some support to the proposed model. Then, the questionnaire was revised and refined according to the feedback received. Consequently, a few items were dropped due to repetition in the meaning; four items were revised for practical relevance. Some of the export managers also advised dropping three questions about satisfaction with export performance because it is very difficult to measure satisfaction with export performance accurately due to the political situation and economic instability in Egypt during this period. Based on the Agility Emerging Market Logistics Index (AEMLI) (2013), Egypt became less attractive and competitive for investment during this period due to the security risks, which posed an increased threat to potential investors, reducing the performance of the Egyptian market (Transport Intelligence, 2013). Accordingly, the researcher was not able to measure satisfaction with export performance within textile and clothing exporting companies.

Questionnaire translation process

Translation is a common method of preparing instruments for cross cultural research. Therefore, it is very important during the instrument development to ensure that a translation is equivalent to the original language in which the instrument was developed (Sekaran, 1983). Translating a questionnaire literally is not enough; it is essential to adapt it so that it is culturally relevant and in an understandable form, while retaining the meaning and intent of the original items (Sperber, 2004). Hence, the achievement of instrument equivalence depends upon proper translation (Green and White, 1976).

When an instrument is developed in one country and employed in other countries, direct translation and back translation are generally used to assure the translation equivalence (Green and White, 1976). In direct translation, the instrument is translated from the original language to the target language. In this study, the questionnaire was initially developed in English and reviewed by a specialist in the English language. Then a translator who had Arabic as a first language and holds a PhD in the field of English linguistics, translated it into Arabic. The purpose of the Arabic version of the questionnaire was to permit respondents with little or no knowledge of English to participate in the survey. The questionnaire has been reviewed by professors holding a PhD in the area of Transport and Logistics, as well as by colleagues who are currently PhD students, with the aim of reducing wording ambiguity and possible confusion in each question. Moreover, four logistics managers in top LSP

companies in Egypt have reviewed the questionnaire to ensure that all the questions are clear (i.e.neither ambiguous nor confusing). This also ensures that the questionnaire possesses face validity. However, the quality of the translation cannot be certain in a direct translation. According to Green and White (1976), back translation can overcome some of the drawbacks of direct translation. Therefore, the instrument is first translated into the target language by one bilingual translator, and then translated back into the original language by a another bilingual translator. The Arabic questionnaire after being reviewed was back translated into English by a bilingual expert to ensure that the meaning was not lost in translation. The translated version has been cross-checked independently by another group of bilingual PhD colleagues (see English and Arabic questionnaires in Appendix 4).

5.5 Data collection

5.5.1 Population, sample frame, and sample size

The primary methodological approach of this study is to examine the theoretical research model in the exporting sector of the textile and clothing industry in Egypt within a relevant sampling frame. The test was carried out by conducting a survey based on cross sectional data from a homogenous population of firms. A population can be referred to as a complete set of elements or cases that have some set of characteristics in common (Malhorta and Birks, 2006). The textile and clothing exporting firms registered in the Textile Export Council, Ready Made Garment Export Council, and Home Textile Council represent the sampling frame of this study.

These textile and clothing exporting companies were selected based on their business relationship with LSPs, whereas they outsource all or part of their logistics activities. The sample frame is composed of a complete list of all population cases from which the sample is drawn (Saunders et al., 2007). It includes the initial list from the Textile Export Council, which has 150 textile and clothing firms are registered on its database (http://www.textile-egypt.org). In addition, the directory issued by the Ready-Made Garment Export Council has 250 registered companies (Ready Made Garments Export Council, 2012), as well as the electronic directory issued by the Home Textile Export Council with 141 registered companies (http://www.egyptianhometextiles.org) were also included in the sample frame. All these councils are official and affiliated to the Egyptian Ministry of Trade and Industry. The members of these Councils have power and influence on the decisions taken concerning the textile and clothing export sector, especially the large companies with high volumes of exports. These databases yielded 541 companies. However, some companies appeared in the three databases, and some other companies are registered under different names. After

revising, the combined databases of the three councils, the researcher generated a new combined database of 455 unique companies, which have been used as the sampling frame for this research. Thus, the researcher contacted every exporting company in the combined databases of the three councils. This method of collecting and analyzing data from each possible case or element is referred to as a census (Saunders et al., 2007).

As the population is small, making a census is both feasible and desirable (Malhorta and Birks, 2006). All of these companies were initially contacted by telephone and email to explain the purpose of the study and to ascertain their willingness to participate. However, due to the political situation and the ongoing economic crisis in the country during this period several export textile and clothing companies were forced to close down their activities or to operate at a reduced capacity. The researcher also discovered that the contact details of some companies were not accurate. Finally, the names, contact numbers, and the addresses of 307 companies were obtained. These companies are distributed over four major geographical areas in Egypt: Alexandria, Greater Cairo, Middle Delta Governorates, and Suez Canal area, and they are all belong to the three textile and clothing industry sub-sectors: spinning and weaving, home textiles, and ready-made garments. Thus, the census represents the whole sample frame of 307 companies.

Sample size

Selecting a sample size is a complicated issue, as the size of the sample has a direct impact on the statistical power of the significance testing in multiple regressions (Ho, 2006). For multiple regression, different authors tend to give varying guidelines concerning the number of cases required (Pallant, 2007). For a desired level of power and with a specified number of independent variables, a certain sample size is required in order to identify a significant R-square at a specified significance level (Ho, 2006). Stevens (1996) suggests that the number of participants per variable is a more applicable way to determine sample size that is ranged from 5 to 20 participants per variable.There are several factors that affect sample size requirements, such as complexity of the model, distribution characteristics of the data (Kline, 2011), sample type, time, money and homogeneity of the population (Churchill and Brown, 2004).Tabachnick and Fidell (2007) present a formula for calculating sample size requirements, taking into account the number of independent variables that the researcher needs to use: $N > 50 + 8m$ (where m = number of independent variables). In this study the number of predictors are 9, so the minimum based on this criteria is $50 + 8(9) = 122$. The sample size drawn for this study consists of 307 companies. Hence, it met the criteria for multiple regressions as well as structural equation modeling (SEM). Kline (2011) states that a typical sample size in studies where SEM is used is about 200 cases.

5.5.2 Key informant approach

In this study, the researcher depends on a key informant approach for collecting primary data from informants who possess reliable information and specific knowledge relevant to the research problem, following Campbell's (1955) selection criteria of key informants. Campbell (1955) noted that the key informants approach is applied through appointing a selected number of knowledgeable individuals or someone who is in a distinctive position, willing to communicate and illustrate the phenomena of interest, and not because they are representative members of the sampled unit.

This technique is effective in organizational research because appropriate informants are assumed to have specific knowledge about the research problem, which makes them suitable for data collection purposes (Buvik, 1995). However, Kumar et al. (1993) state that key informants have some drawbacks such as informant bias and random error. To increase the reliability and validity of informants' reports, several scholars have recommended using multiple instead of single informants. Seidler (1974) states that single informants could not effectively report on large organizations, as concluded from his study on church dioceses. Furthermore, Phillips (1981) explains that sometimes single informants' data can be inadequate when complex social judgments are made.

Nevertheless, there are two main problems in using multiple informants as mentioned by Kumar et al. (1993). The first problem is the selection problem, where there is a difficulty in choosing two or more informants capable of reporting on a specific dyadic relationship. The key informants are usually selected according to their roles in an organization, while the researcher has no obvious verification of their competence. The second problem is the perceptual agreement problem. In a multiple informants' approach, the informants' reports may fail to show high levels of perceptual agreement due to differences in knowledge and perceptions arising from the informants' different organizational roles. This study uses the single key informant approach based on various studies that have used this approach (for example, Buvik, 2000; Buvik and John, 2000; Heide and John, 1992) in buyer-seller relationships in inter-organizational studies. The key informants from the exporting textile and clothing companies were requested to identify one specific LSP company. This LSP could either be the largest LSP or the one that handles a particularly important logistics activity for the key informants' companies. The key informants were then asked to relate all the questions to this chosen LSP.

In order to guarantee that the informants are knowledgeable about the topic of the survey, it has been addressed only to people who are directly associated with export, logistics, and operation activities within the companies. Among the informants, 60% are export managers, 21% are logistics managers, 7% are operation managers, 6% are accounts managers, 3% are directors and 2% hold other positions. Following Heide and John (1992), post-hoc check self-reports on the key informant's involvement and knowledge about the selected LSP company have been included in the questionnaire to minimize informant bias. On average, the informants have been in their current position for almost eight years. 42% of the informants have been involved to a very great extent; the mean of the informants' involvement is 5.93 based on a seven-point Likert scale, where a value of 1 indicates ″not at all and a value of 7 indicates a ″very great extent″. Concerning the informants' knowledge, 45% of the informants have very great extent of knowledge and the mean of the informants' knowledge, is 6.19 based on a seven-point Likert scale, where a value of 1 indicates ″not at all″ and a value of 7 indicates a ″very great extent″ (see Table 1.1 ,1.2, Figure 1.1a and 1.1b, Appendix 1). Therefore, it is believed that these key informants have been sufficiently involved, and are knowledgeable enough about the logistics outsourcing activities that have been outsourced to the chosen LSP.

5.5.3 Data collection technique and procedures

Carrying out a survey is a popular strategy in business and management research (Sekaran, 2003). It provides a description of trends and attitudes, as well as the views of a selected sample that represents a population in a quantitative numeric measurement (Creswell, 2009). A cross-section survey is the most appropriate option for this study as a research strategy. This strategy allows for the collection of large amounts of data from a selected sample in an efficient way (Saunders et al., 2007). According to Malhorta and Briks (2006), employing a survey instrument has several advantages. First, a questionnaire is easy to administer. Second, the data which are collected are coherent because the responses are limited to the alternatives specified. Finally, the coding, analysis, and explanation of the data are reasonably simple. Saunders et al. (2007) advocate that a structured questionnaire survey enables the researchers to test and explain associations between variables as it is a process of translating concepts into measurable variable.

There are different types of questionnaires. Saunders et al. (2007) divides questionnaires into two main types. The first type is self-administered questionnaires, which are delivered and collected whether by post or internet-mediated. The second type is interviewer-administered questionnaires, by structured interviews and telephone. This study uses the interviewer-administered questionnaire through face-to-face structured interviews with the selected key

informants (see Appendix 4). The researcher appointed one research assistant who was trained in conducting interviews and had had previous experience in administrating interviews. According to Sekaran (2003), the main advantages of personally administered questionnaire are that it helps to establish a rapport with the respondents while introducing the survey, gives the chance to provide clarifications sought by the respondents on the spot, and collects the questionnaires immediately after they are completed.

In addition, interviewer-administrated questionnaires enable the researcher to ensure that the respondent is the right person who has the specific knowledge relevant to the research issue (Saunders et al., 2007), which is reflected in the reliability of the collected data. To increase the response rate in this study, the researcher assured all respondents that all responses will be confidential and that only aggregated results will be presented. In addition, the researcher confirms that there is no correct or wrong answer. At the same time, the researcher gave incentives to some respondents to encourage their participation by offering them a book in Incoterms[11] that is related to their field of work. The researcher along with one research assistant have covered fifteen cities in the above mentioned areas of Egypt. These cities include: Alexandria, Alexandria Free Zone, Borg Al Arab, Cairo, El Sadat, El Obour, El Mahalla El Kubra, Ismailia, Kafr El Dawar, Nasr City Free Zone, Port Said Free Zone, Shobra El Khaima, Tanta, The 6th of October and The 10th of Ramadan.

From an initial census of 307 interviews that formed the sample size, only 166 interviews were conducted during the period from mid-January to May 2013, which represents a response rate of 54%. Thirteen questionnaires were not usable, so the final number of usable questionnaires was 153. Compared to other studies on the textile and clothing industry in Egypt, this response rate can be considered as acceptable. For example, Abdelsalam and Fahmy (2009) carried out a questionnaire targeting the exporting textile and clothing companies and obtained a response rate of 12.5% of the total population. El-Zarka (2010) also used a questionnaire targeting a sample of logistics executives in ready-made garment manufacturing companies in Egypt, achieving a response rate of 32% of the total population. Moreover, Ibrahim and Ogunyemi (2012) conducted a questionnaire targeting textile and clothing exporting companies in Egypt where the response comprised 20% of the total population.

11 The Incoterms rules are commercial terms published by the International Chamber of Commerce (ICC) that are widely used in international commercial transactions or procurement processes. These rules are intended primarily to clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods.

Although some companies were contacted and accepted the invitation to participate, the political situation in Egypt made it impossible to conduct these interviews, as there were strikes and protests at that time in the cities where the interviews would have taken place, so the meetings were cancelled. In addition, there were other reasons for companies not participating in the interviews, such as an unwillingness to disclose information because of confidentiality; shortage of time; and a reluctance to participate in this kind of survey as they either did not want to say anything negative that may influence their relationship with the logistics company, in spite of the fact that the researcher guaranteed confidentiality and anonymity; or because of lack of interest.

The main reasons for the non-participation of 141 companies can be summarized as follows:

Political instability:	11%
Confidentiality:	35 %
Shortage of time:	38 %
Unwillingness to say anything negative:	10%
Lack of interest:	6 %

The sample of the study was comprised of 153 usable questionnaires, and these are considered to be a representative sample using a Chi-square test. The proportion of each sub-sector in this sample (30 companies belong to spinning and weaving, 24 companies belong to home textiles and 99 companies belong to readymade garments), approximately reflects the same proportion of each sub-sector in the population of the textile and clothing exporting sector that comprises 307 companies (61 companies belong to spinning and weaving, 58 companies belong to home textiles and 188 companies belong to readymade garments). The Chi-square result is insignificant ($p=0.566$), which indicates that there is no difference between the sample and population of the exporting textile and clothing sector. Hence, the sample used in the study is representative of the population of textile exporting companies in Egypt.

5.6 Researcher bias

Bias is a form of systematic error and deviation that can affect scientific investigations and distort the measurement process during data collection, data analysis and interpretation, which can cause false conclusions (Krishna et al., 2010; Simundic, 2013). Researcher bias occurs when the researcher has personal biases or a priori assumptions concerning outcome of the study (Fraenkel et al., 1993). These will threaten the internal validity and the external credibility of the findings, as a biased study loses validity, and the degree of the bias can cause distorted results (Krishna et al., 2010; Simundic, 2013). In this study, the researcher's

primary goal is to add to knowledge and not to pass judgments. Hence, the researcher adopts a stance of neutrality with regard to the phenomenon under study. The researcher has tried to avoid bias in the selection of subjects by ensuring that the sample selected represents the population. The researcher defines the population as consisting of exporting textile and clothing companies that outsource some or all of their logistics activities to their most important and/or largest LSPs. The sample selected represents companies from the three main textile and clothing export sectors in the four main geographical regions. The sample includes small, medium and large companies in terms of number of employees and sales volume (see Table 1.1, Appendix1).

During the data collection of this study, the researcher did not interfere in the face-to-face structured interviews so as not to influence participants' responses, unless there was a question or word that was not clear; this occurred only on a limited number of occasions. In addition, one research assistant was appointed to conduct structured interviews with the key informants. Moreover, in order to avoid bias in data analysis and interpretation, this study used powerful statistical techniques to analyze the data after purifying measures and examining reliability and construct validity, ensuring that the results are presented correctly. In addition, the results are interpreted in an objective manner, based on statistical evidence. The data analysis and interpretation are displayed and discussed in Chapters Eight and Nine respectively.

5.7 Chapter summary

This chapter begins with an overview of the research design adopted in this study, describing the two main philosophical paradigms (positivist and phenomenological), research methods and research validity network schema. For this empirical study, the textile and clothing export sector has been briefly presented as a research setting. Semi-structured interviews have been conducted with exporters and logistics managers in textile and clothing companies to explore the research problem followed by structured questionnaires among the key informants in the exporting textile and clothing companies. The population, sampling frame, and sampling size have been presented and discussed. In addition, the data collection techniques have been presented. For measuring the variables of this study, the next chapter defines and discusses the operationalization of these variables.

CHAPTER SIX

OPERATIONALIZATION OF VARIABLES

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6.1 Introduction

This chapter presents an overview of the operationalization and measurement of the variables included in this study. It is divided into three sections. The first section presents the measurment theory. The second section displays the development of the measures, and the third section discusses the operationalization of the research variables.

6.2 Measurement theory

Measurement is a central activity in all branches of science that quantifies the observations of interest (De Vellis, 2003). Theory is considered as incomplete if not tested (Bagozzi and Phillips, 1982). Thus, for testing the theory, measurement provides an empirical estimate of each theoretical construct of interest (Gerbing and Anderson, 1988). Generally, theory is divided into two parts: one that identifies the relationships between theoretical constructs, and another that illustrates the relationships between constructs and measures (Bagozzi and Phillips, 1982; Edwards and Bagozzi, 2000). Edwards and Bagozzi (2000, p.157) view a construct as "an abstract term that attempts to describe a phenomena". This abstract phenomena is called a latent variable (Byrne, 2010), which cannot be directly observed. According to De Vellis (2003, p.17), a latent variable has two main characteristics. First, it is "latent rather than manifest", so that it is not directly observable. Second, the construct is "variable rather than constant" , which means that it can vary according to certain factors such as time, place and people. Hence, the constructs need to be measured in order to investigate and examine the causal links and relationships between constructs. According to Costner (1969), relationships between constructs and measures are very important as they represent a supplementary theory that bridges the gap between the abstract theoretical constructs and the measurable observed phenomena.

Measurement is defined by Nunnally (1978, p.3) as, “the rules for assigning numbers to objects to represent quantities of attributes”. Edwards and Bagozzi (2000, p.156) define a measure as "an observed score gathered through self-report, interview, observation or some other means". They state that a measure is the score created by these procedures. According to Byrne (2010), these measured scores are called observed or manifest variables; they are the indicators that represent the underlying construct.

Hence, observable indicators are used to indicate the main features and aspects of the construct. Theory has a key role in the development of measurement scales, as most of variables in social sciences are not observable but mostly dervied from theory (De Vellis, 2003). Hence theory is considered as a pool of items that help to conceptualize and operationalize the underlying theoretical constructs (ibid).

Bollen and Lennox (1991) differentiate between indicators that are "causes" of latent variable (formative or composite indicators), and indicators that are "effects" of latent variables (reflective or principal factors). According to MacKenzie (2003), it is important to define the construct correctly, and understand its actual meaning and nature in order to identify to which measurement model the construct and their measures should relate. There are two types of measurement models that assume a direction of causality; either from the construct to the measures, which is known as a principal factor model (reflective model); or from measurement to the latent construct, which is known as a composite latent model (formative model) (Bollen and Lennox,1991; Jarvis et al.,2003). Thus, misspecification of a measurement model can weaken both construct validity and statistical conclusion validity (MacKenzie, 2003). Consistent with Anderson and Gerbing (1982), good measurement of the latent constructs is a precondition for the analysis of the causal relations between the latent constructs. Thus, it is important to differentiate between the two models.

In a reflective model, constructs are usually viewed as causes of measures, any changes in a construct will lead to changes in the indicators (Edwards and Bagozzi, 2000). Hence, the measures are effect indicators, as the latent construct determines its indicators (Bollen and Lennox, 1991). In contrast to the reflective model, indicators in a formative model influence the latent variable, where indicators determine the latent construct (Bollen and Lennox, 1991). The different paths diagrams for the two measurement models are illustrated below in Figure 6.1.

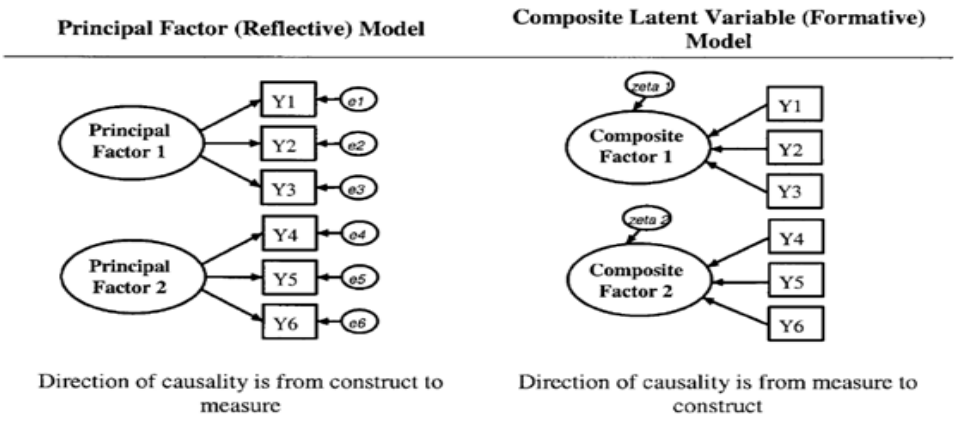

Figure 6.1:The measurement models

Source: Adopted from Jarvis et al. (2003)

According to Jarvis et al. (2003), the differences in the scores on the measurement of a construct is a function of the true score, plus error. In addition, Bagozzi et al. (1991) demonstrate that a measure often reveals an underlying theoretical construct and measurement error. Nunnally (1978) refers to measurement error ″as the variance in a measure that is not explained by the true score″. In the reflective model, the measurement error is taken into account at the item level, whereas in the formative model the measurement error is taken into account at the construct level (Jarvis et al., 2003). Internal consistancy should be assessed in the reflective indicators, where indicators are expected to be correlated because all the measures are assumed to be equally valid indicators of the underlying construct. However, the nature of formative measurement renders the internal consistency inappropriate for assessing the fitness of the indicators (Diamantopoulos and Winklhofer, 2001).

To assess validity of a formative construct, Jarvis et al. (2003) affirm that it is important to ensure nomological and/or criterion related validity. Hence, dropping one indicator may exclude a significant aspect of the composite latent constuct, and lead to a change in the meaning of the variable, because all indicators cause the underlying construct and determine it (Bollen and Lennox, 1991). However, dropping one indicator in the reflective measure will not change construct validity, as the rest of the indicators will adquately represent the underlying construct and ensure its unidimensionality. Moreover, Diamantopoulos and Winklhofer (2001) demonstrate that high multicollinearity among the formative indicators would be a problem for the assessment of indicator validity. On the contrary, multicollinearity is favorable in the reflective measure (Jarvis et al., 2003).

MacKenzie (2003) stresses that if a construct is not clearly defined, it becomes a challenge to specify which of these two measurement models is most appropriate (reflective-formative). There are two types of errors: Type I and Type II, that can be present in the case of an inaccurate measurement model. According to Diamantopoulos and Siguaw (2006), a Type I error occurs when a reflective approach has been adopted and the correct operationalization should have been formative. In contrast, a Type II error occurs when a formative specification has been selected and the reflective approach would have been theoretically suitable for the theoretical construct of interest. Consequently, misspecification of the direction of causality between a construct and its measures can lead to inaccurate conclusions about the theoretical relationships between constructs (Jarvis et al., 2003).

6.3 Measures development

The research model of this study is based on the reflective model to measure the latent constructs, whereas the direction of causality is from the construct to measuring indicators. This study has followed the guidelines suggested by Churchill (1979), and has been used by other scholars (for example, Burki, 2009; Buvik, 1995; Mia and Mentzer, 2004) to develop measurement items for the underlying constructs in this study. The following steps were taken: first, specification of the domain of the construct. To capture the domain of the construct, an extensive search was made for relevant theories and literature that are concerned with logistics outsourcing performance. Second, item selection: the measurement items were drawn from previous relevant studies with minor modifications to fit the focal research context. The study also applies multi-item measures in order to reduce the measurement difficulties as recommended by Churchill (1979), as multi-item measures tend to increase the reliability and decrease the measurement error. Third, purification: once the items were developed, academic staff and experts from the industry reviewed them. Then, items were administered in a pilot study survey to ensure that all items were relevant for the underlying constructs. Preliminary analysis was conducted using descriptive statistics, factor analysis (items with the lowest factor loadings were dropped), correlation analysis, and regression analysis for the earliest validation. The reliability and construct validity of the final measurements that were taken will be displayed in Chapter Seven.

6.4 Operationalization and measurement of research variables

All the latent constructs were operationalized as reflective scales. The study adapted previously developed scales with minor modifications in wording to suit the focal research context. There are four independent variables, three dependent and five control variables in this study. All the latent constructs were measured on an ordinal seven point Likert scale, (where value 1 indicates strongly disagree and value 7 indicates strongly agree), with the exception of the opportunism construct where the scale is reversed (value 1 indicates strongly agree and value 7 indicates strongly disagree), and the dependent variable goal exceedance (where value 1 indicates much below expectations and value 7 indicates much above expectations). There are five control variables in this study; the industry sub-sector is measured as two dummy categorical variables: Industry sub-sector 1 and Industry sub-sector 2. Relationship duration is a continuous variable that is transformed using a logarithm (base 10). Export intensity is a continuous variable measured on a ratio scale. Furthermore, frequency of order is a continuous variable that is transformed using a logarithm (base 10). A full version of the questionnaire is presented in Appendix 4. The following section describes the operationalization of the variables.

6.4.1 Dependent variables

Logistics outsourcing performance

Performance is a multidimensional construct where "there is no one measure which will suffice for logistics performance"(Chow et al.,1994, p.24), because it reflects multiple stakeholders and interests (Chow et al.,1995).Similarly,the logistics outsourcing performance is complex in its nature and requires detailed measurement (Deepen 2007; Deepen et al., 2008; Knemeyer and Murphy, 2004; Stank et al., 2003). Deepen et al. (2008) demonstrate that the value delivered by LSPs to their customers arises from both accommodating and exceeding customer service expectation in a more efficient manner than can be achieved in-house. Earlier research such as Knemeyer and Murphy (2004) and Stank et al. (2003) conceptualize logistics outsourcing performance as tri dimensional constructs (cost, operational/channel and relational dimensions) with a focus on achieving performance goals from cost, operational and or relational perspectives. However, none of these studies account for exceeding or falling below the desired level of the expected performance. Moreover, Stank et al. (2003) call for future research that might explore different operationalization of the logistics outsourcing performance constructs.

Hence, it is an advantage to examine the logistics outsourcing performance in terms of goal achievement and goal exceedance. Furthermore, the antecedents of the logistics outsourcing performance in this study are logistics capabilities, which, according to Hayes and Pisano (1994) are perceived as an important tool in exceeding customer's expectations and enhancing performance. To grasp whether the logistics capabilities have achieved the goal that is priori agreed upon and whether they exceeded the customer expectation, this study conceptualizes logistics outsourcing performance as bi dimensional constructs, in line with previous studies such as Deepen (2007) ; Deepen et al. (2008); Hartmann and De Grahl (2012); Križman (2009) and Wallenburg et al. (2010).

Goal Achievement (GACHIEV)

Generally, performance refers to the extent to which the firm's goals are achieved (Ellinger et al., 2000). Goal achievement refers to the fulfillment of the overall relationship goals and expectations, as agreed ex-ante with respect to the quality and cost of service (Deepen et al., 2008). Goal achievement is used to measure the logistics outsourcing performance with respect to the achievements of the expected outcome, as agreed upon between the exporting textile and clothing company and its most important LSP.

Seven items for goal achievement were drawn from Deepen et al. (2008) and Mentzer et al. (2001), with minor adjustments to suit the research focus of the study, with response anchor, where the value 1 indicates strongly disagree and the value 7 indicates strongly agree. The items are formulated as follows:

GACHIEV1	Our LSP always delivers services at required time.
GACHIEV2	Our LSP frequently delivers high quality services.
GACHIEV3	To a great extent our LSP has reduced our logistics costs.
GACHIEV4	Our LSP always handles order discrepancy very well.
GACHIEV5	Our LSP's lead-time is very short.
GACHIEV6	We always experience high order accuracy from our LSP.
GACHIEV7	Our LSP completely fulfills the relationship goals and expectations that we have jointly set prior to this logistics outsourcing relationship.

Goal Exceedance (GEXCEED)

A logistics service provider can exceed or fall below the expectation of the customer, based on the delivered value added in terms of cost efficiency and service quality, by being more or less customer-oriented, differentiated, innovative and more dynamic in responding to changing conditions. Deepen et al. (2008) refer to goal exceedance as the extent to which the performance of the LSP has significantly exceeded the goals and expectations agreed upon in the outsourcing arrangement. The items for goal exceedance were drawn from Deepen (2007) and Deepen et al. (2008), with some minor adjustments in the wording. This study has drawn item GEXEED3, (timeliness of services) from Yeung (2006) to highlight the importance of providing timely services in meeting a customer's changing requirements. Yeung (2006) found a positive relationship between the LSPs' timeliness in services and customers' logistics and export performance. Due to the importance of time to exporting textile and clothing companies, this item was added to examine whether the LSPs' timeliness of services exceeds or falls below the expected value of the exporting textile and clothing companies. The scale for goal exceedance is composed of five items with a response anchor, where value 1 indicates much below expectations and value 7 indicates much above expectations.

Respondents are asked to say to what extent they find the performance of their LSPs to be in accordance with their expectations with respect to the following aspects:

GEXCEED1 Logistics cost reduction.

GEXCEED2 LSP's service quality.

GEXCEED3 LSP's timeliness of services.

GEXCEED4 The price paid for services compared to the overall service quality performance.

GEXCEED5 Relationship goals and expectations set jointly prior to entering this logistics outsourcing relationship.

Buyer Logistics Performance (BLPER)

Logistics scholars have defined and measured logistics performance in different ways (Chow et al., 1995). Various indicators have been used in various studies in order to evaluate logistics performance. Fawcett and Smith (1995) indicate five areas of priority for evaluating logistics performance which comprise rapid and reliable delivery; high quality customer services, flexibility/responsiveness , service innovation, and cost leadership. Bowersox et al. (2000) identify five dimensions for the assessment of logistics performance, which include customer service, cost management, quality, productivity, and asset management. Yeung (2006) also assesses a user's logistics performance by measuring five items that include information and documentation accuracy, delivery reliability, responsiveness to customers, flexibility of services, and cost efficiency. Moreover, Daugherty et al. (2009) and Ralston et al. (2013) have measured logistics performance scales based on Stank et al. (2001a), which comprise delivery dependability, delivery speed, low logistics cost, product flexibility, order fill capacity, responsiveness to key customers, return on assets, inventory turn, delivery flexibility, and customer satisfaction.

In this study, the logistics performance of the textile and clothing exporting companies is assessed by their ability to achieve low logistics costs, have short lead times (reducing the time between order receipt and delivery to the customer),meet on-time delivery, and respond to the needs and requirements of their key customers. Four items for assessing exporting textile and clothing companies' logistics performance were drawn from Stank et al. (2001a) and formulated with minor adjustments with a response anchor, where value 1 indicates strongly disagree and value 7 indicates strongly agree.

Respondents are asked to say to what extent they agree with the following statements with respect to their current logistics performance.

BLPER 1 Our logistics costs are relatively low.

BLPER 2 We have the ability to always meet the promised delivery time.

BLPER 3 We have the ability to respond promptly to the needs of our key customers.

BLPER 4 We have the ability to offer short lead-time.

6.4.2 Independent variables

Flexibility (FLEX)

Flexibility in this study is viewed as a capability that reflects LSP's readiness to respond to textile and clothing exporting companies' changing needs. Based on the extant of logistics outsourcing literature, flexibility is among the key logistics capabilities that influence the relationship between LSPs and their customers. Fawcett et al. (1996, p.172) define flexibility as "the ready capability to adapt to new, different or changing requirements". Stank et al. (1996) indicate that the LSPs' ability to modify logistics operations in reaction to unexpected conditions (fluctuations in demand and supply, or competitive pressures) can have significant performance implications. Flexibility capability is a source of competitive advantage that leads to a superior performance (Fawcett et al., 1996; Zhao et al., 2001). The scale of LSP's flexibility capability is composed of five items that were drawn from Cannon and Homburg, (2001), Ivens (2005), and Noordewier et al. (1990), with minor adjustments with a response anchor, where value 1 indicates strongly disagree and value 7 indicates strongly agree. The items are formulated as follows:

FLEX1 Our LSP is open to the idea of making changes to accommodate our needs.

FLEX2 Our LSP is ready to adjust its operation to meet sudden needs that might occur such as change of delivery location.

FLEX3 Our LSP is flexible in response to our short notice requests.

FLEX4 Our LSP is flexible enough to handle changes.

FLEX5 Our LSP is open to modifying our agreement if unexpected events occur.

Expertise (EXPERT)

Knowledge and expertise in customers' logistics operations based on RBV are considered distinctive capabilities that lead to a firm's success (Wong and Karia, 2010). LSP's expertise is one of the most significant reasons for outsourcing logistics activities (Razzaque and Sheng, 1998). Chen et al. (2010, p.283) define LSP's expertise "as a 3PL contact person's knowledge/experience, attitude, and communication skills related to a particular logistics outsourcing relationship". This study has adopted Chen et al.'s definition. Therefore, the LSPs' expertise capability in this study reflects the LSPs' knowledge, experience and skills in their customers' businesses to handle their customers' logistics operations adequately with respect to their customers' products and the outsourced logistics activities in a particular logistics outsourcing relationship. Previous scholars indicate that LSPs' expertise improves relationship quality (Lagace et al., 1991), and has a positive influence on LSPs' flexibility and collaboration (Hartmann and De Grahl, 2011), which indirectly enhance customers' logistics performance (Chen et al., 2010). Four items were drawn from Chen et al. (2010), with minor adjustments modifying the scale to suit the research focus of this study. In addition, the fifth item (EXPERT5) was drawn from Bello et al. (2003) with minor adjustments in wording. This item has been used to ensure that the selected LSPs have the adequate training that gives them the expertise in dealing with exporting textile and clothing companies effectively. The scale of LSP's expertise capability is composed of five items with a response anchor, where value 1 indicates strongly disagree and value 7 indicates strongly agree. The items are formulated as follows:

EXPERT 1 The chosen contact person of our LSP makes an effort to understand our business.

EXPERT 2 The experience of our LSP's chosen contact person is adequate for handling our products.

EXPERT 3 Our LSP's chosen contact person's knowledge is very high in our business

EXPERT 4 The chosen contact person of our LSP has strong communication skills.

EXPERT 5 The chosen contact person of our LSP is well trained to work with us effectively.

Innovation (INOV)

Innovation is an important capability that has impacts on business performance (Hult et al., 2004). Hunt and Morgan (1996) affirm that proactive innovation can increase efficiency and or effectiveness, which results in achieving marketplace positions of competitive advantage and realizing superior performance. To accommodate customers' changing needs, a firm's capabilities have to be dynamic (Richey et al., 2005). According to Chapman et al. (2003) and Panayides (2006), innovation is imperative for LSPs to survive in a volatile environment. This is essential for LSPs' business success (Flint et al., 2005; Panayides, 2006) as it has a significant positive influence on LSPs' effectiveness (Panayides and So, 2005b). Daugherty et al. (2011, p.30) define Logistics service innovation capability "as a firm's ability to develop new innovative logistics services". Innovation capability in this study reflects the ability of an LSP to improve customers' logistics processes through providing exporting textile and clothing companies with continuous suggestions for service improvement and modification if necessary to cope with new market conditions. The established scale for the measurement of an LSP's capability to innovate was drawn from Deepen (2007) and Deepen et al. (2008) with minor adjustments.

The scale of an LSP's innovative capability is composed of five items with a response anchor, where value 1 indicates strongly disagree and value 7 indicates strongly agree. The items are formulated as follows:

INOV1 Our LSP frequently puts great efforts into continuously optimizing our logistics process.

INOV2 Our LSP continuously makes suggestions for improvements of services delivered to us.

INOV3 Our LSP, by itself, modifies the logistics processes to cope with changes, if this is necessary.

INOV4 Our LSP has a high level of initiative for continuously improving its service standards and applying new ways of doing things.

INOV5 Our LSP displays a high level of innovation.

Opportunism (OPPO)

Opportunism derives from transaction cost analysis as one of the main assumptions. It is defined by Williamson (1985, p.47) as "self-interest seeking with guile". Opportunism represents discrete norms wherein the individual parties are expected to be self-interested and pursue strategies oriented toward their individual goals and personal interest (Heide and John, 1992) as long as their behaviors are difficult to be detected. Opportunistic behavior is considered detrimental to any logistics outsourcing relationship (Knemeyer and Murphy, 2004) because it hinders value creation and decreases revenues for both parties in a relationship (Wathne and Heide, 2000). In this study, LSP's opportunism captures the perceptions of the exporting textile and clothing companies regarding whether or not their LSPs are engaged in opportunistic behavior such as distortion of information, breach of promise, and overstatement of fees for the sake of their interests. In the context of the present study, the scale of opportunism was drawn from relevant previous studies (Knemeyer and Murphy, 2005; Moore and Cunningham, 1999 and Rokkan et al., 2003) with minor adjustments.

The scale of the opportunism variable is constructed differently compared to other variables in this study as it connotes a negative phenomenon; it is measured by six items that are negatively worded with a response anchor, where value 1 indicates strongly agree and value 7 indicates strongly disagree. The items are formulated as follows:

OPPO1 This LSP sometimes provides our company with inaccurate information about our order status to protect its interest.

OPPO2 This LSP is sometimes not trustworthy in the sense of exploiting our lack of knowledge in its field for its own interest.

OPPO3 Sometimes our LSP fails to deliver our order on time as promised.

OPPO4 Sometimes our LSP exaggerates needs in order to get what it desires.

OPPO5 To a certain extent, our LSP is not always sincere in its dealing with our company.

OPPO6 Sometimes our LSP breaches agreements for its own benefit.

6.4.3 Control variables

The research model includes: industry sub-sector1 (INDSUB1), industry sub-sector 2 (INDSUB 2), export intensity (EXPINT); relationship duration (REL) and frequency of order (FREQ) as control variables. These variables have been included because they may help to provide some other alternative explanations for variation in the endogenous variables. According to Maloni and Carter (2006), control variables can increase internal validity of the empirical findings of the study.

Industry Sub-sector (INDSUB)

Textile and clothing exporters in this study are categorized under three sub-sectors: (1) spinning and weaving, (2) ready-made garments, and (3) home textiles. Burki (2009) measured the type of textile product in terms of finished (made-ups) and semi-finished (yarn and fabric). However, in this study to capture the possible effect across the three sub-sectors on the logistics outsourcing performance and buyer logistics performance, the industry sub-sector variable is measured as two dichotomous variables. The present study uses the ready-made garment sector as the reference category (as about 65% of exporters in this study belong to this sector), and hence, the study creates two dummy variables as follows:

- Industry Sub-sector 1, where 1 = companies belonging to home textiles sector;
  0 = otherwise
- Industry Sub-sector 2, where 1= companies belonging to spinning and weaving sector;
  0= otherwise

This variable is measured using a single question:

Which textile and clothing industry sub-sector does your company belong to?

1) Spinning and weaving □
2) Ready-made garments □
3) Home textiles □

Export Intensity (EXPINT)

Export intensity reflects the degree of internationalization of a firm (Dhanaraj and Beamish, 2003). It is expressed as ratio of export value to total sales (Cooper and Kleinschmidt, 1985). The present study follows Lu and Beamish (2001) in using export intensity to indicate the level of exporting activities in exporting textile and clothing companies. Export intensity is used as a control variable in order to capture the possible effect of export intensity on logistics outsourcing performance and buyer logistics performance.

In this study, export intensity is measured by using a single question about the percentage of exports from the total sales last year.

Please indicate approximately the percentage of your company's exports from your total sales in 2012 ……%.?

Relationship Duration (REL)

Relationship duration is defined as "the length of time that the relationship between the exchange partners has existed" (Palmatier et al., 2006, p.140). Maloni and Carter (2006) recommend further research to include relationship duration as a contol variable in third party logistics studies, as there has been limited research that analyze its effect. Relationship duration is used as a control variable to capture the possible effect of relationship duration on logistics outsourcing performance and buyer logistics performance. This study measures relationship duration as the natural logarithm of the number of years (Buvik and John, 2000; Heide and Miner, 1992). The relationship duration that the exporting textile and clothing company has been working with the chosen LSP is measured using a single open question:

> How long has your company been working with this chosen logistics service provider? ..... Years

Frequency of order (FREQ)

Frequency of order refers to the number of recurring transactions (Geyskens et al., 2006). It is an influencing dimension in a transaction exchange. In line with Noordewier et al. (1990), this study includes frequency as a control variable that may have an effect on the logistics outsourcing performance and buyer logistics performance. Frequency of order is measured as the natural logarithm of the annual number of orders (Buvik, 2002). Hence, to account for this possibility, the frequency of order is measured using a single open question:

How many times a year does your company outsource logistics activities from this selected logistics service provider? .....

6.5 Chapter summary

This chapter has presented a general overview of the measurement theory and measurement development for this research. The operationalization and measurement of the underlying variables in this study have been discussed. The validation of the scales and the preliminary data analysis are presented in the next chapter.

CHAPTER SEVEN

DATA EXAMINATION AND TESTS OF THE MEASUREMENT MODEL

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DATA EXAMINATION AND TESTS OF THE MEASUREMENT MODEL

7.1 Introduction

Data examination is a required procedure for assuring the quality of data for further analysis. This chapter evaluates the quality of the data in order to assess the validity and reliability of the measurements used for the constructs under study, as well as to ensure the unidimensionality of the measures in the theoretical model. The chapter starts with profile statistics of the sample under the study followed by descriptive statistics, testing data for outliers, missing data, normality, linearity, homoscedasticity and multicollinearity. Results for factor analysis, confirmatory factor analysis, and common method variance are presented and discussed.

7.2 Preliminary analysis

7.2.1 Profile statistics of the sample

This section provides an overview of the profile statistics of the sample under study (see Tables 1.1 and 1.2, Appendix 1). Regarding the position of the key informants, the highest percentage of the sample under study are export managers, whose observations comprise 92 of those included in the data. This is followed by logistics managers with other positions appearing at relatively lower percentages. On average, these key informants have eight years' experience in their positions and nine years, working in the companies examined in this research. The majority of the key informants are involved and have knowledge to a very great extent, about dealings with their selected LSPs (see Figure 1.1a, 1.1b, Appendix 1). Most of the key informants (around 65 %) belong to the ready-made garments sector, followed by 20% from spinning and weaving sector and 15 % from home textiles sector. Seventy percent of the sample in the study are local companies, while 30 % are multinationals. The size of the companies who took part in the study is determined in terms of number of employees and sales volume. In terms of number of employees, the highest percentage of the sample are working in companies with more than 600 employees. With respect to sales volume, companies with a sales volume greater than eleven million US dollars ($) represent the greatest percentage of the sample. In addition, the majority of the companies in the sample have the greatest percentage of export sales, which is from 80 to 100 %. This reflects the high percentage of targeted companies who enjoy a high level of exports. The majority of the companies are located in Cairo, followed by Alexandria. Generally, these companies are working with more than one LSP, however, the study focuses on only one

specific LSP who is of great importance to the textile and clothing exporting companies. The average of the relationship duration between the selected LSPs and their clients is around 7.5 years. On average, the companies outsourced logistics activities around 151 times per year from the selected logistics service provider. The majority of the selected LSPs cover more than 60% of these companies' annual needs for logistics outsourcing activities with average costs less than $150,000.

In addition, it was found that there are different types of logistics activities that are outsourced by textile and clothing exporting companies from their selected LSPs as shown in Figure 7.1. These logistics outsourced activities are: sea freight, air freight, trucking, freight payment, documentation and custom clearance, logistics consulting services, logistics information systems (tracking and tracing), shipment consolidation, warehousing, insurance, distribution, marking and labelling, packaging, and cargo handling.

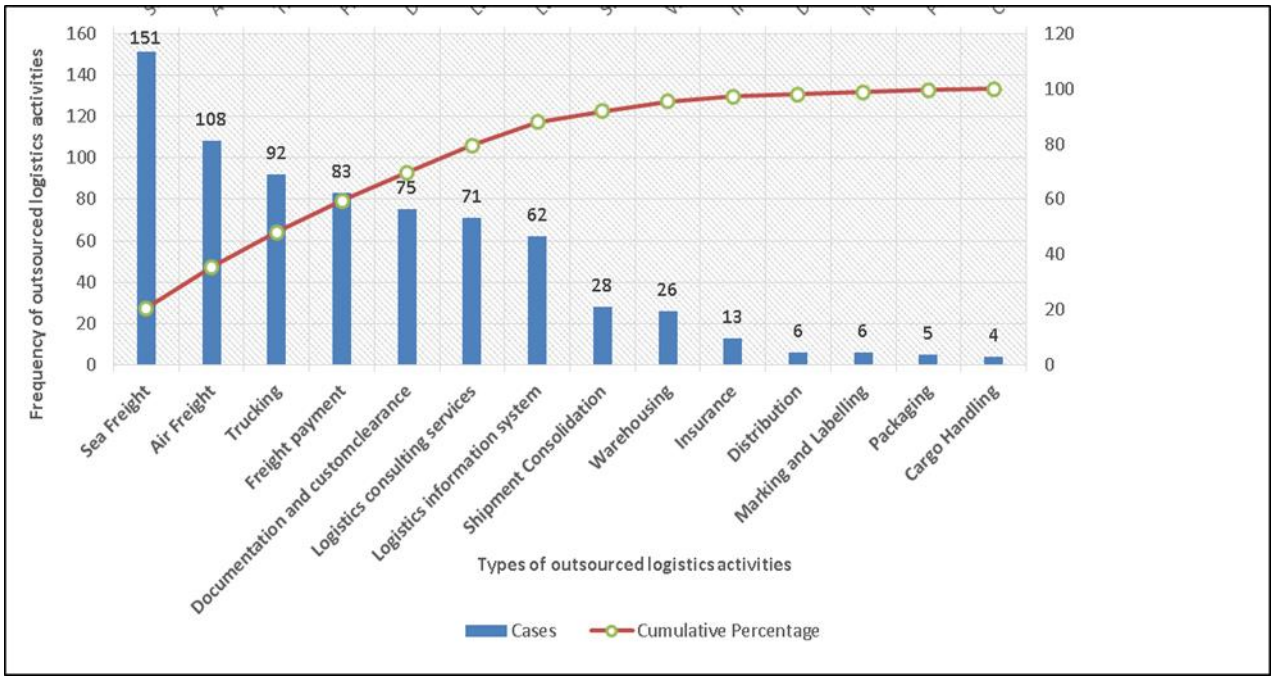

Figure 7.1: Pareto analysis for types of outsourced logistics activities

Source: Field study

The aforementioned activities are ranked from largest to smallest in terms of how many companies are outsourcing these activities out of the sample under study. It can be seen that the most frequently used outsourced activity is sea freight, with around 151 companies. The second is airfreight activity, with a total number of around 108 companies. Finally, eighty percent of the activities are due to sea freight, airfreight, trucking, freight payment, documentation and custom clearance, logistics consulting services, and logistics information systems. Other activities represent only twenty percent of the outsourcing frequency of the total logistics activities.

7.2.2 Descriptive statistics for variables under study

Descriptive statistics describe the characteristics of the sample in order to evaluate the adequacy of the collected data, and check for any violation of the assumptions (Pallant, 2007), which is required for the statistical technique used in the study. Descriptive statistics includes mean, minimum and maximum values, standard deviation, skewness, and kurtosis. The basic descriptive statistics for all items of the variables under study after removal of outliers and checking for missing data are displayed in Table 7.1.

In this study, a seven-point Likert scale is used to measure each item, where all the variables are measured on an ordinal discrete level. As opportunism construct connotes a negative phenomenon, its response anchor was opposite to other constructs as presented in Chapter Six. However, in entering the data of the opportunism variable for data analysis, the values of items have been reversed[12]. Hence, in the analysis of this construct, high values mean "high opportunism", and low values mean "low opportunism", to be consistent with other variables underlying the study.

All the items in all constructs under study are within the range of possible scores, which is between 1 and 7. Skewness is used to describe the balance of distribution, where its value indicates the symmetry of the distribution (Hair et al., 2010; Pallant, 2007), whereas kurtosis value indicates how well the shape of the bell corresponds to that of a normal distribution (Harrington, 2009). The skewness and kurtosis of all items under study are within the range, which assures normality except for a few items, which exceeded the cut-off point +/-1.0 (Meyers et al., 2006). Hence, only four items (FLEX4, OPPO6, GEXCEED1, and GEXCEED5) are slightly above the range.

The descriptive statistics for single item variables under study are displayed in Table 7.2. Export intensity (EXPINT) is measured on a ratio scale, as it is ranging from 10 percent to 100 percent. The mean value for export intensity is 79%. Relationship duration is transformed into logarithm (base 10) as it was widely dispersed ranging from 1 to 30 years. Frequency of order is transformed into logarithm (base 10) as it was widely dispersed ranging from 6 to 2500 orders/year. The skewness and kurtosis of the relationship duration are within the range, which assures normality for this variable. However, for export intensity, the skewness is slightly above the cut-off point +/-1.0, but the kurtosis value is within the range.

[12] For example if the value for statement OPPO1 is 1, it is entered as value 7, value 2 was reversed to 6, value 3 was changed to 5 and so on in the SPSS data file entry.

Table 7.1: Descriptive statistics and univariate normality

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
FLEX1	153	3	7	5.47	.918	-.558	.276
FLEX2	153	2	7	5.39	1.084	-.960	.917
FLEX3	153	2	7	5.33	1.129	-.896	.687
FLEX4	153	2	7	5.30	1.142	-1.097	1.247
FLEX5	153	2	7	4.93	1.176	-.498	-.049
INOV1	153	2	7	5.04	1.006	-.079	-.261
INOV2	153	2	7	4.83	1.025	-.284	.349
INOV3	153	2	7	4.79	1.086	-.417	.184
INOV4	153	2	7	4.85	1.037	-.088	-.199
INOV5	153	2	7	4.63	1.043	-.028	-.247
OPPO1	153	1	7	2.69	1.374	.968	.289
OPPO2	153	1	7	2.78	1.447	.910	.363
OPPO3	153	1	7	2.93	1.348	.590	-.236
OPPO4	153	1	7	2.86	1.391	.858	-.015
OPPO5	153	1	5	2.35	1.034	.853	.440
OPPO6	153	1	6	2.45	1.076	1.012	.891
EXPERT1	153	2	7	5.27	1.170	-.788	.519
EXPERT2	153	3	7	5.50	.933	-.261	-.636
EXPERT3	153	2	7	5.12	1.082	-.174	-.358
EXPERT4	153	3	7	5.42	.915	-.251	-.442
EXPERT5	153	2	7	5.29	1.004	-.171	-.245
GACHIEV1	153	3	7	5.40	.898	-.712	.655
GACHIEV2	153	3	7	5.22	.835	-.218	.206
GACHIEV3	153	1	7	4.46	1.313	-.242	-.404
GACHIEV4	153	2	7	5.16	1.010	-.568	.256
GACHIEV5	153	2	7	4.88	1.082	-.490	.125
GACHIEV6	153	3	7	5.09	.846	.089	-.096
GACHIEV7	153	3	7	5.38	.843	-.480	.073
GEXCEED1	153	2	6	3.96	.834	.281	1.362
GEXCEED2	153	3	7	4.96	.917	.182	-.405
GEXCEED3	153	3	7	5.17	.937	-.153	-.229
GEXCEED4	153	2	7	4.63	.992	-.153	.522
GEXCEED5	153	2	7	4.97	.913	-.355	1.195
BLPER1	153	1	7	4.20	1.181	-.024	-.131
BLPER2	153	3	7	5.07	.844	-.404	-.196
BLPER3	153	2	7	5.07	.937	-.472	.691
BLPER4	153	2	7	4.76	1.044	-.218	.192

Table 7.2: Descriptive statistics for single item variables under study (n= 153)

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Export Intensity EXPINT (Export/sales %)	**10**	**100**	**79**	**.273**	**-1.181**	**.132**
Relationship Duration REL	**.00**	**3.40**	**1.75**	**.782**	**-.413**	**-.154**
Frequency of Order FREQ	**1.79**	**7.82**	**4.44**	**.993**	**.379**	**.729**

7.2.3 Assessment of missing data and outliers

Missing data represents valid values of one or more variables that are not available for analysis (Hair et al., 2010, p.421) either because of respondents' answers which were unclear, or because their responses were not accurately recorded (Malhorta and Birks, 2006). Missing data can have an influence on data analysis as it can undermine the study and lead to insignificant results (Harrington, 2009), which in turn can affect the generalizability of the findings (Hair et al., 2010). Hence, it is very important to check for missing data and handle them properly. There are different techniques for administering missing data such as to exclude cases listwise, pairwise deletion and replace with mean (Pallant, 2007). Meyers et al. (2006) state that a practical advantage of list wise deletion is that this method can be used in a variety of multivariate techniques (for example, multiple regression, structural equation modeling) and no computations are required. According to Pallant (2007) list wise is used to refer only to a subset of cases that provide a full set of results. However, Meyers et al. (2006) emphasize that this approach limits the sample size which may increase the measurement error, and according to Hair et al., (2010) the statistical power may be lower.

On the contrary, pairwise deletion maximizes the use of valid data that results in the largest sample size (Hair et al., 2010). Nevertheless, the sample size will vary for every imputation, and can produce out-of-range value for correlations and Eigen values. Meyers et al. (2006) recommend not using pairwise deletion when conducting multiple regression, factor analysis or structural equation modeling. Regarding substitution of the missing value with the mean, Pallant (2007) points out that this method can severely distort the results of the analysis, especially if there are a lot of missing values. In this study, exclude cases listwise are used and thirteen uncompleted cases are removed. The advantage of this technique is that all analyses are conducted with the same number of cases (Kline, 2011). In addition, this technique provides logically accurate estimates in regression analyses, especially when the missing data mechanism is based on the predictors but not on the criterion (Little and Rubin, 2002; Kline, 2011).

Testing outliers

Outliers represent cases where the scores are more extreme than all others among a set of data (Byrne, 2010). A case can have either a univariate or multivariate outlier; in the former case it has an extreme score on a single variable, while in the latter case it has extreme scores on two or more variables (Kline, 2011). According to Yuan and Bentler (2001), outliers can distort the results, lead to biased estimators and affect the significance of statistical tests. Outliers can be detected by indicating z scores, whereas cases are considered outliers with an absolute z score greater than 3 (Kline, 2011). Moreover, Harrington (2009) notes that using a cut-off point of 4.0 or greater in absolute value can identify outliers more accurately in a large sample. In the present study, outliers are tested using frequency distributions of z scores, and finds outliers in few cases, where the absolute value of a z score is greater than 3. The presence of an outlier can be problematic and affect the normal distribution of the variable (Harrington, 2009). Thus, outliers' cases can be removed, if the sample is very large, and it will not be affected by removing these cases.

However, in this study, the sample is not large enough to allow the removal of cases, so the study adopts the Winsorization technique. Winsorizing means that "extreme values exceeding certain predefined upper and lower thresholds are replaced by the ordinate of the two thresholds" (Shete et al., 2004, p.155). Thus in this study, the extreme values are recoded to be less extreme so that cases still have the highest or lowest score, but not so extreme as to distort analysis (Harrington, 2009; Pallant, 2007; Shete et al., 2004). There are eight cases that have been recoded (one case for item OPPO5, two cases for item BLPER2, two cases for item BLPER4, one case for item GACHIEV5, one case for item EXPERT2 and one case for item EXPERT 4).

7.2.4 Assessments of assumptions of multivariate data analysis

There are general assumptions that need to be tested as prerequisite conditions for using multivariate analysis techniques such as normality, linearity, homoscedasticity, and multicollinearity. If any assumption is violated, it can have implications for the estimation process and the interpretation of the results (Hair et al., 2010).

Assessing normality assumption

An assessment of the normality of data is a prerequisite for many statistical tests because the presence of normal data is an underlying assumption in parametric testing, which is the most fundamental assumption in multivariate analysis (Hair et al., 2010). The data set should be normal or well modeled by a normal distribution. According to Pallant (2007), normal describes a symmetrical, bell-shaped curve, where the frequencies of the highest scores are in the middle and smaller

frequencies are towards the extremes. Normality is assessed in this study by obtaining skewness and kurtosis. As a rule of thumb, a variable is reasonably close to normal if its skewness and kurtosis have values between -1.0 and +1.0 (Meyers et al., 2006). The skewness values of all variables under study are between -1.0 and 1.0, as shown below in Table 7.3 which enables the researcher to make the claim that all variables under study are shown to be close to normal. However, for kurtosis values, the variable flexibility shows slightly high value, which reflects that this variable's distribution is somewhat steep. The result is acceptable as its skewness values are satisfactory, indicating that the corresponding data has no heavy tails.

Table 7.3: Normality testing for constructs of the study (n= 153)

	Innovation INOV	**Opportunism OPPO**	**Flexibility FLEX**	**Expertise EXPERT**	**Goal Achievement GACHIEV**	**Goal Exceedance GEXCEED**	**Buyer Logistics Performance BLPER**
Skewness	-.327	.486	-.898	-.221	-.384	-.082	-.547
Kurtosis	.381	-.217	1.049	-.212	.011	.191	.684

According to Kline (2011), variables with absolute values of skewness greater than 3.0 are described as extremely skewed, whereas absolute values of kurtosis greater than 10.0 represent a problem. Thus, none of the variables in Table 7.3 represent a problem. Hence, the data is approximately normally distributed and adequate for further analysis. According to Hair et al. (2010), when all variables exhibit univariate normality, multivariate normality can be achieved but not guaranteed. Histograms for all variables under study are displayed in Appendix 2 (see Figures 2.1, 2.2 ,2.3,2.4,2.5,2.6 and 2.7).

Normal probability plot of the regression standardized residual is used as a visual examination to check for normality for carrying out multivariate analysis. It is considered a reliable approach (Hair et al., 2010). In normal probability plot, the observed value of each variable is plotted against the expected value from the normal distribution (Pallant, 2007). The normal distribution forms a straight diagonal line, and the plotted data values are compared with the diagonal (Hair et al., 2010). In this study, normal probability plot for goal achievement, goal exceedance and buyer logistics performance are demonstrating that the plotted residual values for variables approximately fall closely along the straight diagonal line (see Figures 2.8,2.9 and 2.10, Appendix 2). Thus, the residuals are approximately considered to represent a normal distribution, hence meeting the normality assumption.

In addition, the study uses AMOS to assess multivariate normality for the measurement model (see Table 2.1, Appendix 2). The skewness and kurtosis do not appear to have significant problems in the data set. Using the benchmark ± 1, there is only one item on opportunism OPPO6 that is slightly skewed above 1 (1.002), and only the kurtosis for one item on goal exceedance GEXCEED 5 is slightly above 1 (1.117). However, the critical ratio value, which in essence represents Mardia's (1970) normalized estimate of multivariate kurtosis, reveals some departure from normality. Nevertheless, Arbuckle (1997, p.239) asserts that, ″A departure from normality that is big enough to be significant could still be small enough to be harmless″. Hair et al. (2010, p.71) advocate that ″in most cases assessing and achieving univariate normality for all variables is sufficient″. Similarly, Kline (2011) asserts that multivariate non-normality can be detected through the assessment of univariate distribution. Hence, the assessment of univariate normality, multivariate normality using normal probability plot, and that all the constructs had skewness and kurtosis values within± 1 as depicted in Table 7.3, are affirming that variables are approximately normally distributed. Accordingly, the data set can be considered suitable for further analysis.

Examination of homoscedasticity assumption

Homoscedasticity refers to the assumption that the variance of residuals of the dependent variable is approximately equal across all independent variables (Hair et al., 2010). If this assumption is violated, heteroscedasticity will occur, as the dispersion of the dependent variable values differs across values of independent variables (Meyers et al., 2006). The possible existence of heteroscedasticity is a major concern especially in the application of multiple regression analysis because the presence of heteroscedasticity creates variability that affects standard errors and causes the hypotheses tests to be either too rigid or too sensitive (Hair et al., 2010). The test of homoscedasticity is graphically examined from the residuals scatterplots (Pallant, 2007) for goal achievement (GACHIEV), goal exceedance (GEXCEED) and buyer logistics performance (BLPER). As shown in Appendix 2 (Figures 2.11, 2.12 and 2.13), data is somehow scattered and spread along the graph and does not show a consistent pattern, which indicates that heteroscedasticity does not seem to be problematic. Hence, the assumption of homoscedasticity is supported.

Assessment of linearity assumption

Linearity assumes that the "model possesses the properties of additivity and homogeneity" (Hair et al., 2010, p.35) in which the variables are related to each other in a linear manner (Meyers et al., 2006). To test the assumption that variables are linearly related to each other, this study ran SPSS to examine the shape of the bivariate scatterplots for each combination of variables. Scatterplots that are elliptical or oval shaped are indicative of linearity between two variables

(Meyers et al., 2006). Scatterplot matrix output of seven continuous variables underlying the study were produced. The scatterplots are not completely oval shaped, but they appear to illustrate enough linearity in the relationships between variables to proceed with the analysis (see Figure 2.14, Appendix 2). Pearson correlation coefficient "r" is used to assess the degree of linear relationship between two variables. All variables under study are significantly correlated to each other at the 0.01 level (2-tailed) (see Table 2.2, Appendix 2).

Assessment of multicollinearity

Multicollinearity occurs when two or more predictors in a model are highly correlated (r=.9 and above) (Pallant, 2007). Thus, highly collinear variables can either extensively distort the results or make them relatively unstable (Hair et al., 2010). With respect to the assumption of multicollinearity in the current study, values of variance inflation factor (VIF) and tolerance are checked. VIF is "an indicator of the effect that the other independent variables have on the standard error of a regression coefficient" (Hair et al., 2010, p.161). Tolerance is "an indicator of how much of the variability of the specified independent is not explained by the other independent variables in the model" (Pallant, 2007, p.156). The tolerance value should be greater than 0.10, whereas the values for variance inflation factor VIF should be less than 10 to assure that multicollinearity problem does not exist (Pallant, 2007).

The VIF values for the independent variables in the logistics outsourcing performance model in the study are less than 10, and the tolerance values for all independent variables are greater than 0.10 (see Chapter Eight, Table 8.3). This result indicates that the independent variables are not inter-correlated among themselves, implying that the problem of multicollinearity does not exist. Moreover, the Pearson correlation coefficient between all the independent variables is less than 0.7 (see Table 2.2, Appendix 2), which asserts that multicollinearity is not a problem.

7.3 Factor analysis

Factor analysis is a data reduction tool, and its main purpose is to define the underlying structure among the variables in the analysis (Hair et al., 2010, p.94). Tabachnick and Fidell (2007, p. 607) define factor analysis as a “statistical technique applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another. Variables that are correlated with one another but largely independent of other subsets of variables are combined into factors”. Factor analysis enhances scales' reliablity by removing items that are poorly related to all factors or that obviously represent more than one dimension (Dunn et al.,1994). According to Hair et al.(2010), factor analysis is crucial for presenting an empirical assessment of the dimensionality of a set of items through grouping higly intercorrelated variables into distinct sets (factors). There are three main

steps in conducting factor analysis: first, assessing the suitablility of data for factor anlaysis; second, extracting the factors and third, rotating the factors (Pallant, 2007). In the first step to access the factorability of the data, the study uses two statistical measures that are generated by SPSS; these are Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Pallant, 2007). Bartlett's test of sphericity indicates statistical significance, that the correlation matrix has some significant correlations between variables (Hair et al., 2010). KMO is a measure of sampling adequacy that measures the degree of intercorrelations among variables and reveals the appropriateness of factor analysis (Hair et al., 2010). For the factor anaylsis to fit, Bartlett's test of sphericity has to be significant (P<.05), with a larger value to assert the probability of correlation among variables, where the index for KMO varies from 0 to 1. Therefore, a value greater than 0.6 indicates an adequate degree of intercorrelation among variables and good factor analysis (Hair et al., 2010; Pallant, 2007).In this study, the KMO is 0.86, which supports the appropriateness of the factor analysis. The correlation cofficients among variables are good, while the Bartlett's test of sphericity provides statistical significance for partial correlations among variables. The study obtained a Chi-square value of 2319.525 at the degree of freedom 325 and p=.000. The results from Bartlett's test indicate significant correlations among variables.

After the assessment of the suitability of data for factor analysis, the second step is to extract the factors. There are different extraction techniques to identify the smallest number of factors/components that can best represent the relationship among a set of variables. Factors can be extracted using principal component analysis (PCA) and /or exploratory factor analysis (EFA). According to Suhr (2005), principal component analysis and exploratory factor analysis are powerful statistical techniques. Conceptually, the difference between PCA and EFA is that PCA analyzes variance and EFA analyzes covariance (Tabachnick and Fidell, 2007, p.635). There is a strong debate among notable scholars about whether to use PCA and/or EFA, although the practical differences between the two are often insignificant, especially when the reliability of the variables is high (Thompson, 2004; Williams et al., 2012). Exploratory factor analysis is better than principal component analysis in providing pure theoretical solutions from unique and error variability (Tabacknick and Fidell, 1997; Pallant, 2007). According to Stevens (1996, p.362-3), PCA is simpler mathematically and avoids some of the potential complications with “factor indeterminancy” that is linked to exploratory factor analysis. Henson and Roberts (2006) assert that the researcher must be systematic, thoughtful, and apply sound judgement to latent variables, factor reduction and construction to limit the subjectivity of EFA.

This study is based on confirmatory factor analysis to test the model and examine the hypotheses about the underlying constructs as discussed later in this chapter. However, at the initial stage in exploring the data, the main objective is to provide an easier interpretation of results, and produce

a parsimonious solution. PCA is the most commonly used approach as an extraction technique (Pallant, 2007). This study uses PCA to run a series of factor analyses[13] to extract the maximum variance from the measured responses that determine the linear combinations of the measured variables (Fabrigar et al., 1999).

The third step in running factor analysis is to rotate the factors to interpret them either by orthogonal or oblique factor solutions. The study runs PCA followed by orthogonal (varimax) rotation involving all the 37 observed variables. Varimax rotation is chosen because it produces a simpler interpretation of the factors and is easier than oblique rotation (Tabachnick and Fidell 2007) in spite of the fact that variables in varimax are assumed to be uncorrelated (usually incorrectly). According to Kline (1994), varimax rotation is recommended when orthogonal simple structure rotation is desired. Similarly Costello and Osborne (2005) assert that oblique rotation output is slightly more complex than orthogonal rotation output.

Initially the PCA extraction method yielded nine distinct components[14] instead of the seven components envisaged with an Eigen value greater than 1 (see Table 2.3a Appendix2). According to Pallant (2007) using Kaiser's criterion leads to extracting many factors. Items GEXCEED 1 and GACHIEV 3[15] were loaded together on the 8th component, and item BLPER1 was hanging with them as well as on its underlying component. The Eigen value for the 9th component was just 1.03, where several items with low loadings were hanging under this component. Moreover, Item (GACHIEV 4) has low loading and cross-loading with other different components.

In addition, the present study performed EFA tests in parallel to PCA using a principal axis factoring extraction technique with oblimin rotation to determine whether similar results with PCA were encountered relative to the number of factors, and whether the same items remained or dropped out. Running a principal axis factoring extraction method with oblimin rotation of 37 items initially yielded nine distinct factors similar to PCA. Consistently, items (GEXCEED 1 and GACHIEV 3) were loaded together on the 8th factor and item (BLPER1) was hanging with them as well as on its underlying factor. The Eigen value for the 9th factor was just 1.04, as several

[13] Based on Pallant (2007, p.180), the current study uses factor analysis as a general term to indicate any of this family of extraction techniques including principal component analysis. PCA and EFA are often referred to collectively as factor analysis (Brown, 2009)

[14] The PCA results are based on Eigen value greater than 1, and were not constrained to a fixed number

[15] The cost items in both constructs goal achievement and goal exceedance were deleted because these items have low item-total correlation with their constructs. Accordingly, goal achievement and goal exceedance have limitations in capturing the cost issue explicitly. However, it is implied that GACHIEV 7 and GEXCEED 5 cover service and cost issues, as these items evaluate the goal and expectation of the relationship which cannot be fulfilled unless the cost and service performance are acceptable.

items (INOV1, INOV2 and GACHIEV 4) were hanging under this factor as well as on their underlying factors with very low loadings. The produced results from performing principal axis factoring were closer to PCA, however, the factor loading of items were slightly lower than PCA and the average variance extracted was 61.5%.

From a series of principal component analyses results via varimax, some items with low factor loadings compared to the other items of the same construct and/or with cross-loadings are dropped prior to and/or after confirmatory factor analysis (CFA) to improve the measurement model (FLEX5, INOV4, INOV5, EXPERT1, OPPO3, OPPO4, GACHIEV3, GACHIEV4, GEXCEED1 and GEXCEED4). After removing items[16] that are poorly related to their factors and/or decreased the fitness of the measurement model, the result yielded seven distinct components that account for 71.76 % of variance in the data having Eigen values of above 1. Only items above 0.45 are retained (see Table 2.3b Appendix 2).

The results support the unidimensionality of the measurement items, where every set of items are loaded on the constructs they intend to measure. From PCA all the items loading are above the value of 0.6 except item (GACHIEV 7), which is 0.48. Component 1 represents LSPs' expertise (EXPERT); component 2 represents LSPs' flexibility (FLEX); component 3 represents LSPs' goal achievement (GACHIEV); component 4 represents LSPs' opportunism (OPPO); component 5 represents buyer logistics performance (BLPER) (textile and clothing exporting companies); component 6 represents LSPs' innovation (INOV) and component 7 represents goal exceedance (GEXCEED). A full measurement model resulting from confirmatory factor analysis (CFA) is presented in the subsequent sections confirming the results of the principal component analysis. Based on the result achieved from principal component analysis, after purifying scales by assessing unidimensionality, reliability and running confirmatory factor analysis, summative scale scores were constructed as the mean of a set of items that loaded highly on a factor. Accordingly, seven variables were constructed based on summative scale scores for every factor. These variables are used as constructs in the regression analysis to examine the interaction effects.

[16] Items have been dropped item by item during the series of principal component analysis and CFA until achieving the final result.

7.4 Construct validation

Construct validity of a measurement refers to "the extent to which an operationalization of a construct actually measures what it purports to measure" (John and Reve, 1982, p.520). It is a prerequiste condition for theory development and testing (Peter,1981). According to Dunn et al. (1994) and Peter (1981), construct validity is assured, first, when its measurement evaluates the magnitude and direction of a representative sample of the attributes of a construct; and second to the degree that the measure is not mixed with items that measure other constructs.

There are three key dimensions of construct validity to be considered: internal consistency and reliability, convergent validity and discriminant validity (John and Reve, 1982). According to Venkatraman and Grant (1986), internal consistency of an operationalized construct refers to both reliability and unidimensionality. The basis for internal consistency is that scale indicators should all measure the same construct and are highly intercorrelated (Hair et al., 2010). Unidimensionality and reliability represent dual constraints that must be fulfilled as a condition for analyzing causal relationships among constructs as noted by Anderson and Gerbing (1982).

7.4.1 Assessment of unidimensionality

Unidimensionality is defined by Hattie (1985,p.139) as" the existence of one latent trait underlying the data". A set of items (scale) cannot have construct validity unless it is unidimensional (Dunn et al.,1994). Thus, unidimensionality confirms that all the items measure the underlying theoretical construct of interest (Venkatraman and Grant, 1986, p.82). In this study, unidimensionality is initially examined by a principal componant analysis that has yeilded seven componants with acceptable factor loadings (see Table 2.3b, Appendix 2). Then, unidimensionality is confirmed by confirmatory factor anaylsis (CFA), as CFA "affords a stricter interpretation of unidmensionality" (Gerbing and Anderson, 1988, p.186). The results are displayed later in the chapter. Before assessing reliability, indicators of scales are refined by the most common methods for scale refinements (1) item-total correlations, and (2) inter-item correlations within a given scale (Dunn et al., 1994).

Item-total correlation refers to the extent to which each item correlates with the total score (Hair et al., 2010). It is a statistical correlation between the given item and the scale to which it belongs (Dunn et al.,1994, p.160). Rule of thumb recommends that the item-total correlation has to exceed 0.50 (Hair et al., 2010). Item-total correlation is examined in this study (see Table 2.4, Appendix 2). All item-total correlations in every construct under study exceed 0.5, except one item (BLPER 1 is 0.4) , which ensures scale reliability and internal consistency among the underlying constructs in the study.

Inter-item correlation matrix indicates correlation among items for every construct, thus all values should be positive to show that the items measure the same underlying characteristics of the construct (Pallant, 2007). Rule of thumb suggests that the inter-item correlation has to exceed 0.30 (Hair et al., 2010). Inter-item correlation is examined in this study (see Table 2.5, Appendix 2). All inter-item correlations in every construct exceed 0.3, which ensures scale reliability for every underlying construct, and the correlation is significant at the 0.01 level (2-tailed).

7.4.2 Assessment of reliability

Reliability is defined as "the ratio between true score variance to observed score variance" (Hattie,1985, p.139). It is "an assessment of the degree of consistency between multiple measurements of a variable" (Hair et al., 2010, p.127). It is a necessary but not sufficient condition for construct validity (Mentzer and Flint, 1997). There are different forms for assessing reliability: (1) Test-retest: which involves taking a measurement of a variable at two different points in time (t and t+1) (O' Leary-Kelly and Vokurka, 1998). (2) Alternative forms method which measure one variable with two different measurement instruments at two different points in time (O' Leary-Kelly and Vokurka, 1998). (3) Cronbach's alpha, which is extensively used for assessing reliability. Cronbach's alpha assesses the consistency of the entire scale (Hair et al., 2010), and evaluates the quality of the instrument (Churchill, 1979). Coefficient α is based on the correlations among the indicators that encompass a measure for the underlying construct (O' Leary-Kelly and Vokurka, 1998). Coefficient α can range from 0 to 1; the higher α indicates higher reliability of the scale and represents the true score of a measure (O' Leary-Kelly and Vokurka, 1998). Scales for Cronbach's alpha that exceed minimum 0.70 are considered to be reliable and indicate good internal consistency among items on a scale (Garver and Mentzer,1999; Hair et al., 2010). (4) Composite reliability method uses confirmatory factor analysis to derive a composite reliability index (O'Leary-Kelly and Vokurka,1998). The composite reliability index ranges from 0 to 1, where estimates of reliability that are 0.7 or higher indicate good scale reliability and reveal that all the measures consistently represent the same construct (Hair et al., 2010). Composite reliability excludes measurement error, and is based on the proportion of variance attributable to only the latent variable (O' Leary-Kelly and Vokurka, 1998).

In this study, Cronbach's alpha and composite reliability are used to assess the reliability of scales. As displayed below in Table 7.4, alpha coefficient for all the constructs exceeds 0.7, which indicates good internal consistency for each construct (Fornell and Larcker, 1981; Hair et al., 2010). Furthermore, composite reliability[17] for each construct is computed using AMOS output, and as shown in the results presented in Table 7.4, composite reliability for each construct is greater than 0.7, indicating good scale reliability for every construct.

Table 7.4: Coefficient alpha and composite reliability

	Construct	Cronbach's alpha	Composite reliability
1	Expertise	.90	.89
2	Flexibility	.86	.87
3	Innovation	.78	.84
4	Opportunism	.78	.80
5	Goal Achievement	.82	.85
6	Goal Exceedance	.79	.83
7	Buyer Logistics Performance	.78	.87

7.4.3 Convergent validity

Convergent validity relates to the "degree to which multiple methods of measuring a variable provide the same results" (O' Leary-Kelly and Vokurka, 1998, p.399). Convergent validity is achieved when the factor loadings are all statistically significant (Bagozzi, et al. 1991; Dunn et al., 1994). According to Hair et al. (2010), standardized loading estimates should be 0.5 or higher, and ideally 0.7. In this study, convergent validity is assessed through confirmatory factor analysis, as estimates for all items are significant (P<.05), and all standardized factor loadings are greater than 0.6 with high t-values as displayed below in Table 7.5, except item BLPER1, which has low item loading (0.421). Thus, the results from confirmatory factor analysis support convergent validity. Fornell and Larcker (1981) suggest using the average variance extracted (AVE) as a criterion for assessing convergent validity.

[17] Composite reliability= (sum of standardized loading)²／((sum of standardized loading)² + sum of error variance). Error variance is the delta computed as (1-squared factor loading) (Hair et al.,2010).

Table 7.5: Measurement model CFA (factor loading and AVE) results (n= 153)

	Code	Item	Descriptions	Standardized Factor Loading	T- Value	AVE
1	Flexibility FLEX	FLEX1	Open to making changes to accommodate our needs	0.663[a]		.64
		FLEX2	Ready to adjust its operation to meet sudden needs	0.861	(8.535)	
		FLEX3	Flexible in response to our short notice requests	0.829	(9.007)	
		FLEX4	Flexible enough to handle changes	0.829	(8.278)	
2	Innovation INOV	INOV1	LSP continuously optimizing our logistics process.	0.867 [a]		.64
		INOV2	LSP continuously makes suggestions for improvements	0.711	(7.134)	
		INOV3	LSP by itself modifies the logistics processes to cope with changes if necessary	0.806	(7.678)	
3	Expertise EXPERT	EXPERT2	Experience of our LSP's chosen contact person is adequate for handling our products	0.694 [a]		.67
		EXPERT3	The knowledge of our LSP's chosen contact person is very high in our business	0.734	(11.208)	
		EXPERT4	LSP's chosen contact person has strong communication skills	0.883	(10.048)	
		EXPERT5	LSP's chosen contact person is well trained to work with us	0.938	(10.392)	
4	Opportunism OPPO	OPPO1	LSP sometimes provides inaccurate information	0.608 [a]		.50
		OPPO2	LSP is sometimes not trustworthy	0.626	(6.131)	
		OPPO5	To a certain extent, LSP is not always sincere in its dealing	0.822	(7.238)	
		OPPO6	Sometimes, our LSP breaches agreements for its own benefit	0.736	(6.999)	
5	Goal Achievement GACHIEV	GACHIEV1	LSP always delivers services at required time	0.688 [a]		.54
		GACHIEV2	LSP frequently delivers high quality services	0.826	(8.935)	
		GACHIEV5	Our LSP's lead time is very short	0.657	(7.270)	
		GACHIEV6	High order accuracy from LSP	0.831	(9.416)	
		GACHIEV7	LSP completely fulfills the relationship goals and expectations	0.640	(7.104)	
6	Goal Exceedance GEXCEED	GEXCEED2	LSP service quality	0.810 [a]		.61
		GEXCEED3	LSP timeliness of services	0.825	(8.771)	
		GEXCEED5	Relationship goals and expectations	0.709	(7.293)	
7	Buyer Logistics Performance BLPER	BLPER1	Our logistics costs are relatively low	0.421 [a]		.59
		BLPER2	Ability to meet the promised delivery time	0.864	(5.240)	
		BLPER3	Ability to respond promptly to the needs of our key customers	0.921	(5.290)	
		BLPER4	Ability to offer short lead-time	0.661	(4.817)	

a: Items are fixed for scaling purposes

According to Fornell and Larcker (1981) and Hair et al. (2010), an AVE of 0.5 or higher indicates adequate convergence and satisfactory convergent validity between constructs and their individual items. However, a value less than 0.5 is problematic because the variance due to measurement error is larger than the variance captured by the construct (Fornell and Larcker, 1981). Average variance extracted (AVE)[18] for the underlying constructs in this study is presented in Table 7.5, where the AVE for each construct is greater than or equal to 0.50, which demonstrates high convergent validity between the constructs and their individual items.

7.4.4 Discriminant validity

Discriminant validity is the "degree to which measures of different constructs are unique" (O' Leary-Kelly and Vokurka, 1998, p.399), where the individual measured items represent only one construct, which is different from another construct with its individual measured items (Hair et al., 2010). According to Fornell-Larcker criterion, evidence for discriminant validity is assured by comparing the constructs' average variance extracted (AVE) with the square of the correlation estimate (standardized) between the constructs (Fornell and Larcker,1981), where, constructs' AVE values (>0.5) should be greater than the squared correlations estimates between constructs (Hair et al., 2010). This assures that each construct shares more variance with its own sets of indicators than with another construct that represents different sets of indicators.

Discriminant validity is assessed through confirmatory factor analysis where all items are loaded on their designated constructs with no cross-loadings. As illustrated in Table 7.6, a matrix of square multiple correlations and AVE values for all constructs are presented, where constructs' AVE are greater than the squared correlation estimate between constructs which supports discriminant validity. According to Dunn et al. (1994), when support is found for convergent and discriminant validity, construct validity is achieved. Furthermore, the study examines face validity and nomological validity as a component of construct validity.

[18] Using AMOS CFA output, average variance extracted AVE is computed for each construct as the sum of the squared standardized factor loadings divided by the number of items (Fornell and Larcker, 1981; Hair et al.,2010).

Table 7.6: Discriminant validity, AVE and squared correlation estimate

	1	2	3	4	5	6	7
Expertise	1						
Flexibility	0.15	1					
Opportunism	0.19	0.15	1				
Innovation	0.26	0.19	0.25	1			
Goal Achievement	0.33	0.27	0.33	0.28	1		
Goal Exceedance	0.28	0.23	0.20	0.16	0.37	1	
Buyer Logistics Performance	0.35	0.14	0.13	0.23	0.35	0.19	1
AVE	**.67**	**.64**	**.50**	**.64**	**.54**	**.61**	**.59**

7.4.5 Face validity and nomological validity

Face validity refers to the extent to which the content of items is consistent with the conceptual definition of the construct, which is based exclusively on the researcher's judgment (Hair et al., 2010). Constructs of the study are defined according to the literature, where all items of the questionnaire are drawn (with some minor amendments to suit the context of the study) from previous studies in logistics outsourcing performance literature that have employed similar constructs. At an early stage of this research during the pilot study, the questionnaire was reviewed by experts in logistics from academia and the industry to ensure that all items captured the domain of the constructs and that the wording was clear, simple, precise and not confusing to the respondents. This procedure ensured that the questionnaire possessed face validity.

Nomological validity is assessed by examining whether the correlations between the constructs in the measurement theory make sense based on theory or prior research (Hair et al., 2010). The construct correlations are used to asses nomological validity. All correlations are significant and inter-construct correlations are all positive, except for the opportunism construct which according to TCA theory has a negative relationship with the other constructs in the study (see Table 2.2, Appendix 2).

7.5 Evaluation of the measurement model

Measurement validity “depends on (1) determining satisfactory levels of goodness-of–fit for the measurement model and (2) confirming construct validity” (Hair et al., 2010). The main role of the model evaluation procedure is to determine the goodness-of-fit between the hypothesized model, and the sample data (Byrne, 2010). CFA is a powerful method for addressing construct validity and providing detailed information on reliability and validity (Bagozzi et al., 1991). The CFA comprises inferential statistics that allow testing of the hypothesis regarding the unidimensionality of a set of measures and the assessment of the overall process of construct validation (O' Leary-Kelly and Vokurka, 1998). According to Bagozzi et al. (1991, p.429), the CFA provides the following advantages; (1) it measures the overall degree of fit provided in any particular application, (2) it indicates how well the convergent and discriminant validity are achieved.

The model fit depends on the extent to which a hypothesized model adequately describes sample data (Byrne, 2010). Thus, the closer the values of the estimated covariance matrix (theory) and the observed covariance matrix (reality), the better the model is believed to fit (Hair et al., 2010). There are numerous indicators of goodness-of-fit to evaluate the model, and it is worth mentioning that structural equation modeling (SEM) scholars recommend using more than one of these fit indices (Hoe, 2008). Brown (2006) identifies three categories of fit indices; first of which is absolute fit indices that are a direct measure of how well the theory fits the sample data, such as Chi-square and root mean square residual (RMR). Second, parsimony correction indices are adjustments to penalize a less parsimonious model, as a complex model is considered to have a poorer fit (Harrington, 2009). According to Hair et al. (2010), the parsimony fit measure is improved either by a better fit or by a simpler model with fewer estimated parameters paths. Adjusted goodness-of-fit index (AGFI) and parsimony normed fit index (PNFI) are examples of parsimony fit indices. Third, incremental fit indices evaluate the fit of a model relative to a more restricted nested baseline model (Hair et al., 2010) such as comparative fit index CFI and Tucker-Lewis index TLI.

There are three criteria recommended by Marsh et al. (1988) for ideal fit indices: (1) relative independence of sample size; (2) accuracy and consistency in assessing different models; (3) ease of interpretation through a pre-set range. Based on these criteria, Garver and Mentzer (1999) recommend the Tucker-Lewis index (TLI), the comparative fit index (CFI) and the root mean square error of approximation (RMSEA) index. Furthermore, other fit indices are recommended by SEM scholars to evaluate model fit such as Chi-square, Normed Chi-square, standardized mean square residual (SRMR). The current study utilizes different goodness of fit indicators such as Chi-square, Normed Chi-square, RMSEA, CFI, TLI and SRMR indices.

Chi-square (χ2)

Chi-square is a fundamental measure of differences between the observed and estimated covariance matrices (Hair et al., 2010). Chi-square (χ^2) is the most common method of evaluating goodness-of-fit (Hoe, 2008). A low Chi-square value, representing non-significance, is considered to be a good fit (ibid) because it demonstrates that there is no statistically significant difference between the estimated and observed matrices (Hair et al., 2010). However, Chi-square is sensitive to sample size, as it can be significant with large samples, which is considered a limitation among others (Harrington, 2009). An alternative evaluation of the Chi-square statistics is the Normed Chi-square fit index which is the ratio of Chi-square to degree of freedom; 3:1 or less is considered a good indicator of model fit (Hoe, 2008; Kline, 1998). Thus, a low Chi-square value relative to its degree of freedom represents good fit (Hoe, 2008).

Root mean square error of approximation (RMSEA)

RMSEA index measures "the discrepancy in the degree of freedom between the observed and the estimated covariance matrices per degree of freedom" (Garver and Mentzer, 1999, p. 41). RMSEA considers the error of approximation in the poplutation (Byrne, 2010), hence, it examines the extent to which the model fits reasonably well in the population (Harrington, 2009). One key advantage of RMSEA is that a confidence interval can be constructed giving the range of RMSEA values for a given level of confidence (Hair et al., 2010). Moreover, sample size does not affect RMSEA (Garver and Mentzer, 1999). Values for RMSEA are ranged from 0 to 1, where values less than 0.05 indicate good fit, values up to 0.08 represent reasonable fit, and ones between 0.08 and 0.10 indicate mediocre fit (Hoe, 2008).

Comparative fit index (CFI)

According to Bentler (1990), CFI is a non-centrality parameter-based index that is developed to overcome the limitation of sample size effects. The CFI is an incremental fit index that evaluates how well the estimated model fits are relative to the null model (Hair et al., 2010) in the sense of how well the hypothesized model adequately describe the sample data (Byrne, 2010). Values for the CFI are ranged between 0 and 1, hence, values above 0.9 indicate that the model fits well (Hair et al., 2010).

The Tucker-Lewis index (TLI)

The TLI is also known as the non-normed fit index (NNFI), which compares the estimated model's fit to the null model (Garver and Mentzer, 1999). The TLI measures parsimony by assessing the Chi-square values of the estimated model to the Chi-square value of the null model (Hair et al., 2010). It ranges between 0 and 1; an acceptable threshold for this index is 0.9 or higher, which signifies a better fit (Garver and Mentzer, 1999).

Standardized mean square residual (SRMR)

SRMR is based on the “discrepancy between the correlations in the input matrix and the correlations predicted by the model” (Harrington, 2009, p.51). It ranges from 0 to 1; a value less than or equal to 0.05 represents a well-fitting model (Byrne, 2010), and up to 0.09 represents reasonable fit (Hu and Bentler,1999).

7.6 Confirmatory factor analysis (CFA) of the latent variables under study

To examine whether the hypothesized model fits the observed data, the study uses the maximum likelihood method in confirmatory factor analysis using AMOS 21 to assess the hypothesized measurement model. Maximum likelihood (ML) is the most commonly used estimation method (Harrington, 2009). According to Brown (2006), the maximum likelihood method "aims to find the parameter values that make the observed data most likely". ML has several desirable statistical properties: (1) it provides standard errors (SEs) for each parameter estimate that is used to compute p-values and confidence interval; (2) its fitting function is used to calculate many goodness-of-fit indices (Harrington, 2009). An important assumption underlying this estimation procedure is that the scale of the observed variables is continuous (Byrne, 2010). According to Bollen and Barb (1981), categorical data can be analyzed as continuous data when five or more categories are used, as less than five categories can cause measurement imprecision. Based on a literature review of analyzing categorical data as continuous, Byrne (2010, p.148) notes that "when the number of categories is large and the data is approximately normal distribution, failure to address the ordinality of the data is likely negligible". This study uses seven–point Likert scale, which implicitly are viewed as continuously scaled data.

7.6.1 Confirmatory factor results for the research model

Confirmatory factor analysis results based on 153 respondents reveals an adequate model fit to the sample data. CFA includes all constructs in the research model except control variables. The results assert unidimensionality, where indicators are loaded on their designated construct, and affirm discriminate validity where constructs’ AVE values are greater than the squared correlations estimates between constructs. In addition, all standardized factor loadings are greater than 0.6 except one item (BLPER1), and AVE for each construct is greater than or equal 0.5, which indicates convergent validity as displayed in Table 7.5.

According to the confirmatory factor analysis, the overall model points to an adequate model fit, as revealed by the goodness fit statistics. Although a significant Chi-square statistic was obtained (χ^2 =437.655, degree of freedom= 297, p<.0.001) which suggests an unsatisfactory model fit, Byrne (2010) indicates that the significance of the Chi-square may be due to its sensitivity on sample size. Hence, Normed Chi-square is used as an alternative evaluation of the Chi-square statistics. A smaller Chi-square value relative to its degree of freedom is indicative of a good fit. Thus, the value of Chi-square to the degree of freedom (χ^2/df) provides a ratio of 1.474:1, which is less than the ratio of 3:1, which is considered a good indicator of model fit (Hoe, 2008). In addition, other fit indices that were examined are within the acceptable threshold: CFI= 0.935, TLI= 0.92, RMSEA= 0.056 (which falls within the confidence interval of 0.044 and 0.067 at 90% confidence level) and SRMR = 0.062. According to Hu and Bentler (1999, p.27), SRMR that is "close to" 0.09 or lower, represents a reasonable fit. Therefore, it is concluded from these results that CFA supports the model's fit as it is within the acceptable range of goodness-of-fit, and thus supports further analysis on the theoretical relationships.

7.6.2 Confirmatory factor analysis for the research sub-model

A confirmatory factor analysis is performed to assess the model fit of the research sub-model. All the constructs in the research sub-model are included in CFA except control variables and interaction effects. The results reveal an adequate fit of the model to the data. Chi-square = 326.971, degree of freedom= 209, p=0.000, the Normed Chi-square (χ^2/df) provides a ratio of 1.564:1, which is less than the ratio of 3:1; CFI= 0.935, TLI= 0.922, RMSEA= 0.060 (which falls within the confidence interval of 0.048 and 0.073 at 90% confidence level). According to Hoe (2008), values of RMSEA up to 0.08 represent reasonable fit. Furthermore, SRMR = 0.064, represents reasonable fit lower than 0.09 (Hu and Bentler,1999). Therefore, CFA results support the model's fit as it is within the acceptable range of goodness-of-fit, and thus supports further analysis to examine the interaction hypotheses.

7.7 Common method variance

It is believed that relationships between variables measured with the same method will be inflated due to the action of common method variance (CMV) (Spector, 2006). Common method variance is the variance "that is attributable to the measurement method, rather than to the constructs the measures represent" (Podsakoff et al., 2003, p. 879). It is known as a potential problem in behavioral research, as the measurement error can cause misleading conclusions which threaten the validity of the conclusions regarding the relationships between measures (Bagozzi et al., 1991; Podsakoff et al., 2003).

Spector (2006) explains that CMV typically occurs when cross-sectional, self-reported methods are utilized as a research instrument. There are different potential sources that raise common method biases such as having a common rater, a common measurement context, common item context or from the characteristics of the items themselves (Podsakoff et al., 2003). To reduce the possibility of common method bias, the study follows the approach of Podsakoff et al. (2003) by employing procedural and statistical techniques for controlling common method biases. Following the approach of Podsakoff et al. (2003) and Wagner et al. (2011) among other scholars, several procedural remedies related to questionnaire design were considered in the present study. The procedural methods include: separation of the measurement of the independent and dependent variables; utilizing simple, precise, and concise items; affirmation to key informants that their responses will be kept confidential; demonstrating that key informants have high relevant knowledge about the research issue; securing key informants' anonymity and indicating that there is no right or wrong answer.

Among different statistical control techniques suggested by Podsakoff et al. (2003) is Harman's single factor test, which is one of the most widely used techniques for assessing the common method variance (Podsakoff et al. 2003). This study utilizes Harman's single factor technique to examine common method variance using exploratory factor analysis[19]. According to Podsakoff et al. (2003, p.889), common method variance is present when "single factor emerges from the factor analysis or one general factor will account for the majority". An exploratory factor analysis is performed to extract single factor from un-rotated factor solution. Seven factors extracted with Eigen value are greater than one, representing 61% of the total variance in the study, with the largest factor accounting for 36% of the total variance. Since seven factors emerge and no single factor accounts for the majority of the variance (more than 50 percent), this is taken as evidence that common method variance is not an issue in the present study. Moreover, when implementing Harman's single factor test, CFA can be used as an alternative to EFA in assessing CMV (Malhorta et al., 2006).

Some studies used CFA to test the hypothesis that a single factor can account for all the variance (Podsakoff et al., 2003). In the CFA approach, all of the observed items are modeled as the indicators of a single factor that represents the method's effects (Malhorta and Birks, 2006, p. 1867). In this study, a confirmatory factor analysis based on maximum likelihood estimator was implemented using AMOS 21, where a common single factor was added and regressed on all the individual manifested items. The results indicate that all items had a regression weight of 0.43, which is equal to about 0.18 percent of the variance, which is less than 50 percent.

[19] Exploratory factor analysis is performed using principal axis factoring to examine CMV using Harman's single factor test.

Furthermore, the study asseses the correlation matrix (see Table 2.2, Appendix 2) and there is no extremely high correlation between constructs (0.90 or above), therefore CMV is not a major concern (Lai et al., 2012). Hence, the collective results of these three tests suggested that common method variance is not a potential problem in this study.

7.8 Chapter summary

This chapter has presented the validation and reliability of the measurement model. The data has been examined and has revealed that it meets the parametric assumptions for further analysis. Factor analysis was performed followed by confirmatory factor analysis to evaluate the measurement model. In addition, measures were assessed for their unidimensionality, reliability and validity. Confirmatory factor analysis' results reveal satisfactory models fit for the research model and its sub-model, which indicate that the hypothesized models adequately describe the sample data according to goodness-of-fit indices. Moreover, common method variance is tested to assure that CMV is not a problem in this study. The next chapter discusses models estimations and findings.

CHAPTER EIGHT

MODEL ESTIMATIONS AND FINDINGS

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MODEL ESTIMATIONS AND FINDINGS

8.1 Introduction

This chapter presents data analysis processes and their outcomes for the logistics outsourcing performance model. The study has multiple independent and dependent variables, which need powerful statistical techniques in order to estimate research model hypotheses simultaneously. Hence, this study uses structural equation modeling to test the research model hypotheses. In addition, the study opts for a multiple regression estimation technique to examine the hypotheses on the interaction effects in the research sub-model. This chapter presents the empirical results of the study.

8.2 Model estimations techniques

8.2.1 Estimation of the causal relationship among the variables using structural equation modeling

Scholars describe structural equation modeling (SEM) as a powerful statistical technique that combines a measurement model (confirmatory factor analysis) and a structural model into a simultaneous statistical test (Garver and Mentzer, 1999). Chin (1998, p.297) demonstrates that SEM is characterized by the flexibility that enables the researcher to: (a) model relationships simultaneously among multiple independent and dependent variables; (b) construct unobservable latent variables, (c) model errors in measurements for observed variables, and (d) conduct confirmatory factor analysis. Thus, SEM is valuable in inferential data analysis and hypotheses testing (Hoe, 2008). It specifies the pattern by which certain latent variables directly or indirectly influence other specific latent variables in the model (Byrne, 2010).

According to Jöreskog and Sörbom (1993, p.113), “The testing of the structural model, i.e., the testing of the initially specified theory, may be meaningless unless it is first established that the measurement model holds”. The study follows Anderson and Gerbing’s (1988) two-step approach: the first step tests reliability, unidimensionality, validity of the measurement model through confirmatory factor analysis as presented in the previous chapter. The second step involves a full structural model that allows for testing of the hypotheses and causal linkages among the theoretical constructs (Anderson and Gerbing,1988).

8.2.2 Full structural model test for logistics outsourcing performance

As discussed in the previous chapter, the parametric assumptions of multivariate analysis have been approximately fulfilled and the measurement model represents a good fit, which supports further analysis of the theoretical relationship. The structural model yields satisfactory key model fit indices. Chi-square =602.386 and degree of freedom= 402, p=0.000, and the Normed Chi-square (χ^2/df) provides a ratio of 1.498:1, which is less than the ratio of 3:1. This is considered a good indicator of model fit (Hoe, 2008). In addition, other fit indices are examined, and they are within the acceptable threshold: CFI= 0.912, TLI= 0.891 and RMSEA= 0.057, which falls within the confidence interval of 0.048 and 0.067 (at 90% confidence level) and SRMR = 0.064. TLI is slightly lower than the cut-off; this is because when the sample size is small, (as in this study), the value of the non-normed fit index NNFI can indicate poor fit despite other indices indicating a good fit (Bentler, 1990; Hooper et al (2008). Although, SRMR is greater than 0.05, it is considered reasonably acceptable according to Hu and Bentler (1999, p.27), as the value is lower than 0.09. It is concluded from these results that the structural model's fit is within the acceptable range of goodness-of-fit indices.

8.2.3 Assessment of logistics outsourcing performance model's hypotheses

AMOS outputs on paths' standardized coefficient with relevant critical ratios were examined to test the hypotheses as displayed in Table 8.1. $H1_{\mathbf{a}}$ examines the relationship between LSP's flexibility capability and perceived goal achievement. The results support the hypothesized positive association, ($H1_{\mathbf{a}}$: β = .24, t = 2.536, and p < 0.01 one-tailed). $H1_{\mathbf{b}}$ examines the relationship between LSP's flexibility capability and perceived goal exceedance. The results support the hypothesized positive association ($H1_{\mathbf{b}}$: β = .29, t = 2.782, and p < 0.01 one-tailed). $H2_{\mathbf{a}}$ examines the relationship between LSP's expertise capability and perceived goal achievement. The results support the hypothesized positive association ($H2_{\mathbf{a}}$: β =.26, t= 3.607, and p < 0.001 one-tailed). $H2_{\mathbf{b}}$ examines the relationship between LSP's expertise capability and perceived goal exceedance.The results support the hypothesized positive association ($H2_{\mathbf{b}}$**:** β=.29, t=3.615, and p < 0.001 one-tailed). $H3_{\mathbf{a}}$ examines the relationship between LSP's innovation capability and perceived goal achievement. The results support the hypothesized positive association, ($H3_{\mathbf{a}}$: β = .14, t=1.658. and p<0.05 one-tailed). $H3_{\mathbf{b}}$ examines the relationship between LSP's innovation capability and perceived goal exceedance. The results do not support the hypothesized positive association ($H3_{\mathbf{b}}$: β = .01, t = 0.086 and p> 0.05 one-tailed).$H4_{\mathbf{a}}$ examines the relationship between LSP's opportunism

and perceived goal achievement. The results support the hypothesized negative association, ($H4_{a}$: β = -.25, t = -3.203 and p < 0.001 one-tailed). $H4_{b}$ examines the relationship between LSP's opportunism and perceived goal exceedance. The results support the hypothesized negative association ($H4_{b}$: β= -.17, t = -2.081, and p < 0.05 one-tailed)**.** $H5_{a}$ examines the relationship between goal achievement and buyer logistics performance. The results support the hypothesized positive association, ($H5_{a}$: β=.31, t = 3.584 and p<0.001 one-tailed). $H5_{b}$ examines the relationship between goal exceedance and buyer logistics performance. The results support the hypothesized positive association ($H5_{b}$: β = .15, t = 1.998 and p < 0.05 one-tailed). The structural model explains 58 percent of the variance of goal achievement, 45 percent of the variance of goal exceedance and 42.5 percent of the variance explained by buyer logistics performance.

Impact of Control variables

Examining the effects of control variables in the model (Table 8.1), indicate that industry sub-sector 1 (home textiles) has a negative significant effect on goal achievement, which reflects the fact that the companies belonging to home textiles compared to ready-made garments (the reference category) have a lower goal achievement performance (β= -.26, t = -2.022 and p < 0.05 one-tailed). Industry sub-sector 1 (home textiles) has no significant effect on goal exceedance and buyer logistics performance. Industry sub-sector 2 (spinning and weaving textiles) compared to ready-made garments (the reference category) has no significant effect on goal achievement, goal exceedance and buyer logistics performance.

Export intensity indicates a positive significant effect on goal achievement (β = .32, t = 1.895 and p < 0.05 one-tailed) and buyer logistics performance (β = .29, t = 1.971 and p < 0.05 one-tailed). However, export intensity has an insignificant effect on goal exceedance. Moreover, relationship duration has significant effects on buyer logistics performance (β = .13, t = 2.492 and p < 0.01 one-tailed), whereas it has no significant effect on either goal achievement or goal exceedance. Finally, the frequency of order has no significant effect on goal achievement, goal exceedance and buyer logistics performance.

Table 8.1: Results from the test of logistics outsourcing performance model

Hypothesis				Path Coefficient	C.R.
$H1_{a\,(+)}$	Flexibility	→	Goal Achievement	.24	2.536**
$H1_{b\,(+)}$	Flexibility	→	Goal Exceedance	.29	2.782**
$H2_{a\,(+)}$	Expertise	→	Goal Achievement	.26	3.607***
$H2_{b\,(+)}$	Expertise	→	Goal Exceedance	.29	3.615***
$H3_{a\,(+)}$	Innovation	→	Goal Achievement	.14	1.658*
$H3_{b\,(+)}$	Innovation	→	Goal Exceedance	.01	0.086 ns
$H4a_{\,(-)}$	Opportunism	→	Goal Achievement	-.25	-3.203***
$H4_{b\,(-)}$	Opportunism	→	Goal Exceedance	-.17	-2.081*
$H5_{a\,(+)}$	Goal Achievement	→	Buyer Logistics Performance	.31	3.584***
$H5_{b\,(+)}$	Goal Exceedance	→	Buyer Logistics Performance	.15	1.998*
Control Variables					
	Industry Sub-sector 1^{a1}	→	Goal Achievement	-.26	-2.022*
	Industry Sub-sector 1^{a1}	→	Goal Exceedance	-.18	-1.276 ns
	Industry Sub-sector 1^{a1}	→	Buyer Logistics Performance	.02	0.160 ns
	Industry Sub-sector 2^{a2}	→	Goal Achievement	.09	0.773 ns
	Industry Sub-sector 2^{a2}	→	Goal Exceedance	.05	0.373 ns
	Industry Sub-sector 2^{a2}	→	Buyer Logistics Performance	.05	0.544 ns
	Export Intensity	→	Goal Achievement	.32	1.895*
	Export Intensity	→	Goal Exceedance	-.17	-.922 ns
	Export Intensity	→	Buyer Logistics Performance	.29	1.971*
	Relationship Duration	→	Goal Achievement	.02	0.392 ns
	Relationship Duration	→	Goal Exceedance	-.09	-1.497ns
	Relationship Duration	→	Buyer Logistics Performance	.13	2.492**
	Frequency of Order	→	Goal Achievement	.06	1.257 ns
	Frequency of Order	→	Goal Exceedance	-.01	-0.116 ns
	Frequency of Order	→	Buyer Logistics Performance	-.01	-0.340 ns
R^2 for Goal Achievement		58%			
R^2 for Goal Exceedance		45%			
R^2 for Buyer Logistics Performance		42.5%			

a^1 Industry Sub-sector 1 is dummy variable (where 1 = companies belonging to the home textiles sector; 0 = Otherwise, a^2 Industry Sub-sector 2 is a dummy variable (where 1= companies belonging to the spinning and weaving sector; 0 = Otherwise

* P<0.05 one-tailed (t -values greater than 1.645)

**P<0.01 one-tailed (t - values greater than 2.326)

***P<0.001 one-tailed (t - values greater than 3.090)

ns: not significant.

Figure 8.1 presents the results of the structural model for logistics outsourcing performance

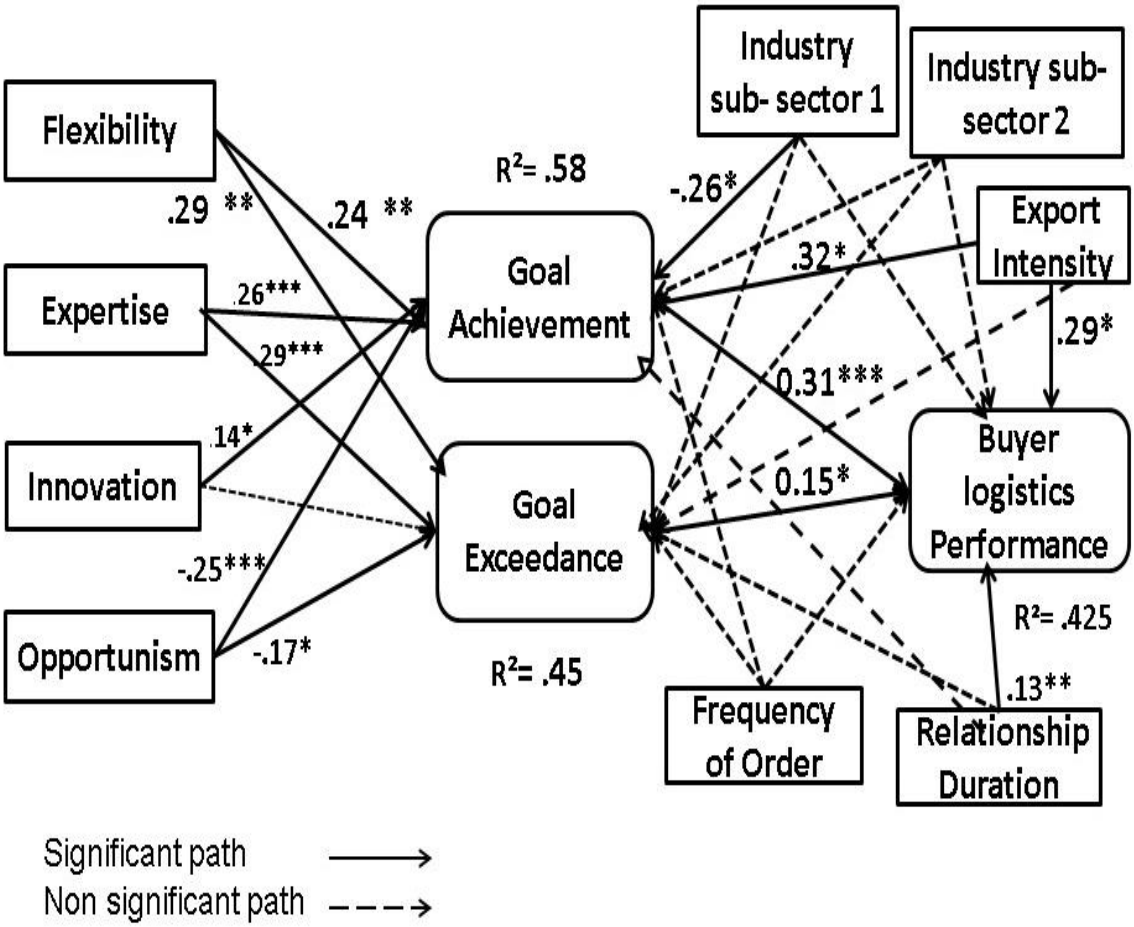

Figure 8.1: Structural model results for logistics outsourcing performance

8.2.4 Estimation techniques of the interaction effects

Maloni and Carter (2006) suggest including moderating variables in the logistics outsourcing relationships to enhance the understanding of the relationship between predictors and criterion. In addition, Rindfleisch et al. (2010) recommend future research to examine the moderating role of opportunism to enrich the understanding of the nature of this construct. The study examines the contingent effect of opportunism on the association between the LSPs' capabilities (flexibility and expertise) and the perceived logistics outsourcing performance.

A moderator is described by Baron and Kenny (1986, p.1174) as a "qualitative (e.g race, sex, class) or quantitative (e.g level of rewards) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable". Moderation implies that the causal relationship between two variables (independent and dependent) varies according to the level or value of the moderator variable (Baron and Kenny, 1986; Holcomb and Hitt, 2007). Hence, an interaction effect is believed to be present when the effect of the predicted variable on the criterion variable differs, depending on the value of the moderator variable (Jaccard and Turrisi, 2003).

Including interaction effects in the model of the study is a good analytic strategy that can yield several advantages as summarized by Friedrich (1982). First, a multiplicative term yields coefficients that provide detailed descriptions of the relationship between a dependent variable and a set of independent variables. Second, variation in the dependent variable can be better explained by a multiplicative term by increasing R^2, which enhances the understanding of the dependent variable. Third, the improved explanatory power of the model reveals an enhancement in the statistical significance of the effects of all the variables that are evaluated by the F test. Finally, including a multiplicative term is a better analytical strategy than excluding it; even if an interaction is not significant, its inclusion will be of less harm.

There are several methods used to estimate the interaction effect. Ping (1995) proposes three approaches: product term regression analysis, subgroup analysis, and indicant product analysis, as estimate techiques for the interaction effect.

Product term regression

Product term regression analysis is a popular technique in marketing studies (Ping, 1995), which is commonly known as multiplicative multiple regression (MMR). Product term regression analysis "regresses a dependent variable on independent variables comprised of summed indicants and their products" (Ping,1995, p.337). Generally, product term regression is preferred for estimating an interaction effect with continuous variables (Aiken and West, 1991; Cohen and Cohen, 1983; Jaccard et al., 1990). The estimates of interaction in product term regression are more accurate, as the moderator is kept in its original form, which may yield a more powerful statistical test of significance than subgroup analysis (Cohen and Cohen, 1983).

However, product term regression analysis is criticized for the loss of statistical power as the measures of reliability decline (Aiken and West, 1991). With respect to the latent variable interactions, product term regression does not consider measurement error, which produces biased and inconsistent coefficient estimates (Ping, 1995). Conversely, a structural equation modeling (SEM) technique is recommended by scholars as it provides a less biased assessment of the significance of moderator effects (Holmbeck, 1997).

Subgroup analysis

Subgroup analysis is based on dividing the study cases into subgroups. Then the model is estimated using either regression or structural equation modeling for each subgroup (Ping, 1995). The differences of coefficients among the subgroups can then be subjected to a test of statistical significance (ibid). In subgroup analysis, the continuous moderator variable can be dichotomized into low and high categories. However, dichotomizing a continuous variable ignores valuable information, as this categorization reduces a multipoint scale to a two points scale (Cohen and Cohen, 1983). Hence, subgroup analysis can be appropriate when the model is expected to be structurally different -theoretically- for different subgroups (Jaccard et al, 1990; Ping, 1995). However, subgroup analysis reduces the statistical power of the interaction effect, and possibly leads to false disconfirmation (Cohen and Cohen, 1983; Ping, 1995).

Indicant product analysis

Indicant product analysis specifies interactions and quadratic variables between latent variables in a structural equation modeling using products of indicants (Ping,1995). According to Bollen (1989), significance tests and model fit statistics produced by maximum likelihood (ML) are inappropriate for models with interactions. On this basis, the present study uses the MMR instead of SEM to analyze the interaction effect in the research sub-model. In addition, indicant product analysis has theoretical and practical limitations, where

the nonlinear form of the loadings and error terms of the indicant product complicate indicant product analysis (Ping, 1995). Nevertheless, this approach considers the measurement error (Bollen, 1989).

Measurement level and type of moderators

According to Baron and Kenny (1986); Garcia and Kandemir (2006) and Sharma et al. (1981), it is recommended that the selected analytical techniques to model moderation are based on the measurement level and type of moderating variables.

Measurement level

Baron and Kenny (1986) present four cases proposing different analytical techniques for modeling the moderating effect based on the measurement level of moderating variables. In case (1), the moderator and the independent variable are both categorical variables. The appropriate method recommended by the authors in this case is an analysis of variance design (ANOVA/MANOVA), where the moderation is indicated by an interaction. In case (2), the moderator is a categorical variable and the independent variable is a continuous variable, so the authors suggest a correlation method; however, this type of test assumes homogeneity of variance of the independent variable at each level of the moderator. In this case, multi-group structural equation modeling can be used (Garcia and Kandemir, 2006).

In case (3), when the moderator is a continuous variable and the independent variable is a categorical variable, multiplicative multiple regression (MMR) can be used in examining linear relationships between the independent variable and the dependent variable (Garcia and Kandemir, 2006). In case (4), where both the moderator and independent variable are continuous, MMR is an appropriate method to apply, providing that measurement error in the moderator and/or independent variable is taken into consideration (Garcia and Kandemir, 2006). From the cases reviewed, the fourth case is relevant to the present study, and accordingly MMR is considered suitable using product term analysis. Sharma et al. (1981) demonstrate that MMR keeps the integrity of a sample, which provides a basis for controlling the effects of a moderator variable.

Moderator types

Sharma et al. (1981,p.292) differentiate between two types of moderator variables: the first, which affects the strength of the relationship between predictor and criterion, is called a homologizer. It does not interact with the predictor variable, and is not significantly related to either the predictor or criterion variable, as the error term is postulated to be a function of the moderator variable. Sharma et al. (1981) recommend subgroup analysis to detect the homologizer moderator. The second moderator type, which modifies the form of the relationship between the predictor and criterion, can be called either a quasi-moderator

variable or pure moderator variable; both of them interact with the predictor variable. The moderator variable is called a quasi moderator if it is related to the criterion and /or predictor variable, and called a pure moderator variable if it does not relate to the criterion or predictor variable (Sharma et al. 1981). Garcia and Kandemir (2006) note that Baron and Kenny (1986) and Sharma et al. (1981) have similarities in their approaches, providing that form moderators are continuous variables and strength moderators are categorical variables.

Based on the above discussions, opportunism in this study is considered as "form quasi-moderator" as it affects the slope of the predictor–criterion relationship, and is related to the criterion variable. Garcia and Kandemir (2006) affirm that “form” moderators are best modeled using MMR. Based on the measurement levels and the type of moderators, the present study uses multiplicative multiple regression (MMR) as the analytical technique to model the interaction effects. MMR is generally considered a conservative method for identifying interaction effects, because the interaction terms are not tested for significance until the main effects of the independent variables are estimated in the regression equation (Buvik, 2002).

According to Jaccard et al. (1990), interaction effects are significant only if they add explanatory power to the regression model. Including interaction terms in regression models increase the possibility of a multicollinearity problem, as the independent variable and the moderator will be highly correlated with the interaction term (Cronbach, 1987). The multicollinearity problem can be reduced by centering the mean[20] of the independent variable and the moderator before testing the significance of the interaction term (Aiken and West 1991; Holmbeck, 1997; Jaccard and Turrisi, 2003). Accordingly, the independent variables and moderator in the underlying study are mean-centered to cope with possible multicollinearity problems (Cronbach, 1987).

8.2.5 Estimation of the interaction effect on logistics outsourcing performance model using multiplicative multiple regression analysis MMR

The present study opted for a multiple regression analysis with an ordinary least squares method to test the contingent effect of opportunism on the association of LSPs’ logistics capabilities (flexibility and expertise) and logistics outsourcing performance. This method is generally applied with studies of a similar nature to the present study (for example, Buvik, 2002; Burki, 2009; Mwakibinga, 2008).

[20] Centering the mean is to subtract the corresponding variable mean from each value for the independent variable and the moderator.

Due to the presence of interaction effects, the hierarchical multiple regression procedures with product terms using an ordinary least square estimation method are utilized to test the hypotheses of the study. In hierarchical multiple regression, variables are entered in blocks (steps) in a predetermined order (Pallant, 2007), where R square change is assessed for each block (Jaccard et al., 1990). Preliminary analysis has been conducted in Chapter Seven to ensure that there are no violations of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Before running regression analysis, the correlation matrix was first produced together with the corresponding means, standard deviations and reliability indices as shown in Table 8.2, which presents the resultant correlation matrix.

Table 8.2: Correlation matrix, descriptive statistics and reliability estimates for the logistics outsourcing performance model

Correlations

	1 2	3	4	5	6	7	8	9	10	11	12	13
Goal Achievement	1											
Goal Exceedance	.542**	1										
Flexibility[c]	.518**	.425**	1									
Expertise[c]	.565**	.476**	.442**	1								
Innovation	.487**	.337**	.443**	.454**	1							
Opportunism[c]	-.480**	-.352**	-.328**	-.378**	-.423**	1						
Opportunism x Flexibility	.340**	.279**	.303**	.273**	.268**	-.177*	1					
Opportunism x Expertise	.160*	.076	.283**	.210**	.138	-.195*	.478**	1				
Industry Sub-sector 1 [a1]	-.062	-.042	.010	.076	.209**	-.057	.185*	.047	1			
Industry Sub-sector 2 [a2]	.167*	.136	.190*	-.011	.128	-.200*	-.006	.095	-.213**	1		
Export Intensity	.121	-.033	-.062	.041	-.028	.084	-.006	.041	-.251**	-.183*	1	
Relationship Duration	.208**	.056	.281**	.186*	.189*	-.199*	.157	.141	.098	.081	-.089	1
Frequency of Order	.075	.126	.125	.030	.177*	.008	.048	.068	-.006	.081	.186*	-.043	1
Mean	5.19	5.03	.000	.0000	4.88	0.000	-.279	1.02	.16	.20	.794	1.75	4.44
S.D	.695	.773	.887	.869	.866	.966	-.315	.969	.365	.398	.273	.782	.993
Alpha	0.82	0.79	0.86	0.90	0.78	0.78							

([a1] Industry Sub-sector 1 is a dummy variable where1 = companies belonging to home textiles sector, 0 = otherwise, [a2] Industry Sub-sector 2 is a dummy variable where 1 = companies belonging to spinning and weaving sector, 0 = otherwise.
c. Mean centered scores.

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

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

Regression model

The regression model is as follows:

$$Y= b_0 + b_1X_1 + b_2X_2 + \ldots + b_nXn + \acute{\epsilon}$$

Where:

Y = Dependent Variable (Y_1 = Goal Achievement, Y_2 = Goal Exceedance)

b_0 = Constant (intercept)

b_1, b_2, b_n = b coefficients (slopes) for independent variables X_1, X_2, X_n respectively

X_1, X_2, X_n = Independent variables

$\acute{\epsilon}$ = Standard error term

The following equations: 8.1and 8.2 using ordinary least squares regression models were estimated to test the research hypotheses.

Goal achievement model

$$Y_1(\text{Goal Achievement}) = b_0+b_1\text{INDSUB1}+b_2\text{INDSUB2}+b_3\text{EXPINT}+b_4\text{REL}+b_5\text{FREQ}+b_6\text{INOV}+b_7\text{cFLEX}+b_8\text{cEXPERT}+b_9\text{cOPPO}+b_{10}\text{OPPO x FELX}+b_{11}\text{OPPO x EXPERT}+\acute{\epsilon} \quad \text{(equation 8.1)}$$

Goal exceedance model

$$Y_2(\text{Goal Exceedance}) = b_0+b_1\text{INDSUB1}+b_2\text{INDSUB2}+b_3\text{EXPINT}+b_4\text{REL}+b_5\text{FREQ}+b_6\text{INOV}+b_7\text{cFLEX}+b_8\text{cEXPERT}+b_9\text{cOPPO}+b_{10}\text{OPPO x FELX}+b_{11}\text{OPPO x EXPERT}+\acute{\epsilon} \quad \text{(equation 8.2)}$$

Dependent variables

GACHIEV = Goal Achievement

GEXCEED = Goal Exceedance

Independent variables

cFLEX = Logistics service provider's flexibility capability (mean centered)

cEXPERT = Logistics service provider's expertise capability (mean centered)

cOPPO = Logistics service provider's opportunism (mean centered)

INOV = Logistics service provider's innovation capability

Control variables

INDSUB 1 = is a dummy variable for industry sub-sector 1, where 1=companies belonging to the home textiles sector, 0= Otherwise.

INDSUB 2 = is a dummy variable for industry sub-sector 2, where 1= companies belonging to the spinning and weaving sector, 0= Otherwise.

EXPINT =Export intensity (percentage of export value/total sales of the textile and clothing exporting companies in 2012).

REL = Natural logarithm of relationship length between textile and clothing exporting companies and their logistics service providers.

FREQ = Natural logarithm of frequency of annual number of orders.

Interaction effects

OPPO **x** FLEX

OPPO **x** EXPERT

8.2.6 Assessment of the interaction effects on logitics outsourcing performance model

Following Pallant (2007), the hierarchical regression analysis for goal achievement and goal exceedance are performed in three steps as presented in Table 8.3. Industry sub-sector 1 (INDSUB 1), industry sub-sector 2 (INDSUB 2), export intensity (EXPINT), natural logarithm of relationship duration (REL) and natural logarithm of frequency of order (FREQ) are entered at step one in the model (1). The control variables explain 6.6% of the variance of goal achievement (adjusted[21] R^2 =0.066 $p<0.05$), and 0.3% of the variance of goal exceedance (adjusted R^2 =0.003 $p> 0.1$).

[21] Adjusted R^2 is used to assess the model because it gives the percentage of variation explained only by the independent variables that really affect the dependent variable.

After entering the above mentioned control variables and the entry of the LSPs' innovation (INOV), flexibility (FLEX), expertise (EXPERT) and opportunism (OPPO) at step two, the total variance for goal achievement explained by the model (2) is about 48% (adjusted R^2=0.483 p<0.001) F value (9,143) = 16,806, p <0.001. The independent variables explained around an additional 42% of the variance of goal achievement. The total variance for goal exceedance explained by the model (2) is 29% (adjusted R^2 =0.29 p <0.001), F value (9,143) = 7,908 p <0.001. The independent variables explained around an additional 29% of the variance of goal exceedance.

In step three, two interaction terms of opportunism and flexibility (OPPO **x** FLEX) and opportunism and expertise (OPPO **x** EXPERT) are added to the regression models to produce model (3). The total variance of goal achievement explained by model (3) as whole is about 51% (adjusted R^2=0.509 p <0.05). The two interaction terms added around 3% to the explanatory power of the model, which indicate that the contribution of interaction effects to the model noted by significant F change (2,141) = 4.526, p<0.05 and significant F value (11,141) = 15.252, p<0.001. For the goal exceedance model, the total variance explained by model (3) is 32% (the adjusted R^2 = 0. 32, p <0.05). The two interaction terms added 3% to the explanatory power of the model, which indicate that the contribution of interaction effects to the model noted by significant F change (2,141) = 4.183, p<0.05 and significant F value (11,141) = 7.519, p<0.001.

Model summaries and ANOVA tables for goal achievement and goal exceedance are displayed respectively in Tables 3.1, 3.2, 3.3 and 3.4 found in Appendix 3. The results shown in Table 8.3 reveal that the independent variables and interaction terms explain some of the variance in goal achievement and goal exceedance and provide support for the moderator hypotheses. In addition, VIF and tolerance are examined and reveal acceptable values where VIF values are below the recommended cut-off of 10 and tolerance values are greater than the cut-off of 0.10. Therefore, the multicollinearity assumption is not a major concern (Pallant, 2007).

Table 8.3: Estimated interaction effect on logistics outsourcing performance model.

			Goal Achievement		Goal Exceedance		Collinearity Statistics	
			Unstandardized Coefficients	T-value	Unstandardized Coefficients	T-value	Tolerance	VIF
Model 1	Constant	b_0	4.351	13.801	4.565	12.619		
Control Variables	INDSUB 1 [a1]	b_1	-.008	-.052	-.071	-.383	.853	1.172
	INDSUB 2[a2]	b_2	.307	2.092**	.207	1.228	.871	1.149
	EXPINT [a3]	b_3	.417	1.910*	-.116	-.462	.836	1.197
	REL [a4]	b_4	.187	2.656**	.052	.640	.976	1.025
	FREQ [a5]	b_5	.028	.489	.099	1.526	.944	1.059
	R^2		**0.096**		**0.036**			
	Adjusted R^2		**0.066**		**0.003**			
	F value		**(5,147) = 3.135 , p<0.05**		**(5,147) =1.104 , p>0.1**			
	F change		**(5,147) = 3.135 , p<0.05**		**(5,147) =1.104 , p>0.1**			
Model 2	(Constant)	b_0	4.273	12.395	4.874	10.856	.	
Control and Main Variables	INDSUB1 [a1]	b_1	-.167	-1.341*	-.176	-1.086	.811	1.249
	INDSUB2 [a2]	b_2	.120	1.061	.067	.454	.826	1.234
	EXPINT [a3]	b_3	.365	2.236**	-.165	-.775	.891	1.210
	REL [a4]	b_4	.024	.437	-.100	-1.400*	.901	1.122
	FREQ [a5]	b_5	-.016	-.366	.067	1.190	.614	1.110
	INOV	b_6	.135	2.261**	.038	.483	.667	1.628
	cFLEX [b]	b_7	.181	3.231**	.191	2.625**	.670	1.500
	cEXPERT[b]	b_8	.242	4.246****	.292	3.929***	.733	1.492
	cOPPO[b]	b_9	-.156	-3.173**	-.122	-1.904*	.801	1.365
	R^2		**0.514**		**0.332**			
	Adjusted R^2		**0.483**		**0.29**			
	Δ R^2		**0.418**		**0.296**			
	ΔAdjusted R^2		**0.417**		**0.287**			
	F value		**(9,143) = 16.806 , p<0.001**		**(9,143) = 7.908 , p<0.001**			
	F change		**(4,143)= 30.725 , p<0.001**		**(4,143)= 15.855 , p<0.001**			
Model 3	(Constant)	b_0	4.370	12.878	4.976	11.233		
Control , Main and Interaction Effects	INDSUB1 [a1]	b_1	-.206	-1.681*	-.216	-1.349	.782	1.280
	INDSUB2 [a2]	b_2	.143	1.290	.099	.684	.805	1.243
	EXPINT [a3]	b_3	.371	2.324**	-.148	-.707	.820	1.219
	REL [a4]	b_4	.022	.404	-.101	-1.440	.887	1.127
	FREQ [a5]	b_5	-.013	-.308	.071	1.293	.899	1.112
	INOV	b_6	.114	1.942*	.010	.134	.605	1.653
	cFLEX[b]	b_7	.172	3.091***	.188	2.577**	.637	1.571
	cEXPERT[b]	b_8	.233	4.168***	.285	3.893***	.662	1.511
	cOPPO[b]	b_9	-.162	-3.369***	-.132	-2.104*	.726	1.377
	OPPO x FLEX	**b_{10}**	**.134**	**2.889****	**.157**	**2.602****	.693	1.442
	OPPO x EXPERT	**b_{11}**	**-.095**	**-1.986***	**-.141**	**-2.247***	.727	1.375
	R^2		**0.543**		**0.370**			
	Adjusted R^2		**0.509**		**0.321**			
	Δ R^2		**0.029**		**0.037**			
	Δ Adjusted R^2		**0.026**		**0.031**			
	F value		**(11,141) =15.252 , p<0.001**		**(11,141) = 7.519 , p<0.001**			
	F change		**(2,141) = 4.526 , p<0.05**		**(2,141) = 4.183 , p<0.05**			

a**.** Control Variables (**[a1]** Industry sub-sector 1 is a dummy variable where 1 = companies belonging to home textiles sector, 0 = Otherwise, **[a2]** Industry sub-sector 2 is a dummy variable where1 = companies belonging to spinning and weaving sector, 0= Otherwise. **[a3]**Export intensity, **[a4]** Natural logarithm transformed relationship duration, **[a5]** Natural logarithm transformed frequency of order, b Mean centered scores.

*Significant at p < .05 (one-tailed t-value greater than 1.645)

**Significant at p < .01(one-tailed t-value greater than 2.326)

***Significant at p < .001(one-tailed t-value greater than 3.090)

l8.2.7 Graphical examination of the interaction effects

In order to understand the nature of these interaction effects and based on the recommendation of Schoonhoven (1981), the contingent effects of opportunism on logistics outsourcing performance are depicted by graphing the partial derivative of goal achievement and goal exceedance with respect to LSP's flexibility and expertise over a range of LSP's opportunism. These grahps are illustrated in Figures 8.2, 8.3, 8.4 and 8.5.

For Goal Achievement Model

First, the derivative of goal achievement with respect to opportunism is expressed as follows:

$$\delta \text{ GACHIEV}/ \delta \text{ OPPO} = b_9 + b_{10} (\text{FLEX}) + b_{11} (\text{EXPERT})$$

By inserting estimates from the regression analysis (Table 8.3), this can be expressed as:

$$\delta \text{ GACHIEV}/ \delta \text{ OPPO} = -.162 + .134 (\text{FLEX}) - .095(\text{EXPERT})$$

Second, the partial derivative of goal achievement (GACHIEV) with respect to flexibility and expertise are expressed as follows:

$$\delta \text{ GACHIEV}/ \delta \text{ FLEX} = b_7 + b_{10} (\text{OPPO})$$

$$\delta \text{ GACHIEV} / \delta \text{ EXPERT} = b_8 + b_{11} (\text{OPPO})$$

For Goal Exceedance Model

First, the derivative of goal exceedance with respect to opportunism is expressed as follows:

$$\delta \text{ GEXCEED}/ \delta \text{ OPPO} = b_9 + b_{10} (\text{FLEX}) + b_{11} (\text{EXPERT})$$

By inserting estimates from the regression analysis (Table 8.3), this can be expressed as:

$$\delta \text{ GEXCEED} / \delta \text{ OPPO} = -.132 + .157 (\text{FLEX}) - .141(\text{EXPERT})$$

Second, the partial derivative of goal exceedance (GEXCEED) with respect to flexibility and expertise are expressed as follows:

$$\delta \text{ GEXCEED} / \delta \text{ FLEX} = b_7 + b_{10} (\text{OPPO})$$

$$\delta \text{ GEXCEED} / \delta \text{ EXPERT} = b_8 + b_{11} (\text{OPPO})$$

Drawn from the regression coefficients in Table 8.3 for goal achievement and goal exceedance models, and the values corresponding to +/- 1-2-3 scale units around the mean value of opportunism, the plots of the partial derivatives displayed in Figures 8.2, 8.3, 8.4 and 8.5 are estimated as follows:

δ GACHIEV / δ FLEX = .172 +.134 (OPPO)

δ GEXCEED / δ FLEX = .188 +.157 (OPPO)

δ GACHIEV / δ EXPERT = .233 -.095 (OPPO)

δ GEXCEED / δ EXPERT = .285 -.141(OPPO)

1- The association between LSP's flexibility (FLEX) and goal achievement (GACHIEV) for different levels of opportunism is depicted in Figure 8.2.

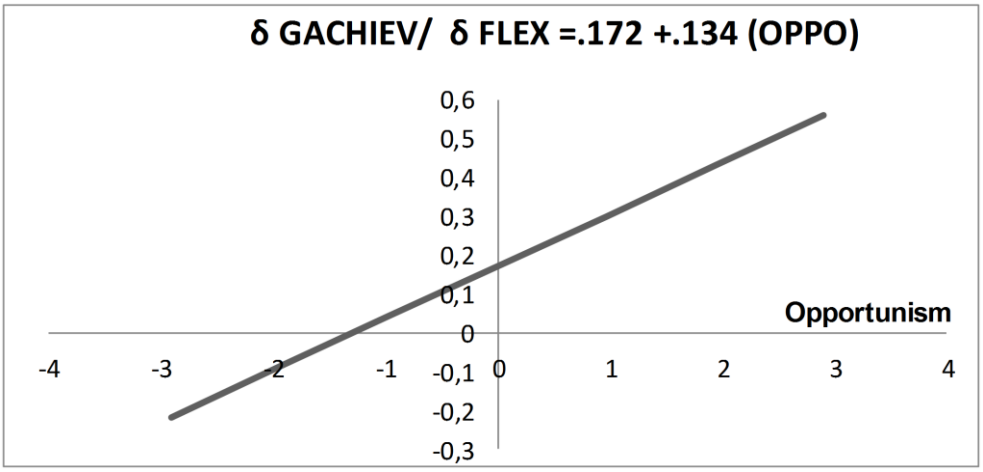

Figure 8.2: Association between LSP's flexibility capability and perceived goal achievement for different levels of opportunism (mean centered scores)

As depicted by the graph in Figure 8.2, the relationship between flexibility (FLEX) and perceived goal achievement (GACHIEV), presented as δGACHIEV/δFLEX, can be seen to be strengthened as the level of opportunism (OPPO) increases. When OPPO is above -1.28, it is observed that the positive association between LSP's flexibility (FLEX) and goal achievement (GACHIEV) will be strengthened. On the contrary, when opportunism is lower than -1.28, the positive association between LSP's flexibility (FLEX) and goal achievement (GACHIEV) will be weakened. This is depicted by the graph as a nonmontonic effect since the plotted line crosses the horizontal axis, and thereby the sign is changed (Schoonhoven, 1981). As shown in Table 8.3, the corresponding statistics for this relationship are as follows: b_{10} =.134, t = 2.889, p< 0.01. The positive sign of b_{10} coefficient for OPPO **x** FLEX represents the direction of the relationship between flexibility (FLEX) and perceived goal achievement (GACHIEV) as the level of opportunism (OPPO) increases. The relationship is significant at p< 0.01.

2-The association between LSP's flexibility (FLEX) and goal exceedance (GEXCEED) for different levels of opportunism are depicted in Figure 8.3.

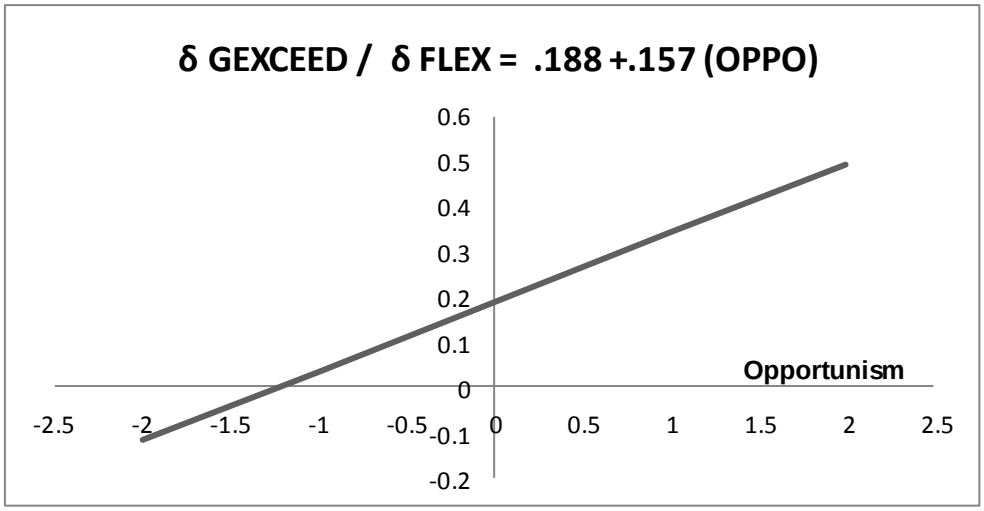

Figure 8.3: Association between LSP's flexibility capability and perceived goal exceedance for different levels of opportunism (mean centered scores)

As depicted by the graph in Figure 8.3, the relationship between flexibility (FLEX) and perceived goal exceedance (GEXCEED), presented as δGEXCEED/δFLEX, can be seen to be strengthened as the level of opportunism (OPPO) increases. When OPPO is above -1.19, it is observed that the positive association between LSP's flexibility (FLEX) and goal exceedance (GEXCEED) will be strengthened. On the contrary, when opportunism is lower than -1.19, the positive association between LSP's flexibility (FLEX) and goal exceedance (GEXCEED) will be weakened. This is depicted by the graph as a nonmontonic effect since the plotted line crosses the horizontal axis, and thereby the sign is changed (Schoonhoven, 1981).

As shown in Table 8.3, the corresponding statistics for this relationship are as follows:
b_{10} =.157, t = 2.602, p < 0.01.The positive sign of b_{10} coefficient for OPPO **x** FLEX represents the direction of the relationship between flexibility (FLEX) and perceived goal exceedance (GEXCEED) as the level of opportunism (OPPO) increases. The relationship is significant at p< 0.01.

3-The association between LSP's expertise (EXPERT) and goal achievement (GACHIEV) for different levels of opportunism is depicted in Figure 8.4.

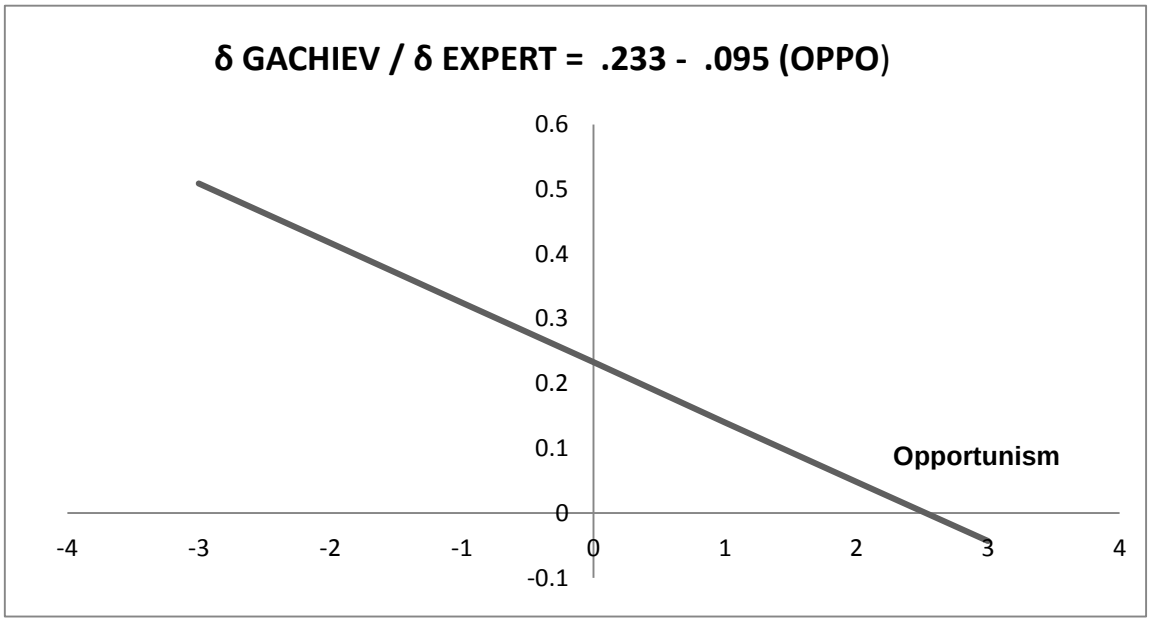

Figure 8.4: Association between LSP's expertise capability and perceived goal achievement for different levels of opportunism (mean centered scores)

As depicted by the graph in Figure 8.4, the relationship between expertise (EXPERT) and perceived goal achievement (GACHIEV) presented as δGACHIEV/ δEXPERT can be seen to be weakened, becoming less positive as the level of opportunism (OPPO) increases. When OPPO is above 2.45[22], it is observed that the positive association between LSP's expertise (EXPERT) and goal achievement (GACHIEV) will be weakened. On the contrary, when opportunism is lower than 2.45, the positive association between LSP's expertise (EXPERT) and goal achievement (GACHIEV) will be strengthened. This is depicted by the graph as a nonmontonic effect since the plotted line crosses the horizontal axis and thereby the sign is changed (Schoonhoven, 1981).

As shown in Table 8.3, the corresponding statistics for this relationship are as follows:
b_{11} = -.095, t = -1.986, p < 0.05. The negative sign of b_{11} coefficient for OPPO **x** EXPERT represents the direction of the relationship between expertise (EXPERT) and perceived goal achievement (GACHIEV) as the level of opportunism (OPPO) increases. The relationship is significant at p< 0. 05.

[22] From the frequency of the opportunism variable, there are few respondents (around 3%) who perceived high opportunism greater than the 2.45 scale point above the mean value of opportunism.

4-The association between LSP's expertise (EXPERT) and goal exceedance (GEXCEED) for different levels of opportunism are depicted in Figure 8.5

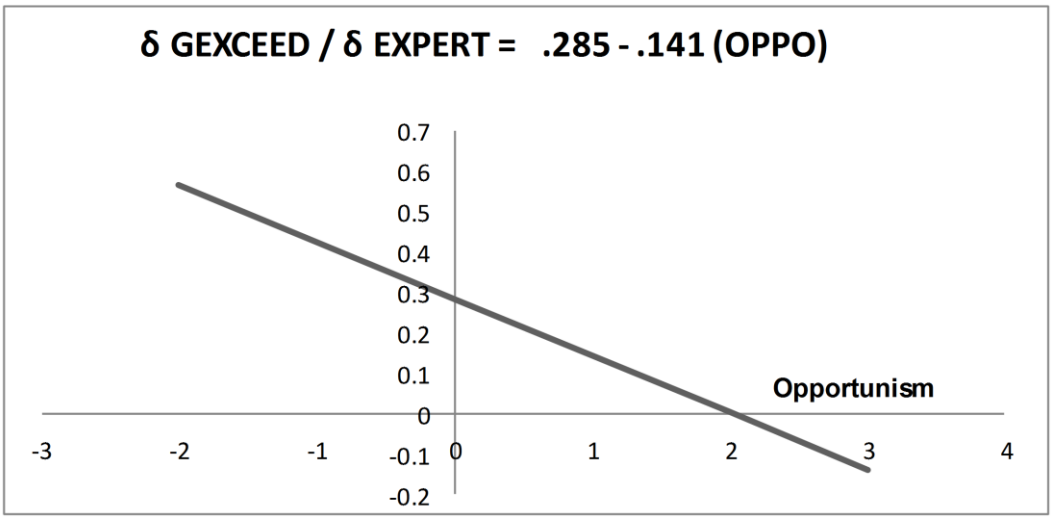

Figure 8.5: Association between LSP's expertise capability and perceived goal exceedance for different levels of opportunism (mean centered scores)

As depicted by the graph in Figure 8.5, the relationship between expertise (EXPERT) and perceived goal exceedance (GEXCEED) presented as δGEXCEED/ δEXPERT can be seen to be weakened, becoming less positive as the level of opportunism (OPPO) increases. When OPPO is above 2[23], it is observed that the positive association between LSP's expertise (EXPERT) and goal exceedance (GEXCEED) will be weakened. On the contrary, when opportunism is lower than 2, the positive association between LSP's expertise (EXPERT) and goal exceedance (GEXCEED) will be strengthened. This is depicted by the graph as a nonmontonic effect since the plotted line crosses the horizontal axis, and thereby the sign is changed (Schoonhoven, 1981).

As shown in Table 8.3, the corresponding statistics for this relationship are as follows:
b_{11} = -.141, t = -2.247, p < 0.05. The negative sign of b_{11} coefficient for OPPO **x** EXPERT represents the direction of the relationship between expertise (EXPERT) and perceived goal exceedance (GEXCEED) as the level of opportunism (OPPO) increases. The relationship is significant at p< 0. 05.

[23] From the frequency of the opportunism variable, there are few respondents (around 3.5%) who perceived high opportunism greater than the 2 scale point above the mean value of opportunism.

Statistical tests of interaction effects in goal achievement and exceedance models

To examine the significance of the interaction effects in the goal achievement and goal exceedance models, this study follows the approach of Jaccard and Turrisi (2003) to support the significance of the interaction effect by observing the R^2change.

According to Jaccard and Turrisi (2003)[24] $$F = \frac{(R_2^2 - R_1^2)/(K_2 - K_1)}{(1 - R_2^2)/(N - K_2 - 1)}$$

$$\text{Goal Achievement} = \frac{(0{,}543 - 0{,}514)/2}{(1 - 0{,}543)/141} = 4.473$$

The F calculated value (4.473) is greater than the F statistic value ($F_{2,\ 141,\ 5\%}$) = 3.04[25]. Accordingly, the results confirm that R^2 changes from model 2 to model 3 are significant at p< .05. Thus, significance of the two interaction terms in goal achievement model is further supported.

$$\text{Goal Exceedance} = \frac{(0.37 - 0.33)/2}{(1 - 0{,}37)/141} = 4.476$$

The F calculated value (4,476) is greater than the F statistic value ($F_{2,\ 141,\ 5\%}$) = 3.04. Accordingly, the results confirm that R^2 changes from model 2 to model 3 are significant at p <.05. Thus, the significance of the two interaction terms in goal exceedance model is further supported.

Results of the interaction effects hypotheses on goal achievement and goal exceedance

$H6_a$ examines the association between LSP's flexibility and perceived goal achievement by the buyer, which is proposed to be less positive when the level of opportunism increases. $H6_a$ is rejected, as the interaction effect between LSP's flexibility capability and opportunism on perceived goal achievement is significant (b_{10}=.134 , t= 2.889, p< 0.01 one-tailed), but the sign is opposite to that which is hypothesized.

[24] R_2 is the multiple R for the expanded equation (control, main and interaction effects), and R_1 is the multiple R for the original equation (control and main effects). K_2 is the number of predictors in the expanded equation; K_1 is the number of predictors in the original equation and N is the total sample size(Jaccard and Turrisi, 2003).

[25] F distribution table

$H6_{\mathbf{b}}$ examines the association between LSP's flexibility and perceived goal exceedance by the buyer, which is proposed to be less positive when the level of opportunism increases. $H6_{\mathbf{b}}$ is rejected, as the interaction effect between LSP's flexibility capability and opportunism on perceived goal exceedance is significant (b_{10}=.157, t=2.602,p<0.01 one-tailed), but the sign is opposite to that which is hypothesized.

$H7_{\mathbf{a}}$ examines the association between LSP's expertise and perceived goal achievement by the buyer, which is proposed to be less positive when the level of opportunism increases. The statistical result supports $H7_{\mathbf{a}}$, where the interaction effect between LSP's expertise capability and opportunism on perceived goal achievement is negative and significant (b_{11}= -.095, t= -1.986, p< 0.05 one-tailed).

$H7_{\mathbf{b}}$ examines the association between LSP's expertise and perceived goal exceedance by the buyer, which is proposed to be less positive when the level of opportunism increases. The statistical result supports $H7_{\mathbf{b}}$, where the interaction effect between LSP's expertise capability and opportunism on perceived goal exceedance is negative and significant (b_{11}= -.141, t= -2.247, p< 0.05 one-tailed).

Summarized results from the tests of the hypotheses are displayed in Table 8.4 as follow:

Table 8.4: Summarized results of the interaction effect hypotheses

Hypotheses	Association between constructs	Hypothesized effects	Findings	Significant level one-tailed
$H6_{\mathbf{a}}$	Interaction of Opportunism and Flexibility - Goal Achievement	-	+	significant p< 0.01
$H6_{\mathbf{b}}$	Interaction of Opportunism and Flexibility – Goal Exceedance	-	+	significant p< 0.01
$H7_{\mathbf{a}}$	Interaction of Opportunism and Expertise – Goal Achievement	-	-	significant p< 0.05
$H7_{\mathbf{b}}$	Interaction of Opportunism and Expertise – Goal Exceedance	-	-	significant p< 0.05

8.3 Chapter summary

This chapter presents the results of the SEM analysis and multiplicative multiple regression analysis used to examine the research hypotheses. Eleven hypotheses are supported and consistent with the theory while three hypotheses are rejected. These three hypotheses are $H3_{\mathbf{b}}$, $H6_{\mathbf{a}}$ and $H6_{\mathbf{b}}$. The overall statistical results are discussed in the next chapter. It presents the concluding part of this study. Theoretical and managerial implications are delineated, along with the limitations of this research and directions for future research.

CHAPTER NINE

DISCUSSION, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

CHAPTER NINE

DISCUSSION, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

9.1 Introduction

This final chapter contains three sections. The first section presents the empirical findings presented in Chapter Eight and discusses the theoretical and managerial implications. In the second section, the limitations of the study and the recommendations for future research are discussed, followed by the conclusion in the third section.

9.2 Results of the statistical analyses

The purpose of this study is to identify the antecedents of the logistics outsourcing performance and its consequent effect on buyer logistics performance from the textile and clothing exporting companies' perspective. This study conceptualizes logistics outsourcing performance as a bi-dimensional construct consisting of goal achievement and goal exceedance in accordance with previous studies (e.g Deepen, 2007; Deepen et al., 2008; Hartmann and De Grahl, 2012; Križman, 2009, Križman and Ogorelc, 2010; Wallenburg et al., 2010).

This section presents the empirical findings of the effect of LSPs' capabilities and opportunistic behavior on logistics outsourcing performance. Moreover, the influence of logistics outsourcing performance on buyer logistics performance is discussed. Furthermore, the contingent effects of perceived opportunism on the association between LSPs' logistics capabilities (flexibility and expertise) and logistics outsourcing performance are presented. The variables identified in this study have a satisfactory explanatory power for the logistics outsourcing performance, with R^2 of respectively 58 % for goal achievement, 45% for goal exceedance and 42.5% for buyer logistics performance (textile and clothing exporting companies). Summarized results of the research hypotheses tests are presented in Table 9.1.

Table 9.1: Summarized results of the research hypotheses

Hypotheses	Association between constructs	Hypothesized effect	Findings	Sign. level one-tailed	Support/ Reject
Research Model					
$H1_a$	Flexibility – Goal Achievement	+	+	p< 0.01	Support
$H1_b$	Flexibility – Goal Exceedance	+	+	p< 0.01	Support
$H2_a$	Expertise – Goal Achievement	+	+	p< 0.001	Support
$H2_b$	Expertise – Goal Exceedance	+	+	p< 0.001	Support
$H3_a$	Innovation – Goal Achievement	+	+	p< 0.05	Support
$H3_b$	Innovation – Goal Exceedance	+	+	p > 0.05	Reject
$H4_a$	Opportunism – Goal Achievement	-	-	p< 0.001	Support
$H4_b$	Opportunism – Goal Exceedance	-	-	p< 0.05	Support
$H5_a$	Goal Achievement on Buyer Logistics Performance	+	+	p<0.001	Support
$H5_b$	Goal Exceedance on Buyer Logistics Performance	+	+	p< 0.05	Support
Research sub-model					
$H6_a$	Interaction of Opportunism and Flexibility – Goal Achievement	-	+	p< 0.01	Reject (opposite sign)
$H6_b$	Interaction of Opportunism and Flexibility – Goal Exceedance	-	+	p< 0.01	Reject (opposite sign)
$H7_a$	Interaction of Opportunism and Expertise – Goal Achievement	-	-	p< 0.05	Support
$H7_b$	Interaction of Opportunism and Expertise – Goal Exceedance	-	-	p< 0.05	Support

Fourteen hypotheses are formulated and tested. All the hypotheses are supported and consistent with the theory, with the exception of $H3_b$ and $H6_{ab}$.The following section presents the discussion of the hypotheses.

Influence of logistics capabilities of LSPs on logistics outsourcing performance

The statistical results support hypotheses $H1_a$ and $H1_b$, stating a positive and significant association between LSPs' flexibility and perceived logistics outsourcing performance. These results are consistent with De Grahl (2011) who affirms a positive and significant association between flexibility and logistics outsourcing performance in terms of goal achievement and goal exceedance. Similarly, previous studies (for example Daugherty et al., 1996; Hartmann and De Grahl, 2011; Sinkovies and Roath, 2004; Stank et al., 1996) confirm the vital role of

the LSP's flexibility in a logistics outsourcing relationship and its influence on logistics outsourcing performance. Hence, the current study affirms that the LSP's flexibility capability is considered as a key driver of the logistics outsourcing performance.The empirical analyses support the hypotheses H2**a** and H2**b**, stating a positive and significant association between the LSP's expertise and logistics outsourcing performance. The findings in the current study are in line with the premise that human resources are "centric" in the logistics process (Myers et al., 2004), and considered as a critical external resource commitment (Chen et al., 2010) that improves the logistics outsourcing performance.

The statistical findings support the hypothesis H3**a** and reject H3**b**, where LSP's innovation capability has a significant effect on goal achievement and an insignificant effect on goal exceedance. The empirical findings from those hypotheses are partially in line with Panayides's (2006) findings, which support the notion that LSP capability to innovate influences the logistics outsourcing performance. In addition, Yang et al. (2009) assert that innovation has an indirect effect on performance through logistics services capability. However, the results of these hypotheses are in contradiction with Deepen (2007), who found that the innovation orientation of LSPs has a significant effect on goal exceedance and an insignificant effect on goal achievement. The findings of those hypotheses imply that the innovative capability of LSP just met the relationship goals and did not exceed it. According to Oke (2008), most innovations in a logistics service setting tend to be reactive in response to customer requests. Hence, LSPs can be considered as reactive rather than proactive, just providing logistics solutions according to their customers' requirements. Moreover, it could be suggested that the association between innovation capability and goal exceedance is contingent on other factors, such as long relationship duration, which might require further studies.

Influence of LSP's opportunism on logistics outsourcing performance

The empirical analyses support the hypotheses H4**a** and H4**b**, relating to the negative and significant association between LSP's opportunism and perceived logistics outsourcing performance. These results are consistent with several scholars' findings that demonstrate a negative association between opportunism and relationship performance (Crosno and Dahlstrom, 2008, Hawkins et al., 2008; Lui et al., 2009; Wang and Yang, 2013). Hence, this study affirms that when LSPs seek their own unilateral gains and act opportunistically by not keeping all their promises, distort information, exploit their customers' lack of knowledge or breach agreements, the level of the logistics outsourcing performance will decrease.

The Impact of logistics outsourcing performance on buyer logistics performance

The empirical findings support the hypotheses $H5_{a}$ and $H5_{b}$, stating that perceived goal acheivement and goal exceedance are positively influencing buyer logistics performance. These findings reveal that the logistics performance of exporting textile and clothing companies is improved in terms of quality and cost reduction when ex-ante agreed goals are achieved as expected, and when LSPs exceed the expected performance. These findings are consistent with Deepen (2007) and Yeung (2006), and indicate that logistics outsourcing performance is a significant driver of buyer logistics performance.

The contingent effect of opportunism and logistics capabilities (flexibility and expertise) on logistics outsourcing performance

The results reject hypotheses $H6_{a}$ and $H6_{b}$, stating that opportunism weakens the relationship between LSP's flexibility and perceived logistics outsourcing performance. According to the empirical findings, when opportunism increases, it strengthens the positive effect of flexibility on the logistic outsourcing performance, which is opposite to what is purported. However, these results might indicate that when the buyer needs some adaptaton and/or customized services in order to respond to unexpected events or problems, the LSP might engage in an opportunistic behavior by demanding a higher price and/or other concessions in order to take advantage of the buyer's need for such service customization and/or adaptation. At the same time, this situation creates interfirm-dependence that needs strong coordination for adaptation, as the LSP is forced to adapt and be flexible, which will improve the logistics outsourcing performance.

The statistical results support the hypotheses $H7_{a}$ and $H7_{b}$, stating that opportunism weakens the positive relationship between the LSP's expertise capability and perceived logistics outsourcing performance. The empirical results of the present study demonstrate that the association between the LSP's expertise capability and logistics outsourcing performance is contingent on the level of opportunism. When the opportunism is low, increased logistics expertise capability enhances logistics outsourcing performance. However when opportunism is high, the effect of the LSP's expertise becomes less positive on logistics outsourcing performance. In accordance with Bendapudi and Berry (1997), expertise can be a valuable but vulnerable capability.This study reveals that LSPs'expertise capability can be a valuable in terms of utilizing their expertise to manage logistics operation effectively according to their customers' requirements. On the other hand, when information asymmetry exists, the potential for engaging in an opportunistic behavior becomes greater in accordance with TCA reasoning, and hence LSPs' expertise capability becomes vulnerable.

Therefore, when the LSP has expertise capability and at the same time is inclined to engage in opportunistic behavior, this will have a negative influence on the logistics outsourcing performance, and thus reduce the positive effect of expertise on the logistics outsourcing performance.

Influence of control variables

Regarding the effect of control variables on the perceived logistics outsourcing performance and the buyer logistics performance, some interesting findings are observed. First, the results reveal a significant negative association between industry sub-sector 1 and goal achievement, and this indicate that there are significant differences in goal achievement between companies belonging to the home textiles sector and the ready-made garments sector (reference category). The results demonstrate that companies belonging to the home textiles sector have a lower influence on goal achievement compared to ready-made garments sector. This means that goal achievement is not fully met for home textiles companies. This might be due to logistics operational reasons such as missed deadlines, unexpectedly surging costs or quality problems in the logistics processes, especially that home textile products are considered seasonal products, the same as ready-made garments that need to reach market on time due to specific time windows. For example, if the delivery time windows for home products are not fully met, this will be reflected in a diminishing level of logistics outsourcing performance in terms of goal achievement.

Furthermore, there are external challenges that may hinder goal achievement such as lengthy customs clearance procedures, high handling costs, port charges, and government bureaucracy. Also the instability of the political situation in a country might have had a negative influence on the exports from the home textiles sector during the time of data collection and thus might affect goal achievement negatively. Therefore, these factors can lead to a negative association between home textiles and goal achievement. In addition, the statistical results demonstrate that industry sub-sector 1 (home textiles), has no significant influence on both goal exceedance or buyer logistics performance. In addition, the empirical results indicate that industry sub-sector 2 (spinning and weaving) has no significant influence on goal achievement, goal exceedance and buyer logistics performance. This indicates that there is no significant differences between companies belonging to the spinning and weaving sector compared to the ready-made sector as a reference category on goal achievement, goal exceedance and buyer logistics performance.

Second, the findings of the study confirm that the export intensity of textile and clothing exporting companies has a significant positive influence on goal achievement. These findings confirm the positive association between the increase in exports for textile and clothing companies and the LSPs' fulfillment of the relationship goals that have ex-ante been agreed upon. Thus, an increase in exports in the textile and clothing companies will increase the demand for outsourcing logistics activities. Due to higher requirements on the buyers' side, LSPs will make maximum efforts to achieve the outsourcing relationship goals as agreed ex-ante in order to gain a high market share. However export intensity has no significant influence on goal exceedance. This might be explained by the instability of the political situation in the country during the data collection, which might have had an effect on the association between export intensity and goal exceedance.

In addition, the results reveal that export intensity has a signficant influence on buyer (textile and clothing exporting companies) logsitics performance. Consistently, the present findings are in line with Dhanaraj and Beamish's (2003) study that supports the notion of a reciprocal causal linkage between performance enhancement and increased internationalization. In addition, the results support Guan and Ma's (2003) findings that short lead time and reliability in delivery from manufacturing to export markets are significantly positively correlated with a firm's export ratio. Hence, the study confirms the positive assocation between the degree of internationalization (export intensity) of a firm and buyer logistics performance.

Third, relationship duration has a positive significant influence on buyer logistics performance, which is consistent with Cannon et al. (2000) and De Vita et al. (2010), who show that relationship duration influences performance positively. This result is in accordance with Maloni and Carter (2006),who state that LSPs and their clients who share a longer relationship, will have a better outlook on the effectiveness of their relationships. According to Doney and Cannon (1997), a longer relationship allows a buyer to predict the supplier's future behavior, which will discourage the supplier from acting in an opportunistic manner. Thus, long relationship duration implies that LSPs and their customers have successfully overcome critical periods in their relationship (Doney and Cannon, 1997). According to Heide and Miner (1992), interactions in dyadic relationships over time can be a signal for commitment and affect cooperation. Hence, long relationship duration can act as a safeguard mechainsm against opportunism. From this viewpoint, it is worth further investigation to examine three way interaction effects between the LSP's capabilities, its behavior and relationship duration as a governance mechanism. However, relationship duration has no significant influence on goal achievement and goal exceedance. This might be due to the small sample size and the many predictors underlying the study, which might lead to insufficient statistical power in deeming this effect as significant.

In additon, frequency of order has an insignificant effect on goal achievement, goal exceedance and buyer logistics performance. These results might be due to lack of statistical power. Furthermore, the model might include in further research other transaction dimensions such as specific investment, environmental uncertainty, which can have a contingent effect on the association between frequency and goal achievement, goal exceedance and buyer logistics performance.

9.2.1 Theoretical implications

There is a lack of theoretical development and application in logistics research, which demands developing theoretical driven models and hypotheses testing (Karia and Wong, 2013; Maloni and Carter, 2006; Mentzer and Khan, 1995; Selviaridis and Spring, 2007). The current study uses a middle range approach to develop an integrative theoretical framework drawn from the RBV and TCA to examine important antecedents of logistics outsourcing performance in LSP-client relationships. The middle range approach allows for analyses that take into consideration both strategic and economic factors simultaneously based on RBV and TCA, as the two theories complement each other.

Drawing from RBV, a firm's specific resources and capabilities play a vital role in explaining its performance (Amit and Schomaker, 1993; Bharadwaj, 2000; Daugherty et al., 2009). The empirical findings of this study provide support for RBV reasoning, and find positive associations between the LSPs' capabilities (expertise and flexibility) and logistics outsourcing performance in LSP-client relationships. In addition, innovation capability is partly supported to have a positive effect on logistics outsourcing performance. These findings confirm that these capabilities are key antecedents of logistics outsourcing performance. This study contributes to logistics outsourcing literature by examining the direct influence of LSP's expertise on logistics outsourcing performance as most of the studies examine the influence of expertise on trust, satisfaction, and collaboration (Andaleeb and Anwar, 1996; Chen et al., 2010; Lagace et al., 1991), but not directly on performance.

Moreover, the empirical findings confirm a negative association between opportunistic behavior by the LSPs and the logistics outsourcing performance, which are consistent with TCA reasoning that opportunism has detrimental effects on performance. However, the study does not assume that all LSPs act in an opportunistic way, but that some of LSPs at times behave in an opportunistic way. For instance, the average mean of opportunism in this study is 2.57 (based on a seven-point Likert scale), which indicates that opportunism is not very common in the LSP-exporter relationship in this study.

Sharma et al. (2007) and Verwaal et al. (2009) recommend further empirical studies to examine contingent resource-based perspectives, and the empirical findings of this study contribute to enrich the existing knowledge of contingent resource-based perspective in logistics outsourcing context. The empirical findings support the argument that the influence of LSP's expertise capability on logistics outsourcing performance is contingent on different levels of opportunism. These findings demonstrate that when opportunism increases, the association between logistics outsourcing performance and expertise become less positive. In accordance with agency theory, the principal and his agent are utility maximizers, and the agent will not always act in the best interests of his principal (Jensen and Meckling, 1976). As LSPs are often more knowledgeable than their customers on the details of the logistics activities, this situation creates knowledge and information asymmetries (Sharma, 1997). The findings indicate a moral hazard problem caused by ex-post information asymmetry (Bergen et al., 1992) that stimulates opportunistic behavior in terms of lack of effort on the LSP side (agent). Hence, the LSP did not exert effort as agreed (Eisenhardt, 1989), and the logistics service user (principal) cannot verify the actual performance of his/her LSP.

Based on TCA, behavioral uncertainty is created due to the inability to monitor an exchange partner's actions, and to verify whether the compliance with established agreements has been fulfilled or not (Rindfleisch and Heide, 1997). According to Brouthers and Brouthers (2003), the characteristics of services and the involvement of people who perform the services, make it difficult to control and monitor service quality. In accordance with Heide and John (1990), verification efforts by the exporter can address behavioral uncertainty proactively by imposing selective entry requirements. For instance, the findings of Kwon and Suh (2004) indicate that a firm's trust in its supply chain partner is significantly negatively associated with behavioral uncertainty. In addition, the authors confirm that information sharing reduces the level of behavioral uncertainty. Similarly, Vandaele et al (2007) confirm that trust decreases the level of behavioral uncertainty in business services exchanges. In this concern, exporters in the present study might mitigate behavioral uncertainty by assuring trust and information sharing with their selected LSPs.

Furthermore, the empirical findings from the interaction effect of the LSP's expertise and perceived opportunism on logistics outsourcing performance imply that the value generated by LSP's expertise capability is contingent on the quality level of the LSP-client relationship. In case of high expertise capability and low level of opportunism, the performance will be high and vice-versa. These findings assert that the capability must be aligned with the quality of the relationship to generate value, which is consistent with the findings of various studies such as Andaleeb and Anwar (1996); Chen et al. (2010) and Doney and Cannon (1997).

These studies advocate the positive association between expertise, trust and cooperation. Hence, it is important to share information and ensure trust and cooperation in dyadic relationships to assure high quality relationships where LSPs' capabilities can evoke values.

The interaction effect of the LSP's flexibility and perceived opportunism on logistics outsourcing performance provides interesting empirical findings, although the hypotheses are rejected. The direction of these interaction effects are opposite to that which is purported in this study. The empirical findings show that the effect of LSP's flexibility on logistics outsourcing performance is enforced when the perceived level of opportunism on the LSP side increases. Drawing from TCA reasoning, there are several factors associated with the prospect of opportunism, such as substantial asset specificity and service customization on the LPS side, with successive small number conditions and small number bargaining (Williamson, 1985). From this perspective, substantial opportunism might indicate a stronger logistics outsourcing performance due to stronger service customization and adaptations to the buyer. At the same time, such inter-firm dependencies require strong coordinated adaptations (Williamson,1991). Hence, the LSP is forced into such adaptations, and therefore, flexibility improves the logistics outsourcing performance. However, this study does not include any of the factors capturing inter-firm dependencies, customization and small number conditions. Therefore, further research is desirable to examine the interaction effect of flexibility and factors related to opportunistic behavior (e.g. asset specificity, customization, inter-firm dependencies and performance ambiguity), on logistics outsourcing performance.

Furthermore, the current political and security situation in Egypt following the aftermath of January 25, 2011 Revolution has had a negative impact on the textile and clothing industry, especially on the export sector (Ghoneim, 2014). In addition, the level of corruption was high during this period, supported by the lack of transparency among different entities and the limited governmental control of applying regulations. Consequently, LSPs might take an advantage of this situation, knowing that flexibility is very vital for exporters in this sector, especially during this period. In this concern, the reactivity of LSPs to their customers can be highly appreciated, even if the LSPs are exceeding their normal charges, which is better than losing revenues due to maladaptation to exporters' requests.

From the theoretical point of view, Mclvor (2009) highlights that sometimes, there is a contradiction between TCA and RBV that has to be taken into consideration. He demonstrates that RBV with respect to outsourcing decision is influenced by the capability of a firm to develop a sustainable advantage, while TCA with respect to outsourcing decision is influenced primarily by the potential for opportunism. For example, Mclvor (2009) proposes that when an activity in which a firm has a weaker resource and/or capability position, and there is high potential for opportunism, the activity will be outsourced according to the logic of

RBV. On the contrary, adhering to the logic of TCA, the activity will be performed internally. Based on the above discussion, the contradictory nature of the two theories might explain why the presence of opportunism strengthens the association between flexibility and outsourcing performance rather than weakening it. The present study has purported these hypotheses based on TCA reasoning that is influenced by the detrimental effect of perceived opportunism. However, the empirical findings for these hypotheses have shown that it would be better to formulate these hypotheses based on RBV's logic, as the value created by LSPs' flexibility to the exporters' firm exceeds the costs raised from exercising opportunism and has a positive influence on logistics outsourcing performance. Thus, the findings support that flexibility should be treated as a moderator in this study, as the increasing level of flexibility reduces the negative association between opportunism and logistics outsourcing performance, which might explain the positive sign of the interaction effects. Hence, these findings show that the two theoretical frameworks can raise two competing hypotheses, which raises cautions that TCA and RBV can both complement and/ or contradict each other, which deserves future attention.

In addition, this study is consistent with McIvor (2009), who state that RBV and TCA pay little attention to the political context of an organization in the outsourcing decision, and concentrate more on strategic and economic factors. **Therefore, the findings of these hypotheses raise the need for researchers to take the influence of externalities (such as the political situation) into consideration**, which opens important venues for further research.

According to Rindfleisch et al. (2010), the moderating role of opportunism allows for enriching the understanding of the nature of this construct. This study has demonstrated that opportunism is an important contingent factor that influences the effectiveness of LSP's expertise capability. Hence, the present findings are in line with Verwaal et al. (2009), where the value created by resource and/or capabilities are not independent from the occurrences of opportunism. The empirical findings of the current study contribute to the knowledge of RBV and TCA in the logistics outsourcing context. Consistent with Sharma et al. (2007) and Verwaal et al. (2009), the findings of the study highlight the importance of exploring different contingency variables that may moderate the value of resources and capabilities.

9.2.2 Managerial implications

One of the major contributions of this study is that it is the first to identify the importance of logistics service capabilities in improving ogistics outsourcing performance in the context of the textile and clothing industry in Egypt, and affirms the crucial role of an LSP's logistics capabilities as antecedents of the logistics outsourcing performance. In addition, the study confirms that the hazards resulting from LSPs' opportunism reduce the logistics outsourcing performance. These antecedents have implications for improving logistics outsourcing performance,and consequently the study reveals that logistics outsourcing performance is an important antecedent of the buyer logistics performance.

From the textile and clothing exporting companies' perspective

The textile and clothing market demands quick responses, expertise, knowledge, new services and/or improving the existing services in order to respond and adapt to customer and market needs in a short time. According to Yeung (2006), timely delivery of products is one of the key factors for firms to remain competitive in the export market. Through logistics outsourcing arrangements, textile and clothing exporting companies can have access to complementary capabilities from their LSPs. Hence, this study increases exporting firms' awareness and understanding of the role of LSPs' logistics capabilities in handling international logistics operations effectively. The results of the study confirm that flexibility, expertise and innovation are valuable and distinctive capabilities of LSPSs, and according to Sinkovies and Roath (2004) and Stank et al. (2003) better collaboration with an LSP is prerequisite in order to develop, deploy, and leverage capabilities that lead to an improved logistics performance. When an LSP displays high flexibility in handling changes and responds to short notice requests,logistics outsourcing performance will be improved. Thus, an LSP's flexibilty capability creates value through their readiness to customize their services according to textile and clothing exporting companies' sudden needs. On the other hand, lack of flexibility will reduce relationship value, and may influence logistics outsourcing performance negatively.

LSP's expertise capability is valuable and essential in supporting textile and clothing exporting companies and improving logistics outsourcing performance. Textile and clothing exporting companies should look for LSPs with high levels of knowledge and expertise to enable them to overcome uncertainties and ensure timely delivery. In accordance with Sink et al. (1996), LSPs who acquire logistics expertise and are knowledgeable about their customers industry are considered competent service providers. In addition, innovation is a very important capability that can support the differentiation of textile and clothing exporting companies. According to Ralston et al. (2013), innovation in logistics services is considered as a catalyst for service differentiation.

Accordingly, these three capabilities (flexibility, expertise and innovation) are key drivers for improving logistics outsourcing peformance. However, engaging in an opportunistic behavior on the LSP's side demonstrated by imposing extra charges and not performing as promised, will raise transaction costs that will reduce the level of logistics outsourcing performance. Futhermore, when an LSP has expertise capability and at the same time is inclined to engage in opportunistic behavior, this will have a negative impact on the logistics outsourcing performance and reduce the positive effect of expertise on the logistics outsourcing performance due to information and knowledge asymeteries. In agreement with Gadde and Hulthen (2009), the present study shows that the sharing of knowledge is important for the success of the relationship between LSPs and textile and clothing exporting companies.

Hence, a textile and clothing exporting company has to pay more attention during the selection process of LSPs. It is very important for the exporters to screen potential service providers so as to gauge the capability and the motivation of their LSPs before entering the relationship in order to avoid information asymmetry and reduce exploitation of opportunism by their LSPs. In this concern from the agency theory persepective, Bergen et al. (1992) assert that the principal can reduce and/or avoid adverse selection problem-ex-ante information asymmetry- through screening, signaling, and providing opportunities for self-selection to appropriately identify the agent's ability to perform the anticipated task in the pre-contract phase.

In addition, Stump and Heide (1996) assert that buyer firms need to mitigate the hazard raised from ex-ante and ex-post opportunistic behavior through developing multiple controlling mechanisms such as partner selection, incentive design, and monitoring. Partner selection aims to find qualified suppliers through formal qualification programs (Wathne and Heide, 2004; Stump and Heide,1996), to avoid prospective governance problems in a pre-contractual relationship stage (Wathne and Heide, 2004). In this concern, Stump and Heide (1996) highlight that a supplier qualification program should be based on assessing both the supplier's ability to perform the task to avoid adverse selection problem, and the supplier's motivation in terms of the willingness of the supplier to make investment in the focal relationship. Wathne and Heide (2004) assert that firms can design incentive structures in terms of supplier's hostage. Such incentive design is considered as a self-enforcing contract where long-term gains from sustaining the relationship surpass the short-term payoffs from potential opportunism (Stump and Heide, 1996). However, selection and incentive design ex-ante control mechanism are considered incomplete and must be complemented by monitoring systems as ex-post control mechanism (ibid). Monitoring offers buyers control mechanism to monitor the supplier compliance with the agreed standard of task performance to avoid moral hazard problems by reducing ex-post information asymmetry. Hence,

exporters might adopt these controlling mechanisms to assure that they had selected the proper LSPs who have the required capabilities to perform tasks as agreed upon or even to exceed them. Consistent with Halldorsson et al. (2007), logistics outsourcing arrangements should include safeguards and credible commitments to discourage LSPs' opportunism. Therefore, it is important for textile and clothing exporting companies to ensure the stability, reputation, and service reliability of their LSPs and sub-suppliers (Skjoett-Larsen, 2000).

Furhtermore, the results of this study affirm that logistics outsourcing performance is a significant driver of buyer logistics performance. Hence, achieving and exceeding relationship goals and expectations in logistics operations will allow textile and clothing exporting companies to export more competitive product/service packages to their customers. According to Yeung (2006), buyer logistics performance is an important antecedent of export excellence. Consequently, when exporters meet the expectations of their customers with respect to service attributes, their export performance might be improved. Moreover, the result of this study confirms the importance of developing long-term relationships in order to improve the logistics performance of textile and clothing exporting companies. Over time, LSPs understand the needs and preferences of their customers, and become acquainted with the operational problems that might face their customers, hence being able to provide appropriate solutions. Thus, a close and long lasting relationship between customers and their LSPs improve the logistics performance of the textile and clothing exporting companies, and can act as a safeguarding mechanism against opportunism.

From the logistics service providers' perspective

The findings of this study are important because they highlight several significant issues for consideration. In particular, LSPs can achieve high logistics outsourcing performance by concentrating their efforts, resources, and capabilities on delivering value-added services to their customers. The manner in which LSPs develop, manage, and leverage their resources and capabilities influences their strategic importance in the market (Hertz and Alfredsson, 2003). The results of the study concur with Olavarrieta and Ellinger's (1997) argument stating that firms which have unique and valuable logistics capabilities will become superior performers. LSPs are expected to detect and determine the services required by the textile and clothing exporting companies in order to assign their different service offerings. Thus, an important managerial implication is that LSPs should endeavor to help improve the competence of their staff. Training of LSPs' staff should be top priority for the management.

From the LSPs' perspective, the findings of this study indicate that it is generally in their best interest to display flexibility in responding to their customers' requests for handling emergency shipments and making necessary modifications in order to cope with changing conditions.Through flexibility capabiltiy, LSPs can improve logistics outsourcing performance. The findings of this study are in agreement with the premise that LSPs are recognized as better performers when they exhibit higher flexibility, and respond in a more timely fashion to their customers than their rivals (Daugherty et al., 1996; Fawcett et al., 1996; Stank et al., 1996). Hence, it is essential for LSPs to acquire unique capabilities and leverage them to improve logistics outsourcing performance. Nevertheless, LSPs may disappoint their customers in fulfilling the needs of exceptional tasks when displaying rigidity, inability to perform the requested services and/or hide information, which may hinder their customers' business development.LSPs should be equipped with a high level of expertise and skills for their customers' businesses in order to improve logistics outsourcing performance. According to Wong and Karia (2010), expertise in a customer's operations and business requirements is assumed to be a distinctive capability and a key to a successful logistics outsourcing relationship. Expertise improves collaboration between LSPs and their customers (Chen et al., 2010).

The findings of the study reveal that innovation in logistics services is an important capability, and according to previous studies (Chapman et al., 2003; Flint et al., 2005; Panayides, 2006; Wallenburg, 2009; Yang et al., 2009) it is imperative for the long-term success of LSPs to be innovative. According to Deepen et al. (2008), the success of LSPs in keeping their market position in today's competitive global supply chains is primarily driven by their sustained ability to provide value to their customers. Accordingly, it is essential for LSPs to develop their innovation capabilities to improve their logistics outsourcing performance. Moreover, this study reveals that opportunistic behavior of LSPs reduces the level of logistics outsourcing performance. Generally, opportunism reduces relationship quality and creates a lack of trust, which reduces relationship value, and consequently the reputation of LSPs will be harmed. Thus, it is very important for LSPs to avoid engaging in such opportunistic behavior so as not to loss their customers.

Public policy implications for the textile and clothing export sector

The findings of this study are also relevant for public policy because improved performance in logistics operations is vital for export development. Government has an essential role in providing support to boost textile and clothing exports and to enhance the capability of the logistics service providers in performing logistics activities efficiently.

The Egyptian government should formulate polices to increase the competitiveness of textile and clothing export. According to the Sectorial Strategic Plan (2014-2018) with respect to textile exports, the government aims to reach 2.080 millions USD in spinning and weaving exports, 2,300 millions USD in ready-made garments, and 1,070 millions USD in home textiles in 2018 (GAFI, 2015). The Egyptian government has taken several steps to support the textile export sector. For instance, the Ministry of Industry and Foreign Trade is currently working on the expansion of the establishment of permanent exhibitions and opening of promotional and distribution centers for Egyptian textile products to increase exports to various Arab and European markets (GAFI, 2014). Furthermore, the Ministry provides the textiles sector with the necessary trained technical labor by giving them specialized training programs to increase and develop their production capacities and skills. The General Authority for Investment and Free Zones (GAFI) operates a One-Stop Shop system that streamlines and expedites investor services (GAFI, 2014). Most exporting textile companies are operating in the free zones where these companies enjoy several benefits such as exemption from customs duties, sales taxes and fees on capital assets and intermediate goods (KPMG, 2014).

Nevertheless, the supporting infrastructure and exporting environment in Egypt hinder manufacturing exporters in moving their products efficiently to the international markets (Magder, 2005). This implies that the government needs to formulate polices and reforms to improve the investment climate for textile and clothing exporting companies by providing incentives to producers to increase their exports and to facilitate their access to international markets effectively and efficiently.

Public policy implications for logistics service providers

Despite the important role played by the LSPs in managing and smoothing the logistics operations on behalf of the shippers in Egypt, this sector lacks due attention. It is not codified in the customs sector and/or Egyptian commercial law. In addition, there is no independent governmental body to regulate and set standards for the LSPs operating in Egypt. Even more, no specialized governmental body grants specialized licenses to practice this profession. The sole specialized body that plays a role in relation to the LSPs' business in Egypt is the Egyptian International Freight Forwarding Association (EIFFA) of the Alexandria Chamber of Commerce. EIFFA is an official civil organization dedicated to enhancing, supporting and leading the LSPs in Egypt. This association provides expert training in different field of the logistics services sector through courses, workshops and seminars. It acts as a liaison and lobbyist for forwarders and LSPs in Egypt.

Hence, the LSPs sector demands special attention from the government in order to create a good administrative climate for improving and upgrading the logistics capabilities of LSPs. Hence, the government could support the growth of the LSPs by establishing a governmental body to control and monitor the practices of this profession in Egypt.As well as by providing educational training programs to improve the competency of LSPs' logistics capabilities and skills which will enable them to cope with the new technologies and demands of the global trading environment. This will indirectly affect the logistics performance of textile and clothing exporting companies. Furthermore, the export sector is negatively influenced by the delays in shipments, lengthy import and export procedures, customs inefficiencies, low port transparency, high handling costs and port charges (El Haddad, 2012; Ghoneim, 2014). Therefore, high quality infrastructure and related activities are essential factors for achieving high quality trade logistics services (Korinek and Sourdin, 2011) that help to improve and shorten the lead-time from manufacturing to export markets. Generally, the government could formulate polices to support LSPs and exporters by speeding up the customs clearance process, improving the reliability of transportation and facilities at ports applying the "single-window system"[26], simplifying export procedures, improving the infrastructure of port facilities and increasing the capacity of handling equipment so that shipments can move to their destinations without incurring needless delays.

9.3 Study limitations and recommendations for future research

Although the study has a potentially significant contribution to the literature on logistics outsourcing performance and its important theoretical and managerial implications, it has a number of limitations that open up avenues for future research.

The empirical analysis of the study is based on primary data collected from the perspective of key informants from Egyptian textile and clothing exporting companies. Hence, the perception of LSPs is not captured. According to Maloni and Carter (2006), studies drawn from the LSPs' perspective have lagged behind customer research in quantity and scope. Therefore, future studies could broaden the research scope by collecting data from the LSP's side or even adopting a dyadic approach consistent with the recommendations of previous studies such as Chen et al. (2010) and Lai et al. (2012). A dyadic perspective would help to

[26] This system will allow traders to exchange information with a single body to fulfill all the import and/or export related regulations and procedural requirements (United Nations Economic Commission for Europe, 2003).

build a strong understanding of the antecedents of the logistics outsourcing performance, and allow comparison of both perspectives to better evaluate the logistics outsourcing performance model.

Although the study has examined a limited number of logistics capabilities in order to explain the logistics outsourcing performance, the variables identified in this study have a satisfactory explanatory power (R^2) of 58% for goal achievement and 45% for goal exceedance. It would be valuable for future research to examine a research model incorporating other capabilities: such as reputation (Anderson and Weitz, 1992; Ganesan,1994; Wagner et al., 2011), information technology (IT) capability (Closs et al., 1997; Lai et al., 2008; Langley and Capgemini, 2014, Shang and Marlow, 2005; Zhao et al., 2001) and relational capabilities (Panayides and So, 2005b; Sinkovies and Roath, 2004; Wong and Karia,2010) to explain the remaining variance of the logistics outsourcing performance.

Reputation is an intangible asset that determines an LSP's sense of fairness and honesty towards their customers (Wagner et al., 2011). Kwon and Suh (2004) demonstrated that partner reputation has a significant and positive influence on the level of trust among supply chain members. Reputation can be a signal for commitment (Anderson and Weitz, 1992), and has a significant effect on perceived credibility (Ganesan, 1994). Reputation reduces the motivation of an exchange party to act opportunistically, in order to protect its valued asset (Anderson and Weitz 1992; Wang, 2002). Accordingly, including reputation capability to curb opportunistic behavior in the present research model could provide interesting insights to the findings especially by examining the interaction effects between reputation and opportunism on the logistics outsourcing performance. Knemeyer and Murphy (2005) acknowledge that LSPs develop reputations through their performance and behavior in previous and present outsourcing relationships. Reputation can be a source of competitive advantage for LSPs, which according to Wagner et al. (2011) significantly influences expectations of relationship continuity and willingness to collaborate. The authors postulate that the relationship between reputation for fairness and business performance would be an interesting research area. Reputation can be expected to have an influential role in the LSP-client relationship, and provides an explanatory value for logistics outsourcing performance. Hence, future research could include the LSPs'reputation as an antecedent of the logistics outsourcing performance, and examine the influence of reputation on mitigating the LSPs' opportunistic behavior.

Information Technology (IT) capability is defined as the "ability to mobilize and deploy IT-based resources in combination or co-present with other resources and capabilities" (Bharadwaj, 2000, p.171). Logistics operations are highly dependent on effective and efficient Information technology capability (Daugherty et al., 2009) that integrate different

logistics activities (such as shipping, warehousing, consolidation and packaging). In addition, IT capability is cited as one of the most important capabilities that a logistics firm needs in order to achieve world-class performance (Closs et al., 1997; Lai et al., 2008). Information technology capabilities facilitate logistics integration and contribute to supply chain success (Shang and Marlow, 2005). IT capability is critical to logistics performance (Zhao et al., 2001). Several empirical studies assert the positive relationship between information based capability and logistics performance (Daugherty el al., 2009 Fawcett and Clinton, 1996; Shang and Marlow, 2005; Stank and Lackey, 2007). IT is believed to offer improved logistics efficiency, effectiveness and flexibility (Closs et al., 1997; Lai et al., 2008). Information capability is different from other capabilities in this study in which IT capability can be considered as a glue that integrates the different logistics capabilities together and facilitates exchanging information inside LSP firms and between their customers for the sake of delivering enhanced customer value.

Furthermore, IT has the potential to increase flexibility to help firms adapt and change to meet new marketing conditions (Lucas and Olson, 1994). Empirical studies have confirmed the positive relationship between information based capabilities and flexibility (Daugherty et al., 1995; Fawcett et al., 1996; Shang and Marlow, 2005). According to Lai et al. (2008) and the empirical findings of Langley and Capgemini (2014), IT capabilities of LSPs are becoming increasingly important and one of the most critical factors that affect the decision of a logistics users to outsource. Hence, IT capability can significantly influence the competitive advantage of the LSP. Therefore, examining IT capability as antecedent of the logistics outsourcing performance could provide valuable insights, which according to Lai et al. (2008), deserve much research attention.

Moreover, relational capabilities play an important role in improving logistics outsourcing performance. According to Deepen et al. (2008), the main driver of logistics outsourcing performance lies within the relationship between logistics service users and their LSPs. Consistent with Panayides and So (2005b), relationship orientation in LSP-client relationship is significantly related to LSPs' effectiveness in the supply chain. Wong and Karia (2010) also, note that the relational capabilities in LSP-client relationship is a significant predictor of the logistics performance of LSPs. Therefore, it would be valuable to examine relational capabilities that incorporate trust, communication and collaboration as antecedents of the logistics outsourcing performance.

The study includes opportunism as one moderator, so it would be interesting to identify other moderators and examine their contingent effects on logistics outsourcing performance. Further research can be directed towards examining three-way interactions such as (expertise x flexibility x opportunism) and (capability x behavior x governance mechanism), or

other two-way interactions like (innovation x relationship duration). These potential interactions can influence the association between LSPs' logistics capabilities and the logistics outsourcing performance. In addition, the findings of the interaction effect between flexibility and opportunism raises cautions that TCA and RBV can both complement and/ or contradict each other, which deserves future attention.

This study is based on a cross-sectional survey that provides limited longitudinal evidence on exactly how perceptions of key logistics capabilities and opportunism really influence the logistics outsourcing performance. In line with previous studies such as Lai et al. (2012) and Maloni and Carter (2006), longitudinal studies are important to assess the development and changes in LSP's logistics capabilities. Hence, it would be fruitful for future research to investigate the short and the long-term effects of LSPs' logistics capabilities as well as LSPs' opportunism on the logistics outsourcing performance in a longitudinal study. Accordingly, future studies should consider a longitudinal research design as it could provide a better explanation for the antecedents and the consequences of the logistics outsourcing performance.

In terms of the scope of this study, the research is limited to exporters in the textile and clothing sector in Egypt, which leads to two limitations with respect to using a single industry in a single country. First, examination of the research model in a single industry limits the ability to generalize the results and obtain high external validity of the findings. Hence, future studies from multiple industries should ensure external validity and examine if there are differences in the perceived logistics outsourcing performance in different industries. Second, there may be potential cultural differences that influence the effects of the key antecedents on the logistics outsourcing performance. Therefore, it is desirable to conduct further research in different countries with a focus on the cross-cultural effects on the antecedents of the logistics outsourcing performance and its consequent effect.

One of the limitations of this study is not considering the influence of Egyptian culture on the LSP-client relationship; and it is important to examine this effect especially when studying a construct such as opportunism. Thus, further research is encouraged to examine the influence of culture on an LSP's capabilities and behavior.

Although the descriptive sample statistics of this study include interesting insights about the exporting companies, they do not give much detail about the LSPs' characteristics such as their size, the different markets they serve or their relationships with other LSPs in terms of cooperation and/or competition. In addition, power, dependency, specific investment and performance ambiguity are important factors to be considered in examining an LSP-client relationship. Therefore, these are all important considerations that deserve further research.

Moreover, there are other control variables that are not examined in this study and would be recommended to be included in further research, such as type of outsourced function and sales volume.

Furthermore, based on the sample selection of the present study, the relationships between the exporters and their most important and/or largest LSPs are considered as exclusive relationships, which might explain the significant positive results of the capabilities on logistics outsourcing performance, and the finding of low average mean of opportunism construct. In this concern, the study excluded all arm's length relationships, which became rather narrow in scope. Hence, including these arm's length relationships in the sample might present differences in the result, which deserve further investigation.

With respect to the operationalization of the logistics outsourcing performance as a bi-dimensional construct (goal achievement and goal exceedance), this study does not explicitly capture cost performance. The study suggests adding cost performance as a third dimension in further research. In addition, logistics performance is measured in this study as a unidimensional construct, and it is suggested that logistics performance is conceptualized as a multidimensional construct because this construct is complex by nature, and should therefore be measured from several perspectives.

Based on the research model, it is assumed that goal achievement and goal exceedance mediate the relationship between LSPs' capabilities and buyer logistics performance. However, mediation is not included among the research core objectives. Nevertheless, it is important to reflect mediation in this model, which deserves to be examined in further research.

9.4 Conclusion

Developing the rationale for a middle-range approach in the current study proved to be a valuable approach where TCA and RBV complement each other as a theoretical framework. This study provides in-depth insights into the association between LSPs' logistics capabilities and perceived logistics outsourcing performance. It identifies the importance of the logistics service capabilities in enhancing the logistics outsourcing performance in the context of the textile and clothing industry in Egypt. The study affirms that LSPs through leveraging their logistics capabilities can improve the logistics outsourcing performance. Accordingly, LSPs' expertise, flexibility, and innovation are key determinants of the logistics outsourcing performance. Hence, it is important for exporters to incorporate these capabilities into their selection criteria when evaluating their LSPs.

Moreover, the study confirms the negative detrimental effect of perceived opportunism on the logistics outsourcing performance. In addition, it is concluded that opportunism mitigates the effectiveness of LSP's expertise capability on logistics outsourcing performance. Therefore, exporters need to develop multiple controlling mechanisms to reduce hazards that might raised from LSP's opportunism.

The logistics outsourcing performance model has a satisfactory explanatory power (R^2) of 58% for goal achievement, 45% for goal exceedance and 42.5% for buyer logistics performance. The study concludes that logistics outsourcing enhances the logistics performance of textile and clothing exporting companies through adding value to their products, which helps them to improve their competitiveness in international markets. Thus, the logistics competence gained from LSPs' capabilities can support exporting companies to respond more effectively to the needs of their customers where, LSPs can become "an integral extension of export companies". In conclusion, this study serves as a valid reference for future studies that relate aspects of the logistics outsourcing performance to buyer logistics performance, and provides opportunities for future research in logistics outsourcing context.

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APPENDICES

APPENDICES

Appendix 1

Table 1.1: Frequencies for the profile of sample

Variable	Classes	Frequency	Percent
Key informant position	Director	4	2.6
	Logistics manager	32	20.9
	Export manager	92	60.1
	Operation manager	11	7.2
	Accountant manager	9	5.9
	Other	5	3.3
	Total	153	100.0
Industry sub-sector	Spinning and Weaving	30	19.6
	Home textiles	24	15.7
	Readymade garments	99	64.7
	Total	153	100.0
Nationality	Local	107	69.9
	Multinational	46	30.1
	Total	153	100.0
Geographical location	Alexandria	51	33.3
	Greater Cairo Area	61	39.9
	Middle Delta Governorates	23	15.0
	Suez Canal Area	18	11.8
	Total	153	100.0
Number of employees	Less than 100	9	5.9
	From 100-200	24	15.7
	From 201-300	14	9.2
	From 301-400	14	9.2
	From 401-500	7	4.6
	From 501-600	7	4.6
	More than 600	78	51.0
	Total	153	100.0
Sales volume	Less than million $	9	5.9
	From1 -2.9 millions $	33	21.6
	From 3-4.9 millions $	26	17.0
	From 5- 6.9 millions $	21	13.7
	From 7 -8.9 millions $	6	3.9
	From 9- 11millions$	6	3.9
	Greater than 11 millions $	52	34.0
	Total	153	100.0

Table 1.1: Frequencies for the profile of sample (continued)

Variable	classes	Frequency	Percent
Export intensity	less than 20%	7	4.6
	from 20 - 40%	11	7.2
	from 40.1 -60 %	16	10.5
	from 60.1-80%	25	16.3
	from 80.1-100%	94	61.4
	Total	153	100.0
Number of logistics service providers that the textile and clothing exporting companies are working with	less than 3 LSPs	22	14.4
	from 3 to 6 LSPs	80	52.3
	from 7to 10 LSPs	41	26.8
	more than 10 LSPs	10	6.5
	Total	153	100.0
Textile and clothing exporting companies' needs for outsourced activities from the selected LSP	less than 20%	6	3.9
	from 20 to 40 %	18	11.8
	from 40.1 to 60%	35	22.9
	from 60.1 to 80%	48	31.4
	from 80.1 to 100 %	46	30.1
	Total	153	100.0
Costs of outsourced activities from the selected LSP	less than 50.000 $	75	49.0
	from 51- 100.000 $	34	22.2
	from 101 -150.000$	14	9.2
	from 151- 200.000$	4	2.6
	from 201-250.000$	2	1.3
	Greater than 300.000$	24	15.7
	Total	153	100.0
Key informant involvement	Not at all	1	.7
	Very Limited Extent	5	3.3
	Limited Extent	5	3.3
	Moderate	12	7.8
	Fairly Great Extent	15	9.8
	Great Extent	52	34.0
	Very Great Extent	63	41.2
	Total	153	100.0
Key informant knowledge	Not at all		
	Very Limited Extent	1	.7
	Limited Extent	3	2.0
	Moderate	6	3.9
	Fairly Great Extent	14	9.2
	Great Extent	60	39.2
	Very Great Extent	69	45.1
	Total	153	100.0

Table 1.2: Profile statistics for the sample (n= 153)

	Minimum	Maximum	Mean	Std. Deviation
Key informant experience(years)	1	25	8.39	5.357
Working years of the respondent in the company	1	30	9.23	6.210
LSP-client Relationship duration (years)	1	30	7.59	5.548
Frequency of order (outsourced activities/year)	6	2500	151.08	262.722
Export intensity (Export/sales)%	10	100	79	0.273
Key informant involvement	1	7	5.9	1.343
Key informant knowledge	2	7	6.19	0.974

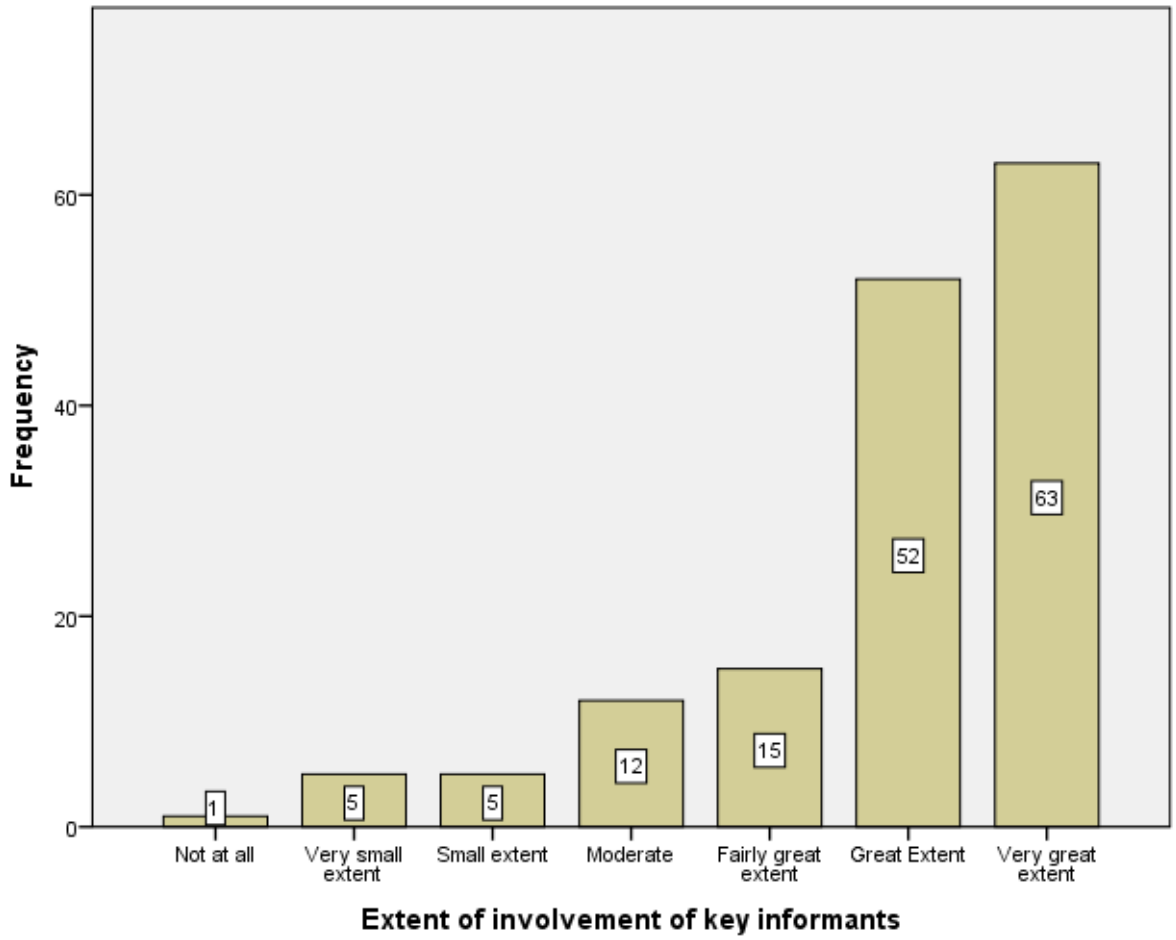

Figure 1.1a: Extent of involvement of key informants

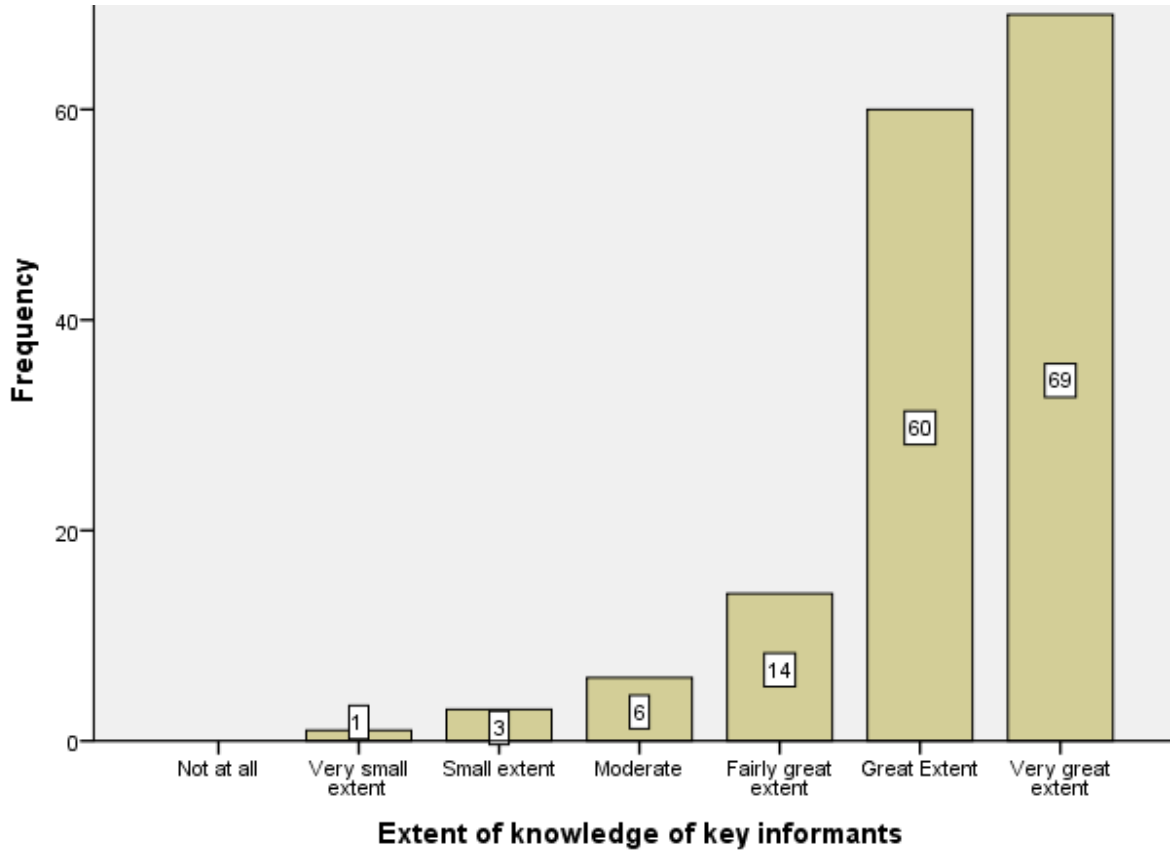

Figure 1.1b: Extent of knowledge of key informants

Appendix 2

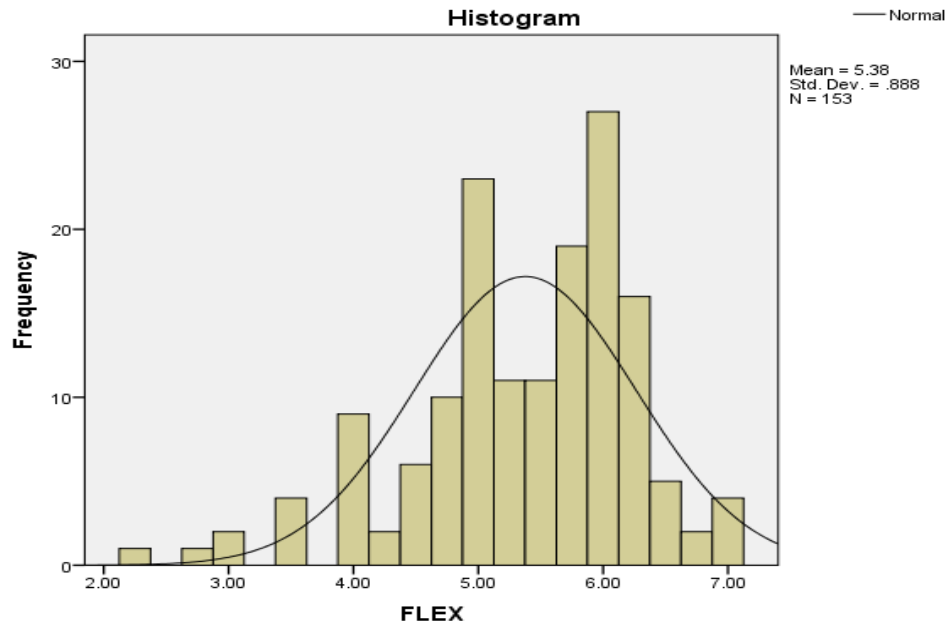

Figure 2.1: Histogram for flexibility

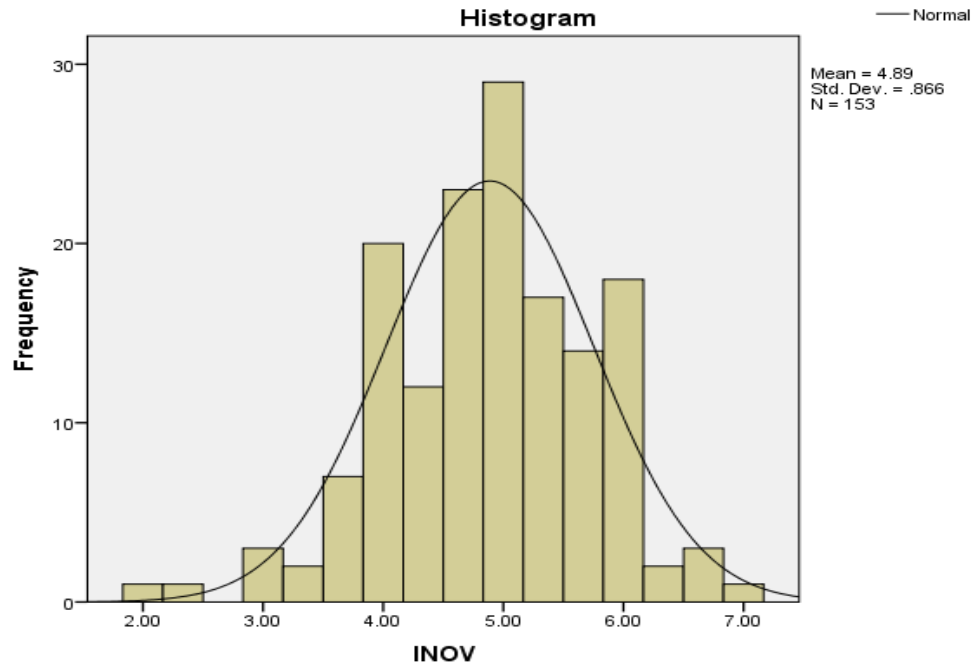

Figure 2.2: Histogram for innovation

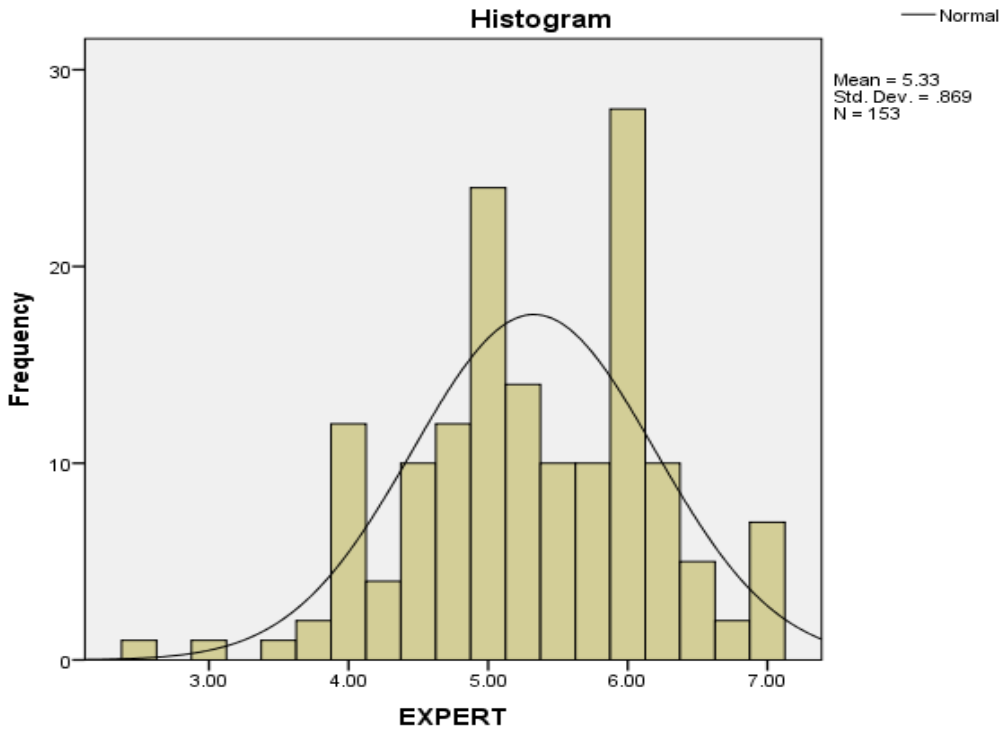

Figure 2.3: Histogram for expertise

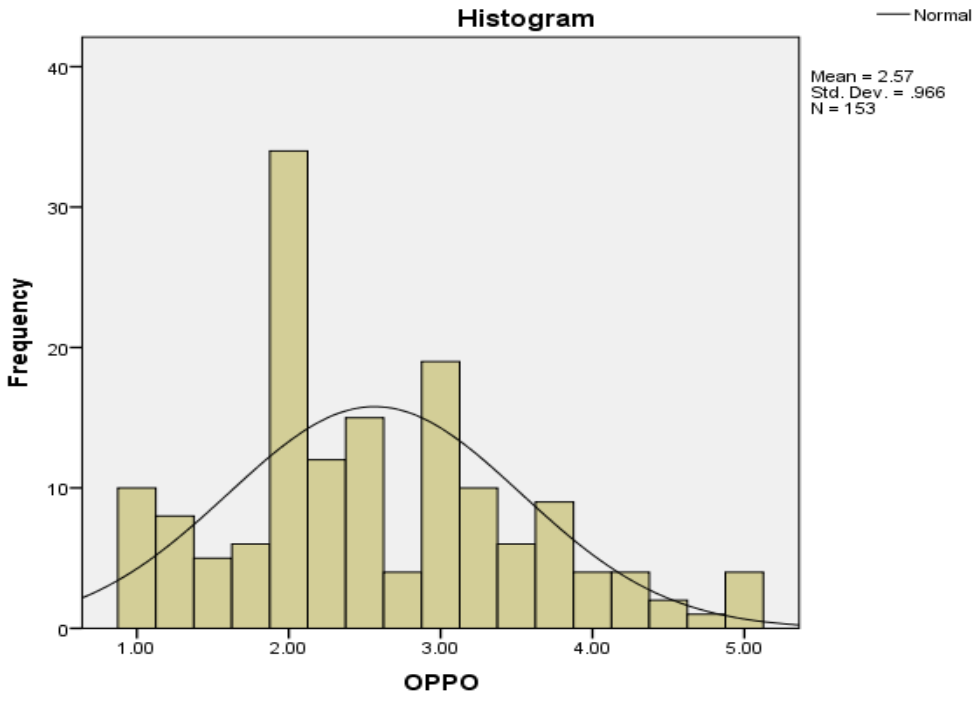

Figure 2.4: Histogram for opportunism

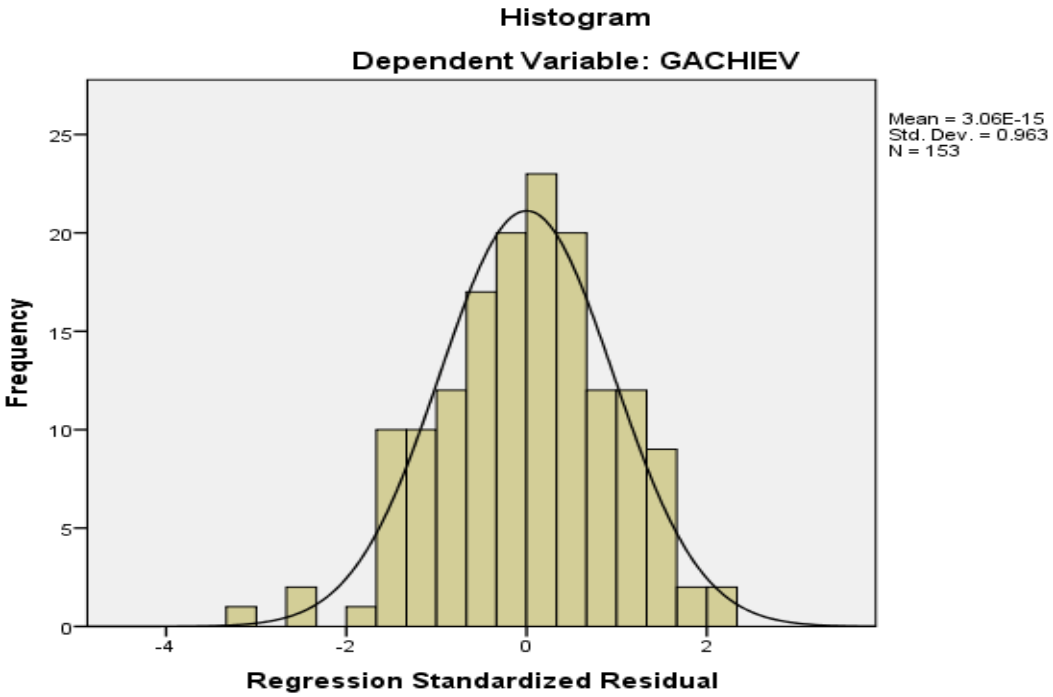

Figure 2.5: Histogram for goal achievement

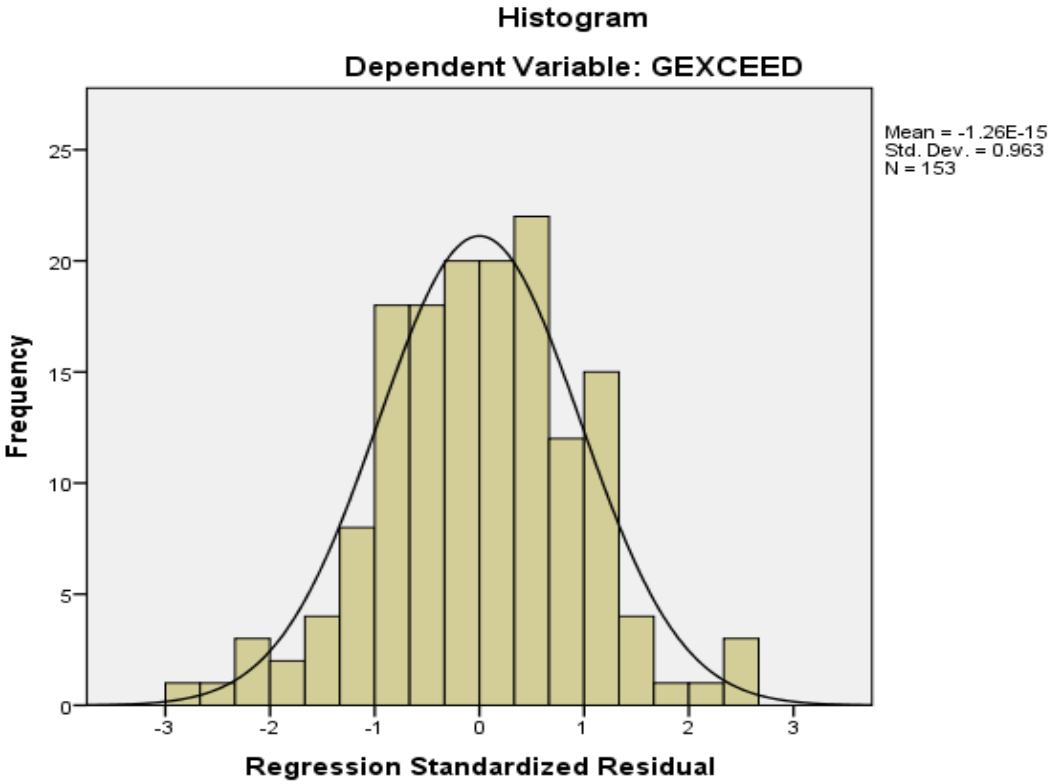

Figure 2.6: Histogram for goal exceedance

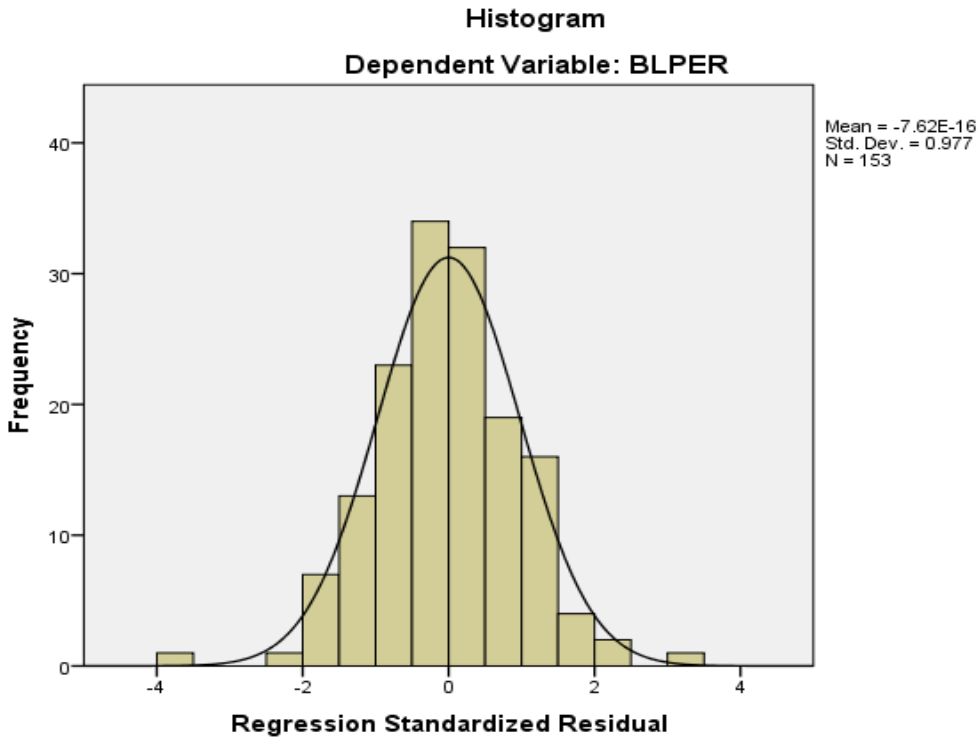

Figure 2.7: Histogram for buyer logistics performance

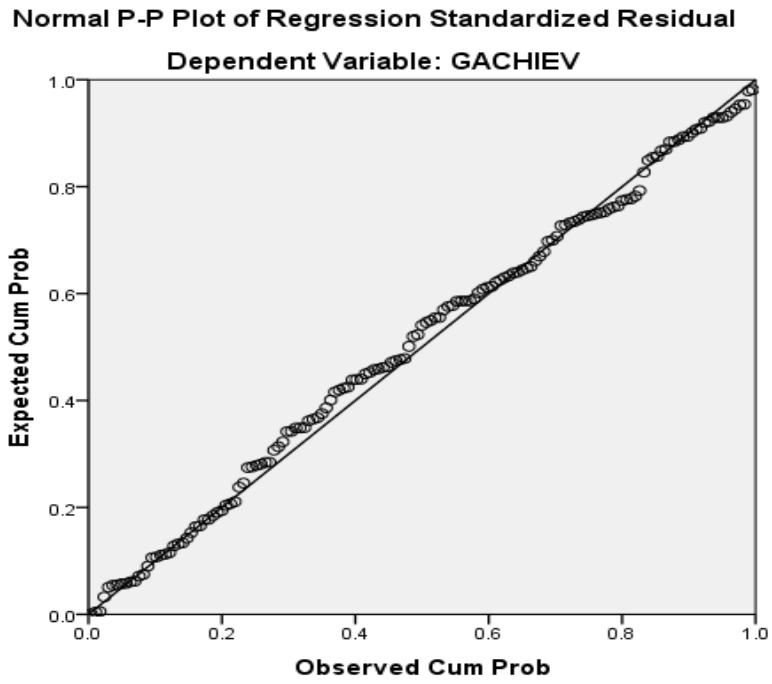

Figure 2.8: Normal probability plot for goal achievement

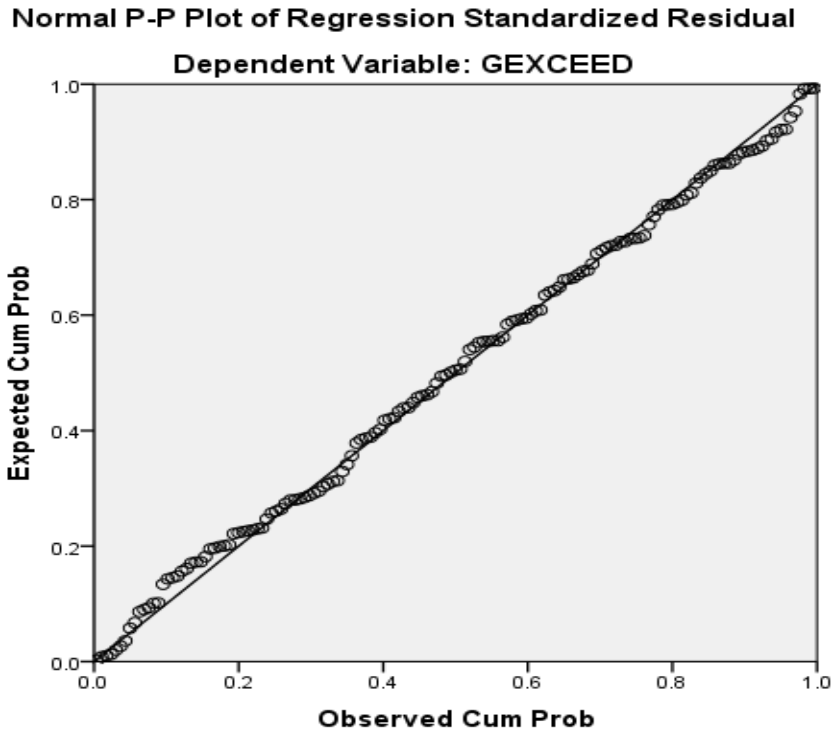

Figure 2.9: Normal probability plot for goal exceedance

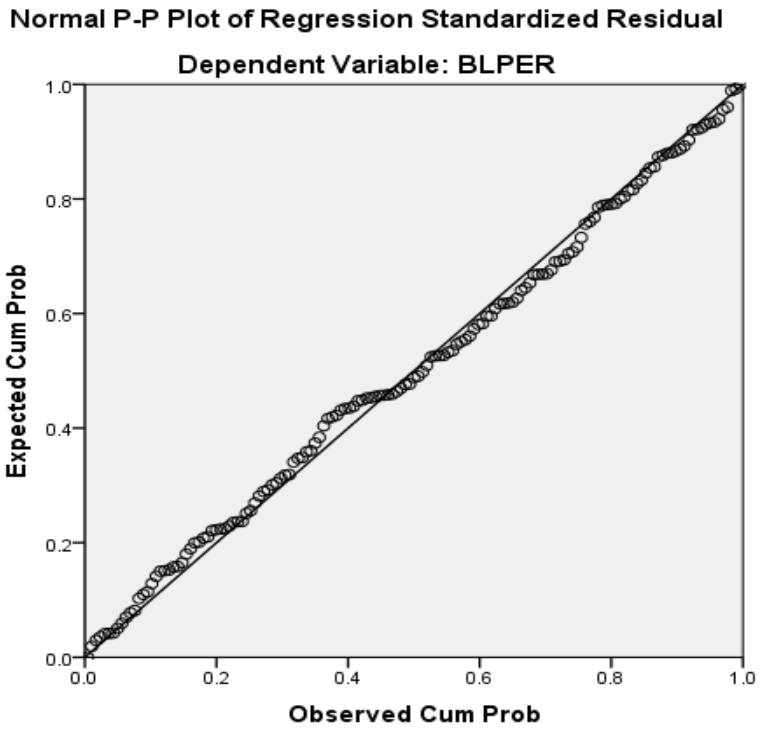

Figure 2.10: Normal probability plot for buyer logistics performance

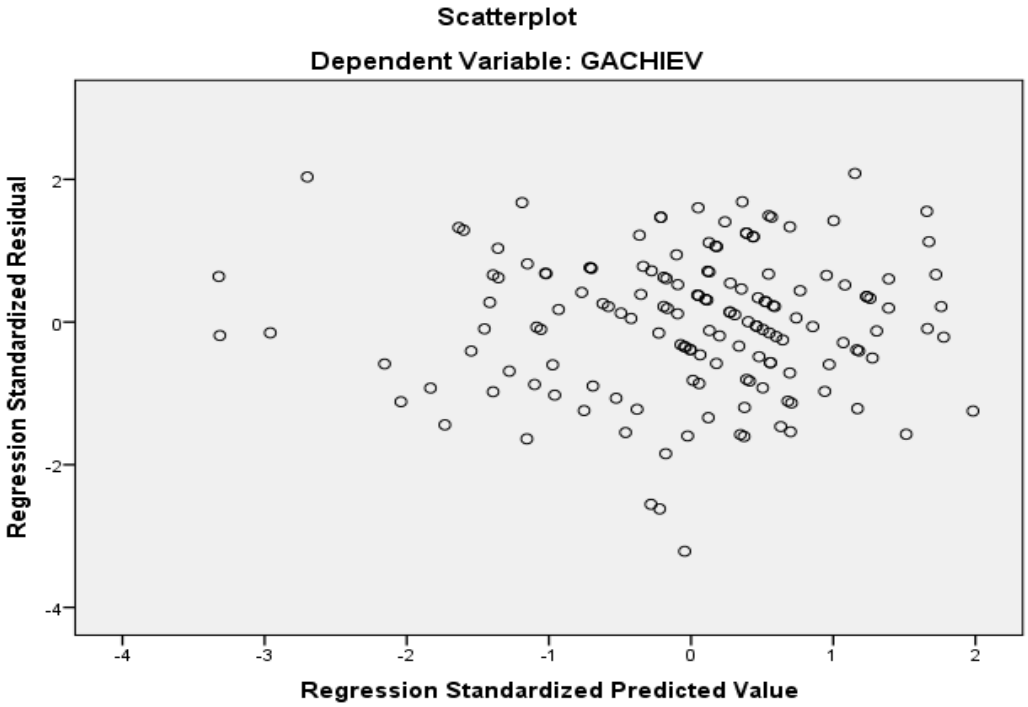

Figure 2.11: Graphical assessment of heteroscedasticity for goal achievement

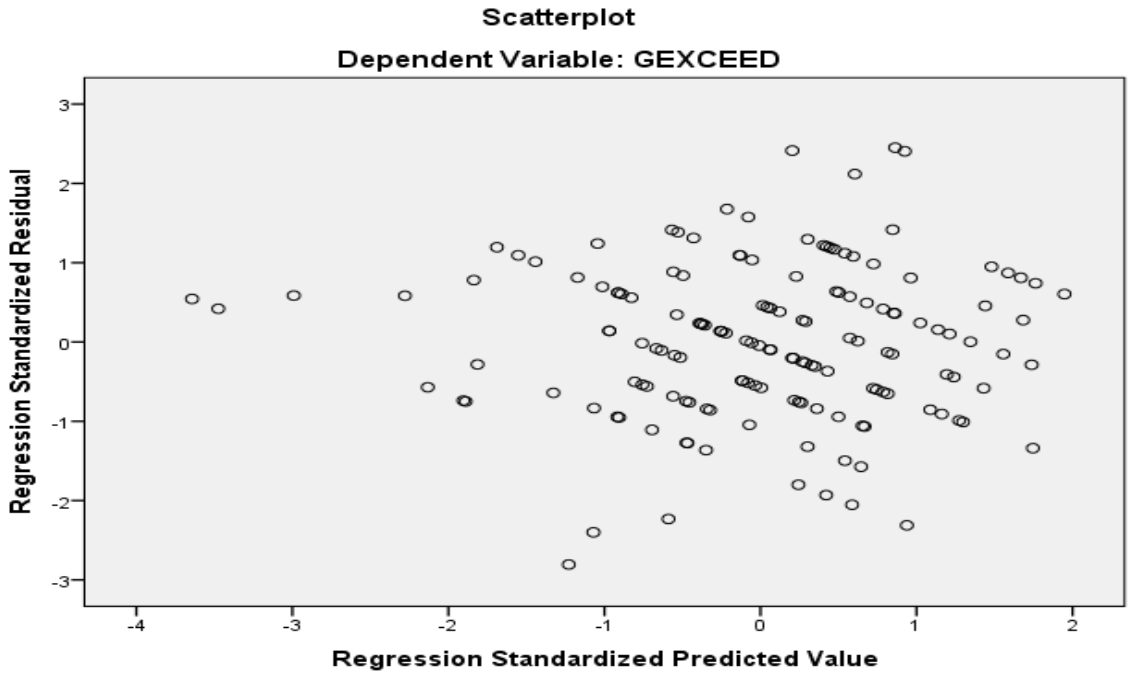

Figure 2.12: Graphical assessment of heteroscedasticity for goal exceedance

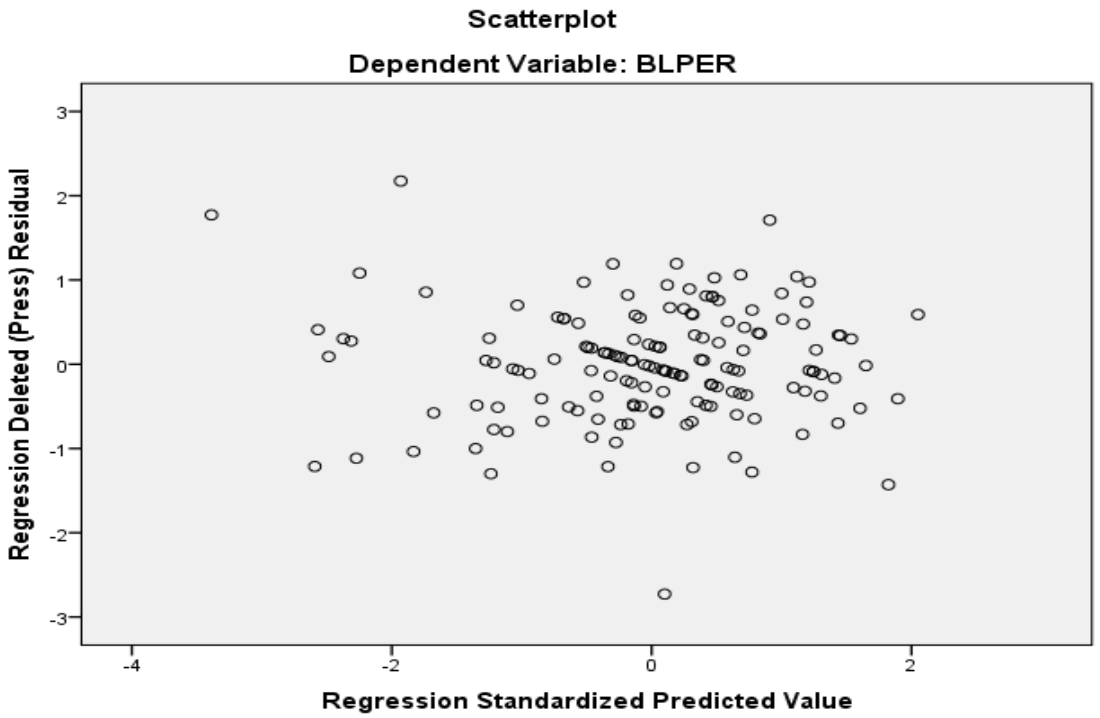

Figure 2.13: Graphical assessment of heteroscedasticity for buyer logistics performance

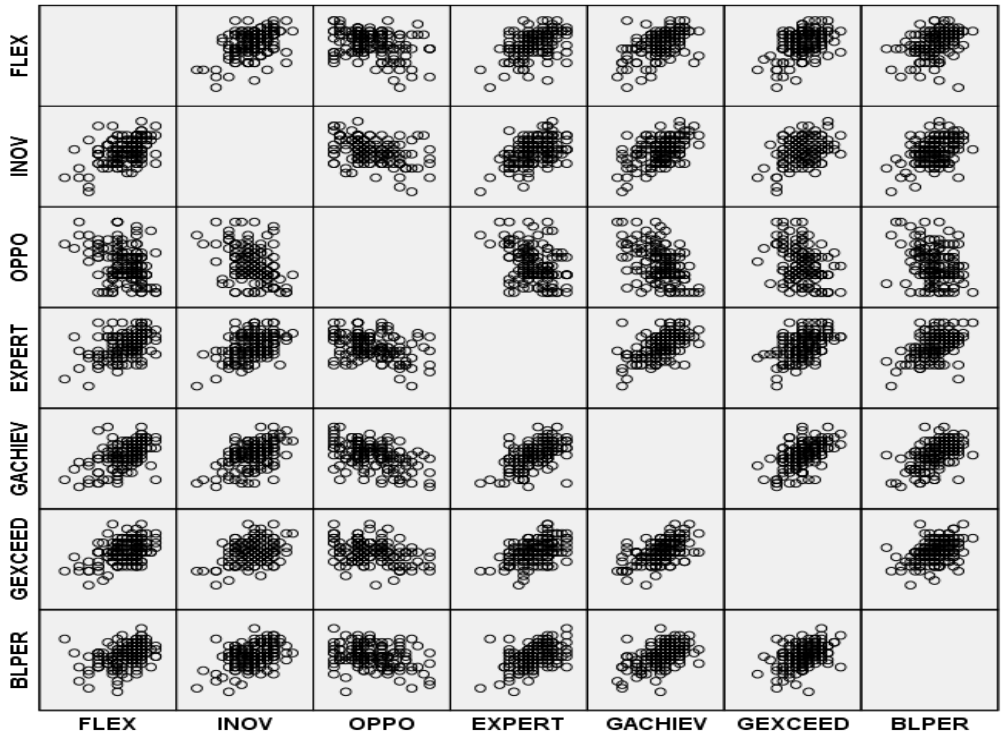

Figure 2.14: Scatterplot matrix for the variables under the study

Table 2.1: Multivariate Normaility assessment using AMOS

Variable	min	max	skew	c.r.	kurtosis	c.r.
GACHIEV7	3.000	7.000	-.476	-2.402	.032	.080
GACHIEV6	3.000	7.000	.088	.443	-.132	-.333
GACHIEV5	2.000	7.000	-.535	-2.699	.170	.429
GACHIEV2	3.000	7.000	-.216	-1.092	.160	.404
GACHIEV1	3.000	7.000	-.705	-3.559	.595	1.502
BLPER4	2.000	7.000	-.216	-1.090	.147	.371
BLPER3	3.000	7.000	-.209	-1.054	-.144	-.364
BLPER2	3.000	7.000	-.400	-2.020	-.228	-.577
BLPER1	1.000	7.000	-.024	-.120	-.166	-.418
GEXCEED5	2.000	7.000	-.351	-1.774	1.117	2.820
GEXCEED3	3.000	7.000	-.151	-.763	-.260	-.657
GEXCEED2	3.000	7.000	.180	.910	-.431	-1.088
INOV1	2.000	7.000	-.078	-.396	-.292	-.737
INOV2	2.000	7.000	-.282	-1.422	.299	.754
INOV3	2.000	7.000	-.413	-2.084	.139	.351
OPPO1	1.000	7.000	.959	4.842	.241	.608
OPPO2	1.000	7.000	.901	4.550	.312	.788
OPPO5	1.000	5.000	.845	4.265	.386	.976
OPPO6	1.000	6.000	1.002	5.061	.824	2.080
FLEX1	3.000	7.000	-.553	-2.792	.228	.575
FLEX2	2.000	7.000	-.950	-4.799	.848	2.141
FLEX3	2.000	7.000	-.887	-4.478	.626	1.579
FLEX4	2.000	7.000	-.990	-5.002	.936	2.363
EXPERT2	3.000	7.000	-.322	-1.625	-.520	-1.313
EXPERT3	2.000	7.000	-.172	-.870	-.385	-.973
EXPERT4	3.000	7.000	-.310	-1.564	-.353	-.891
EXPERT5	2.000	7.000	-.169	-.853	-.276	-.696
Multivariate					144.474	22.579

Table 2.2: Bivariate correlation coefficients (n=153)

	1	2	3	4	5	6	7
Flexibility	1						
Expertise	.433**	1					
Opportunism	-.330**	-.375**	1				
Innovation	.441**	.450**	-.423**	1			
Goal Achievement	.517**	.563**	-.477**	.488**	1		
Goal Exceedance	.423**	.475**	-.352**	.337**	.543**	1	
Buyer Logistics Performance	.377**	.489**	-.293**	.409**	.522**	.398**	1

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

Table 2.3a: Initial principal componant analysis results (n=153)

Rotated Component Matrixa

	Component								
	1	2	3	4	5	6	7	8	9
EXPERT4	**.809**	.124	.089	.176	.130	.219	.092	.004	-.016
EXPERT5	**.777**	.118	.061	.244	.184	.275	.091	.030	-.040
EXPERT2	**.753**	.130	.276	.037	.089	.121	.125	.130	-.084
EXPERT3	**.742**	.170	.141	.194	.197	.174	.013	.182	-.143
EXPERT1	**.688**	.178	.119	-.006	.064	.034	.234	-.104	.256
GACHIEV4	.421	.255	.257	.243	.364	.152	.178	.091	.317
OPPO1	-.082	**-.763**	-.043	-.050	-.245	.017	.025	-.144	-.092
OPPO6	-.101	**-.747**	-.147	-.244	.026	-.197	-.122	.167	.066
OPPO5	-.230	**-.715**	-.200	-.180	.039	-.066	-.208	-.015	.236
OPPO3	-.210	**-.697**	.036	-.114	-.298	-.078	.034	-.192	-.061
OPPO4	-.230	**-.598**	-.311	-.166	-.179	.065	-.102	-.334	-.130
OPPO2	-.035	**-.568**	-.073	-.141	-.036	-.082	-.148	-.037	.491
FLEX3	.118	-.013	**.828**	.146	.136	.037	.195	.103	-.027
FLEX2	.172	.082	**.765**	.012	.096	.061	.250	.213	-.097
FLEX4	.164	.077	**.750**	.278	.189	.112	.057	-.018	.025
FLEX5	.047	.205	**.717**	.179	-.073	.160	.011	.092	.142
FLEX1	.172	.161	**.649**	.160	.268	.080	.028	.081	-.110
INOV4	.124	.096	.157	**.826**	.137	.013	-.019	.221	-.052
INOV3	.065	.179	.082	**.810**	.116	.160	.031	.070	-.152
INOV2	.129	.158	.237	**.780**	.026	.061	.108	-.065	.160
INOV5	.266	.213	.231	**.639**	.191	.136	.040	.247	-.131
INOV1	.253	.203	.210	**.534**	.148	.278	.180	-.083	.290
GACHIEV6	.189	.171	.127	.129	**.744**	.245	.245	.057	-.131
GACHIEV5	.270	-.044	.179	.211	**.642**	.084	.199	.219	.147
GACHIEV1	.204	.435	.171	.202	**.582**	.185	.013	-.056	.189
GACHIEV2	.117	.349	.129	.200	**.541**	.302	.180	.059	-.027
GACHIEV7	.121	.242	.269	-.024	**.515**	.195	.169	.000	-.313
BLPER2	.215	.134	.153	.133	.167	**.820**	-.007	.018	-.093
BLPER3	.294	.070	.069	.120	.184	**.811**	.143	.041	-.058
BLPER4	.221	.008	.086	.092	.249	**.660**	.102	.129	.087
GEXCEED5	.085	.083	.115	.080	.136	.188	**.823**	.049	.143
GEXCEED3	.256	.093	.140	.054	.270	.146	**.693**	-.019	-.253
GEXCEED4	.063	.064	.154	-.008	.065	-.036	**.677**	.322	.042
GEXCEED2	.374	.122	.131	.159	.178	.044	**.540**	.134	-.324
GEXCEED1	.121	.009	.090	.093	.106	-.020	.091	**.794**	-.125
GACHIEV3	.033	.259	.213	.136	.102	.208	.220	**.616**	.107
BLPER1	-.062	.110	.189	.105	-.105	**.509**	.167	**.567**	.072

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 13 iterations.

Table 2.3b: Final principal componant analysis results (n=153)

Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
EXPERT4	**.817**	.071	.166	.090	.154	.192	.163
EXPERT5	**.811**	.047	.205	.065	.211	.264	.166
EXPERT2	**.762**	.298	.109	.142	.118	.018	.153
EXPERT3	**.758**	.200	.202	.200	.193	.073	.078
FLEX3	.099	**.849**	.119	.023	.074	.160	.155
FLEX2	.138	**.815**	.046	.126	.152	-.021	.263
FLEX4	.160	**.718**	.194	.070	.103	.335	.040
FLEX1	.170	**.684**	.262	.201	.105	.118	.018
GACHIEV6	.190	.154	**.745**	.138	.200	.079	.307
GACHIEV1	.226	.122	**.685**	.274	.114	.255	.004
GACHIEV2	.143	.127	**.616**	.318	.248	.189	.151
GACHIEV5	.225	.248	**.610**	-.144	.111	.243	.238
GACHIEV7	.125	.257	**.483**	.257	.173	-.091	.282
OPPO5	-.268	-.188	-.051	**-.767**	-.025	-.181	-.150
OPPO6	-.110	-.048	-.120	**-.747**	-.133	-.295	-.069
OPPO2	-.044	-.093	-.039	**-.721**	-.091	-.058	-.184
OPPO1	-.052	-.046	-.393	**-.678**	-.019	-.013	.060
BLPER2	.280	.072	.222	.143	**.785**	.118	.010
BLPER3	.320	.028	.215	.059	**.782**	.132	.177
BLPER4	.202	.111	.294	-.011	**.700**	.037	.077
BLPER1	-.084	.236	-.096	.128	**.623**	.159	.178
INOV2	.138	.202	.092	.128	.026	**.849**	.045
INOV3	.095	.090	.108	.241	.166	**.721**	.100
INOV1	.237	.167	.245	.113	.231	**.644**	.102
GEXCEED3	.211	.149	.211	.132	.116	.021	**.813**
GEXCEED5	.019	.134	.161	.043	.202	.128	**.742**
GEXCEED2	.348	.144	.132	.209	.026	.108	**.687**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 2.4: Item-total correlations and item's Cronbah alpha coefficients (n= 153)

	Item -Total Correlation	Cronbach's Alpha if item deleted
EXPERT2	.735	.879
EXPERT 3	.759	.874
EXPERT 4	.784	.863
EXPERT 5	.815	.850
FLEX1	.625	.850
FLEX 2	.730	.807
FLEX 3	.779	.785
FLEX 4	.688	.826
GACHIEV1	.633	.783
GACHIEV 2	.634	.784
GACHIEV 5	.577	.808
GACHIEV 6	.765	.747
GACHIEV 7	.515	.816
GEXCEED2	.593	.748
GEXCEED 3	.751	.570
GEXCEED 5	.549	.794
BLPER1	.406	.842
BLPER2	.712	.683
BLPER 3	.731	.661
BLPER 4	.588	.730
OPPO1	.537	.755
OPPO2	.541	.759
OPPO5	.681	.691
OPPO6	.640	.705
INOV1	.577	.745
INOV2	.705	.605
INOV3	.576	.750

Table 2.5: Inter-Item correlations matrix(n=153)

	OPPO1	OPPO2	OPPO5	OPPO6
OPPO1	1	.388**	.461**	.506**
OPPO2	.388**	1	.544**	.432**
OPPO5	.461**	.544**	1	.633**
OPPO6	.506**	.432**	.633**	1

	EXPERT 2	EXPERT 3	EXPERT 4	EXPERT 5
EXPERT2	1	.718**	.618**	.640**
EXPERT 3	.718**	1	.635**	.683**
EXPERT 4	.618**	.635**	1	.835**
EXPERT 5	.640**	.683**	.835**	1

	FLEX1	FLEX2	FLEX3	FLEX4
FLEX1	1	.580**	.536**	.529**
FLEX2	.580**	1	.723**	.558**
FLEX3	.536**	.723**	1	.684**
FLEX4	.529**	.558**	.684**	1

	INOV1	INOV2	INOV3
INOV1	1	.600**	.435**
INOV2	.600**	1	.594**
INOV3	.435**	.594**	1

	GEXCEED2	GEXCEED3	GEXCEED5
GEXCEED2	1	.658**	.399**
GEXCEED3	.658**	1	.598**
GEXCEED5	.399**	.598**	1

	BLPER1	BLPER2	BLPER3	BLPER4
BLPER1	1	.369**	.375**	.326**
BLPER2	.369**	1	.802**	.557**
BLPER3	.375**	.802**	1	.601**
BLPER4	.326**	.557**	.601**	1

	GACHIEV 1	GACHIEV 2	GACHIEV 5	GACHIEV 6	GACHIEV 7
GACHIEV1	1	.569**	.448**	.558**	.425**
GACHIEV 2	.569**	1	.429**	.699**	.304**
GACHIEV 5	.448**	.429**	1	.551**	.410**
GACHIEV 6	.558**	.699**	.551**	1	.523**
GACHIEV 7	.425**	.304**	.410**	.523**	1

**Correlations significant at 0.01 two-tailed

Appendix 3

Table 3.1: Model summary for goal achievement

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.310[a]	.096	.066	.67259	.096	3.135	5	147	.010
2	.717[b]	.514	.483	.50009	.418	30.725	4	143	.000
3	.737[c]	.543	.509	.48820	.029	4.526	2	141	.012

a. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ

b. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT

c. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT, OPPO x FLEX, OPPO x EXPERT

d. Dependent Variable: GACHIEV

Table 3.2: ANOVA analysis for goal achievement

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.092	5	1.418	3.135	.010[b]
	Residual	66.499	147	.452		
	Total	73.591	152			
2	Regression	37.828	9	4.203	16.806	.000[c]
	Residual	35.763	143	.250		
	Total	73.591	152			
3	Regression	39.985	11	3.635	15.252	.000[d]
	Residual	33.605	141	.238		
	Total	73.591	152			

a. Dependent Variable: GACHIEV

b. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ

c. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ, INOV, cFLEX, cOPPO, cEXPERT

d. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT, OPPO x FLEX, OPPO x EXPERT

Table 3.3: Model summary for goal exceedance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.190[a]	.036	.003	.77173	.036	1.104	5	147	.361
2	.576[b]	.332	.290	.65125	.296	15.855	4	143	.000
3	.608[c]	.370	.321	.63722	.037	4.183	2	141	.017

a. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ

b. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT,

c. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT, OPPO x FLEX, OPPO x EXPERT

d. Dependent Variable: GEXCEED

Table 3.4: ANOVA analysis for goal exceedance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.288	5	.658	1.104	.361[b]
	Residual	87.549	147	.596		
	Total	90.837	152			
2	Regression	30.187	9	3.354	7.908	.000[c]
	Residual	60.650	143	.424		
	Total	90.837	152			
3	Regression	33.584	11	3.053	7.519	.000[d]
	Residual	57.253	141	.406		
	Total	90.837	152			

a. Dependent Variable: GEXCEED

b. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ

c. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ, INOV, cFLEX, cOPPO, cEXPERT

d. Predictors: (Constant), INDSUB1, INDSUB2, EXPINT, REL, FREQ , INOV, cFLEX, cOPPO, cEXPERT, OPPO x FLEX, OPPO x EXPERT

Appendix 4

Dear Respondent,

I am doing my doctoral studies in Logistics at Molde University College, Molde, Norway. I am conducting a survey for my PhD dissertation on the impact of logistics service providers' logistics capabilities on logistics outsourcing performance in textile and clothing export sector.I would like to invite your respectful company as an exporting textile and clothing company to participate in my research in the form of a questionnaire.

The textile industry is one of the most important industries that plays an extremely central role in the Egyptian economy. There are many stages in the textile industry that pass from raw materials to finished goods before reaching designated customers. Logistics operations are responsible for the efficient and effective handling of firms' goods and services. The logistics service providers play a vital role in this industry through improving service level and reducing logistics costs throughout the textile supply chain.

This questionnaire refers to a ***specific business relationship between your company and one particular logistics service provider*** that is either your largest or most important logistics provider. In this context, the business relationship between your company and this specific logistics service provider must be built on long-term exchange rather than spot-market transactions. Your company's participation is important to this study as the information you provide will help determining the main logistics capabilities that may improve logistics outsourcing performance, which consequently may improve your company's logistics performance.

Please be advised that there is no correct or wrong answer, and be completely assured that the information you have provided will remain strictly confidential, and no individual respondents will be identified. Your answers are to be combined with answers of other respondents, and will be used only for statistical analysis and general discussion within the dissertation. A summary of the results from this survey will be made available upon requested.

Thank you so much for your valuable time and cooperation.

Yasmine El Meladi
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The Survey Questionnaire

This questionnaire is divided into four sections. The first section includes some general information of your company and its relationship with your most important logistics service provider. The second section concerns your logistics service provider's logistics capabilities and performance of outsourced activities from your company's perspective. The third section relates to your company's current logistics performance, its sales volume and percentage of export. The last section relates to your involvement and knowledge in dealing with the selected logistics service provider.

Section One: General information:

1. What is your company's name?..... .
2. Please indicate your current position

Director ☐	Supply Chain Logistics Manager ☐	Operation Manager ☐
Procurement Manager ☐	Export ☐	Other: ☐

3. How many years have you been working in this position?
   For ..…… years
4. How many years have you been working for this company?
   For …….. years
5. Which textile and clothing industry sub-sector does your company belong to?

Spinning and weaving (cotton, wool, yarn, fibers) ☐	Ready-made garments ☐	Home textiles ☐

6. a. Is your company ☐ Local ☐ Multinational?
   b. Please, indicate the size of your company by the approximate number of the employees.

Less than 100 ☐	100-200 ☐	201-300 ☐	301-400 ☐	401-500 ☐	501-600 ☐	Greater than 600 ☐

   c. Please, indicate the industrial zone where your company is located:
   ☐ Alexandria ☐ Greater Cairo Area
   ☐ Middle Delta Governorates ☐ Suez Canal Area
7. How many logistics providers does your company deal with?
   .....

8. Please complete the following questions having **ONE selected** Logistics Service Provider (LSP) in mind.

   a. How long has your company been working with this chosen logistics service provider? ..... Years

   b. How many times a year does your company outsource logistics activities from this selected logistics service provider? .....

   c. What percentage of your company's total annual needs for these activities is obtained from this logistics service provider? ..... %.

   d. Please indicate the approximate amount (thousands dollar) of your total costs for selected outsourced activities from the chosen logistics service provider during 2011/2012:

Less than 50 ☐	51-100 ☐	101-150 ☐	151-200 ☐	201-250 ☐	251-300 ☐	Greater than 300 ☐

9. Which activities does your company outsource from your selected logistics service provider? Please mark all the applicable activities.

Activities outsourced from the selected LSP	
• Sea Freight (carrier selection and booking space)	☐
• Air Freight (carrier selection and booking space)	☐
• Warehousing	☐
• Trucking	☐
• Shipment Consolidation	☐
• Cargo Handling	☐
• Distribution	☐
• Freight Payment	☐
• Documentation and Custom clearance	☐
• Insurance	☐
• Packaging	☐
• Marking and Labeling	☐
• Logistics consulting services	☐
• Logistics information systems (tracking- tracing)	☐

Section Two: Logistics capabilities of your selected logistics service provider (LSP) and its logistics outsourcing performance

Please use a seven point Likert scale. The scale ranges from 1 to 7, where the value 1 represents **"strongly disagree,"** and the value 7 represents" **"strongly agree,"** for questions number 1, 2, 3 and 5. For question number 4, the value 1 represents **"strongly agree"** and the value 7 represents **"strongly disagree**". In question number 6, in assessing whether the performance of your logistics service providers is in accordance with your exception, value 1 indicates "**much below expectations"** and the value 7 indicates "**much above expectations**". Please be remembered that there is no correct or wrong answer. Kindly circle the number that best describes your perception.

1. **To what extent do you agree with the following statements concerning the flexibility capability of your chosen logistics service provider (LSP) to your requirements?**

Item Description		Strongly Disagree	Disagree	Tend to disagree	Neutral	Tend to agree	agree	Strongly Agree
FLEX1	Our LSP is open to the idea of making changes to accommodate our needs.	1	2	3	4	5	6	7
FLEX2	Our LSP is ready to adjust its operation to meet sudden needs that might occur such as change of delivery location.	1	2	3	4	5	6	7
FLEX3	Our LSP is flexible in response to our short notice requests.	1	2	3	4	5	6	7
FLEX4	Our LSP is flexible enough to handle changes.	1	2	3	4	5	6	7
FLEX5	Our LSP is open to modifying our agreement if unexpected events occur.	1	2	3	4	5	6	7

2. **To what extent do you agree with the following statements regarding the innovation capability of your logistics service provider?**

Item Description		Strongly Disagree	Disagree	Tend to disagree	Neutral	Tend to agree	Agree	Strongly Agree
INOV1	Our LSP frequently puts great efforts into continuously optimizing our logistics process.	1	2	3	4	5	6	7
INOV2	Our LSP continuously makes suggestions for improvement of services delivered to us.	1	2	3	4	5	6	7
INOV3	Our LSP, by itself, modifies the logistics processes to cope with changes, if this is necessary.	1	2	3	4	5	6	7
INOV4	Our LSP has a high level of initiative for continuously improving its service standards and applying new ways of doing things.	1	2	3	4	5	6	7
INOV5	Our LSP displays a high level of innovation.	1	2	3	4	5	6	7

3. To what extent do you agree with the following statements concerning your logistics service provider's (LSP's) expertise capability?

Item Description		Strongly Disagree	Disagree	Tend to disagree	Neutral	Tend to agree	agree	Strongly Agree
EXPERT1	The chosen contact person of our LSP makes an effort to understand our business.	1	2	3	4	5	6	7
EXPERT2	The experience of our LSP's chosen contact person is adequate for handling our products.	1	2	3	4	5	6	7
EXPERT3	Our LSP's chosen contact person's knowledge is very high in our business	1	2	3	4	5	6	7
EXPERT4	The chosen contact person of our LSP has strong communication skills.	1	2	3	4	5	6	7
EXPERT5	The chosen contact person of our LSP is well trained to work with us effectively.	1	2	3	4	5	6	7

4. To what extent do you agree with the following statements regarding your selected logistics service provider's (LSP's) behavior?

Item Description		Strongly agree	agree	Tend to agree	Neutral	Tend to disagree	Disagree	Strongly Disagree
OPPO1	This LSP sometimes provides our company with inaccurate information about our order status to protect its interest.	1	2	3	4	5	6	7
OPPO2	This LSP is sometimes not trustworthy in the sense of exploiting our lack of knowledge in its field for its own interest.	1	2	3	4	5	6	7
OPPO3	Sometimes our LSP fails to deliver our order on time as promised.	1	2	3	4	5	6	7
OPPO4	Sometimes our LSP exaggerates needs in order to get what it desires.	1	2	3	4	5	6	7
OPPO5	To a certain extent, our LSP is not always sincere in its dealing with our company.	1	2	3	4	5	6	7
OPPO6	Sometimes our LSP breaches agreements for its own benefit.	1	2	3	4	5	6	7

*N.B **the scale above in question 4 is the opposite of the other questions.**

5. To what extent do you agree with the following statements regarding your logistics service provider's (LSP's) achievement of agreed performance?

Item Description		Strongly Disagree	Disagree	Tend to disagree	Neutral	Tend to agree	agree	Strongly Agree
GACHIEV1	Our LSP always delivers services at required time.	1	2	3	4	5	6	7
GACHIEV 2	Our LSP frequently delivers high quality services.	1	2	3	4	5	6	7
GACHIEV 3	To a great extent our LSP has reduced our logistics costs.	1	2	3	4	5	6	7
GACHIEV 4	Our LSP always handles order discrepancy very well.	1	2	3	4	5	6	7
GACHIEV 5	Our LSP's lead-time is very short.	1	2	3	4	5	6	7
GACHIEV6	We always experience high order accuracy from our LSP.	1	2	3	4	5	6	7
GACHIEV 7	Our LSP completely fulfills the relationship goals and expectations that we have jointly set prior to this logistics outsourcing relationship.	1	2	3	4	5	6	7

6. To what extent do you find the performance of your logistics service provider to be in accordance with your expectations with respect to the following aspects?

Item Description		Much below expectations	below expectations	Somewhat below expectations	Equal to expectations	Somewhat above expectations	Above expectations	Much above expectations
GEXCEED1	Logistics cost reduction.	1	2	3	4	5	6	7
GEXCEED2	LSP's service quality.	1	2	3	4	5	6	7
GEXCEED3	LSP's timeliness of services.	1	2	3	4	5	6	7
GEXCEED4	The price paid for services compared to the overall service quality performance.	1	2	3	4	5	6	7
GEXCEED5	Relationship goals and expectations set jointly prior to entering this logistics outsourcing relationship.	1	2	3	4	5	6	7

Section Three: Current Logistics Performance of your company

1. To what extent do you agree with the following statements with respect to your current logistics performance? Please circle the number that best describe your perception.

Item Description		Strongly Disagree	Disagree	Tend to disagree	Neutral	Tend to agree	agree	Strongly Agree
BLPER1	Our logistics costs are relatively low.	1	2	3	4	5	6	7
BLPER2	We have the ability to always meet the promised delivery time.	1	2	3	4	5	6	7
BLPER3	We have the ability to respond promptly to the needs of our key customers.	1	2	3	4	5	6	7
BLPER4	We have the ability to offer short lead-time.	1	2	3	4	5	6	7

2. Please indicate the size of your company by the approximate amount of total sales volume (million USD dollars) in 2012?

Less than 1million ☐	1 - 2.9 ☐	3 - 4.9 ☐	5 - 6.9 ☐	7 - 8.9 ☐	9 - 0.9 ☐	Greater than 11 millions ☐

3. Please indicate approximately the percentage of your company's exports from your total sales in 2012……..%?

Section Four: Respondent's involvement and knowledge

In this final section, we would like to ask you about your role in your company's relationship with this chosen logistics service provider.

1. **To what extent are you personally involved in your company's business dealing with this chosen logistics service provider?**

Not At All	Very limited Extent	A limited Extent	Moderate Extent	A Fairly Great Extent	Great Extent	Very Great Extent
1	2	3	4	5	6	7

2. **To what extent are you knowledgeable about your company's business dealings with this chosen logistics service provider?**

Not At All	Very limited Extent	A limited Extent	Moderate Extent	A Fairly Great Extent	Great Extent	Very Great Extent
1	2	3	4	5	6	7

Thank you so much for your valuable time and cooperation

Høgskolen i Molde
Vitenskapelig høgskole i logistikk

أعزائي السادة المشاركون في الاستبيان،

أنا دارسة ببرنامج الدكتوراة فى اللوجستيات بجامعة مولدى، مولدى، النرويج، وإنني أقوم بإجراء استبيان خاص برسالة الدكتوراه حول أثر القدرات اللوجستية لمقدمي الخدمات اللوجستية على أداء الخدمات اللوجستية المتعاقَد عليها خارجيًا في قطاع شركات تصدير الغزل والنسيج والملابس الجاهزه ، لذا، فإني أتشرف بدعوة شركتكم الموقَّرة كشركة مصدرة في قطاع العزل والنسيج والملابس الجاهزة للمشاركة في بحثي من خلال هذا الاستبيان.

إن صناعة الغزل والنسيج هي واحدة من أهم الصناعات التي تلعب دورًا محوريًا للغاية في الاقتصاد المصري، وهي صناعة ذات مراحل متعددة، بدءًا من مرحلة المواد الخام وحتى السلع تامة الصنع قبل أن تصل إلى العميل النهائى. والعمليات اللوجستية هي المسؤولة عن كفاءة وفاعلية تداول سلع وخدمات الشركة، وبالتالي فإن مقدم الخدمات اللوجستية يقوم بدورٍ حيويٍ في هذه الصناعة من خلال تحسين مستوى الخدمة وتخفيض التكاليف اللوجستية في جميع مراحل سلسلة توريد المنسوجات.

يشير هذا الاستبيان إلى **علاقة تجارية محدَّدة بين شركتكم** و**أهم** أو **أكبر** مقدم خدمات لوجستية **بالنسبة لشركتكم**. ومن المهم جدًا أن تكون العلاقة التجارية بين شركتكم ومقدم الخدمة اللوجستية المعنيّ فى هذا الاستبيان قائمة على علاقة تبادل طويلة الأجل لا على المعاملات قصيرة الأجل. وتعد مشاركة شركتكم فى هذا الاستبيان أمرًا ذو أهمية نظرًا لأنها ستساعد على تحديد أهم القدرات اللوجستية الرئيسية التي قد تؤدي إلى تحسين أداء الخدمات اللوجستية المتعاقَد عليها خارجيًا، مما سوف يؤدي بدوره إلى تحسين الأداء اللوجستي لشركتكم.

وأود هنا التأكيد لشركتم الموقرة أنه ليس هناك إجابة صحيحة أو خاطئة، وأن جميع المعلومات الواردة فى هذا الاستبيان ستعامل بسرّية تامة مع عدم تحديد هوية الأفراد المشاركين وسوف تُجمع إجاباتكم مع إجابات المشاركين الآخرين للاستخدام في أغراض التحليل الإحصائي والمناقشة العامة في الرسالة، مع توفير ملخص نتائج هذا الاستبيان عند الطلب.

شكراً جزيلا على حسن تعاونكم ولسيادتكم كل الاحترام والتقدير

ياسمين الميلادي
دارسة دكتوراه، جامعة مولدي، مولدي، النرويج
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فاكس: 03-5482517

الاستبيان

ينقسم هذا الاستبيان إلى أربعة أقسام: القسم الأول يشمل بعض المعلومات العامة عن شركتكم وعن علاقتها بأهم مقدم خدمات لوجستية بالنسبة لها، ويتناول القسم الثاني القدرات اللوجستية للخاصة بمقدم الخدمات اللوجستية وأدائه بالنسبة للأنشطة المتعاقَد عليها خارجيًا من وجهة نظر شركتكم، أما القسم الثالث فيتعلق بالأداء اللوجستي الحالي لشركتكم وحجم المبيعات ونسبة التصدير، وأخيرًا يغطي القسم الرابع مدى مشاركتكم وإدراككم بالتعاملات التجارية مع مقدم الخدمات اللوجستية "المختار".

القسم الأول: بيانات عامة

1. **ما هو اسم الشركة التي تعملون بها سيادتكم؟**.....

2. **ما هو المنصب الذي تشغلونه سيادتكم؟**

الرئيس	☐	مدير اللوجستيات وسلسلة الإمداد	☐	مدير إدارة العمليات	☐
مدير المشتريات	☐	مدير التصدير	☐	أخرى	☐

3. **كم عامًا توليتم سيادتكم هذا المنصب؟ لمدة**.....**عامًا**

4. **ما هي مدة عمل سيادتكم بهذه الشركة؟ لمدة** .....**عامًا**

5. **ما هو القطاع الفرعى لصناعة الغزل و المنسوجات والملابس الذي تتبعه شركتكم؟**

غزل والنسيج (القطن والصوف والألياف الصناعية أو النباتية) ☐	الملابس الجاهزة ☐	المنسوجات المنزلية ☐

6. **(أ) هل تُعد شركتكم** ☐ **محلية** .....☐ **متعددة الجنسيات؟**

(ب) ما هو حجم شركتكم من حيث عدد الموظفين؟

أقل من 100 ☐	100 - 200 ☐	300-201 ☐	-301 400 ☐	-401 500 ☐	-501 600 ☐	أكبر من 600 ☐

(ج) يرجى اختيار المنطقة التي تقع فيها شركتكم:

☐ الإسكندرية ☐ القاهرة الكبرى

☐ محافظات وسط الدلتا ☐ منطقة قناة السويس

7. ما هو عدد مورِّدي **الخدمات** اللوجستية التي تتعامل معها شركتكم؟ .....

8. **عند الإجابة على الأسئلة التالية، برجاء اختيار شركة <u>واحدة</u> كمورِّد للخدمات اللوجستية الرئيسية بالنسبة لكم.**

أ. ما هي مدة العلاقة التجارية بين شركتكم وشركة الخدمات اللوجستية التي وقع عليها اختياركم؟ ..... عامًا

بـ ماهو عدد المرات سنويا التي تقوم شركتكم بالاستعانة الخارجية بهذه الشركة المورِّدة للخدمات اللوجستية؟.....

ج. ماهي نسبة الاحتياجات السنوية الكلية التي تحصل عليها شركتكم من تلك الشركة المورِّدة للخدمات اللوجستية؟ ..... %

هـ. من فضلك أذكر بالتقريب القيمة المالية للتكاليف الإجمالية (بالألف دولار) التي تتحملها شركتكم نظير الحصول على الأنشطة اللوجستية المختارة **<u>من هذه الشركة المورِّدة التي اخترتموها</u>** خلال عام 2012/2011:

أقل من50 ☐	**51- 100** ☐	**101- 150** ☐	**151- 200** ☐	**201- 250** ☐	**251- 300** ☐	**أكثر من 300** ☐

9. **ما هي الأنشطة اللوجستية التي تستعين بها شركتكم من الشركة المورِّدة للخدمات اللوجستية المختارة؟ برجاء تحديد هذه الأنشطة مما يلي:**

الأنشطة اللوجستية المُورَّدة من جانب الشركة المختارة	
●الشحن البحري (اختيار القائم بعملية الشحن وحجز مساحة فارغة)	☐
●لشحن الجوي (اختيار القائم بالشحن الجوي وحجز مساحة فارغة)	☐
●التخزين بالمستودعات	☐
●النقل البري	☐
●تجميع الشحنات	☐
●تداول البضائع	☐
●التوزيع	☐
●سداد فاتورة الشحن	☐
●إعداد المستندات والتخليص الجمركي	☐
●التأمين على البضائع	☐
●التغليف والتعبئة	☐
●وضع العلامات وإعداد الملصقات الدالة على المحتويات	☐
●خدمات استشارية لوجستية	☐
●خدمات أنظمة تكنولوجيا المعلومات اللوجستية (تعقب وتتبع)	☐

القسم الثانى: القدرات اللوجستية للشركة المختارة لتوريد الخدمات اللوجستية وأدائها اللوجستي

يرجي استخدام مقياس ليكرت المكون من سبع نقاط، فالقيمة 1 تمثل **"أرفض بشدة"**، والقيمة 7 تمثل **"أوافق بشدة"**، والأرقام ما بين 1 حتى 7 تمثل درجات مختلفة من الموافقة، وذلك فى كل من السؤال الأول، السؤال الثاني، السؤال الثالث و السؤال الخامس. أما بالنسبة إلى السؤال الرابع فالقيمة 1 تمثل **"أوافق بشدة"**، والقيمة 7 تمثل **"أرفض بشدة"**. وعند تقييم مدى توافق أداء مقدم الخدمات اللوجستية مع توقعات الشركة في السؤال السادس تمثل القيمة 1 "**أقل من التوقعات بكثير**" والقيمة 7 **"أكثر من التوقعات بكثير**". يرجى التذكر أنه لا يوجد إجابة صحيحة أو خاطئة. وبرجاء وضع دائرة حول الرقم الذى يصف أفضل رأي لك.

1. إلى أي مدى تتفق مع العبارات التالية بشأن قدرة الشركة المورِّدة للخدمات اللوجستية المختارة على تلبية احتياجات شركتكم؟

	وصف البنود	أرفض بشدة	أرفض	أميل للرفض	محايد	أميل للموافقة	أوافق	أوافق بشدة
FLEX1	لا تمانع الشركة المورِّدة للخدمات اللوجستية في عمل أية تعديلات لتلبية احتياجتنا.	1	2	3	4	5	6	7
FLEX2	الشركة المورِّدة للخدمات اللوجستية مستعدة لتعديل طريقة عملها لمواكبة احتياجاتنا المفاجئة مثل تغيير مكان الاستلام.	1	2	3	4	5	6	7
FLEX3	تستجيب الشركة المورِّدة لنا بشكل عاجل من أجل طلبياتنا المفاجئة.	1	2	3	4	5	6	7
FLEX4	تتسم الشركة المورِّدة لنا بمرونة عالية في التعامل مع المتغيرات.	1	2	3	4	5	6	7
FLEX5	الشركة مقدِّمة الخدمات اللوجستية إلينا مستعدة لتعديل الاتفاق المبرم عند حدوث أحداث غير متوقَّعة.	1	2	3	4	5	6	7

2. إلى أي مدى تتفق مع العبارات التالية حول قدرة الشركة المورِّدة للخدمات اللوجستية المختارة على الابتكار والتطوير؟

	وصف البنود	أرفض بشدة	أرفض	أميل للرفض	محايد	أميل للموافقة	أوافق	أوافق بشدة
INOV1	تبذل الشركة المورِّدة للخدمات اللوجستية جهدًا كبيرًا لتحسين عملياتنا اللوجستية بصفة مستمرة.	1	2	3	4	5	6	7
INOV2	تسعى الشركة المورِّدة للخدمات اللوجستية باستمرار لتقديم مقترحات لتحسين الخدمات المقدمة إلينا.	1	2	3	4	5	6	7
INOV3	تقوم الشركة المورِّدة للخدمات اللوجستية من نفسها لتعديل عملياتها اللوجستية، عند الحاجة، لمواكبة أية تغيرات.	1	2	3	4	5	6	7
INOV4	تبادر الشركة المورِّدة للخدمات اللوجستية لتحسين معايير خدماتها من خلال اتِّباع أساليب جديدة.	1	2	3	4	5	6	7
INOV5	تظهر لنا الشركة المورِّدة للخدمات اللوجستية مستوى عالي من الإبتكار	1	2	3	4	5	6	7

3. إلى أي مدى تتفق مع العبارات التالية فيما يتعلق بخبرة العاملين بالشركة المورِّدة للخدمات اللوجستية؟

وصف البنود		أرفض بشدة	أرفض	أميل للرفض	محايد	أميل للموافقة	أوافق	أوافق بشدة
EXPERT 1	يبذل الشخص المختار من جانب الشركة المورِّدة للخدمات اللوجستية مجهودًا كبيرًا ليتفهم طبيعة عملنا.	1	2	3	4	5	6	7
EXPERT 2	تعد خبرة الشخص المختار من قِبل الشركة المورِّدة للخدمات اللوجستية مناسبة جدًا للتعامل مع منتجاتنا.	1	2	3	4	5	6	7
EXPERT 3	يتميز الشخص المختار من قِبل الشركة المورِّدة للخدمات اللوجستية بالمعرفة الهائلة في مجالنا.	1	2	3	4	5	6	7
EXPERT 4	يتميز الشخص المختار من قِبل الشركة المورِّدة للخدمات اللوجستية بمهارات التواصل القوية.	1	2	3	4	5	6	7
EXPERT 5	يعد الشخص المختار من قِبل الشركة المورِّدة للخدمات اللوجستية مدربًا تدريبًا متميزًا يناسب العمل معنا.	1	2	3	4	5	6	7

4. إلى أي مدى تتفق مع العبارات التالية عن كيفية تصرف الشركة المورِّدة للخدمات اللوجستية التي اخترتموها تجاه شركتكم؟*

وصف البنود*		أوافق بشدة	أوافق	أميل للموافقة	محايد	أميل للرفض	أرفض	أرفض بشدة
OPPO1	فى بعض الأحيان تمدنا الشركة المورِّدة للخدمات اللوجستية بمعلومات غير دقيقة عن حالة طلبيتنا لحماية مصالحها.	1	2	3	4	5	6	7
OPPO2	أحيانا تعد الشركة المورِّدة للخدمات اللوجستية غير جديرة بالثقة حيث تستغل هذه الشركة قلة خبرتنا في مجالها لصالحها.	1	2	3	4	5	6	7
OPPO3	فى بعض الأحيان لا تفي الشركة بوعودها في تسليم الطلبية في الوقت المحدد.	1	2	3	4	5	6	7
OPPO4	أحيانا تبالغ الشركة في طلباتها للحصول على ما تريد.	1	2	3	4	5	6	7
OPPO5	إلى حدٍ ما، تعد الشركة المورِّدة للخدمات اللوجستية غير صادقة في تعاملاتها مع شركتنا.	1	2	3	4	5	6	7
OPPO6	في بعض الأحيان تخِل الشركة المورِّدة للخدمات اللوجستية باتفاقاتنا لمصلحتها.	1	2	3	4	5	6	7

***لاحظ اختلاف المقياس عن الأسئلة السابقة (1= أوافق بشده ، و7= أرفض بشده).**

5.إلى أي مدى تتفق مع العبارات التالية من حيث تحقيق الشركة المورِّدة للخدمات اللوجستية للأداء المتفق عليه مع شركتكم؟

	وصف البنود	أرفض بشدة	أرفض	أميل للرفض	محايد	أميل للموافقة	أوافق	أوافق بشدة
GACHIEV1	دائما ما تقدِّم الشركة المورِّدة للخدمات اللوجستية خدماتها في الوقت المطلوب.	1	2	3	4	5	6	7
GACHIEV2	دائما ما تقدِّم الشركة المورِّدة للخدمات اللوجستية خدماتًا عالية الجودة.	1	2	3	4	5	6	7
GACHIEV3	عملت الشركة المورِّدة للخدمات اللوجستية لنا على خفض تكاليفنا اللوجستية إلى حدٍ كبير.	1	2	3	4	5	6	7
GACHIEV4	تعالج الشركة المورِّدة للخدمات اللوجستية لنا أي تضارب في طلبيتنا بطريقة جيدة.	1	2	3	4	5	6	7
GACHIEV5	يُعد الزمن الذي تستغرقه الشركة المورِّدة للخدمات اللوجستية في تنفيذ طلبياتنا قصيرًا جدًا.	1	2	3	4	5	6	7
GACHIEV6	دائما ما تقدِّم لنا الشركة المورِّدة للخدمات اللوجستية خدمات ذات دقة عالية.	1	2	3	4	5	6	7
GACHIEV7	تحقق الشركة المورِّدة للخدمات اللوجستية بشكلٍ تام الأهداف والتوقعات من علاقتنا التجارية التى قد قمنا بتحديدها معًا قبيل تأسيس العلاقة التجارية.	1	2	3	4	5	6	7

6. إلى أي مدى يتوافق أداء الشركة المورِّدة للخدمات اللوجستية مع توقعاتكم من حيث الجوانب التالية؟

	وصف البنود	أقل من توقعاتي بكثير	أقل من توقعاتي	أقل لحد ما	مساوٍ لتوقعاتي	أكثر لحد ما	أكثر من توقعاتي	أكثر من توقعاتي بكثير
GEXCEED 1	انخفاض التكاليف اللوجستية	1	2	3	4	5	6	7
GEXCEED 2	جودة الخدمات المقدَّمة من قِبل شركة المورِّدة للخدمات اللوجستية	1	2	3	4	5	6	7
GEXCEED 3	وقت الاستجابة لطلبيات شركتكم	1	2	3	4	5	6	7
GEXCEED 4	السعر المدفوع مقابل الخدمات، بالمقارنة بجودة أداء الخدمات المقدَّمة	1	2	3	4	5	6	7
GEXCEED 5	أهداف وتوقعات علاقتنا التجارية التى قد قمنا بتحديدها معًا قبيل تأسيس العلاقة التجارية.	1	2	3	4	5	6	7

القسم الثالث: الأداء اللوجستى الحالي لشركتكم

1. إلى أي مدى تتفق مع العبارات التالية بخصوص أداء شركتكم اللوچستي الحالي ؟ برجاء وضع دائرة حول الرقم الذى يصف أفضل رأي لك.

	وصف البنود	أرفض بشدة	أرفض	أميل للرفض	محايد	أميل للموافقة	أوافق	أوافق بشدة
BLPER1	تعد تكاليفنا فيما يتعلق بالنواحي اللوجستية منخفضة نسبيًا.	1	2	3	4	5	6	7
BLPER 2	لدينا القدرة دائمًا على تسليم منتجاتنا إلى عملائنا في الوقت المحدد.	1	2	3	4	5	6	7
BLPER 3	لدينا القدرة على الاستجابة بسرعة هائلة لتلبية احتياجات عملائنا الرئيسيين.	1	2	3	4	5	6	7
BLPER 4	لدينا القدرة على تنفيذ الطلبات في وقت قصير.	1	2	3	4	5	6	7

2. **برجاء تحديد الحجم التقريبي لإجمالي مبيعات شركتكم بالمليون دولار في عام 2012؟**

☐ أقل من مليون	☐ 2.9–1	☐ 4.9 - 3	☐ 6.9 - 5	☐ 8.9 - 7	☐ 10.9 - 9	☐ أكثر من 11 مليون	☐

3. **برجاء تحديد نسبة صادرات شركتكم بالتقريب من إجمالي حجم المبيعات في عام 2012 ؟ .....%**

القسم الرابع : مشاركة ودراية المستطلع

في هذا الجزء الأخير نود أن نسأل سيادتكم عن دوركم في علاقة شركتكم بالشركة المورِّدة للخدمات اللوجستية المختارة.

1. إلى أي مدى تشارك شخصيًا في معاملات شركتكم التجارية مع هذه الشركة المختارة المورِّدة للخدمات اللوجستية؟

لا أشارك على الإطلاق	مشاركتى محدودة للغاية	أشارك بحدود	أشارك بدرجة متوسطه	أشارك إلى حد كبير بعض الشيء	أشارك إلى حد كبير	أشارك إلى حد كبير جدا
1	2	3	4	5	6	7

2. إلى أى مدى تعد درايتك بتعاملات شركتك مع الشركة المورِّدة للخدمات اللوجستية التي اخترتمونها؟

غير مطَّلع بالمرة	مطَّلع بحدود للغاية	مطَّلع بحدود	مطَّلع بدرجة متوسطه	مطَّلع إلى حد كبير بعض الشيء	مطَّلع إلى حد كبير	مطَّلع إلى حد كبير جدا
1	2	3	4	5	6	7

شكراً جزيلا على حسن تعاونكم ولسيادتكم كل الاحترام والتقدير

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