ESCAPING THE EXPLOITATION TRAP OF POWER-DISADVANTAGED FIRMS IN ASYMMETRIC NETWORKS: A STUDY OF VIETNAMESE CONTRACT MANUFACTURING EXPORTERS IN BUYER-DRIVEN GLOBAL VALUE CHAINS

BY

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A thesis
submitted to Victoria University of Wellington
in fulfilment of the requirements for the degree of
Doctor of Philosophy
in International Business

Victoria University of Wellington
2016

To my family,

whose love and sacrifices

have given me the freedom to follow my dreams

Acknowledgements

Working on this PhD project for four years has been a great journey for me. I am so thankful to have had great support from many people, which enabled me to finish my thesis with great joy and satisfaction.

First and foremost, I would like to express my deepest gratitude to my supervisory team. I owe thanks to my primary supervisor, Dr Revti Raman Sharma for his academic guidance, time, and collegiality. I am also honoured to have been advised by Professor Siah Hwee Ang. I appreciate their invaluable comments and quick turn-around time that allowed me to finish my thesis on time and with confidence.

My special thanks further go to Professor David Crick and his wife Michelle Crick for their great support during the first three years of my PhD life. I would also like to thank Dr James Richard for his efforts in making the PhD programme at the school more fun and enjoyable. Academic advice from Professor Valerie Lindsay was highly appreciated, so was the help from Katrina Walsh for proofreading my work. My thanks are extended to the three examiners whose constructive comments helped me improve my thesis.

I highly appreciated the suggestions on how to refine my survey instrument and the support in getting contacts for data collection provided by Mr Do Kim Hung from the Vietnamese Ministry of Industry and Trade, Mrs Van Viet Anh Thu from NhaBe Corporation, Mr Giang Ly from the New Zealand Government Superannuation Fund Authority, Associate Professor Nguyen Dinh Tho, Lecturer Tran Nguyen Thu Phuong from the University of Economics of Ho Chi Minh City, Associate Professor Hoang Thi Phuong Thao from the Ho Chi Minh City Open University, and Ho Tuong Vy – a former student at Victoria Law School. My thanks also go to the managers who took the time to participate in my interviews and my survey.

I would like to acknowledge the financial support from my government and Victoria University of Wellington, whose generous funding enabled me to achieve my academic endeavours. I would also like to thank the Research Committee at the School of Marketing and International Business for funding my conference attendance. My thanks are extended to my colleagues at the Faculty of International Business and Marketing at

the University of Economics of Ho Chi Minh City, who gave me great encouragement in my academic pursuits.

Other support and services from various people and departments at Victoria University of Wellington also contributed greatly to my academic development. My thanks go to the Faculty of Graduate Research, especially to Lizzie Towl, who organised frequent academic workshops where I could learn practical tips and skills useful for my work. Similarly, I have benefited from the knowledge shared by great speakers from other institutions around the world invited to Victoria University by the School of Marketing and International Business. My teaching skills have been strengthened through tutoring experience encouraged by Helen Hynes. Other efficient administrative, technical, and academic support from the administrative team at the School of Marketing and International Business, the university library, the IT Services, and the Student Learning Services was greatly appreciated as it took away much pressure and contributed to the highly supportive environment in which I worked on my thesis for four years.

My PhD journey was enriched by many friendships. I would like to thank Ha Nguyen, Tuan Tran, Tinh Doan, Nuong Nguyen, Denise Ryan, and Julie Harris who always cared for my well-being and helped me understand many aspects of daily life in New Zealand. Support from Diep Tran and Phuong Nguyen when I first came to Wellington was highly appreciated. My special thanks go to Ha Nguyen for encouraging me to participate in her programme to teach young Vietnamese New Zealanders our mother language. I am also grateful for the friendship with Mark and Sandy Moore, and Jocelyn Wilson who explained great teachings from the Holy Bible to me as well as the help from Huong Cong-Huyen Ton-Nu who provided rides for me to a Vietnamese Buddhist pagoda.

I would like to thank my PhD fellows. My four years working on the project was much more enjoyable and beneficial with your wonderful company. I never felt lonely thanks to the life stories and academic progress shared by Gloria Sraha, Richa Chugh, and Honghong Zhang. My thanks also go to Vu Hung Dang for introducing me to volunteering at the Victoria University Graduation Ceremony; to Steffen Bertram and Martyn Gosling for your enthusiasm in consistently arranging Friday lunches for the PhD group; to Mohamad Noor Sharipudin, Farhana Newaz, Naghmeh Kargozar, and Himadree Phookan for sharing your PhD work; to Lin Yang, Ning Bo, Ingrid Becker, Sinh Hoang

Nguyen, Heath Johnson, René Versteegh, Umar Ahmed, Hamish Simmonds, Lindsey DeFraites, and Marlini Bakri for your company. Each of you has your own individual special qualities that I find admirable. I wish all of you great academic success in your PhD projects and in your future careers.

Most importantly, I would like to thank my family. I am very lucky to have had great support from my husband, my parents, and my parents-in-law. Their steady devotion to take care of my children allowed me to fully concentrate on the project. Apart from academic achievement, this PhD experience has provided me with a great opportunity to reflect on the real treasure of my life. My family is the reason for who I am and who I want to be. I am grateful for the endless love and encouragement of my family from whom I find strength when facing difficult time. I would also like to thank my sisters, Nga Burger-Nguyen and Thao-Nguyen Nguyen whose contact and stories were like the psychological therapy people need when dealing with work pressures.

This thesis is dedicated to my family - especially to my mom, Gian Thi Thanh; my husband, Tran Xuan Son; my children, Tran Hong Nghi, Tran Tue Anh, and also to my coming baby who is expected to arrive shortly after I receive my PhD degree - for they have always been and will always be a source of motivation and encouragement for me to acquire new knowledge, to seek true value in life, and eventually to be a better person.

Abstract

This study investigates how power-disadvantaged firms in power asymmetric networks can improve their performance. Drawing on theoretical insights from the Resource-Based Theory and the Resource Dependence Theory, the proposed model suggests that when participating in power asymmetric networks, the exploitation strategy of power-disadvantaged firms affects their exploration strategy. While these two strategies are related, their influences on performance through firm competitive capability are different. Exploitation strategy negatively impacts firm competitive capability whereas exploration strategy positively impacts firm competitive capability. The model further posits that the impact of exploitation and exploration strategies on competitive capability depends on absorptive capacity of the firm. The model is tested on Vietnamese contract manufacturing exporters who participate in buyer-driven global value chains, where the exporting firms are dominated by powerful international buyers.

The study employs a mixed-methods approach to test the proposed conceptual model. Survey data was collected from a sample of 154 Vietnamese contract manufacturing exporters following the drop-and-collect method. At the same time, ten semi-structured interviews were conducted with key informants from top management teams of Vietnamese contract manufacturing exporters to seek contextual details for the enhancement and triangulation of the survey findings. The survey data were analysed using the partial least square structural equation modelling technique, whereas the interview data were examined using theoretical thematic analysis. The results broadly support the proposed model for Vietnamese contract manufacturing exporters.

The findings of this study indicate that power-disadvantaged firms in power asymmetric inter-organisational networks benefit from the dual practice of exploitation and exploration strategies. The study shows that exploitation strategy motivates exploration strategy in this type of interfirm linkage. This motivation is primarily shaped by the power imbalance structure. This finding confirms the explanation for the behaviour of power-disadvantaged firms in asymmetric relationships advanced by the Resource Dependence Theory. Moreover, the study also contributes to the Resource-Based

Theory by emphasising the critical role of competitive capability in explaining firm performance. Competitive capability is found to mediate the relationships between exploitation strategy, exploration strategy and firm performance. Furthermore, the links between exploration strategy and competitive capability act as serial multiple mediators transmitting the influence of exploitation strategy on performance. In addition, the influences of exploitation strategy and exploration strategy on firm competitive capability are found to be intensified by firm absorptive capacity. Thus, an alignment of exploitation strategy, exploration strategy, competitive capability, and absorptive capacity enhances the performance of contract manufacturing exporters in buyer-driven global value chains.

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List of Abbreviations

CMEs	Contract Manufacturing Exporters
CMT	Cut-Make-Trim, referring to CMEs providing assembly work
CMV	Common Method Variance
FOB	Free on Board (referring to CMEs providing full-package services)
GVCs	Global Value Chains
ML-SEM	Maximum Likelihood Structural Equation Modelling
OBM	Original Brand name Manufacturing (referring to CMEs selling owned-branded products)
ODM	Original Design Manufacturing (referring to CMEs providing designing services)
PDFs	Power-Disadvantaged Firms
PLS-SEM	Partial Least Square Structural Equation Modelling
RBT	Resource-Based Theory
RDT	Resource Dependence Theory
SOEs	State-Owned Enterprises

CHAPTER 1 INTRODUCTION

1.1 Introduction

This chapter begins by addressing the problem orientation including the research background and rationale of the study. It outlines the study's research question and objectives and discusses the value of the research before presenting the methodology adapted for the study. The chapter concludes with an overview of the structure of the thesis.

1.2 Problem Orientation

1.2.1 The Strategic Entrepreneurship Perspective

The integration of strategy and entrepreneurship has paved the way for the domain of strategic entrepreneurship, a research area that emerged in early 2000s (Kuratko, Hornsby, & Hayton, 2015). Strategic entrepreneurship refers to the combination of exploitation strategy which pertains to advantage-seeking behaviour, and exploration strategy entailing opportunity-seeking behaviour (Ireland, Hitt, & Sirmon, 2003). The dual adoption of advantage-seeking behaviour and opportunity-seeking behaviour is crucial because the former allows firms to exploit current advantages for economic gains, whereas the latter enables firms' entrepreneurial activities to create the foundation for tomorrow's competitive advantages (Ireland, Hitt, Camp, & Sexton, 2001). In emphasising both strategic and entrepreneurial behaviours, the two strategies of exploitation and exploration represent organisational changes through which the firm moves on from past strategies, products, markets, organisation structures, routines, processes, or capabilities to strengthen its ability of creating wealth (Kuratko & Audretsch, 2009).

This dual adoption of strategy and entrepreneurship is close to the idea of organisational ambidexterity in organisation literature (Birkinshaw & Gupta, 2013; Junni, Sarala, Taras, & Tarba, 2013). Similar to strategic entrepreneurship, the idea of organisational ambidexterity derives from the premise that firm survival and success are based on the firm's ability to excel in the efficient management of current demands while continuing to adapt to changes in the environment to ensure future viability (Raisch & Birkinshaw, 2008). However, while strategic entrepreneurship focuses on strategic postures of the

firm (Ireland et al., 2001), organisational ambidexterity refers broadly to a firm's ability to perform two disparate and often competing tasks equally well (Gibson & Birkinshaw, 2004; Simsek, Heavey, Veiga, & Souder, 2009a). These diverse activities can occur in various functional or organisational areas. For example, regarding organisation learning, firms are considered ambidextrous when they can both improve their competence in existing procedures as well as continuously search for new alternative routines that could later help them to be more effective (March, 1991). Similarly, firms are also ambidextrous when it comes to technological innovation if they are able to add incremental innovation through minor adaptations of existing products while at the same time being successful in radical innovation by producing fundamental changes that allows them to switch from existing products or concepts to completely new ones (Tushman, Smith, Wood, Westerman, & O'Reilly, 2010). Likewise, regarding organisational adaptation, ambidexterity pertains to a firm's ability to establish a balance between maintaining continuity of current operations and simultaneously implementing discontinuous changes of organisational routines (Probst & Raisch, 2005). Relating to organisational design, ambidexterity concerns a firm's ability to implement both mechanistic structure which relies on standardization, centralization, and hierarchy, and organic structure which capitalises on decentralisation and autonomy to facilitate radical innovation (Gibson & Birkinshaw, 2004). Firms are also considered ambidextrous if they can employ diverse strategy making processes that build on existing knowledge (induced processes) and others that emerge outside the scope of the current strategy (autonomous processes) (Burgelman, 1991). Overall, organisational ambidexterity emphasises shifts and changes occurring in the organisation (Raisch & Birkinshaw, 2008), whereas strategic entrepreneurship emphasises the strategic directions of the firm (Hitt, Ireland, Sirmon, & Trahms, 2011).

Adopting the perspective of strategic entrepreneurship, this study considers exploitation and exploration strategies as two diverse strategic behaviours of the firm. Exploitation strategy refers to strategic behaviour relating to a firm's sets of commitments and actions aimed at producing a competitive advantage for above-normal returns. On the other hand, exploration strategy describes a firm's entrepreneurial behaviour through which it identifies opportunities to capture future

competitive space (Hitt, Ireland, Camp, & Sexton, 2001b). This study considers exploitation and exploration strategies as two different strategic postures that firms can adopt. The former is centred on refinement and improvement of firm advantages for deeper penetration into an existing customer base. Meanwhile, the latter pertains to experimentation in new product offerings or expansion into new markets (Piao & Zajac, 2015; Sirén, Kohtamäki, & Kuckertz, 2012).

1.2.2 The Issue of Resource Transformation

Although transforming the resource base is one of the key purposes of the dual pursuit of exploitation and exploration strategies (Hitt et al., 2011; Kuratko & Audretsch, 2009), there has been only limited examination of how these two strategies enhance firms' long-term viability through resource transformation. Studies on resource transformation have often focused on the practices of entrepreneurial activities (Madhok & Keyhani, 2012; Simsek & Heavey, 2011) rather than on the dual practice of exploitation and exploration strategies.

The lack of attention to resource transformation along with exploitation and exploration strategies is probably rooted in the tension between them. Due to different strategic objectives, exploitation strategy is centred on performance variance, whereas exploration strategy is centred on growth. Subsequently, research tends to focus on how these two strategies can coexist. As a result, the investigation of elements critical to supporting the harmonious integration of exploitation and exploration strategies receives a great deal of interest (Lubatkin, Simsek, Ling, & Veiga, 2006; Mihalache, Jansen, Van den Bosch, & Volberda, 2014; Piao & Zajac, 2015; Sirén et al., 2012). In addition, divergent views on the employment of resources when pursuing strategic and entrepreneurial activities may also contribute to the lack of attention to how these two strategies together impact a firm's resource base. While strategic-seeking behaviour aims to explain performance variance across firms, it relies on the ownership of resources that are valuable, rare, inimitable, and non-substitutable as key determinants to differentiate firms from their rivals (Barney, 1991). On the other hand, driven by the pursuit of opportunities for firm growth, prior research often considers that the ownership of resources may not be necessary for the adoption of opportunity-seeking

behaviour (Eckhardt & Shane, 2003) because firms can capitalise on external resources when implementing entrepreneurial activities (Yli-Renko, Autio, & Sapienza, 2001).

However, entrepreneurship literature increasingly recognises the importance of resource ownership when firms pursue opportunities (Alvarez & Busenitz, 2001). Research has revealed that investments into a firm's strategic resources contribute to the success of processes that exploit opportunities because they help to realise the benefits of entrepreneurial activities (Knudsen & Lien, 2015; Madhok & Keyhani, 2012; Simsek & Heavey, 2011). Similarly, existing firm resources can also assist in the realisation and exploitation of opportunities (Messersmith & Wales, 2013; Pe'er & Keil, 2013). Among firm strategic resources identified in the literature, capabilities or firm knowledge-based resources are often considered necessary for the pursuit of entrepreneurship (Madhok & Keyhani, 2012; Pe'er & Keil, 2013; Simsek & Heavey, 2011; Wiklund & Shepherd, 2003).

Upon recognition of the importance of firm strategic resources in entrepreneurship literature, a number of scholars have called for the examination of firm strategic resources in studies investigating the dual adoption of strategic and entrepreneurial behaviours (Foss, Klein, Kor, & Mahoney, 2008; Kellermanns, Walter, Crook, Kemmerer, & Narayanan, 2016). As a result, it is worth examining the influence of exploitation and exploration strategies on the transformation of the resource base. Nevertheless, this issue is not well understood in existing research (Simsek et al., 2009a). Prior studies have highlighted other factors deemed important for the performance effect of exploitation and exploration strategies, such as innovation, absorptive capacity, strategic learning, or diverse strategies at the functional level (He & Wong, 2004; O'Cass, Heirati, & Ngo, 2014; Rothaermel & Alexandre, 2009; Sirén et al., 2012). Taking this opportunity, this study focuses on how the use of exploitation and exploration strategies can be translated into enhanced performance through the transformation of a firm's resource base, particularly firm capability.

Firm capability refers to organisation skills and knowledge which are embedded in firm operating processes that enable organisational activities and usage of assets (Amit & Schoemaker, 1993; Day, 1994). Following this concept, capability describes how firms perform a particular activity and generate above-normal returns. This study employs the

term competitive capability to describe the term organisational capability in line with the Resource-Based Theory. The term 'competitive' is employed to emphasise the market-based nature of capability and to highlight that capability investigated in this study is determined by market competition.

1.2.3 Absorptive Capacity and the Resource Transformation Process

Since entrepreneurial activities often capitalise on network resources, especially knowledge of external partners, entrepreneurship literature has paid much attention to the case of interfirm relationships. They are also a key locus where external knowledge resides (Bojica & Fuentes, 2012; Coviello, 2006; Foss, Lyngsie, & Zahra, 2013; Yli-Renko et al., 2001). Research has found that relationships with other organisations facilitate firms' recognition of opportunities in the external environment (Fernhaber, McDougall-Covin, & Shepherd, 2009; Foss et al., 2013; Giarratana & Torrisi, 2010; Kedia & Lahiri, 2007; Wiklund & Shepherd, 2003) and increase their knowledge base as an effect of learning from relationships (Alcacer & Oxley, 2014; Chen, Lin, & Chang, 2009; Minbaeva, Pedersen, Bjorkman, & Fey, 2014). A number of scholars report that the success of interfirm learning and opportunity exploitation is due to existing knowledge in the focal firm, knowledge acquired from partners, and the ability to share acquired knowledge in the organisation (Berghman, Matthyssens, & Vandenbempt, 2012; Bruneel, Yli-Renko, & Clarysse, 2010; Simsek & Heavey, 2011). As a consequence, absorptive capacity - a firm's dynamic capability to absorb external knowledge, leverage it into ongoing operations, and put it into commercialisation (Cohen & Levinthal, 1990; Zahra & George, 2002) - is often found to play a critical role in supporting that firm's ability to realise the value of interfirm linkages (Lane, Salk, & Lyles, 2001; Modi & Mabert, 2007).

Both competitive capability and absorptive capacity are based on firm routines and processes. Therefore, they are tacit and firm-specific in nature. However, the two terms are distinguished by their functionality in creating wealth. While competitive capability describes how well firms deploy resources (Amit & Schoemaker, 1993), its value is reflected through efficiency and the effectiveness of resource utilisation activities to capture economic gains (Coff, 2010). On the other hand, absorptive capacity focuses on firm processes in increasing the firm's knowledge base (Lewin, Massini, & Peeters, 2011). It does not directly generate wealth, yet its value is embedded in its ability to

maintain the firm's deployment of resources for its competitive standing over time (Eisenhardt & Martin, 2000; Zahra & George, 2002).

From the dynamic capability perspective, absorptive capacity is not only seen as a firm's stock of knowledge but also its set of routines to facilitate knowledge flow and knowledge accumulation (Lewin et al., 2011). Literature shows that a firm's ability to recognise the value of external knowledge benefits from elements of absorptive capacity such as firm cognitive structure (Cohen & Levinthal, 1990) or interaction with industry actors (Rosenkopf, Metiu, & George, 2001). External knowledge valuable to the firm also includes tacit knowledge related to production processes, management practices, and manufacturing routines (Kogut & Zander, 1992; Lane et al., 2001; Park, Vertinsky, & Becerra, 2015). Research indicates that a firm's ability to understand tacit knowledge, an element of absorptive capacity (Cohen & Levinthal, 1990), facilitates the combination of external knowledge into the existing internal knowledge base (Lane et al., 2001). Knowledge sharing, another element of absorptive capacity is also found to impact on the performance of operational activities (Haas & Hansen, 2007). Szulanski (1996) shows that knowledge which is beneficial to firm practices is likely to be codified into operating processes and routines. Because operating processes and organisational skills for deploying assets and resources make up the foundation of a firm's capability (Amit & Schoemaker, 1993; Day, 1994), it is likely that absorptive capacity also helps in transforming the resource base by influencing firm capability. However, this linkage has not been adequately explored in the extant literature. Existing research on the outcomes of absorptive capacity mainly focuses on innovation or overall performance (Lane, Koka, & Pathak, 2006; Volberda, Foss, & Lyles, 2009).

Furthermore, research has shown that absorptive capacity also influences the relationship between firm strategy and performance (Engelen, Kube, Schmidt, & Flatten, 2014; Fernhaber & Patel, 2012). The impact of absorptive capacity on the performance effect of the dual practice of exploitation and exploration strategies has also been addressed in literature (Rothaermel & Alexandre, 2009). However, the literature on the influences of absorptive capacity on the effects of a firm's exploitation and exploration strategies on its resource base remains sparse (Simsek et al., 2009a).

Nevertheless, there is evidence showing the likelihood of this effect. Literature shows that managers across different levels work towards resource investment and resource alignment to organise the implementation of strategy (Helfat & Peteraf, 2015; Simsek & Heavey, 2011; Wiklund & Shepherd, 2003). Managers' perceptions of the resources necessary to carry out strategic plans influence firm investment into resources and the development of operational processes and routines (Eggers & Kaplan, 2013; Knudsen & Lien, 2015). Prior studies show that information and know-how that potentially add value to firm strategy are likely to be leveraged into a firm's existing knowledge base while others are likely to be rejected (Keh, Nguyen, & Ng, 2007; Lewin et al., 2011; Liao, Fei, & Chen, 2007; Martinkenaite & Breunig, 2016; Zahra, Sapienza, & Davidsson, 2006). As a result, activities pertaining to knowledge acquisition and usage potentially complement strategy in influencing a firm's resource base. Following this logic, absorptive capacity can interact with firm strategy in resource transformation processes. Subsequently, this study proposes a mechanism by which absorptive capacity influences resource transformation processes. It is suggested that with practices of absorptive capacity, capabilities identified as critical to the implementation of a strategy can be enhanced whereas those deemed not necessary for a strategic direction may be further attenuated. This mechanism describes the intensifying effect of absorptive capacity on the link between strategy and firm capability.

1.2.4 The Case of Power-Disadvantaged Firms

While interfirm relationships can provide invaluable opportunities for firms to acquire external resources (Das & Teng, 2000), research adopting the Resource Dependence Theory reveals that the acquisition of network resources is likely to be inhibited in inter-organisational linkages characterised by power asymmetry. Resource Dependence Theory predicts that firms need to interact with the external environment when they desire resources owned by other organisations; and the extent to which firms depend on other firms' resources for operations shapes the power structure between them (Pfeffer & Salancik, 2003). This power structure determines how firms are controlled by their counterparts. It also shapes firms' tactics and strategies to strive for autonomy (Hillman, Withers, & Collins, 2009). The implementation of these tactics and strategies is influenced by mutual dependence and power imbalance embedded in the interfirm

relationship (Casciaro & Piskorski, 2005; Gulati & Sytch, 2007). Mutual dependence forecasts an increase in the likelihood of bilateral interactions in which both sides collaborate to overcome resource constraints. Meanwhile, power asymmetry predicts the absence of joint actions for power restructuring plans due to a lack of endorsement from the dominant partner. Therefore, power-disadvantaged firms, when attempting to maximise autonomy, might need to shift the focus of their power restructuring plan away from the existing relationship (Casciaro & Piskorski, 2005).

This study employs the term power-disadvantaged firms (PDFs) to refer to organisations on the weaker side of dyadic relationships (Larson, 1992) which are shaped by an asymmetric power structure (Casciaro & Piskorski, 2005). This study defines power asymmetric networks as business relationships established between two firms, who are connected by their desire for resources controlled by the other partner in which one member is highly dependent on the other firm's resources while their own resources are much less needed by the partner. This discrepancy in interfirm dependence results in an unfavourable position for the firm on the weaker side where it does not have sufficient power to influence joint actions for enhancing accessibility and control toward the external resources it desires (Casciaro & Piskorski, 2005).

Taking the Resource Dependence Theory perspective, Chen, Chen, and Ku (2012) point out that capability transfers are always incomplete in parent-subsidiary relationships, where power asymmetry can be found. The authors argue that this incompleteness results from the need of both sides to protect their position and importance in the network. To the dominant firm, transferring capability can close the power gap and reduce their influence on their counterparts. Meanwhile, totally copying capability from the dominant partner can put PDFs at a higher risk of being redundant in the network because being a replica reduces their differentiation from other firms who also compete for the network resources. As a result, Chen et al. (2012) find that subsidiaries shift their focus toward market-based competition to build up their strengths and capability.

Other studies similarly report benefits for PDFs when they target other externals. For example, Choudhury and Khanna (2014) and Gras and Mendoza-Abarca (2014) find that PDFs can reduce their dependence on the dominant firm by shifting the focus away from them. Likewise, Alexy, George, and Salter (2013) find that young firms can stimulate the

powerful partner's interest for resource exchanges when they can increase the value of their resources in the market. Across these studies, the benefit of targeting other externals results from PDFs' ability to increase the value of resources under their control that are evaluated by the dominant partner.

These insights from Resource Dependence Theory literature suggest that the power structure in the existing interfirm relationship encourages PDFs to deviate from their ongoing activities. The purpose of this departure is not to escape from the relationship but rather to seek a tool that can be useful for their power restructuring plan. This logic implies linkages between exploitation and exploration strategies, and connections between these two strategies and firm resources. Unfortunately, because studies in this literature emphasise interfirm power restructuring for autonomy maximisation and dependence minimisation (Hillman et al., 2009), the issue of resource development and firm performance receives less attention (Drees & Heugens, 2013); hence the under-investigation of these linkages. Taking this opportunity, this study focuses on the case of PDFs in power asymmetric relationships and aims at investigating how the dual practice of exploitation and exploration strategies impacts the performance of these firms in existing networks.

The literature has indicated various forms of interfirm asymmetric relationships, which encompass both domestic and international settings. Examples of PDFs can be suppliers in manufacturer-suppliers relationships (Gulati & Sytch, 2007; Modi & Mabert, 2007), subsidiaries in multinational enterprises (Chen et al., 2012; Gupta & Govindarajan, 2000), service providers whose customers are large international clients (Raman, Chadee, Roxas, & Michailova, 2013; Su, Mao, & Jarvenpaa, 2014), small firms in alliances with larger firms (Alvarez & Barney, 2001; Vandaie & Zaheer, 2014), suppliers in domestic or global supply chains (Buckley, 2009; Hoejmose, Grosvold, & Millington, 2013b; Li & Ogunmokun, 2001b), or young firms who desire the financial resources of venture capitalists (Alexy et al., 2013; Hallen & Eisenhardt, 2012). In these inter-organisational linkages, PDFs are either heavily controlled by their dominant counterparts or dependent largely on their resources for wealth creation activities. On the positive side, PDFs often benefit from participating in the network because it may

provide a better opportunity for growth (Vandaie & Zaheer, 2015) or accessibility to resources of higher economic value (Madhok, Keyhani, & Bossink, 2015).

1.2.5 The Empirical Context

Among various interfirm networks, the context of global value chains (GVCs) is increasingly gaining popularity due to the rising trend of global sourcing from large multinational enterprises (Alcacer & Oxley, 2014; Gereffi & Lee, 2012; Kotabe & Mudambi, 2009). This context also lays a research setting for analysing wealth creation and economic development in developing countries (Buckley, 2009; Gereffi & Lee, 2012; Mahutga, 2013). This comes about because GVCs are structured by power asymmetric relationships in favour of large multinationals based in developed countries (Gereffi, Humphrey, & Sturgeon, 2005; Mahutga, 2014).

In this type of interfirm network, lead firms are the powerful players as they coordinate GVC activities by indicating where and how value activities are performed across the network. In this setting, manufacturers in developing countries receive orders from lead firms, run production and subsequently export goods following the lead firms' specifications (Buckley, 2009; Gereffi et al., 2005). They can be considered contract manufacturing exporters (CMEs). Normally, these CMEs enjoy a small share of profits for their participation in GVCs (Dedrick, Kraemer, & Tsai, 1999; Shin, Kraemer, & Dedrick, 2012). These CMEs are on the weaker side because their production and exporting activities depend largely on resources controlled by the lead firm such as product specifications or marketing expertise. CMEs play a significant role in the global economy. It is reported that exports by CMEs accounted for over 51% of global trade in non-fuel goods and this share is expected to increase in the next few decades (Gereffi & Lee, 2012; WTO & IDE-JETRO, 2011).

The extent to which CMEs are more flexible in forming strategies in pursuit of higher wealth creation is influenced by the engagement of lead firms in the production area, which varies across industries. In labour-intensive industries such as garment, footwear, or furniture, lead firms are disconnected from production and focus on other functions such as marketing or R&D. Lead firms in these industries are primarily buyers who outsource their production to manufacturers in low-cost countries, hence the term buyer-driven chains (Gereffi, 2001). The power asymmetry is more pronounced in

buyer-driven chains as compared to producer-driven chains (Mahutga, 2014). However, CMEs in these type of GVCs are more independent in terms of ownership and have greater flexibility to diversify their operations (Gereffi & Frederick, 2010). On the other hand, in capital-intensive industries, such as automobile, air craft or heavy machinery, lead firms are global producers who still engage in manufacturing activities because of their ownership advantage over proprietary assets (Bair, 2005; Gereffi, 2001). Therefore, GVCs in these industries are often referred to as producer-driven chains. Lead firms in producer-driven chains generally have more direct control over CMEs either through ongoing collaboration (Oh & Rhee, 2008) or equity-based ownership (Mahutga, 2012). As they are relatively free from ownership control, CMEs in buyer-driven GVCs can have greater autonomy in developing strategies than their counterparts in producer-driven GVCs. Therefore, dual practices where CMEs can simultaneously engage in GVCs as well as diversify their activities are more likely to be found in buyer-driven chains. As a result, this study targets CMEs in buyer-driven GVCs to investigate the phenomenon of interest. As such, the PDFs examined in this study are CMEs who participate in buyer-driven GVCs.

For various reasons, Vietnam has been chosen as the location for investigating the phenomenon of interest. The country is located in the world's largest hub of global production networks (UNCTAD, 2011). Vietnam is the leading producer in the low-skill manufacturing sector (WTO & IDE-JETRO, 2011) and one of world's top exporters in footwear, garment, and furniture industries. The country is second only to China and is becoming a more attractive offshoring location due to the trend of shifting production from coastal China to other low-cost locations (Gereffi, 2011). The examination of another country makes a contextual contribution for understanding practices outside of China.

Because the context of CMEs was chosen for the empirical testing, CMEs' export performance was adopted to measure the performance of PDFs in power asymmetric networks. Following prior studies in the exporting field, export performance in this study is considered multifaceted and reflects the outcomes of CMEs' exporting activities regarding their financial performance and achievement of strategic goals (Cavusgil & Zou, 1994; Katsikeas, Leonidou, & Morgan, 2000). The choice of the CME context also

leads to the adoption of IT, technical, marketing, and market-linking capabilities to describe firm competitive capabilities as these four capabilities are essential for manufacturing firms (Song, Nason, & Di Benedetto, 2008).

1.2.6 Motivations for the Study

In summary, this study aims to investigate the role of capability and absorptive capacity in the performance effect of the dual practice of exploitation and exploration strategies. The study targets PDFs who participate in asymmetric networks and proposes that this context provides a condition where exploitation strategy impacts exploration strategy. The effects of exploitation and exploration strategies on firm performance are hypothesised to be realised through firm capability. In addition, firm absorptive capacity is proposed to affect firm capability as well as to intensify the influences of exploitation and exploration strategies on firm capability. The key motivations for this study are summarised below:

- Studies examining how the dual adoption of strategic and entrepreneurial behaviours transform firm resources to enhanced performance remains under-researched. Accordingly, this study responds to the recent call for undertaking such studies.
- To enhance understanding of the complex mechanisms that influence the impact of exploitation and exploration strategies on performance of PDFs. The study examines the role of competitive capability and absorptive capacity.
- To enhance understanding of the performance and behaviour of PDFs in the context of buyer-driven GVCs. In this context, PDFs are CMEs that have received less scholarly interest in terms of examining the role of dual adoption of exploration and exploitation strategies.

1.3 Research Question and Objectives

The main objective of this study is to examine the role of competitive capability and absorptive capacity in transforming the simultaneous use of exploitation and exploration strategies to enhance the performance of PDFs.

To meet this objective, this research will examine:

- How do exploitation and exploration strategies influence the performance of PDFs in asymmetric networks?
- How does competitive capability mediate the association between exploitation and exploration strategies, and the performance of PDFs in asymmetric networks?
- How does absorptive capacity moderate the association between exploitation and exploration strategies and the competitive capability of PDFs in asymmetric networks?

1.4 Value of the Research

Given the importance of the wealth creation ability of PDFs, the examination of processes by which exploitation and exploration strategies impact firm performance provides valuable insights to existing knowledge. This study adds to the integration of strategy and entrepreneurship literature in several aspects as discussed below:

The link between exploitation strategy and exploration strategy*:* by examining the context of inter-organisational asymmetric relationships, the study highlights a case where advantage-seeking behaviour leads to opportunity-seeking behaviour. This result contributes to the literature by pointing out motivations for exploratory activities. It shows that engagement in exploration strategy is motivated by a firm's need to improve earnings through ongoing network activities. More importantly, the finding reveals the leading role of exploitative strategy in directing exploratory behaviour. This result contributes to Resource Dependence Theory by providing additional evidence that PDFs can perform better in an unbalanced relationship when they can increase the value of resources shared in the ongoing network activity, which is evaluated by the powerful party.

The performance effect of exploitation and exploration strategies: after reviewing the current literature, a conceptual model is constructed to explain how the simultaneous adoption of advantage-seeking behaviour and opportunity-seeking behaviour influences firm performance. The model emphasizes the role of exploration strategy and firm strategic resources by providing insights on how these two factors enhance the performance of PDFs. The model explains the necessity of opportunity-seeking behaviour as this entrepreneurial orientation is essential to mediate the influence of

exploiting current advantages on performance. Furthermore, the model also describes how the adoption of exploratory practices can be beneficial. Opportunity-seeking behaviour becomes essentially meaningful when it guides firm investments into competitive capability. Additionally, the model also indicates the benefits of absorptive capacity toward firm capability and shows its moderating effect on the relationships between the dual practice of exploitation and exploration strategies and firm capability.

The critical role of capability: These findings contribute to Resource-Based Theory by confirming the critical role of capability, specifically IT, technical, marketing, and market-linking capability, as well as absorptive capacity in firm performance. The result confirms that ownership of strategic resources is essential for firm performance while the usefulness of dynamic capability lies in its ability to shape firm resource bases. The outcomes of this research also confirm the necessity of employing the Resource-Based Theory in studies investigating both strategic and entrepreneurial behaviours (Foss, Klein, Kor, & Mahoney, 2008; Kellermanns, Walter, Crook, Kemmerer, & Narayanan, 2016).

A multiple theoretical perspective: the study draws upon the insights of Resource-Based and Resource Dependence theories, the former justifies firm behaviour and the latter explains firm wealth creation ability. These viewpoints give a better understanding of the performance effect of the dual adoption of exploitative and exploratory behaviours.

Value for practitioners*:* this research adds value for practitioners by explaining how practices of exploitation and exploration strategies direct firm investment into capability, which in turn can be beneficial for CMEs participation in GVCs. Although participation in asymmetric networks may rely on other resources, the development of capability understated by network activities helps CMEs improve the efficient utilisation of resources shared in the network, hence the higher value of network activities. Moreover, the study also indicates the importance of practicing absorptive capacity. Firm capability improvement is enhanced through the activities of acquiring, assimilating, transforming, and exploiting knowledge sourced from the external environment.

In summary, the value of this research is centred on its examination of the performance effect of exploitation strategy and exploration strategy. The study sheds light on a mechanism new to literature where firm competitive capability transmits the impact of exploitation and exploration strategies on firm performance, and absorptive capacity moderates the relationships between these two strategies on firm competitive capability. By incorporating mediation and moderation effects, the study advances the strategic entrepreneurship domain by explaining how opportunity-seeking behaviour can complement advantage-seeking behaviour to transform a firm's resource base for long-term sustainability. In addition, the research is valuable for pointing out the necessity of absorptive capacity in facilitating the resource transformation process. As a result, this study helps researchers and managers allocate firm investments along the dual pursuit of exploitation and exploration strategies.

1.5 Research Methodology

Guided by the stage of theory development (Edmondson & McManus, 2007), the quantitative component plays the dominant role in the research inquiry for this research. For the quantitative study, a conceptual model was developed and tested using instruments borrowed from prior research. The survey data were collected by the drop-and-collect approach, resulting in 154 usable observations. In the meantime, 10 semi-structured interviews were undertaken with top management members of Vietnamese CMEs across the three industries of garment, footwear, and furniture manufacturing. The data from the two approaches were analysed separately. The partial least square structural equation modelling technique and the thematic coding approach were employed to investigate the quantitative data and qualitative data, respectively. Results from the quantitative study provided a rigorous examination for the proposed hypotheses whereas findings from the qualitative research added value by supplying additional contextual details on the setting of CMEs and GVCs, which were also beneficial for validating the relationships proposed by the model.

1.6 Structure of the Thesis

The thesis is structured in five chapters. Following the introductory chapter, Chapter 2 starts with a literature review to provide theoretical knowledge concerning basic assumptions and explanations of the two theories employed for the studies. Empirical

findings around the case of PDFs is then followed to indicate research gaps in the literature. A conceptual model developed based on this view, presents the testable hypotheses of the research. Chapter 3 discusses the methodology employed for the study. It begins with the rationale for adopting a mixed-methods approach, followed by an explanation of the research setting. The chapter ends with a description of the analytical techniques applied to the two quantitative and qualitative studies. Chapter 4 first presents a separate analysis of the two studies. The findings from these two approaches are later integrated before proceeding to the last chapter. Finally, chapter 5 explains the key findings. A discussion of theoretical and practical implications of the study is also presented. The chapter ends with an acknowledgement of the study's limitations and suggestions for future studies.

CHAPTER 2 LITERATURE REVIEW AND MODEL DEVELOPMENT

2.1 Introduction

This chapter reviews the literature which provides the fundamental framework for this study. Grounded in the Resource Dependence and the Resource-Based theories, the study explains some mechanisms through which the dual practice of exploitation and exploration strategies enhances the performance of power-disadvantaged firms in power asymmetric networks. In particular, the study proposes that the impact of exploitation strategy and exploration strategy on the performance of power-disadvantaged firms in the interfirm network is realised through the firm's competitive capability and influenced by its level of absorptive capacity.

2.2 Theoretical Underpinning

Drawing from insights of the Resource Dependence Theory, this chapter explains the dual pursuit of exploitation strategy and exploration strategy and how the former impacts the latter. Meanwhile, mechanisms detailing the role of competitive capability and absorptive capacity in assisting the performance effect of the dual pursuit of exploitation and exploration strategies are rooted in the Resource-Based Theory.

2.2.1 The Resource Dependence Theory

2.2.1.1 The Logic of the Resource Dependence Theory

The Resource Dependence Theory (RDT) considers organisations as an open system where firms have insufficient resources for their operations and growth (Pfeffer & Salancik, 1978). The more their valued resources are controlled by the external environment, the higher their dependence on other organisations to overcome resource constraints. The dependency is determined by the importance of the resources to the firm, the autonomy of the firm over resource allocation and use, and the ability to control the resources (Pfeffer & Salancik, 1978). RDT posits that firms interact with the external environment in a way to minimise dependency and maximise autonomy in dealing with resource constraints. The central focus of the theory is to explain motivation and actions organisations can take to manage uncertainty and dependence on exchange partners (Davis & Cobb, 2010).

Predictions of RDT on organisation behaviours are based on two assumptions (Hillman et al., 2009). First, driven by the insufficiency of resources and capabilities, firms seek complementary resources from the external environment to achieve their strategic goals. This leads to dependence on other organisations as well as uncertainty around resource access and utility. The second assumption is that the purpose of organisations is to reduce uncertainty and the other party's power over them.

The theory predicts two groups of activities that firms can undertake to respond to uncertainty and dependence. The first group concerns the use of power exercised by the power-advantaged firm. Power inequality allows the dominant actor to pursue a course of actions to reduce uncertainty over resource utility (Van de Ven & Drazin, 1984). The second group refers to restructuring operations that organisations can undertake to ensure resource access and to strive for their autonomy. The lack of autonomy results from a firm's dependency on other organisations for resources. The resource owner can constrain the focal firm's access to and utilisation of the resources. Subsequently, this second stream of research in RDT literature concerns firm activities aimed at minimising this external constraint. Hillman et al. (2009) note that since the work of Pfeffer and Salancik (1978), research has focused on the five actions that firms can pursue to overcome this environmental constraint and to minimise their external dependence. These actions range from most to least constraint: mergers/vertical integration, boards of directors, joint ventures, political actions, and executive succession.

High constraint firms can incorporate sources of the constraint into their organisational boundary by merging or integrating with the other firms who provide the resources needed. Another strategy for a high-constraint firm is to co-opt the dependence by providing a seat on the board of directors to the source of the constraint. The underlining thought is for the resource-possessing party to develop an interest in the firm's survival. An alternative for managing inter-firm dependence is to form alliances or joint ventures with the other partners. These three constraint-absorption strategies require inter-organisation actions, therefore they need consent from both parties before implementation. Tactics for less-constraint firms appear more unilateral. Firms can pursue strategies that do not require reciprocal actions from the other party such

as calling for support from government, finding alternatives for maintaining the availability of resources, de-emphasising the value of the resources needed. They can do this by redirecting the focus towards other resources. They can also undertake succession plans to look for new executives to help the firm mend its misalignment with the external environment so that the firm is better equipped to deal with uncertainty and dependence. The theory provides theoretical rationale for explaining firms' behaviours and inter-organisational strategies to deal with dependence on the external environment (Drees & Heugens, 2013).

Casciaro and Piskorski (2005) criticise RDT for over-focusing on the concept of interdependence as laid out by Pfeffer and Salancik (1978). The authors advance two dimensions of dependence: power imbalance and mutual dependency, and argue that these two components lead to two different mechanisms of inter-firm interaction to manage their dependence. While power imbalance can help to explain why firms resist inter-organisational actions, mutual dependence is useful for investigating why firms jointly seek long-term agreements and undertake bilateral activities. Casciaro and Piskorski's (2005) suggestion to look at the two dimensions of power imbalance and mutual dependence as a determinant of inter-firm operations reveals a competing explanation for the possibility of inter-organisational restructuring operations. Previous predictions of the theory proposed that tactics available for high-constraint firms to manage their dependence were bilateral and required interaction with the powerful party. Upon recognising power imbalance in interfirm relationships, the contemporary view of RDT forecasts a reluctance for reciprocal restructuring interaction between firms. Therefore, power-disadvantaged firms face difficulty in implementing bilateral strategies to strive for autonomy and control of resources. The underlying assumption is that while the less powerful firm in an unbalanced network desires to restructure its dependency, this action is not favoured by the powerful firm because it reduces its control over the weaker firm. With its dominancy, the powerful firm is in a better position to impose its will on the power-disadvantaged counterpart and is unlikely to support the inter-firm dependence restructuring plan. Therefore, high-constraint firms are not able to get consent from their power leading partners and need to pursue unilateral strategies for dependence restructuring activities. Success in engaging in

unilateral strategies is possible because the powerful firm cannot directly prevent them from seeking restructuring dependency.

The logic of RDT has been employed to explain the behaviour of the weaker party in various asymmetric networks at different levels of study. For example, at the country level, the theory has been applied to explain target destinations in the merger and acquisition activities of firms from emerging countries (Deng & Yang, 2015). At the institution level, the application of RDT helps shed light onto firm behaviour in influencing decision makers (Pinkse & Groot, 2015; Shirodkar & Mohr, 2015), and firms' strategies when dealing with resource constraints (Hansen & Rasmussen, 2013; Schuster & Holtbrugge, 2014). Predictions of RDT have also enriched the literature in explaining the behaviour of actors at interfirm- (Drees & Heugens, 2013), firm- (Beckman, Schoonhoven, Rottner, & Kim, 2014; Jia & Zhang, 2013), functional- (Smirnova, Henneberg, Ashnai, Naude, & Mouzas, 2011), and individual-levels (de Jong & Bal, 2014; Gargiulo, Ertug, & Galunic, 2009).

Among various levels of study, the investigation of interfirm networks forms one of the major research areas in RDT (Hillman et al., 2009). Drees and Heugens (2013) ran a meta-analysis on 157 tests of RDT and put forward that in interfirm networks, control of resources through engaging in inter-organisational arrangements may not be the ultimate goal for focal firms. In fact, performance in terms of generating profits or an increase in market value is the end result which organisations are looking for when participating in interfirm networks. The authors argue that the RDT logic is not only helpful in explaining firm behaviour, but should also be considered as a theory of organisational performance. By proposing RDT as a theory of organisational performance, the authors suggest that firms seek inter-organisational arrangements to improve their firm performance. However, the issue of how engaging in asymmetric interfirm relationships helps the weaker firm improve its performance in the network has not been adequately addressed.

This issue is urgent for weaker firms in interfirm networks with a power imbalance structure because they have been found to be in the vulnerable position of being heavily exploited in the ongoing relationships with resource-rich partners (Alvarez & Barney, 2001; Hallen, Katila, & Rosenberger, 2014). Weaker firms in power asymmetric

relationships have been found to be treated poorly (Alvarez & Barney, 2001) and to receive a lower level of fairness when it comes to risks, uncertainty (Ebers & Semrau, 2015; Touboulic, Chicksand, & Walker, 2014), and value appropriation (Adegbesan & Higgins, 2011; Bidwell & Fernandez-Mateo, 2010; Gargiulo et al., 2009; Miguel, Brito, Fernandes, Tescari, & Martins, 2014) in their interaction with the dominant player. A prior study (Kim & Wemmerloev, 2015) has even shown that attempts to improve the operational resources that contribute to interfirm relationships would help the weaker firm to restructure its dependence but would not result in better value appropriation from its network activities. Furthermore, these firms face the risk of being redundant or going bankrupt when they fail to add value to the resources shared in the relationship (Alvarez & Barney, 2001). As a result, addressing the issue of how weaker firms in asymmetric networks improve their performance in asymmetric networks can provide additional insight into how RDT can be useful as a theory of organisational performance as suggested by Drees and Heugens (2013).

2.2.1.2 Empirical Evidence in the Case of Power-Disadvantaged Firms in Asymmetric Interfirm Networks

The case of weaker firms in asymmetric interfirm networks has attracted a considerable amount of research interest in the RDT literature. A number of terms have been employed to refer to these firms, such as power-disadvantaged firms (Casciaro & Piskorski, 2005; Gras & Mendoza-Abarca, 2014), low-power firms (Hallen et al., 2014), less powerful actors, weaker party, weaker actors (Rogan & Greve, 2015), weaker organisations (Touboulic et al., 2014), or less well-endowed firms (Hallen & Eisenhardt, 2012). These various terms are used to describe firms in interfirm networks who are highly dependent on other firm resources for their operations while their own resources are less desired by their counterpart. This study employs the term power-disadvantaged firms (PDFs) to refer to this type of firm. The term implies that the firm has little ability to determine the nature of exchanges in the asymmetric interfirm relationship.

The literature indicates a number of contexts where PDFs can be found. For example, in interfirm alliances, PDFs can be young or small firms that form alliances with large, established corporations (Alexy et al., 2013; Alvarez & Barney, 2001; Hallen et al., 2014; Vandaie & Zaheer, 2014). Satellite internet firms are also considered PDFs in their

relationships with portal firms who provide web traffic services (Lee, Mun, & Park, 2015). Similarly, advertising agencies can also be considered PDFs when providing services to powerful clients (Rogan & Greve, 2015). Likewise, the investigation of non-profit firms indicates that charity organisations who depend on governmental funding for their operations (Gras & Mendoza-Abarca, 2014) are also PDFs. PDFs can be found as subsidiaries in multinational corporations (Mudambi, Pedersen, & Andersson, 2014; Xia & Li, 2013), suppliers (Lee & Qualls, 2010) or vendors (Raman et al., 2013) in buyer-supplier relationships. It is important to note that the case of PDFs is not bound by the context. For example, subsidiaries are not always PDFs in parent-subsidiary relationships (Mudambi et al., 2014; Schuler-Zhou & Schuller, 2013). Likewise, suppliers can be powerful actors in supplier-buyer relationships (Pazirandeh & Norrman, 2014). Therefore, it is crucial that the practices of PDFs be traced back to resource dependency and ownership between network members (Mudambi et al., 2014).

An examination of RDT literature reveals a variety of both bilateral and unilateral strategies PDFs undertake to manage their autonomy and dependence on resources needed from the environment. As seen in Table 2.1, bilateral strategies can be classified into groups to reflect those used for accessing required resources, restructuring dependency prior to tie formation or during resource exchange activities, or for strengthening current exchanges with the powerful party. These include collaboration, compliance, and relationship investment as predicted by the theory forwarded by Pfeffer and Salancik (1978). Meanwhile, unilateral strategies conducted by PDFs involve a shift in strategic direction such as market diversification or entrepreneurship. Table 2.2 presents the studies focusing on unilateral strategies used by PDFs in more detail. Three notable similarities are observed across these unilateral strategies.

First, with these strategies, PDFs **shift the focus of their exchange activities away from the powerful party**. In particular, Su et al. (2014) find that IT vendors reach out to new clients outside of their existing client base to secure a more stable source of income.

Table 2.1 Strategies Used by PDFs

Bilateral/multilateral strategies	**Key studies**
Power restructure	Alexy et al. (2013); Ciabuschi, Dellestrand, and Kappen (2012); Hallen et al. (2014); Mudambi et al. (2014); Schuler-Zhou and Schuller (2013); (Xia & Li, 2013)
Collective actions	Ciabuschi, Holm, and Martin (2014); Dieleman and Boddewyn (2012); Pinkse and Groot (2015); Roseira, Brito, and Henneberg (2010); Schuster and Holtbrugge (2014), (Rogan & Greve, 2015)
Accessing resources	Deng and Yang (2015); Gubbi (2015); Hallen and Eisenhardt (2012); Lebedev, Peng, Xie, and Stevens (2015); Musacchio and Read (2007); Ozcan and Eisenhardt (2009); Shirodkar and Mohr (2015); Zhou, Han, and Wang (2013)
Strengthening exchanges	
Nurturing relationship	Hoejmose, Brammer, and Millington (2012); Khoja, Adams, and Kauffman (2010); (Lahiri & Kedia, 2009); Morrow and Robinson (2013)
Collaboration/cooperation	Davis and Eisenhardt (2011); Johnson, Schnatterly, Bolton, and Tuggle (2011); Kurnia, Karnali, and Rahim (2015); Lee, Gilliland, Bello, and Osmonbekov (2011); Liu and Ko (2011); Oberg (2013, 2014); Pechlaner and Volgger (2012); Su et al. (2014)
Commitment/compliance/adoption	Clemente and Roulet (2015); de Jong and Bal (2014); Foerstl, Azadegan, Leppelt, and Hartmann (2015); Gilliland, Bello, and Gundlach (2010); Gilliland and Kim (2014); Hoejmose, Brammer, and Millington (2013a); Hoejmose et al. (2013b); Jia and Zhang (2013); Lee and Qualls (2010); Rao, Brown, and Perkins (2007); Wuttke, Blome, Foerstl, and Henke (2013); Xia, Jiang, Li, and Aulakh (2014)
Unilateral Strategies	**Key Studies**
Entrepreneurship	(Xia & Li, 2013); (Su et al., 2014)
Diversification	(Alexy et al., 2013); (Gras & Mendoza-Abarca, 2014); (Choudhury & Khanna, 2014)

For the same purpose, Gras and Mendoza-Abarca (2014) find that non-profit organisations nurture market-based income through the sale of products and services to reduce their dependence on social funding such as donations or government subsidies. The other two studies by Xia & Li (2013) and Choudhury and Khanna (2014) find that units acquired by multinationals and state-owned entities attain independence from the powerful party by establishing exchanges with other partners through alliances or by generating global cash flows from licensing patents to foreign firms. Interestingly, Alexy et al. (2013) argue that innovative knowledge firms can strategically reveal their knowledge to the public or other firms as a means to stimulate interest for collaboration from the powerful party.

Second, although the focus of PDFs' unilateral strategies is shifted toward other externals, PDFs do not cease to interact with the power leading firm when resource exchanges are already established between the two parties. In fact, **PDFs' operations remain significantly influenced by the powerful partner** because of their ownership of critical resources required by PDFs (Alexy et al., 2013; Gras & Mendoza-Abarca, 2014; Su et al., 2014). This influence may also result from the fact that PDFs are controlled by the powerful partner (Choudhury & Khanna, 2014; Xia & Li, 2013).

Third, **unilateral strategies are used as a part of PDFs' course of action to reduce dependency**. By seeking new resources, entering new markets, or spilling their knowledge to other actors in the market, PDFs aim to gain autonomy vis-à-vis the powerful actor or to enhance accessibility to the resources controlled by that actor. For example, Su et al. (2014) find that IT vendors, while looking for new clients, still manage to improve their product offerings to retain current clients. Income from new clients helps the vendor mitigate demand shocks from the existing clients. Similarly, Gras & Mendoza-Abarca (2013) find that non-profit organisations maintain their dependency on social funding and simultaneously develop strategies to gain income from other sources.

Findings from these studies support the contemporary perspective of the RDT advanced by Casciaro and Piskorski (2005) that unilateral practices are feasible for firms in power asymmetric relationships and that PDFs can target other externals for their dependence restructuring activities.

Table 2.2 Unilateral Strategies Employed by PDFs in RDT Literature

Strategy employed	Research question	Methodology	Results	Main ideas
Su et al (2014) Seeking new markets while simultaneously strengthening current relationships	Why and how vendors respond to demand shocks from their clients	Multi-case study with two Chinese vendor firms providing IT services to foreign firms	Vendors lower costs, improve efficiency, or enhance capabilities to retain customers. Other strategies include forming new kinds of relationships with the current clients or expanding the market to reach new clients.	Depending on their relative power with their clients, vendors use multiple strategies to mitigate risks from demand shocks.
Gras & Mendoza-Abarca (2013) Cultivating new resources	How market-based income generation affects the survival rates of non-profit organisations	Secondary data from 2005 to 2010 from registered charity organisations in Canada	The proportion of revenue from market-based income has a U-shaped relationship with the likelihood of a charity ceasing to exist.	Organisations can gain autonomy by cultivating new sources of resources. A high contribution of the new resources can redirect the organisation strategy.
Xia & Li (2013) Subsequent acquisitions or alliances outside the parent-unit relationship	How do mutual dependence and increased sub-unit power (1) simultaneously and (2) jointly affect subunit divestiture?	Secondary data of M&A acquisition and divestiture maintained by the Securities Data Corporation from 1997-2003	The likelihood of divestiture after being acquired is reduced if the acquired unit engages in subsequent acquisitions or alliance activities with other agencies.	Sub-units that are able to enhance their control of resources by partnering with other external partners can increase their power in the current exchange and avoid being divested.
Choudhury and Khanna (2014) Internationalisation	Why state-owned entities internationalise and generate global cash flows?	Mixed-methods study with 42 Indian state-owned laboratories	State-owned labs were able to generate global cash flows from licensing their patent to foreign partners and reduced control by the government.	Firms use internationalisation and generate global cash flows as a means to break free from control by government.
Alexy et al (2013) Strategic knowledge revealing	How selective revealing may cause externals to collaborate with the focal firms	Conceptual paper	Knowledge innovative firms strategically engage in selective revealing of their knowledge to other externals as a means to stimulate collaboration from the less dependent party and to influence compatibility of externals' knowledge.	Selective revealing strategy can shape the collaborative behaviour of external actors.

Moreover, studies by Su et al. (2014), Gras & Mendoza-Abarca (2013), and Choudhury and Khanna (2014) further suggest that firms on the weaker side can succeed by enhancing the value of resources under their control rather than focusing on engaging in inter-organisational arrangements. Particularly, Su et al. (2014) show that by enhancing existing resources or their own capabilities, IT vendors can offer better value for current clients or seek new markets. Subsequently, these IT vendors can reduce their dependency on income by serving major clients and cultivating a better source of earnings. Meanwhile, Gras & Mendoza-Abarca (2013) indicate that non-profit organisations' ability to generate substantial income from their own activities can reduce their dependence on financial sources provided by governmental and charity funding. In the same vein, Choudhury and Khanna (2014) reveal that state-owned enterprises can achieve stronger autonomy when they generate global cash flows from internationalising their patent to foreign licensees.

Findings from these studies suggest that a dual strategy involving simultaneously interacting with the resource-rich partner while searching for new market opportunities outside of the current dyad would be a possible solution for PDFs to strive for their own growth in asymmetric interfirm networks. However, there is a dearth of study in the existing literature investigating how this dual strategy would have a positive impact on the performance of PDFs in an asymmetric network. Moreover, the idea that PDFs should enhance the value of their resources also suggests a solution where PDFs can pay more attention to their internal resource base. This solution refers to the incorporation of the Resource-Based Theory to investigate firm behaviour in dealing with external constraints, an issue that has been recommended yet remains under-studied in the literature (Freiling, 2008). The existence of these research gaps hinders our understanding of the practices of PDFs in their pursuit of the ultimate goal of wealth creation as argued by Drees and Heugens (2013). The current research attempts to fill this void in the literature.

2.2.2 The Resource-Based Theory

2.2.2.1 The Logic of the Resource-Based Theory

The Resource-Based Theory (RBT) provides a foundation for understanding how firm competitive advantage is achieved and how it can be sustained over time. The root of

RBT can be traced back to the seminal work of Penrose (1959), which addresses internal sources of firm competitiveness. RBT focuses on firm competitive advantage and the internal environment of the firm. Through the contributions of a large number of scholars, the theory has evolved vigorously into two complementary directions, each has considerable impact on strategic management research (Schulze, 1994).

The first approach is considered **the structural school of the RBT**. This view, which is based on the work of Wernerfelt (1984), Barney (1991), and Dierickx and Cool (1989), attributes firm competitiveness to the organisation's possession of the resources and capabilities needed for productive activities which satisfy the four key features of being valuable, rare, inimitable, and non-substitutable (Barney, 1991). Resources that meet these four criteria are not easily duplicated from one firm to another. Therefore, the theory rests on the precept of resource heterogeneity across firms. Because of variation in firm resource endowment, firms with distinct bundles of resources can pursue competitive strategies more effectively. As a result, they are able to extract higher rents and enjoy superior performance than their competitors. Since resources are not easily traded among firms, it takes time for rivals to copy the superior endowment established by leading firms. Subsequently, sustained competitive advantage can be secured as long as the equilibrium of resource endowment is maintained (Peteraf, 1993). Dierickx and Cool (1989) argue that factors that break this equilibrium are embedded in the external environment. As these factors are not realised in short time (Barney, 1991; Peteraf, 1993), the structural approach of RBT often examines static resources and capabilities to explain firm sustained competitiveness.

The second approach to investigating firm resources adopts a more dynamic view. It is considered **the process school of RBT** (Schulze, 1994) and is often referred to as the dynamic capability theory. This school of thought is based on the work of Eisenhardt and Martin (2000); Teece, Pisano, and Shuen (1997), Pisano (1994), and Winter (2003). Scholars adopting the dynamic capability approach criticise the structural approach's static view and highlight the necessity of firms to respond to environmental changes. Unlike the structural perspective, this process view acknowledges that the environment can influence firm resource endowment. Attempts to anticipate and respond to environmental changes manipulate strategies to shape new strategic resources for value

creation purposes. As a consequence, rather than identifying critical bundles of resources which help firms generate higher rents, the process approach focuses on specific strategic and organisational processes (Eisenhardt & Martin, 2000) which help firms shape new sets of resources or capabilities to better anticipate changes in the environment (Winter, 2003). From this viewpoint, dynamic capabilities are critical, yet not sufficient to achieve competitiveness. To pursue long-term competitive advantages, it is necessary that dynamic capabilities enhance or refresh firm resource configurations, from which above normal rents can be attained. With this perspective, firms are encouraged to look at their ability to increase strategic flexibility. Consequently, this view addresses the disequilibrium-oriented behaviour, by which firms seek to nurture their stock of strategic assets for better competitiveness in the long run (Eisenhardt & Martin, 2000). This behaviour goes hand in hand with investments in assets and capabilities that are not valuable to begin with but later can be crucial for firm competitiveness. It is suggested that such investments are guided by entrepreneurial practices (Pisano, 1994; Teece & Pisano, 1994).

As RBT centres on firm resources and explaining how they can be translated to performance, a great deal of scholarly interest has focused on what constitutes resources and how they function to create profits. Generally, a firm base of resources is considered to consist of tangible and intangible resources and capabilities. Resources can be identified by common factors such as physical assets, human resources, IT systems, or store location, whereas capabilities are often thought of as a firm's ability to perform a set of organisational processes to make use of resources in hand for wealth creation purposes (Day, 1994; Helfat & Winter, 2011; Teece, 2014). Resources and capabilities can be classified into strategic (Andersen, 2011; Barney, 1991), ordinary, or junk resources (Warnier, Weppe, & Lecocq, 2013) (see Table 2.3).

Barney (1991) lays a profound framework for the concept of strategic resources, which are considered valuable, rare, inimitable, and non-substitutable in the industry. Ownership of this type of resource together with a firms' organising efforts to make use of these resources (Barney, 1995) enables firms to achieve superior profits and neutralise external competitive threats. This provides a source of sustained competitive advantage. Traditionally, strategic resources have been considered unique and non-

tradeable, so they are mainly viewed as firm-specific and internally developed (Barney, 1991). However, scholars have argued that they can be acquired from the external environment through partnering with other organisations (Gulati, Nohria, & Zaheer, 2000; Madhok & Tallman, 1998). Therefore, other complementary attributes such as fitting with the firm's existing resource base, the ability to appropriate rent, and being non-competitive disadvantaged have also been suggested for consideration of strategic resources (Andersen, 2011).

Unlike strategic resources, which are rare and not widely available to many firms, ordinary resources – or substantial resources - often constitute the largest part of firm resources and are relatively available to most firms (Warnier et al., 2013). Examples are human resources consisting of ordinary personnel such as salespeople in retailing, compliance with industrial standards in the manufacturing industry, or common information technology adoption (Branzei & Thornhill, 2006). While ordinary resources are valuable as firms can extract rents from capitalising on these resources, they lack rarity. Therefore, they can be acquired relatively easily by competitors. Nevertheless, they can still be a source of competitiveness when combined with strategic resources to generate returns (Branzei & Thornhill, 2006; Fréry, Lecocq, Warnier, & Strategy, 2015).

Finally, junk resources (Warnier et al., 2013) or strategic liabilities (Arend, 2004) are organisational processes or assets that generally create holding costs or barriers to implementing strategies. Examples are lawsuits, management incompetence, and obsolete inventory. Arend (2004) suggests that these resources are costly, inconvertible, and negatively appropriated. They are costly as they often reduce firm performance and value. Besides, it is hard to convert them into useful resources as they share the same features as strategic resources because they are also immobile, inseparable, tacit, path dependent, and causally ambiguous. Finally, they are negatively appropriated due to non-transferability so firms have to pay for the cost of holding them.

Warnier et al. (2013) question the objective perspective suggested by Arend (2004) and argue that the value of resources should be viewed from the cognitive perception of managers due to their critical influence on strategy as pointed out in literature (Gruber, Kim, & Brinckmann, 2015; Holcomb, Holmes Jr, & Connelly, 2009). Therefore, junk resources are not always harmful to firm performance and firms can actually. Change

them into a source of rent when they are perceived to be strategically beneficial by the entrepreneur. For example, Warnier et al. (2013) cite Chronostock as a company that seeks out temporary premises to set up pop-up stores for clearance sales. Retailers often regard these premises as too costly. But, without investing in store decoration, they are in fact valuable as a low-cost and time-limited strategy. They allow Chronostock to quickly set up a store in just few days and run liquidation sales for few weeks or months before moving to another place.

Similarly, ordinary resources can also produce sustained competitiveness depending on how they are deployed. Basically, ordinary resources are necessary for firms to operate properly and their usage generates value equal to the cost of their acquisition, allowing firms to achieve competitive parity in the market (Warnier et al., 2013). They lay a foundation for organisational capabilities to function (Day & Wensley, 1988). In order to generate superior returns, it is necessary to combine ordinary resources and organisational processes identified as firm strategic resources such as knowledge integration (Kim, Song, Sambamurthy, & Lee, 2012; Sirén et al., 2012), information management (Mithas, Ramasubbu, & Sambamurthy, 2011), or resource coordination capabilities (Sirmon, Hitt, & Ireland, 2007; Volberda & Karali, 2015).

For this reason, the use of strategic resources is also as critical as their possession to predict performance variation. While ownership of strategic resources is commonly considered a source of above-normal performance (Barney, 1991, 1995), situations have also been documented that acquiring a strategic resource could lead to risk and failure. Fréry et al. (2015), for example, label the 2007 acquisition of navigation manufacturer TomTom by Tele Atlas, a provider of cartographic data, as a winner's curse since the acquiring company fail to benefit from the acquisition of a resource once considered strategic in the market. Consequently, it is proposed that research should pay attention to how resources are deployed (Warnier et al., 2013) as well as to the effectiveness of their combination with other ordinary resources for economic gains (Arend & Levesque, 2010).

Along the same lines, dynamic capabilities, as proposed by scholars from the process school of RBT, are themselves not considered a source of greater rent (Eisenhardt & Martin, 2000) but critical for competitiveness because they drive the development,

Table 2.3 Conceptualisation of Resources, Capabilities and their Contribution to Firm Performance

Author	Definitions/conceptualisation	Attributes	Contribution to wealth creation
Barney (1991)	Firm **resources** include all assets, capabilities, organisational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness.	. Valuable as resources to enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness . Rare: among firm's current and potential competition . Imperfectly imitable due to their nature of being physically unique, path dependent, causally ambiguous, or socially complex . Non-substitutable	. Possession of these resources enables firms to conceive and implement strategies for above normal rents.
Amit & Schoemaker (1993)	**Resources** are stocks of available factors that are owned or controlled by the firm.	. Externally available . Transferable in the strategic factor market . Owned or controlled by the firm	. Resources are converted into final products or services by using a wide range of other firm assets and bonding mechanisms such as technology, management information systems, and incentive systems.
	Capability: Firm's capacity to deploy resources, usually in combination, using organisational processes, to effect a desired end	. Information-based organisational processes . Firm specific . Tangible or intangible	. Enhancing productivity of the firm's resources . Providing strategic flexibility and protection for its final product or services

Table 2.3 (Cont'd)

Author	Definitions/conceptualisation	Attributes	Contribution to wealth creation
Day (1994)	**Capabilities** are complex bundles of skills and collective learning, exercised through organisational processes that enable firms to coordinate activities and make use of their assets, ensuring superior coordination of functional activities.	. Manifested in typical business activities . Closely intertwined with organisational processes which can be complex and multi-staged . Obscured due to the tacit and dispersed nature of knowledge acquired	. Enable firms to achieve superior performance since the resources are difficult to understand and imitate by rivals
Helfat & Winter (2011)	**Capability** implies the capacity to perform a particular activity in a reliable and at least minimally satisfactory manner.	. Capability has an intended and specific purpose . Aims to do or to carry out the activity . Enables the repeated and reliable performance of an activity	
	Operational capabilities are those that enable a firm to make a living in the present	. Operational and dynamic capabilities are hard to distinguish due to continuous change. Sometimes they can be used for both operational and dynamic purposes	. Operational capabilities enable firms to perform an activity on an on-going basis using more or less the same techniques on the same scale to support existing products and services for the same customer population.
	Dynamic capability is one that enables a firm to alter how it currently makes its living		. Dynamic capabilities alter the current resource base of the organisation, or features of the external environment or ecosystem.

Table 2.3 (Cont'd)

Author	Definitions/conceptualisation	Attributes	Contribution to wealth creation
Eisenhardt & Martin (2000)	**Dynamic capabilities** are the organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.	. Commonalities in key features, idiosyncrasy in details . Valuable: enable firms to implement strategies for better efficiency . May be rare or at least not possessed by all competitors equally . The routines are more substitutable.	. Can be a source of competitive advantage but not a source of sustained competitive advantage . Dynamic capabilities drive firm performance by refreshing/ reshaping firm resource bases.
Teece (2014)	**Ordinary capabilities** involve the performance of administrative, operational, and governance-related functions that are (technically) necessary to accomplish tasks.	. Doing things right: to obtain technical efficiency in business functions . Task-oriented in three areas: administration, operations, and governance . Embedded in some combination of 1) skilled personnel, 2) facilities and equipment, 3) processes and routines, 4) administrative coordination . Can be bought through consultation or training . Relatively inimitable	. Can be sufficient for competitive advantage when they equate to best practices in a weak competitive environment
	Dynamic capability involve higher-level activities that can enable an enterprise to direct its ordinary activities toward high-payoff endeavours.	. Doing right things: to achieve congruence with customer needs and with technological and business opportunities . About adapting, orchestrating, and innovating . Inimitable	. Allow value creation by developing and producing differentiated products and services that address new and existing markets where demand is robust. . Need to be combined with idiosyncratic resources to be consistent with the firm's strategy

Table 2.3 (Cont'd)

Author	Definitions/conceptualisation	Attributes	Contribution to wealth creation
Warnier et al (2013)	A **strategic resource** is a rare resource on the market, generally perceived as positive in terms of performance, i.e. with an expected level of productivity that is greater than its cost (acquisition or development). Such a resource is considered a potential source of rents.	. Heterogeneous . Rare on the market . Generally perceived as positive in terms of performance . Internally developed or acquired from the factor market	. Possession of strategic resources is not explanatory for firm performance. . Value creation depends on how profitable firms make use of these resources. . Need to be combined or be supported by ordinary resources
	An **ordinary resource** is a common resource on the market, generally perceived as neutral in terms of performance, i.e. with an expected level of productivity equivalent to its cost (acquisition or development). Such a resource is considered, at best, as ensuring competitive parity.	. Available on the factor market: widely used and relatively available to most firms . Standardised resources, considered to ensure competitive parity	. Ordinary resources are considered the basis of firm performance and required for firms to function properly and to achieve competitive parity.
	A **junk resource** is a resource overlooked or ignored by firms, generally perceived as negative in terms of performance, i.e. with an expected level of productivity lower to its cost (acquisition or development). Such resources are considered a source of costs or as value destroying by the firm that possesses them.	. Often perceived as negative in terms of rent generation . Widely available on the factor market and most likely can be purchased at low prices	. Their value depends on an entrepreneur's perception of their potential value.

involvement, and interaction of productive resources and capabilities (Teece, 2014; Zahra et al., 2006). The value of dynamic capabilities resides in their ability to build, renew, and protect resources for the implementation of long-run wealth creation strategies (Helfat & Peteraf, 2003). When tied up in poor strategies, a strong dynamic capability can become worthless (Hoffman, 2004). Therefore, when investigating dynamic capabilities, it is important to examine how they are combined with strategy, resources, and capabilities to explain desirable outcomes (Adner & Helfat, 2003).

2.2.2.2 Empirical Evidence from the Resource-Based Literature

Newbert (2007) points out that the investigation of how firms combine strategy and internal factors like resources and capabilities is a major approach employed to find support for RBT. Following this direction, research intention generally aims at investigating how resources and capabilities are effectively exploited for firm performance. The approach adopted in this research is based on a review of the literature that highlights five key observations.

Firstly, resources can be **developed internally or acquired from the external environment**. The development of internal factors often relates to capabilities, which mainly result from entrepreneurship. Zahra et al. (2006) argue that entrepreneurial orientation leads to organisation learning, which in turn enhances the strategic and ordinary capabilities of the firm. This process would require firms to promote dynamic capabilities in order to capture the benefits of the entrepreneurial strategy. Lisboa, Skarmeas, and Lages (2011) survey 254 Portuguese exporters and find that entrepreneurial orientation influences the development of firm capabilities in exploiting current markets or products, as well as capabilities in exploring new markets. Likewise, Simsek and Heavey (2011) study 125 Irish firms and find that corporate entrepreneurship leads to an increase in capabilities residing in human- and social-capital. Evidence for the development of the firm resource base by promoting firm dynamic capability is also substantiated in a study by Wu, Chen, and Jiao (2016). The authors investigate 179 Chinese manufacturing firms and find that firm efforts of international diversification help to increase firm innovation performance through the two dynamic capabilities of firm opportunity-recognizing capability and opportunity-capitalizing capability.

On the other hand, the external environment provides opportunities to increase both resources and capabilities. Literature shows that resources are available for purchase in the market (Amit & Schoemaker, 1993) or can be acquired through interfirm networks. For example, Fernhaber et al. (2009) study 206 young firms and find that new ventures obtain useful information from alliances, venture capital firms, or other firms in the same geographical cluster to generate sales in international markets. Meanwhile, Kreiser (2011) states that a combination of entrepreneurship and network participation strategies would stimulate organisational mechanisms to broaden firm knowledge base. Similarly, Brouthers, Nakos, and Dimitratos (2015) study 162 small and medium-sized firms in the US and UK and show that resource-deficient firms can obtain and exploit capabilities from external partners to reap the benefits of the entrepreneurial attitude of their top management team.

Secondly, firms often combine **different sets of resources and capabilities** to generate value. For example, from a survey of 176 Chinese export ventures, Zou et al (2003) indicate that the cost-leadership advantage and brand advantage of these ventures are built upon different sets of resources and capabilities. The former is enhanced by distribution and communication capabilities, while the latter is enhanced by both distribution and product development capabilities. This result shows that the same capability can be deployed for various configurations to enhance different competitive advantages. Furthermore, the existing literature also indicates that capabilities are more critical than resources as a source of sustainable competitiveness (Newbert, 2007; Teece, 2014). In a study of technology ventures, Gruber, Heinemann, Brettel, and Hungeling (2010) reveal that firms can follow different paths to achieve the same results for rent extraction. Two ventures that possess different resource configurations but have the same high level of capabilities can both enjoy superior performance. However, prior study also reveals that the combination of resources and their related capabilities requires a balance of both resources and capabilities. Specifically, O'Cass and Sok (2014) examine 171 small and medium-sized firms and find that firm growth is influenced by high levels of both intellectual resources and product innovation capability in addition to the combination of reputational resources and a high level of marketing capability. The authors show that unbalanced combinations of a low level of resource endowment

and a high level of capability or vice versa are not associated with growth. This evidence shows that firms can combine sets of resources and capabilities to achieved desired ends. Moreover, when a resource is utilised, it is important to develop its corresponding capability.

Thirdly, **firms are observed to adopt various practices** to benefit from resources and capabilities under their control. In general, three strategies are observed from the literature. The first is to enhance the resource base. With this practice, firms can either invest in tangible resources to create a strong foundation for capabilities to function (Zhu, 2004) or promote organisational capabilities to combine multiple resources dispersed throughout the firm (Chirico, Sirmon, Sciascia, & Mazzola, 2011; Sirén et al., 2012). The second way is to implement a strategy to deploy the existing resources and capabilities. For example, Richard, McMillan, Chadwick, and Dwyer (2003) disclose that banks in the US can leverage their diverse human capital resources with an innovation strategy. In other studies, Wiklund and Shepherd (2003) and Young, Sapienza, and Baumer (2003) also explain how firms can enhance the value of their staff knowledge from entrepreneurship and relationship flexibility. Likewise, Chandler and Hanks (1994) show that manufacturing start-ups promote a quality strategy to enhance the contribution of quality resources on firm performance. The third way is to invest in resources or develop capabilities to support the implementation of the organisational strategy. A study by Sirén et al. (2012), for example, also reveals that when pursuing different strategic directions, it is vital that complementary capabilities be developed to reduce strategic ambiguity, and support knowledge sharing across firm boundaries. In a similar vein, other research has indicated that firms often invest in intangible resources (Messersmith & Wales, 2013), capability (Fernandez-Mesa & Alegre, 2015), or dynamic capability (Engelen et al., 2014) to realise the benefits of strategy, especially in pursuing entrepreneurship.

Fourthly, as the **theory is centred on the internal environment**, the contribution of the resource base on firm performance is mainly influenced by internal factors. The first internal factor is existing firm resources or capabilities. Current resources or capabilities have been consistently found to enhance the contribution of other factors under firm control. For instance, Zhu (2004) shows that firms can increase the value of their e-

commerce capability by making more investment in IT infrastructure. In another study, Chirico et al. (2011) indicate that higher capability to combine multiple resources within firm boundaries enhances the contribution of these resources to the performance of family firms. Besides, Hitt, Bierman, Shimizu, and Kochhar (2001a) point out that the better the resources a firm possesses, the more effective the strategy used to leverage that those resources can be. Among existing resources and capabilities, firm absorptive capacity has been frequently documented as a critical factor for recognizing the performance effect of firm strategy and firm resource base. For example, Engelen et al. (2014) identify that firms with a higher level of absorptive capacity can increase gains from entrepreneurial practices. Similarly, He and Wei (2013) find that the developing firm capability to acquire external knowledge is beneficial to translate external resources to economic gains.

The second internal factor that has been found to influence the contribution of firm resources is firm strategy. This finding is consistent with suggestions from the theoretical standpoint that utilisation is more critical than resource ownership (Barney, 1995; Teece, 2014; Warnier et al., 2013). Notable examples are documented by Wiklund and Shepherd (2003) , Richard et al. (2003); Richard (2000), and Chandler and Hanks (1994), who show that entrepreneurial orientation, growth strategy, innovation strategy, or quality strategy all positively enhance the value of knowledge-based or quality resources, whereas a downsizing strategy can reduce the contribution of intangible resources (Richard, 2000).

Thirdly, in response to Coff's (2010) postulation that high bargaining stakeholders are inclined and able to extract unwarranted rent, mechanisms to prevent such value erosion are identified as other internal factors to impact the contribution of top management team toward firm performance. Specifically, Walters, Le, and Kroll (2015), using 2.421 firm-year data over 6 years, find that top management team empowerment leads to higher possibility of rent extraction by powerful stakeholders. In order to redirect value gains, firms develop mechanisms such as maintaining founders or employing industry experts in the board of management.

In addition, the contribution of firm internal resources to performance has also been found to be influenced by several external factors. For example, Engelen et al. (2014)

study 219 small and medium-sized firms in Germany and reveal that the value of dynamic capabilities is greater in a turbulent environment as market turbulence enhances the combined effect of entrepreneurial orientation and absorptive capacity on firm performance. Similarly, other factors such as environmental munificence (Cao, Gedajlovic, & Zhang, 2009), environmental hostility (Wang & Ang, 2004), and market attractiveness (Chandler & Hanks, 1994) have also been found to have the same effect.

Finally, **external resources** have also been found to enrich the firm resource base and to facilitate organising efforts for value creation purposes. First, external resources help firms increase their knowledge base. As previously mentioned, Fernhaber et al. (2009) find that information from business partners or the business community is critical for new ventures to improve their international sales. Similarly, Kreiser (2011) argues that external networks complement entrepreneurship in enhancing firm learning capability and knowledge resources. The second strength of external resources is that they can allow firms to expand into markets quickly. For example, He and Wei (2013) find that partnering with foreign firms enables Chinese exporters to reach distant markets otherwise not available to them. A third advantage of external resources is that, when complementary, they can enhance the value of resource-deficient firms' strategies as evidenced in a study by Brouthers et al. (2015). These authors show that engaging in alliances with partners who have compatible capabilities can help firms maximise the value of their entrepreneurial practices. Similarly, resources attained from networks can complement internal resources and contribute to firm market performance (Andersson, Forsgren, & Holm, 2002; Gulati, Lavie, & Singh, 2009) and innovation (Howard, Steensma, Lyles, & Dhanaraj, 2016). In terms of the benefits of network resources, scholars (Arya & Lin, 2007) have emphasised the need to consider resources available to firms from other partners. This has given way to the extended RBT, which is applied in particular to firms engaged in interfirm networks.

The literature has revealed that network resources are generally beneficial to firm performance and various strategies have been employed to make use of these network resources. From observations of strategic alliances, Das and Teng (2000) point out that access to the strategic resources of other organisations is the core reason for interfirm partnership, where members develop alliance mechanisms and governance structures

to exploit and protect desired resources. Gulati, Lavie, and Madhavan (2011) add that aside from accessibility to the potential value of resources controlled by partners, the utilisation of those resources is also important. Empirical findings for this view are substantiated by the study of Casanueva, Gallego, Castro, and Sancho (2014), who investigate 135 US airline firms and reveal that access to partner resources only generates returns in combination with the ability to both mobilise and deploy those resources. Therefore, in order to make use of external resources, firms have been found to focus on managing interfirm relationships such as collaborating with partners (Cao & Zhang, 2011), promoting socialisation mechanisms to enhance comprehension and speed of knowledge transfer from partners (Khan, Shenkar, & Lew, 2015), or investing in tangible resources to lay a foundation for dyadic collaboration (Chang, Chen, & Huang, 2015). Besides, they can also develop their absorptive capacity to increase their ability to learn from the outside partner (He & Wei, 2013) or establish mechanisms to incorporate external sources into their existing resource base (Minbaeva et al., 2014; Zahra & George, 2002).

However, it is also documented that the application of RBT in a network setting is limited. Research has pointed out that increasing shared resources in interfirm linkages does not always translate to greater value for firms with less power who participate in the network. For example, Miguel et al. (2014) study 166 buyers and suppliers in the Brazilian food and beverage industry and find that buyers can appropriate a larger share in the value created by both parties. In the same line, Kim and Wemmerloev (2015) study 118 Taiwanese supplying firms and find that suppliers' financial performance cannot improve even if they increase the resources they contribute to network activities. Lavie (2006) argues that the network setting inhibits the explanatory power of the traditional RBT. To enhance its prediction in interfirm linkages, the theory should be combined with a relational perspective to explain firm value accrual.

Prior research adopting RBT indicates that, when participating in interfirm relationships, resource poor firms such as small firms, new ventures, or manufacturing suppliers in vertical relationships often have relatively low relative bargaining power and are led or dominated by their alliance partners (Alvarez & Barney, 2001; Gereffi et al., 2005). This dominancy allows the more powerful partner not only to shape the network activities

(Kim & Wemmerloev, 2015) but also to control the complementary resources necessary for the productive activities of the focal firm (Kelley & Nakosteen, 2005). Moreover, this dominancy results in power imbalance networks where sustainable growth of the weaker firm can be endangered due to the possibility of being heavily exploited by the powerful counterpart (Alvarez & Barney, 2001). Consequently, this issue leads to the research problem of why and how a weaker firm in a power asymmetric network can achieve sustainability along with its network participation while others do not.

Similar to insights from RDT, prior research in RBT has recognised the unfavourable position of power-disadvantaged firms in unbalanced networks. Various forms of asymmetric interfirm linkages have been noted in the RBT literature. Examples are manufacturers – suppliers (Modi & Mabert, 2007), multinational enterprises - subsidiaries (Gupta & Govindarajan, 2000; Lane et al., 2001), service providers – large clients (Lahiri & Kedia, 2009; Raman et al., 2013), small firms – larger alliance partners (Alvarez & Barney, 2001; Vandaie & Zaheer, 2014), buyers – suppliers in domestic or global supply chains (Kim & Wemmerloev, 2015; Li & Ogunmokun, 2001b), young firms – venture capitalists (Alexy et al., 2013; Hallen & Eisenhardt, 2012).

Members of alliance networks can enjoy a number of benefits such as access to new markets (Hitt, Dacin, Levitas, Arregle, & Borza, 2000), sharing risks and costs (Eisenhardt & Schoonhoven, 1996), enhancing legitimacy (Lin & Darnall, 2015), obtaining public recognition (Baum, Calabrese, & Silverman, 2000), or accessing desired resources controlled by other organisations (Das & Teng, 2000). Such alliances and networks drive organisations into interfirm relationships involving suppliers, customers, competitors, or other entities (Gulati et al., 2000); various forms of which include both shared ownership and non-equity structures such as joint ventures or contractual arrangements. These interfirm linkages can involve large productive activities like product development, production, marketing, and promotion, or other arrangements such as licensing agreements, industry associations, government agencies, interest groups, research universities and labs. However, these benefits may not be fully realised in the case of PDFs because the low bargaining power position inhibits their ability to appropriate value created from interfirm activities (Lavie, 2006).

Table 2.4 summarises major strategies employed by PDFs in attempts to protect themselves from interaction with powerful partners as well as to improve their performance in the network. The first tactic is to strengthen their relational capital (Alvarez & Barney, 2001; Lahiri & Kedia, 2009; Perez & Cambra-Fierro, 2015; Prashantham & Birkinshaw, 2008) by enhancing affective-based cooperation such as trust, commitment, and partnership quality. The second way is not to rely on the initial resources and to keep adding new resources into the ongoing relationship. For example, Kelley and Nakosteen (2005) find that the long-term performance of high-tech firms depends largely on their follow-up actions to strengthen their technological resource base. Similarly, Kalaignanam, Shankar, and Varadarajan (2007) show that small firms can benefit more from their continuous innovation when partnering with larger firms. Improvement of firm human capital, organisational capital, and management capability valued by powerful partners is found to contribute to firm performance (Lahiri & Kedia, 2009). However, Kim and Wemmerloev (2015) reveal that adding new value into the relationship by enhancing operational competence to meet the powerful buyer's expectations does not help suppliers increase their value extraction in the network.

Another strategy that has been found to be crucial for PDFs across a number of studies is to increase their learning rate and take advantage of the network by learning from partners to enhance their knowledge base (Bruneel et al., 2010; Fischer & Reuber, 2004; Yang, Zheng, & Zaheer, 2015; Yli-Renko et al., 2001). Finally, the last action is to extend beyond the network boundary. An example can be seen from the study by Prashantham and Birkinshaw (2008), who find that managers from small firms can deploy relational capital derived from personal networks with individual managers from their multi-national partners to expand market scope. Likewise, Fischer and Reuber (2004) suggest that firms should diversify their customer base when being dominated to broaden their markets. However, small firms should take caution in partner diversification because different types of alliances can have different impacts on their growth (Yang, Zheng, & Zhao, 2014; Yu, Gilbert, & Oviatt, 2011).

The strategy of **strengthening the firm's internal resource** base seems to be the most critical as it has been observed that PDFs often combine this strategy with other strategies of enhancement of relational capital, partner diversification, and network

extension. The enhancement of the internal resource base often relates to knowledge resources.

For example, Perez and Cambra-Fierro (2015) interview three asymmetric alliances and show that PDFs can have better opportunities to create value in network participation by improving their supply chain management capability, a capability to function in the network environment. Similarly, Lahiri and Kedia (2009) study 105 Indian service providers and find that their human capital, organisational capital, and management capability valued by the clients positively contribute to the performance of the service providers. The positive effects of these factors can further increase when combined with an improved partnership quality between providers and their international clients. In another study, Prashantham and Birkinshaw (2008) use qualitative data to show that strengthening the capability to offer knowledge-based resources valued by powerful partners could help small firms attract more attention and obtain greater support from them.

Apart from the capability needed for interfirm linkages, firm capability, which is more aligned to the RBT view of strategic resources, has also been suggested to be critical for the case of PDFs. For example, Kelley and Nakosteen (2005) point out that technology-based firms need to enhance their capability to generate new innovation to have sustainable growth in alliances with larger partners. In another study, Yli-Renko et al. (2001) show that young technology firms can enhance their performance by improving capability to learn from external partners.

These findings confirm Alverez and Barney's (2001) suggestions that resource-poor firms need to improve their market-based capability to learn from their partners as well as to enhance their capability to add more value into ongoing network exchanges to reap the benefits of their alliances with larger firms. These observations from the literature highlight the need for PDFs to improve their firm capability, which is a strategic resource in line with RBT. However, this review of the literature also indicates that little is known about how PDFs in this context improve their capability or the effect of their capability on their performance in the asymmetric network.

Table 2.4 Strategies of PDFs in RBT Literature

Authors	Study objective(s)	Methodology	Key findings/ideas
Alverez & Barney (2001)	To describe the conditions under which the value created by alliances will be appropriated by large firms, and to describe actions that entrepreneurial firms can take to appropriate more of the value created by these alliances	Conceptual paper	. Long-term success of entrepreneurial firms can suffer from their alliances with large firms. While alliances often create economic value, most of this value is appropriated by the large firm. . While entrepreneurial firms have incentive to communicate and transfer their knowledge, it is difficult for them to imitate a large firm's organisational resources and capabilities. . Strategies for entrepreneurial firms: - Going it alone - Slowing the large firm's rate of learning - Using detailed and elaborate contracts to define the alliance relationship - Building a relationship of trust - Bringing other resources to the alliance besides a single technology
Lahiri & Kedia (2009)	To investigate how service providers' internal resources valued by clients impact the performance of service providers. To examine the influence of partnership quality that helps providers realise the value of their internal resources.	Sample of 105 Indian service providers	. Service providers' human capital, organisational capital, and management capability positively impact their performance. . Partnership quality enhances the contribution of service providers' human capital, organisational capital, and management capability to firm performance.
Perez & Cambra-Fierro (2015)	To examine the role of supply chain management capabilities in the context of asymmetric alliances	Case studies of three asymmetric alliances in the Spanish computer software industry	. Resource complementarity results in the need for firms to **learn and work** in alliances, not a desire for symmetry. . It is important for smaller firms to enhance **collaboration**, specialisation through relation-specific investments, flexibility and understanding the overall value system in which their relationships compete.

Table 2.4 (Cont'd)

Authors	**Study objective(s)**	**Methodology**	**Key findings/ideas**
Prashantham & Birkinshaw (2008)	To investigate how small enterprises globalise through partnership with local MNC subsidiaries	Interviews with more than 15 companies and a survey of over 100 managers	. Small enterprises should consider critical actions in engaging with MNCs in three main steps: 1. Forming: creating links to MNCs through local allies or building commitment by using the MNC's strength against it 2. Consolidating: building options for growth or enhancing knowledge transfer to reduce vulnerability 3. Extending: utilising the MNC's network to enhance scale and reach or being flexible in strategic directions for future growth
Kelley & Nakosteen (2005)	To examine the relationship between technology resources, alliance formation, and sustained growth in new technology-based firms	Analysis of 67 computer and telecommunication firms	. New firms cannot rely on their initial innovations for long-term growth and need to undertake follow-up actions to build their technology resource foundations. . Technology resources were linked to alliance formation. However, alliances were weakly and negatively associated with sustained growth.
Kalaignanam et al. (2007)	To examine changes in the shareholder values of partner firms in new product development in asymmetric alliances	Data of 167 asymmetric alliances in the information technology and communication industries	. Both partners had short-term financial gains. . Value gains distribution varies according to alliance partners, and firm characteristics. . Specifically, a broad scope enhances value gains for larger firms while R&D alliances enhance value gains for small firms. . Partner alliance experience enhanced value gains for larger firms but had no effect on smaller firms. . Partner innovativeness enhanced value gains for larger firms but partner reputation was unrelated to financial gains for the smaller firm. . Smaller firms benefitted more from their own alliance experience.

Table 2.4 (Cont'd)

Authors	**Study objective(s)**	**Methodology**	**Key findings/ideas**
Kim & Wemmerlöv (2015)	To investigate how a supplier's operational competence shapes dependency and translates into financial gains	Survey of 158 suppliers in the US manufacturing industry	. The powerful party leads interfirm cooperative behaviour. . Increasing operational competence to meet the powerful party requirements does not ensure an increase in value captured.
Bruneel et al. (2010)	To examine how young firms can accumulate the knowledge and skills required for successful international expansion	Survey of 114 young, technology-based firms in Belgium	. Young firms' experiential learning negatively moderated the link between the start-up team's prior international knowledge base and the knowledge and skills acquired through key partners. . Newness can be an advantage for young firms in learning.
Fischer & Reuber (2004)	To investigate antecedents and consequences of relationships between young firms and their dominating partners	In-depth interviews with CEOs of 27 ventures	. There are three types of dominance: dominance over innovation, dominance over selling and order filling capacity, and dominance over total sales. Dominance type is shaped by characteristics of product and purchase processes and requires different tactics for young firms to deal with the dominant firm. . Dominance over innovation: **increasing learning** from customers . Dominance over selling and order filling capacity: **shortening** the length of the **sales cycle**, developing **embedded relationships** with the dominant customers . Dominance total sales: increasing the size and **diversity of the customer base**, creating incentives to increase repeat purchases, and enforcing formal agreements
Yang et al. (2015)	To examine the impact of the relative learning rate between alliance partners and the moderating impact of equity alliance governance and market similarity on this link	Database of 610 R&D alliances in the US computing and biopharmaceutical industries from 1984-2003	. Firms with a greater rate of learning can achieve better performance. . Equity alliance governance reduces the positive impact, while market similarity between partners strengthens the positive impact of the specific learning capability gap.

Table 2.4 (Cont'd)

Authors	**Study objective(s)**	**Methodology**	**Key findings/ideas**
Yli-Renko et al. (2001)	To examine how knowledge acquired from key customer relationships mediates in the linkage of social capital and knowledge exploitation for competitive advantage in the context of young firms.	Survey of 180 US entrepreneurial high-technology ventures	. Social capital facilitates external knowledge acquisition in key customer relationships. . **Acquired knowledge** mediates the relationship between social capital and knowledge exploitation for competitive advantage.
Yu et al. (2011)	To examine the role of networks in accelerating new venture sales into foreign markets.	Longitudinal dataset of 118 ventures in the US biotechnology industry	. **Marketing alliances** are better than technological alliances at enabling new ventures to expand into markets because technological alliances are hindered by greater uncertainty and by the complexity of their technological knowledge. . **More ties in a technological alliance** inhibit the initiation of venture's foreign sales, whereas marketing alliances promote the process.
Yang et al. (2014)	To investigate how small firms manage their alliance strategies with large firms	Database of US bio-pharmaceutical industry from 1984-2006	. Small firms can generate higher value from **exploitation alliances** than from exploration alliances with larger firms. . Small firms can generate more value from exploration alliances with **proper alliance governance**, such as equity structure or relational governance

This thesis employs the term competitive capability to refer to this type of firm strategic resource because it is considered a market-based superior productive factor enabling the firm to compete in the market (Peteraf, 1993). The term "competitive" is chosen to emphasise the market-based nature of the capability of interest. The existing literature has mainly focused on development of the capability necessary for operations in interfirm linkages (Kim & Wemmerloev, 2015; Lahiri & Kedia, 2009). The development of competitive capability for PDFs has not been adequately explored.

Apart from the strategy of strengthening firm internal resources, a review of the RBT literature also highlights two other strategies employed by PDFs. The practice of focusing on existing relationships where firms strengthen their network activities (Kim & Wemmerloev, 2015; Lahiri & Kedia, 2009) reflects a strategy focusing on exploiting the current competitive advantage of a focal firm valued by its partners. On the other hand, the strategy of partner diversification and network extension (Fischer & Reuber, 2004; Prashantham & Birkinshaw, 2008) entails opportunity-seeking behaviour where firms explore new sources of future rents. While these practices are investigated in different studies, the dual adoption of these two strategies has been suggested in the literature. This strategic duality reflects the practices of strategic entrepreneurship that have been deemed necessary as a means for achieving organisation sustainability (Ireland et al., 2001).

2.3 The Theoretical Framework

In strategic management, the idea that firms simultaneously pursue strategic and entrepreneurial behaviours has, since the early 2000s, formed an interesting research direction (Hitt et al., 2011). Although entrepreneurial activities have long been recognised to be important in strategic management (Barringer & Bluedorn, 1999; Burgelman, 1983), the integration of strategy and entrepreneurship literatures only emerged in 2001 when Hitt et al. (2001b) argued that these two branches were intertwined to promote the firm's long-term competitiveness.

Strategic actions involve competition-based activities to exploit current capabilities and knowledge, whereas entrepreneurship is driven by risk-taking activities to explore new competences and opportunities. A stream of research (Gibson & Birkinshaw, 2004; Hitt et al., 2001b; Hitt et al., 2011; Ireland et al., 2003; Ketchen, Ireland, & Snow, 2007;

Kuratko & Audretsch, 2009; Kuratko, Ireland, Covin, & Hornsby, 2005; Raisch, Birkinshaw, Probst, & Tushman, 2009) has put forward that wealth creation on a continuous basis cannot depend on either entrepreneurship or strategy. Their reasoning is that firms that have a competitive advantage but do not attempt to search for new opportunities would fall into the exploitation trap and face a risk of diminishing returns when markets change. Likewise, firms that can identify opportunities but cannot turn them into competitive advantages would fall into the exploration trap and not realise potential earnings, thereby failing to create adequate returns for stockholders. Therefore, relying on either strategy or entrepreneurship is insufficient for a firm's wealth creation. It is vital that firms implement entrepreneurial actions that are centred on the creation of future competitive advantage to avoid exploitation and exploration traps (Sirén et al., 2012; Uotila, Maula, Keil, & Zahra, 2009). Research in the strategic entrepreneurship domain has revealed that simultaneously adopting exploitative and exploratory behaviours benefits firm performance (Mihalache et al., 2014; Shirokova, Vega, & Sokolova, 2013). Furthermore, this duality can help firms transform themselves in terms of product offerings, the market they serve, and their resource base (Cucculelli & Bettinelli, 2015; Kuratko et al., 2015; Madhok & Keyhani, 2012; Simsek & Heavey, 2011).

However, the implementation of these strategies is often associated with various challenges. A notable difficulty is the ambiguity in strategic directions and complexity in processes to recognise and implement opportunities in established organisations (Bloodgood, Hornsby, Burkemper, & Sarooghi, 2015). Therefore, in order to reap the benefit of exploitation and exploration strategies, investments into capability to enhance understanding of firm strategies across all levels of the organisation (Sirén et al., 2012). Besides, in many cases, the success of exploration activities requires additional resources in the environment that are under the control of another entity. For example, Giarratana and Torrisi (2010) show that survival upon entering into the international market largely depends on network capital embedded in interfirm linkages established between foreign firms and their local partners. Similarly, He and Wei (2013) reveal that firms from emerging countries significantly rely on network resources to be able to reach the global marketplace. Bruneel et al. (2010) also point out that firms seek

other sources of knowledge through interfirm ties to compensate for their inexperience in exploratory activities. Therefore, firms need to increase their involvement with the external environment when practicing exploration strategy. Nevertheless, interaction with the external environment does not guarantee the benefits of exploration strategy. Further alignment of internal systems and resources for exploration strategies needs to be in place to realise the value of opportunities (Knudsen & Lien, 2015; Messersmith & Wales, 2013; Wright, Clarysse, & Mosey, 2012). As a consequence, dealing with heterogeneity in firm structures and processes as a result of the different systems and resources needed for the two strategic directions (Wales, Monsen, & McKelvie, 2011) can be challenging for the firm.

Considering the case of PDFs, this study aims to examine how firms transform the simultaneous use of exploitation and exploration strategies to enhance performance. To PDFs, the feasibility of pursuing exploitation and exploration strategies at the same time can be more challenging largely due to two shortcomings of being on the weaker side. First, because PDFs are driven by their powerful counterparts to make investments in relationship-specific activities (Ebers & Semrau, 2015), these relational investments can consume a large portion of their resource base (Hoejmose et al., 2013b) so the remaining resources may not be sufficient for them to undertake a new strategic plan. Second, in the case where value gained from a network comes from interacting with a dominant party, the weaker firm is likely to fear disapproval and is more inclined to follow the direction shaped by the dominant party to retain its major sources of value (Clemente & Roulet, 2015). As a consequence, PDFs can be reluctant to undertake explorative strategies for their future sustainability without the approval of the dominant firm. This finding suggests a strong connection between exploitation strategy and exploration strategy. However, the linkage between exploitation strategy and exploration strategy has not been adequately studied, even though its existence has been mentioned in management research (Bierly & Daly, 2007; Birkinshaw & Gupta, 2013; Probst & Raisch, 2005). Findings on the influence of exploitation strategy on exploration strategy have been mixed in prior studies (Bierly & Daly, 2007; Piao & Zajac, 2015). As a result, investigating drivers of PDFs' exploration strategies can be beneficial to our current understanding of how these two different directions can coexist.

Furthermore, from the RBT stand point, strategy reflects a firm's organising efforts by which it utilises internal resources to create value. The literature indicates that firms implement strategies to leverage value from existing resources (Hitt et al., 2001a; Richard et al., 2003; Wiklund & Shepherd, 2003; Young et al., 2003). Similarly, strategy shapes the development and augmentation of the resource base (Messersmith & Wales, 2013; Wang & Ang, 2004). When firms pursue the two strategic directions of exploitation and exploration, their internal resources can be developed in different ways in accordance with the driving strategies. For example, He and Wong (2004) show that exploitation activities motivate process innovation in ongoing operations, while exploration activities encourage the creation of a new knowledge base resulting in product innovation. Likewise, O'Cass et al. (2014) also find that these two strategies enhance innovation in different areas, which in turn strengthens firms' cost-based advantages and differentiation advantages of their product offerings. Therefore, it is likely that the effect of exploitation and exploration strategies on firm competitive capability may not be the same. However, there is a dearth of research on the impact of these two strategies on firm competitive capability in the mainstream management literature (Simsek et al., 2009a).

It has been revealed that adopting exploitative and exploratory behaviours helps small firms achieve sustainability in their alliances with larger partners (Zimmermann, Raisch, & Birkinshaw, 2015). In addition, capability has also been pointed out as a critical factor for PDFs in maintaining their importance to the powerful party (Hill & Birkinshaw, 2014; Lahiri & Kedia, 2009). Although the literature suggests the need for PDFs to improve their competitive capability while participating in interfirm networks (Kelley & Nakosteen, 2005; Prashantham & Birkinshaw, 2008), little is known about the role of competitive capability in PDFs' implementation of exploitation and exploration strategies for better performance in the network (Simsek et al., 2009a). Therefore, the setting of PDFs in asymmetric networks provides a potential context for examining the impact of exploitation and exploration strategies on performance through firm competitive capability.

In addition, as discussed in section 2.2.2.2, insights from RBT show that absorptive capacity as a firm dynamic capability to learn new knowledge and to combine existing

external and internal knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002) is a critical factor for resource-poor firms seeking to reap the benefits of network resources (He & Wei, 2013) and to extract more network value (Lavie, 2006). While it is proposed that absorptive capacity influences both a firm's commercial output and its operational knowledge base (Lane et al., 2006), the literature has long focused on the innovation and performance impact of this construct (Volberda et al., 2009). Although the empirical evidence remains scant, it is suggested that absorptive capacity encourages the incorporation and routinisation of absorbed knowledge to firm operational processes to achieve strategic objectives (Chadwick & Raver, 2015; Martinkenaite & Breunig, 2016). Examining this effect helps to extend the current literature on other outcomes of absorptive capacity besides innovation and performance.

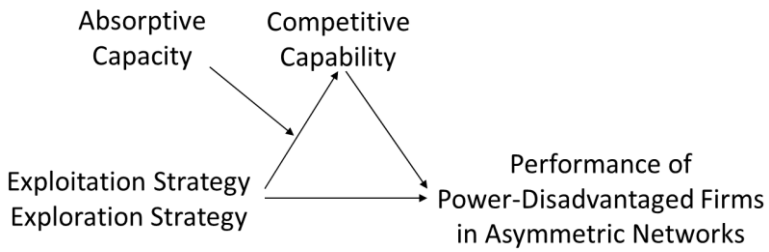
Absorptive capacity has been found to complement the effect of strategy on firm performance and innovativeness (Engelen et al., 2014; Rothaermel & Alexandre, 2009). This effect is probably due to the costly nature of absorptive capacity, which guides firms' search for knowledge related to the business activities needed for carrying out its strategic plans (Wales, Parida, & Patel, 2013). For the same reason, it is likely that absorptive capacity also complements the effect of strategy on firm competitive capability. Literature has indicated that information and know-how that is useful to a firm's strategy can be incorporated into its existing knowledge base, whereas other knowledge is likely to be rejected (Chadwick & Raver, 2015; Keh et al., 2007; Lewin et al., 2011; Liao et al., 2007; Martinkenaite & Breunig, 2016; Zahra et al., 2006). Therefore, absorptive capacity can possibly reinforce the effect of firm strategy on competitive capability. However, there is a lack of empirical evidence on this complementary effect.

Recognising these gaps, the current study additionally proposes that absorptive capacity affects how the dual practice of exploitation and exploration strategies influences the development of the competitive capability of the weaker firm in an asymmetric network. Since the two strategies can direct resource allocation and utilisation in different ways (He & Wong, 2004; O'Cass et al., 2014), the tension between exploitation and exploration strategies (Hitt et al., 2001b) can provide an interesting basis for examining the additional effect of absorptive capacity.

As a consequence, the context of PDFs in the asymmetric network setting yields a potential research opportunity for extending our understanding of the dual practice of exploitation and exploration strategy in three ways. First, it provides a new boundary for examining the effect of this strategic duality on firm performance. Second, it provides another boundary for investigating the effect of this strategic duality on firm resource configuration, particularly on the development of firm capability. Finally, it offers a potential research setting for testing the interaction effect of strategy and absorptive capacity on firm competitive capability.

Taking this opportunity, this research aims to examine how the dual practice of exploitation and exploration strategies can help PDFs achieve sustainability along with their participation in power asymmetric networks. Figure 2.1 displays the theoretical framework guiding the research inquiry of the current study.

Figure 2.1 The Theoretical Framework



In line with RDT, this study proposes that an asymmetric network forces PDFs to undertake dependence restructuring plans to manage uncertainty and strive for autonomy. Because these plans are not in line with the benefits of the powerful party in the alliance, PDFs need to implement them on their own. As the ultimate goal of dependence minimisation is to enhance performance (Drees & Heugens, 2013), this study suggests that focusing on strengthening the firm's strategic resources can provide a practical answer for the performance of PDFs.

To this end, the study adopts the process perspective of RBT and proposes that the performance of PDFs in a network is driven by the development and reconfiguration of the firm's strategic resources. In line with insights from RBT that suggest that firm strategic resources often reside in the firm's internal capability, the study proposes that the practice of exploration strategy drives PDFs' resource transformation and helps them develop internal capability, which subsequently enhances their performance in the network. Furthermore, taking the dynamic capability perspective of absorptive capacity, the study also puts forward that absorptive capacity aligns with firms' strategic directions and reinforces the effect of exploitation and exploration strategies on firm competitive capability.

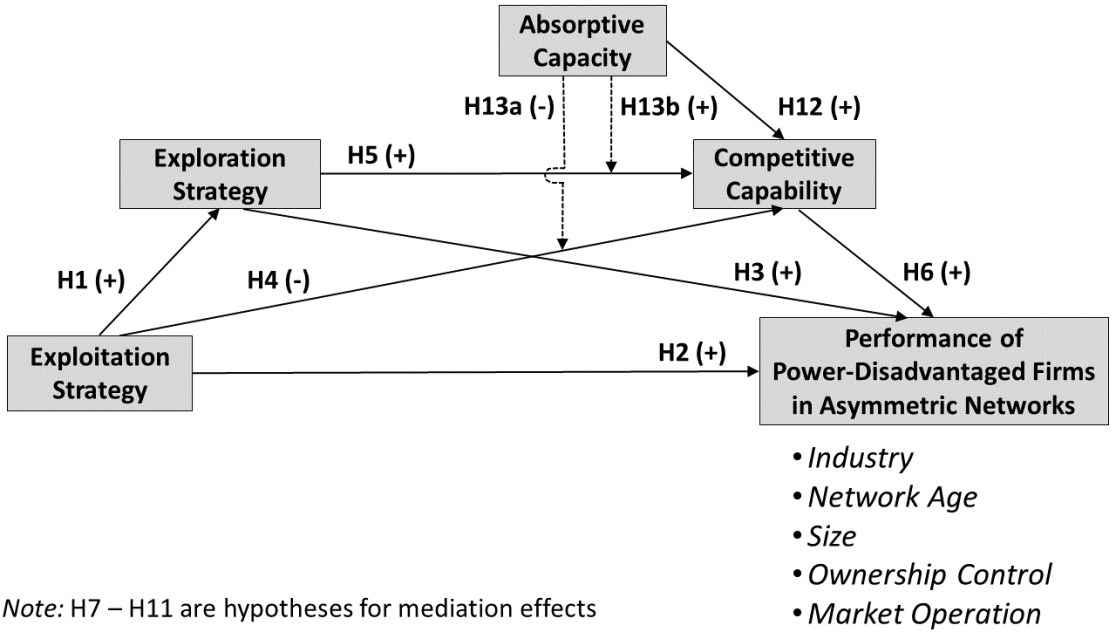
This conceptualisation is rooted in the notion that the additional capability acts as a new strategic resource complementary to the resources shared in the ongoing interfirm relationships (Dyer & Singh, 1998). The emergence of competitive capability enhances the effective deployment of network resources, thus increasing the value of network activities. Increased network value results in favourable effects which can strengthen the network relationship (Madhok et al., 2015). Moreover, as a strategic resource, the new capability developed through explorative activities can reduce the power gap (Kim & Wemmerloev, 2015) between network members. Closing this gap allows weaker firms to extract more value as the narrower power gap attenuates the powerful party's opportunistic behaviour in capturing unadjusted relational rents (Lavie, 2006).

2.4 The Research Model and Hypotheses Development

Based on the theoretical framework (Figure 2.1), a research model is developed for the study (Figure 2.2).

Overall, the model predicts the positive effect of the dual practice of exploitation and exploration strategies on the performance of PDFs. This positive effect is translated through a working mechanism that allows these two strategies to work in tandem to guide the transformation of firm resource bases for better performance in asymmetric networks. The model also suggests the complementary role of absorptive capacity as a factor that intensifies the effect of each strategy on firm competitive capability

Figure 2.2 The Research Model



Note: H7 – H11 are hypotheses for mediation effects

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2.4.1 Exploitation, Exploration Strategies and Performance of PDFs

2.4.1.1 The Relationship between Exploitation Strategy and Exploration Strategy

The current study adopts the conceptualisation of exploitation and exploration strategies as two components of strategic entrepreneurship advanced by Hitt et al. (2001b). Exploitation strategy refers to firm's sets of commitments and actions aimed at producing a competitive advantage for deeper penetration into existing markets for above-normal returns. Meanwhile exploration strategy pertains to practices that manage opportunity creation by exploring new products/market opportunity through the creation of new resources or the combination of existing resources in new ways. Exploitation strategy refers to the enhancement and refinement of current strategic resources, while exploration strategy refers to a firm's opportunity-seeking activities that build up new sets of strategic attributes. This study proposes that the context of PDFs in asymmetric networks lays down a foundation where, for various reasons, exploration strategy is triggered by practices of exploitation strategy.

The first rationale for this effect is primarily rooted in Lavie's (2006) argument that value distribution among alliance members is distorted unfavourably for the weaker firm.

Because the dominant party can extract the lion's share of the value created from collaborative activities (Kim & Wemmerloev, 2015; Miguel et al., 2014), PDFs are likely to be dissatisfied with their earnings generated from the joint activities (Gilliland & Kim, 2014). Dissatisfaction with economic gains from the current network activities can motivate the weaker firm to pursue innovative efforts for new streams of value (Alvarez & Barney, 2001; Døjbak Håkonsson, Eskildsen, Argote, Mønster, Burton, & Obel, 2015). As a result, it is likely to invest in developing new strategic resources for additional sources of value.

Secondly, an unbalanced relationship often entails high dependence of the weaker firm on the dominant partners (Frazier, 1983). This dominance can force the former to adopt practices imposed by the latter (Hoejmose et al., 2013b). Apart from the adoption of practices that enhance relational factors for long-term relationships (Cox, 2001; Xiao, Xie, & Hu, 2013), there are also requirements from the dominant firm that cause risks, ambiguity, instability, and high costs for the weak firm (Touboulic et al., 2014). To mitigate these negative influences caused by demands from the dominant party, firms on the weaker side often strive for ways to restructure dependency and generate new incomes. Diversification by looking for other alliances or expanding the market base is a common strategy (Ciabuschi et al., 2014; Gras & Mendoza-Abarca, 2014; Su et al., 2014). This expansion reflects an exploration path practiced by weaker firms.

Thirdly, while collaboration with powerful firms remains the major activity of PDFs, the exploration strategy conducted by the latter can fall in the neighbourhood of collaborative activities which can be supported by the former. For example, Zimmermann et al. (2015) reveal that weaker firms in unbalanced alliances can initiate changes in product attributes during joint projects. The success of these efforts adds value to the joint products and subsequently results in the powerful party's appreciation and trust for the weaker firm's competencies. Consequently, the powerful firm can increase its support of the weaker firm's explorative attempts. Therefore, improving current exploitative activities can provide motivations for PDFs to find better ways to increase their effectiveness during collaboration, which in turn is also favourable to the powerful party (Jean, Kim, & Sinkovics, 2012; Lahiri & Kedia, 2009). Increased collaboration with their leading partners can become more necessary for PDFs when

their partners face a strong need to adjust to increasing business competition and respond faster to customer demand (Kedia & Lahiri, 2007). As a result, continuous improvements by the weaker firm for better products can be achieved through the practice of ongoing collaboration with the powerful party.

Finally, PDFs can simply use knowledge gains from exploitation activities in the current alliance to tap into new markets, where they can enjoy better value when making similar products. Aulakh, Kotabe, and Teegen (2000) provide evidence for this practice when showing that exporters use cost-based strategies to sell products to developed countries, while they use differentiation strategies on similar products to market them to developing countries. This dual practice is also documented in the study by Su et al. (2014) when they reveal that service providers can apply existing services to expand to other markets where customer requirements are less demanding. The possibility of taking advantage of current products and modifying them for another market reduces risks and the uncertainty of product development processes. Therefore, the asymmetric setting can facilitate PDFs to undertake market expansion, a strategy from which value can be more certain and more quickly recognised. Hence, hypothesis 1 offers:

H1: Exploitation strategy of PDFs in asymmetric networks leads them to embark on exploration strategy.

2.4.1.2 Exploitation Strategy and Performance of PDFs

As exploitation strategy focuses on the refinement and improvement of firm advantages for deeper penetration into an existing customer base, PDFs pursuing this strategy have the opportunity to enhance their performance in the network.

A weaker firm's strategic intention to strengthen the network tie (Kannan & Tan, 2002; Vandaie & Zaheer, 2014) and its operational activities (Oh & Rhee, 2008) encourages interfirm exchanges and collaboration (Oh & Rhee, 2008; Vandaie & Zaheer, 2015). Moreover, an increase in interfirm activities allows the weaker firm to access resources provided by its network partners. The literature shows that network arrangements allow a weaker firm to capitalise on critical resources controlled by the other firm such as financial resources (Baum et al., 2000; Hallen & Eisenhardt, 2012), legitimacy and reputation (Stuart, 2000), or established marketing and distribution systems (He & Wei,

2013; Rothaermel, 2001). An extension of resources available through inter-organisational linkages is a critical source of competitiveness (Gulati et al., 2011; Zheng, Li, & Wu, 2013); therefore, access to network resources can enable the weak firm to create more value in collaborative activities. Subsequently, an exploitation strategy would provide a better opportunity for the weaker firm to leverage from network resources.

Research suggests that in interfirm relationships, performance for network members depends on both the value created for network activities and their ability to claim their shares of value created by joint actions (Wathne & Heide, 2000). Therefore, in addition to the ability to increase the value of firm economic activities, it is important to consider the ability of PDFs to appropriate value created from their relationships with the powerful partners. PDFs' ability to appropriate value increases when they are able to prevent powerful partners from exercising their power or to narrow down the power gap (Lavie, 2006).

When following an exploitation strategy, firms work on refinement and improvement of current activities to penetrate deeper into their existing customer base. Kim and Wemmerloev (2015) show that PDFs' improvement of ongoing operational competences valued by the powerful partner leads to PDFs' ability to increase their value contribution to network activities. In addition, the authors also point out that the more powerful partner would depend more on interfirm relationships with PDFs if the latter were able to contribute more value by improving its network activities. The increase in dependence on PDFs would deter powerful partners' intention to exercise their power to appropriate unfair value from network activities (Lavie, 2006). This is because the powerful partner wants to nurture the potential of creating value through PDFs in the long run, and using coercive power to extract unadjusted rents can trigger PDFs' anger and avoidance of interfirm relationships (Gulati & Sytch, 2007). Moreover, PDFs' ability to appropriate value increases when they are able to narrow down the power gap which they do by contributing more value to the interfirm relationships (Lavie, 2006). Therefore, from pursuing exploitation strategy, PDFs can create more value in interfirm relationships and increase the need of the powerful partner to maintain relationships with them. Higher value creation and better chances

of protecting their network value, made feasible through improvements in operational skills and wider accessibility to network resources, are likely to enhance the performance of PDFs in the network. Therefore, hypothesis 2 suggests that:

H2: Exploitation strategy is positively associated with the performance of PDFs in asymmetric networks.

2.4.1.3 Exploration Strategy and Performance of PDFs

Exploration practices entail penetration into a different market/product matrix (Sirén et al., 2012). This strategy can be done either by selling products or services into markets outside of the existing network (Fischer & Reuber, 2004), or by adding more value into product attributes currently created in network activities (Zimmermann et al., 2015).

When diversifying into new markets, entrepreneurial practices can be less risky for PDFs. The first reason is that the ongoing relationship with the powerful partner offers PDFs an opportunity to quickly modify existing products to tap into a different market (Aulakh et al., 2000; Navas-Alemán, 2011). Because of this by-product effect of the relationship, they are able to skip product development processes which can be costly to other firms. Therefore, product knowledge learned from established networks can help reduce the firm's entry costs into new market segments (Speckbacher, Neumann, & Hoffmann, 2015). On the other hand, with attempts to improve product attributes, product development processes are often undertaken during the dyadic collaboration between the two parties (Kotabe, Martin, & Domoto, 2003; Oh & Rhee, 2008; Zimmermann et al., 2015). External resources attained from collaborative actions can also mitigate risks and surpass high costs inherent to innovative activities (He & Wei, 2013; March, 1991). As a consequence, this support allows the weak firm to strengthen its products in a less costly way than if the firm were to go it alone. This benefit facilitates PDFs' engagement with new markets or product domains. Because this new source of income largely depends on network activities, the weak firm is still committed to interfirm collaboration alongside its entrepreneurial practices (Su et al., 2014).

Moreover, because the combination of network and firm resources can be a critical source of a firm's competitive advantage, the weaker firm is likely to take advantage of this combination for both its firm activities as well as its network activities (Dyer & Singh,

1998; Lavie, 2007). As a consequence, value creation for both firm activities and network activities can be increased. Since the value of its network operations is greater, value extraction from these operations can also be higher.

On the other hand, when PDFs commit to adding more value to collaborative products, they are likely to increase interfirm engagement and embeddedness to understand the needs of their counterparts (Lahiri & Kedia, 2009; Zimmermann et al., 2015). Following this strategy, explorative practices will need to combine existing resources to achieve this objective, the success of which can increase other network members' trust in the weaker firm's competences. Subsequently, the focal firm can receive more interfirm collaboration and support (Oh & Rhee, 2008). As a result, it has more opportunities to contribute to network value as well as to narrow down the power gap (Kim & Wemmerloev, 2015). Higher network value creation and a lower power gap can help PDFs increase the value extraction from their network activities (Lavie, 2006); thereby increasing their performance. Subsequently, hypothesis 3 suggests that:

H3: Exploration strategy is positively associated with the performance of PDFs in asymmetric networks.

2.4.2 Competitive Capability of PDFs

2.4.2.1 An Overview of Capability

Organisation capability has received a great deal of interest from RBT scholars. The existing literature contains a number of definitions (see Table 2.3) describing the concept of capability and how it contributes to firm performance.

Day (1994, p.38) introduces a notable conceptualisation, which defines capability as firm-level "bundles of skills and accumulated knowledge, exercised through organisational processes, which enable firms to coordinate activities and make use of their assets." As such, capability is rather tacit and is manifested in firm-specific business activities. It differs from assets and processes in that capability does not have a monetary value and is rather obscured. Therefore, it is not traded or imitated easily (Day, 1994; Dierickx & Cool, 1989). However, three firm-specific factors: assets, processes, and capabilities, are closely intertwined as capabilities enhance a firm's competitiveness by enabling the implementation of processes and bringing assets

together. This perspective is echoed by Amit and Schoemaker (1993, p.35) who put forward that capability describes a "firm's capacity to deploy resources, usually in combination, using organisational processes, to effect a desired end". As a result, capability is valuable and considered a strategic resource from the perspective of RBT (Newbert, 2007). As mentioned in section 2.2.2.2, this study refers to organisation capability that is strategically valuable in the market as competitive capability. The term competitive was used for this study to emphasise the nature of the capability, which forms a competitive strength for firm productive activities that is superior to its rivals in the market place.

The current study adopts Day's (1994) concept of capability and considers business activities to be the main locus of competitive capability memory where its constituent tacit knowledge is shared, recorded, and codified (Zollo & Winter, 2002). Moreover, due to the obscured and causally ambiguous nature of knowledge, competitive capability is difficult for competitors to understand and imitate. The current study argues that exploitation and exploration strategies, as two diverse strategic directions – one aimed at enhancing current competitive advantage for deeper penetration into the existing market domain and the other oriented towards seeking opportunities for new markets and future growth – will have different impacts on competitive capability from the perspective of PDFs in asymmetric interfirm linkages. The next section discusses these effects.

2.4.2.2 Exploitation Strategy, Exploration Strategy and Competitive Capability

Prior studies highlight two perspectives in the examination of capability development for firms in interconnected networks, namely resource complementarity and resource acquisition. The resource complementarity approach (Dussauge, Garrette, & Mitchell, 2000; Hitt et al., 2000; Rothaermel, 2001; Vandaie & Zaheer, 2014) views alliances as a vehicle for exploiting complementarities rather than learning from partners. On the other hand, the resource acquisition approach (Das & Teng, 2000; Inkpen, 2000) considers alliances as a means of acquiring knowledge and capabilities from partners which is made feasible through knowledge transfer from the powerful party (Lane et al., 2001; Modi & Mabert, 2007; Zaheer & McEvily, 1999).

Insights from both approaches inform us that, when PDFs concentrate on network activities and are driven by the powerful firm, only their capabilities that are useful for network activities are likely to be enhanced. However, while this effect of capability development results from knowledge transfer through the resource acquisition approach, it is considered a by-product of interfirm exchanges by the resource complementarity point of view. Taking the view of resource complementarity, Vandaie and Zaheer (2015) use data from 150 independent film studios from 1990-2010 in the US motion picture industry and find that alliances with a resource-rich firm can provide a substitute growth opportunity for the resource-poor firm. Subsequently, developing competitive capability becomes less attractive to the weaker firm because the alternative opportunity in the network can direct PDFs to shift away from the competitive market. Similarly, evidence from the resource acquisition approach also suggests that knowledge transfer from the powerful party to PDFs is executed as a necessity to ensure network coordination (Modi & Mabert, 2007; Steensma, Howard, Lyles, & Dhanaraj, 2012). This mainly results from the need of the network leader to consider the efficiency of the whole network (Chen et al., 2012).

While the resource complementarity approach suggests that competitive capability is unlikely to be developed because growth opportunity in competitive markets becomes less profitable for PDFs, insights from the resource acquisition perspective point out that transferring competitive capability is also unlikely for PDFs due to the powerful firm's reluctance to transfer its market-based knowledge. Because capability relates to tacit knowledge (Winter, 2000), the causally ambiguous and socially complex nature of tacit knowledge (Alvarez & Barney, 2001; Barney, 1991; Cool, Dierickx, & Jemison, 1989; Szulanski, 1996) creates the first barrier of high cost to knowledge transfer. This high cost discourages the intention of the powerful firm to transfer its knowledge (Hitt et al., 2000). Moreover, since knowledge transfers form a channel of resource mobility, the party that transfers resources is relatively losing its power to the receiving party (Inkpen & Beamish, 1997). As a result, the powerful party is reluctant to transfer knowledge to avoid competitor incumbency and prevent the loss of control of its network activities.

In the case of PDFs, a focus on current network activities describes PDFs exploitation strategy where they concentrate on penetrating deeper into their existing customer

base. Therefore, while PDFs are driven by current network activities, they are likely to focus on the capability necessary for network activities and unlikely to develop capability to compete in the market place. A lack of attention to developing market-based capability can lead to PDFs' inferiority in market-based capabilities. Therefore, hypothesis 4 proposes that:

H4: Exploitation strategy is negatively associated with competitive capability of PDFs in asymmetric networks.

On the other hand, exploration strategy is centred on a new market-product domain which relies less on the existing network-based business. It is vital that the weaker firm develop strategic resources for its own competitive strengths (Chen et al., 2012; Steensma & Lyles, 2000). Research has indicated that opportunity-seeking behaviour increases value and directs the deployment of internal knowledge for strategic desires (Lisboa et al., 2011; Wiklund & Shepherd, 2003). Since the benefits of exploration strategy are realised through the development of knowledge resources (Simsek & Heavey, 2011), there is a need to effectively utilise knowledge resources. Subsequently, capitalising on knowledge resources triggers the development of practices and mechanisms to facilitate knowledge exchanges and codification among individuals (Zollo & Winter, 2002). Therefore, activities must be in place to coordinate the skills and knowledge needed to implement the explorative objectives. Consequently, exploration practices lead to the development of organisational processes and competitive capability. Through this, resources are deployed to better perform productive activities directed by the explorative strategy (Lisboa et al., 2011). In other words, hypothesis 5 advances that:

H5: Exploration strategy is positively associated with competitive capability of PDFs in asymmetric networks.

2.4.2.3 Competitive Capability and Performance of PDFs

As complex organisational processes, capabilities are difficult to understand and hard to copy across firms due to their tacit, path dependent, and causally ambiguous nature (Teece, 2014). These firm-specific characteristics make capabilities relatively immobile. In terms of capability endowments, firms are thus heterogeneous. In addition,

capabilities are valuable since they add value into end products and services by coordinating resources to perform productive activities (Day, 1994). Prior research reveals that capability in different areas contributes to firm value in different ways. For example, marketing capability has been found to be an important driver of international performance (Zou, Fang, & Zhao, 2003) as it strengthens a firm's ability to capture market opportunities. Similarly, e-commerce capability enhances a firm's ability to realise the value of IT infrastructure and expand its customer base (Zhu, 2004). Strategy formation capability, on the other hand, enables a firm to create a strategy that increases its competitive standing in the market (Slater, Olson, & Hult, 2006). The attributes of being valuable, rare, inimitable, and useful for organisation activities often turn capabilities into firm strategic resources (Barney, 1995). As a strategic resource, capability is a source of value that contributes to firm performance.

In a network context, the reason that PDFs may enhance their performance in the network through their strategic capabilities is two-fold.

First, firms can create synergies when combining internal resources and network resources to generate value (Dyer & Singh, 1998). Because competitive capability is organisational knowledge and processes that serve to deploy resources in a more effective manner (Day, 1994), it can be utilised to enhance the value creation activities of network resources. Subsequently, competitive capability enriches the network resources that a firm shares in interfirm collaboration. Therefore, the value created by the combination of network resources and firm competitive capability is greater than the value of network resources alone.

Second, when competing in a competitive market, value created and extracted by a firm's strategic resources remains in the firm (Barney, 1991). However, in a network context, value created from firm resources is captured by network members. Its distribution can be shaped by power structures determined by interfirm dependency (Gulati & Sytch, 2007). Since the dominant firm has more bargaining power in an asymmetric relationship (Casciaro & Piskorski, 2005), it is in a better position to utilise power and may extract a larger share of the relational rents created from network resources – be they shared or non-shared by the weaker firm (Lavie, 2006). However, the existing literature also indicates that the weaker firm can reduce the power gap with

efforts to increase its internal strength and become more competent in interfirm operations (Kim & Wemmerloev, 2015). Increased competence through improved bundles of skills and capabilities gives the weaker firm better credit for value generation in the interfirm relationship (Zimmermann et al., 2015), which deters the dominant firm from leveraging its bargaining power (Gulati & Sytch, 2007).

As a consequence, PDFs can enhance their performance in the network through the development of their internal competitive capability. Hence, hypothesis 6:

H6: Competitive capability is positively associated with the performance of PDFs in asymmetric networks.

2.4.3 The Mediation Effects of Exploitation Strategy and Exploration Strategy

The series of hypotheses discussed above gives way to a number of mediation effects which are elaborated below.

First, in this context, hypothesis 1 puts forward that exploitation strategy links to exploration strategy, while hypothesis 3 argues that exploration strategy is linked with the performance of PDFs in asymmetric networks. These two hypotheses suggest that exploitation strategy indirectly impacts the weaker firm's performance in the network through exploration strategy. This mediation effect is based on the logic that the network setting provides a favourable condition for the weaker firm where it can capitalise on relational resources to identify opportunities for future growth (Prashantham & Birkinshaw, 2008; Zimmermann et al., 2015). Entrepreneurial activities based on network resources enhance the deployment of these relational resources and consequently contribute more towards network value. Therefore, hypothesis 7 suggests that:

H7: Exploration strategy mediates the relationship between exploitation strategy and the performance of PDFs in an asymmetric network.

Second, hypotheses H4 and H5 advise that exploitation and exploration strategies respectively link to PDFs' competitive capability. Meanwhile, hypothesis 6 proposes that their competitive capability influences their performance in the network. From this set

of hypotheses, the study argues that exploitation and exploration strategies transmit their effects on PDFs' performance through competitive capability. However, the transmission mechanisms are different for the two predictors. The suppression effect of competitive capability in transmitting the impact of exploitation strategy on performance is underlined by alliance formation and the availability of alternative growth. Because interfirm linkages between small and larger firms can be driven by resource complementarity rather than by objectives for resource acquisition (Vandaie & Zaheer, 2014), the capability needed for network participation can appear more important to PDFs than the capability needed for market competition (Kim & Wemmerloev, 2015). The lack of attention toward competitive capability may also result from an alternative growth path that relies on alliance relationships rather than market-based growth (He & Wei, 2013). An increase in firm competitive capability would incur costs and reduce the value creation of the exploitation strategy. Therefore, nurturing capability that is essential for competing in the market setting can become less attractive to PDFs when they want to concentrate on network activities as guided by the exploitation strategy.

On the other hand, the logic behind the complementary effect of competitive capability in linking exploration strategy and performance is rooted in the argument that the success of exploratory activities needs to be realised through the transformation of the firm's resource base (Simsek & Heavey, 2011). Having bundles of heterogeneous resources can help PDFs distinguish themselves from potential rivals who are competing for a position in the network, thereby reducing the risk of being removed from network participation (Chen et al., 2012). Moreover, the logic for this mediation is additionally driven by the static perspective of the RBT, which posits that ownership of superior competitive resources drives performance heterogeneity (Barney, 1991; Peteraf, 1993). Following this line of reasoning, reliance on external resources may not be sufficient to achieve sustainability; and it is necessary for PDFs to develop their own competitive strengths. Because a firm's competitive resources can be combined with resources shared in network activities (Dyer & Singh, 1998), the development of competitive capability can help PDFs improve their value creation in network activities. Higher value

creation can in turn contribute toward increases in greater performance. Therefore, the next two mediation effects are advanced as follows:

H8: Competitive capability mediates the relationship between exploitation strategy and the performance of PDFs in asymmetric networks.

H9: Competitive capability mediates the relationship between exploration strategy and the performance of PDFs in asymmetric networks.

Thirdly, exploitation strategy can influence competitive capability through exploration strategy. While exploitation strategy is hypothesised to negatively affect firm competitive capability, the two positive linkages between exploitation strategy and exploration strategy and between exploration strategy and competitive capability suggest a process through which exploration strategy redresses the negative impact of exploitation strategy on competitive capability. The logic of this mechanism is driven by the combinative effect of firm strategic and entrepreneurial behaviour, where the former centres on exploiting current strengths and the latter aims to create new opportunities for future growth (Ireland et al., 2001). By adopting these dual directions, firms can transform their internal strengths through developing additional resources which are undervalued by the existing strategy (Kuratko & Audretsch, 2009; Kuratko et al., 2015). With this logic, the mediating effect of exploration strategy in the relationship between exploitation strategy and competitive capability suggests that the pursuit of these two strategies can help PDFs better prepare themselves to capture future opportunities when they arise. Thus, hypothesis 10 is offered:

H10: Exploration strategy mediates the relationship between exploitation strategy and competitive capability of PDFs.

Finally, this study additionally advances that exploitation strategy impacts the performance of PDFs through the link between exploration strategy and firm competitive capability. The logic underlying this mechanism is jointly explained by the effect of firm dual strategic and entrepreneurial behaviours (Hitt et al., 2001b; Kuratko et al., 2015), the attempts to secure their network position (Chen et al., 2012), and the static view of the RBT (Barney, 1991; Dierickx & Cool, 1989).

The simultaneous pursuit of exploitation and exploration strategies helps PDFs transform their resource base. This resource transformation should target the building of strategic resources. Ownership of competitive strengths can help PDFs effectively secure their network position because they outperform rivals who are potentially competing for the same network resources. Moreover, the control of strategic resources provides a source of sustainable performance (Barney, 1991; Peteraf, 1993). Since these competitive resources can be combined with network resources to produce a synergistic effect for higher value creation in network activities (Dyer & Singh, 1998), rent extraction from network participation is likely to increase (Lavie, 2006). This likelihood is more certain because the dominant firm is reluctant to exercise its power and to bargain away unadjusted rents when it appreciates the potential contribution of PDFs (Gulati & Sytch, 2007). As a result, the development of competitive capability can help PDFs secure better performance in the network. In other words, hypothesis 11 proposes that:

H11: The link between exploration strategy and competitive capability mediates the relationship between exploitation strategy and the performance of PDFs in asymmetric networks.

2.4.4 Absorptive Capacity and Competitive Capability

2.4.4.1 An Overview of Absorptive Capacity

Knowledge is a vital factor in a firm's existence and competitiveness (Kogut & Zander, 1992). The knowledge-based view pays attention to how firms organise and benefit from knowledge accumulation between and within firms (Van Wijk, Jansen, & Lyles, 2008). In this area, absorptive capacity has received a great deal of interest from management and strategy researchers in the last twenty years (Camisón & Forés, 2010; Volberda et al., 2009).

The existing literature offers up a large number of definitions of absorptive capacity (Cohen & Levinthal, 1990; George, Zahra, Wheatley, & Khan, 2001; Kim, 1998; Lane & Lubatkin, 1998; Mowery & Oxley, 1995; Van Den Bosch, Volberda, & De Boer, 1999; Zahra & George, 2002). These various approaches to conceptualising absorptive capacity can be classified into two major perspectives.

The first perspective was initially introduced by Cohen and Levinthal (1990). These authors define absorptive capacity as the firm's ability to recognise, assimilate, and exploit external knowledge. Others scholars have extended this concept when proposing that absorptive capacity also encompasses sets of skills that are needed for transferring and modifying knowledge (Mowery & Oxley, 1995) as well as the capacity to learn and solve problems (Kim, 1998). While acknowledging firms' efforts in knowledge facilitation and accumulation, scholars within this perspective generally used proxies related to firms' R&D activities as a measurement for the term. Examples are the number of patents (Zhang et al 2007), R&D intensity (Cohen & Levinthal, 1990), investments in scientific and technical training, the number of scientists and engineers (Mowery & Oxley, 1995), or the organisation of the R&D staff and department (Cassiman & Veugelers, 2002). Lane et al. (2006) point out that these heavily R&D-related proxies are more relevant to a firm's prior knowledge base and are insufficient for capturing the process view of the original construct advanced by Cohen and Levinthal (1990). Given its method of operationalisation, this approach is considered the static view of absorptive capacity for it describes the term as the stock of organisational knowledge.

Adopting the perspective of dynamic capabilities (Eisenhardt & Martin, 2000; Teece et al., 1997), Zahra and George (2002) argue that absorptive capacity should not only be seen as the ability to accumulate knowledge. The authors highlight the capability perspective of the construct and reconceptualise absorptive capacity as "a set of organisational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organisational capability" (Zahra & George, 2002, p. 186). Their argument is that absorptive capacity is best considered as a dynamic capability which is directed toward organisational transformation for strategic growth. Therefore, this approach defines a firm's path of evolution and development (Lewin et al., 2011).

Zahra and George (2002) propose a multidimensional model to reflect the concept through the four capabilities of acquisition, assimilation, transformation, and exploitation of knowledge. These four capabilities are then classified into two groups of realised absorptive capacity and potential absorptive capacity. Potential absorptive capacity enables firms to acquire and assimilate external knowledge, and is thus close

to Cohen and Levinthal's (1990) original concept of absorptive capacity. On the other hand, the realised absorptive capacity dimension includes the transformation and exploitation of knowledge learned and thus reflects firms' capacity to leverage imported knowledge. Following this view, absorptive capacity is not only seen as a firm's stock of knowledge but also as the sets of routines facilitating knowledge flow and accumulation within the organisation for the strategic transformation of the firm (Lewin et al., 2011; Martinkenaite & Breunig, 2016). This dynamic capability approach, which considers absorptive capacity as a critical dynamic capability for acquiring and applying external knowledge, will be adopted in this study.

Lane et al. (2006) put forward that absorptive capacity affects both firms' commercial outputs like products, services, or intellectual property as well as firms' general, technical, and organisational knowledge such as customer data banks, manufacturing technologies, and operating routines. Nevertheless, the majority of studies examining the outcomes of the construct largely focus on innovation performance or directly link to firm overall performance (Lane et al., 2006; Volberda et al., 2009). Prior research indicates that inter-organisational linkages provide network members with excellent opportunities to identify and incorporate external tacit knowledge for the improvement of firm capability (Khan et al., 2015; Lane et al., 2001; Park, Vertinsky, & Becerra, 2015). However, whether firm competitive capability is a function of absorptive capacity has been under-explored not only in mainstream management literature but also in the interfirm context (Lane et al., 2006).

To fill this void in the literature, the current study aims to examine the effect of absorptive capacity on firm competitive capability and whether this influence serves as a channel for its impact on firm performance. Investigating this effect tests the process aspect of absorptive capacity, by which it affects performance through the reconfiguration of strategic resources.

2.4.4.2 Absorptive Capacity and Competitive Capability

As discussed in section 2.4.2.1, this study adopts Day's (1994) conceptualisation of capability and considers the competitive capability of PDFs as a set of organisation skills and knowledge which is embedded in firm operating processes to enable organisational activities and the usage of assets. Following this conceptualisation, competitive

capability describes how firms organise and use their resources. Its competitiveness resides in the efficiency and effectiveness of its resource deployment activities.

Both competitive capability and absorptive capacity constitute multi-level routines and processes (Abell, Felin, & Foss, 2008; Lewin et al., 2011). As such, they share critical attributes of being tacit and manifest in firm-specific activities. Nevertheless, the two terms are fundamentally distinct in terms of their purposes. While competitive capability is aimed at how firms can efficiently and effectively use their assets and resources (Day, 1994), absorptive capacity is oriented towards creating and utilising knowledge for those value creation activities (Zahra & George, 2002). In order to capture economic gains, the former strives to deploy firm assets and resources that are needed for productive activities (Coff, 2010). Meanwhile, the latter particularly focuses on the knowledge aspect which enables firms to learn, adapt, and innovate (Helfat & Raubitschek, 2000). One centres on resource deployment itself, whereas the other embodies a firm's ability to maintain that deployment for its competitive standing over time. Due to this close connection, absorptive capacity can be a driver of firm competitive capability for its ability to facilitate the firm's successful identification and application of know-how embedded in the practices of external organisations.

Fundamentally, firm absorptive capacity enables firms to identify valuable knowledge residing in the external environment and to later assimilate it within the firm boundary (Cohen & Levinthal, 1990; Lane et al., 2006; Zahra & George, 2002). Prior studies show that the practices and elements of potential absorptive capacity, such as firm cognitive structure (Cohen & Levinthal, 1990) and interactions with industry actors (Rosenkopf et al., 2001), allow firms to recognise the value of externally generated knowledge. External knowledge that is valuable for firm activities is not limited to knowledge related to products, services, or markets, but also includes knowledge related to production processes (Kogut & Zander, 1992; Van Den Bosch et al., 1999) or complex organisational knowledge such as management practices, manufacturing routines, and marketing capability (Lane et al., 2001; Modi & Mabert, 2007; Park et al., 2015). Therefore, absorptive capacity enables firms to identify organisational knowledge that firms can copy for their operations.

On the other hand, while the successful internalisation of complex and external organisational practices is challenging, it is possible in the presence of the recipient's organisational routines and practices to understand and apply the know-how (Minbaeva et al., 2014). The ability to understand tacit knowledge can lower the incompatibility gap between the absorbed and existing knowledge base (Lane et al., 2001), a major barrier in combining two different sources of knowledge (Lam, 1997). Moreover, practices to assimilate different knowledge can improve the performance of an operating unit. Haas and Hansen (2007) found that a task unit benefits from different sources of knowledge in several performative dimensions such as time saving, quality enhancement, and competence improvement. As a result, the sharing of externally acquired knowledge is likely to be promoted within operating processes and routines (Liao et al., 2007). As time passes, knowledge actions and actors become typified and subsequently lose their origin and become institutionalised into organisational practices (Szulanski, 1996; Winter, 2000). This leads to the emergence of capability. Therefore, hypothesis 12 is offered as follows:

H12: Absorptive capacity is positively associated with competitive capability.

2.4.4.3 The Moderation Effect of Absorptive Capacity

Exploitation and exploration strategies describe firm strategic postures: one centres on strategic behaviour, while the other is directed toward entrepreneurial orientation (Hitt et al., 2001b). In the case of PDFs, exploitation strategy reflect their concentration on the existing customer base, which is the more powerful party in interfirm relationships. In such an inter-organisational arrangement, resource-deficient firms may rely more on external networks as a substitute for limited internal knowledge resources (Fernhaber et al., 2009). As a result, firms align their internal capabilities to network resources in order to capitalise on the strength of the network resource combination (Griffith & Dimitrova, 2014). Because of the availability of an alternative growth residing in interfirm relationships (Vandaie & Zaheer, 2014), the development of competitive capability can be discouraged in the case of PDFs. This disapproval for competitive capability can be further accentuated with greater absorptive capacity. PDFs' activities in searching, acquiring, and making use of external knowledge are most likely to focus on opportunities embedded in network activities rather than on those emerging from

market competition. Learning activities to make use of external knowledge are likely to concentrate on developing capabilities valued by the more powerful party (Lane et al., 2001; Minbaeva et al., 2014; Modi & Mabert, 2007). As a result, with greater absorptive capacity, PDFs tend to focus more on capabilities necessary for interfirm relationships rather than nurture capabilities for their own strengths to compete in the market when they implement an exploitation strategy.

On the other hand, with practices of exploration strategy, PDFs seek opportunities outside of their existing product and customer base. The quest for growth opportunities other than those arising in network activities can encourage investments into competitive capabilities (Chen et al., 2012; Simsek & Heavey, 2011), which can be overlooked by the more powerful partner (Zimmermann et al., 2015). Greater absorptive capacity can help firms realise and capitalise on opportunities which benefit firm strategic changes (Walter, Lechner, & Kellermanns, 2016). Similarly, absorptive capacity is essential for firms to deploy and incorporate newly acquired knowledge into operational routines which strengthen firm competitiveness (Subramaniam & Venkatraman, 2001). Therefore, absorptive capacity also complements exploration strategy in directing firm investments into the development of their competitive capability.

The above arguments show that with greater absorptive capacity, capabilities that are critical to the implementation of a strategy can be enhanced. On the other hand, capabilities deemed not necessary for a strategic direction may be further attenuated when absorptive capacity is accounted for. Consequently, this study posits that the effects of exploitation and exploration strategies on firm competitive capability become stronger when firm absorptive capacity increases. As such, hypotheses 13a and 13b indicating the moderation effect of absorptive capacity are advanced as follows:

H13a: Absorptive capacity intensifies the effect of exploitation strategy on competitive capability, such that the negative effect of PDFs' exploitation strategy on competitive capability becomes more negative when absorptive capacity is high.

H13b: Absorptive capacity intensifies the effect of exploration strategy on competitive capability, such that the positive effect of PDFs' exploration strategy on competitive capability becomes more positive when absorptive capacity is high.

2.4.5 Control Variables

Several variables are considered potentially relevant to the explanation of the model. First, prior research suggests that industry-specific factors such as dynamism, competition, technology, and munificence of resources can influence the value of the strategic actions implemented to respond to environmental changes (Jansen, Van den Bosch, & Volberda, 2006; Kim & Rhee, 2009). Explorative behaviour seems to be rewarded in the dynamic environment whereas exploitative orientation is more suitable in a stable context (Posen & Levinthal, 2012). This study, therefore, includes industry as a control variable to account for the varying effectiveness of exploitation strategy and exploration strategy under various environmental conditions.

Second, network age is also considered to have a potential effect since it has been found to enhance coordination and trust between network partners (Tang & Rai, 2012). Greater trust facilitates knowledge transfer to PDFs and results in the increased effectiveness of their operations and working capability (Lane et al., 2001; Modi & Mabert, 2007). As a result, network age is likely to also have an effect on the performance of PDFs.

Third, firm size is taken into account for its relation to firm resources and flexibility. Arend (2014) shows that small firms are disadvantaged in realising economies of scale and scope when compared to larger firms. Therefore, firm size may have an effect on a firm's ability to realise value from its network activities. On the other hand, firm size has also been acknowledged as a factor contributing to organisational rigidity, which can be an obstacle to undertaking entrepreneurial practices (He & Wong, 2004). Consequently, firm size can also reduce the flexibility of firm operations and inhibit the benefits of explorative activities.

Fourth, the literature points out that ownership control acts as a formal governance mechanism and can affect a firm's ability to extract value from joint activities. Yang et al. (2014) show that when the dominant firm makes investments into the weaker firm's

equity structure, the weaker firm is better able to protect its interest. However, non-equity alliances may also be desirable as a lack of hierarchy control can allow strategic flexibility for PDFs to reach new opportunities (Covin & Miles, 2007).

Finally, market operation is included in the model since orientation toward competition in the market place describes a shift away from interfirm linkages. This practice has been found to facilitate an increase in a firm's knowledge base as well as a reduction in network exchanges, which can impact the performance of PDFs in the network (Xie & Li, 2015).

As a consequence, these five additional variables are proposed to potentially affect the performance of PDFs in their network activities.

2.5 Chapter Summary

Based on a review of the literature, this chapter establishes the framework for the current study. The research puts forward that RBT can help explain how PDFs deal with environmental constraints advanced by RDT. The study proposes that PDFs in asymmetric relationships have better value appropriation in the network by adopting the dual strategic behaviours of exploiting current competitive advantage and exploring new opportunities. For better earnings, exploration strategy can capitalise on opportunities arising in the current network setting. Adopting the logic of RBT, the study argues that reliance on network resources is not sufficient for PDFs' sustainability and that the implementation of these two strategic directions drives their resource base transformations toward the development of internal strategic resources. The benefits of enhancing firm internal strengths are two-fold. First, they can increase their contribution to joint value creation activities. Second, they can reduce the risk of being replaced by market-based rivals who are operating in the competitive market. Increasing value creation as well as enhancing their role in the network can prevent the dominant party from extracting an unadjusted rent. Subsequently, PDFs can obtain better value appropriation in inter-organisational relationships. The following chapter presents the research methodology and research setting used to test the hypotheses proposed in this chapter.

CHAPTER 3 METHODOLOGY

3.1 Introduction

Following the development of the research model and hypotheses in Chapter 2, the purpose of this chapter is to introduce the methods used to test the model. The chapter begins with an overview of the research paradigm shaping the path of inquiry of the research, followed by a description of the quantitative and qualitative studies used for the research inquiry. The sample selection, data collection and analysis procedures are also discussed.

3.2 Research Paradigm

Research paradigms represent fundamental beliefs about what can be known and how it can be known. They are often regarded as guidelines for researchers in choosing an approach to knowledge inquiry. A research paradigm is most commonly shaped from three philosophical standpoints: ontology, epistemology, and methodology (Cherryholmes, 1992; Guba & Lincoln, 1994). The ontological viewpoint refers to researchers' beliefs about the nature of reality and what can be known. The epistemological stance demonstrates researchers' perceptions of the relationship between themselves and what can be known. The methodology is shaped by ontological and epistemological beliefs, and guides the researcher's strategies of conducting inquiry to find out what can be known (Guba & Lincoln, 1994; Krauss, 2005). A number of alternative paradigms have been postulated based on this philosophical trilogy of knowledge inquiry. Generally, they can all be classified into two major approaches: objectivism/positivism/realism/quantitative versus subjectivism/constructivism/ relativism/qualitative (Crotty, 1998; Smith & Heshusius, 1986).

3.2.1 Positivism

The positivist paradigm applies the philosophy of knowledge inquiry from the natural sciences in order to examine social phenomena. Positivism indicates a belief in the existence of reality which can be objectively measureable and understandable by mainly quantitative methods. Following this paradigm, only phenomena that are confirmed through empirical testing can be considered knowledge. Therefore we piece together our understanding of the world through the verification of hypotheses (Guba & Lincoln,

1994). As a consequence, the purpose of research is to develop theories that can be tested. Moreover, following this paradigm, research needs to be objectivity oriented. This leads to fundamental assumptions of the paradigm that i) there exists an independent dualism between the investigator and the subject of inquiry; ii) the latter is objectively measureable; and iii) when replicated, the findings are "true" (Guba & Lincoln, 1994).

This "naïve" realism is modified by the post-positivism paradigm. Post-positivist researchers (Phillips & Burbules, 2000; Tsang & Kai-Man, 1999), while acknowledging the existence of reality, reject the absolute understanding of the world and assert that knowledge can only be approximated and imperfectly understood. Although the assumption of independent dualism between the researcher and the phenomena is abandoned, objectivity still remains a "regulatory ideal" for knowledge inquiry (Lincoln, Lynham, & Guba, 2011). Unlike positivism, post-positivism focuses more on hypothesis falsification and not on hypothesis verification. Non-falsified hypotheses can be taken as probable facts (Tsang & Kai-Man, 1999). While objectivity oriented, post-positivists emphasise multiple critical standpoints where inquiry is conducted in a more natural setting and contextual information is collected because this is viewed as being essential for capturing reality as closely as possible (Phillips & Burbules, 2000). Consequently, our knowledge of reality is constructed and influenced by the values of the investigator, and the replication of findings can only probably be true.

3.2.2 Constructivism

The second paradigm of constructivism opposes the application of natural studies to social research as the two areas are fundamentally different in subject matter (Hughes, 1958). While natural science deals with objects resident in the external world that can be observable and measurable, social study is mind dependent, concerning subjects that are products of the human mind with influences of "subjectivity, emotion, and values" (Smith, 1983, p. 35). Constructivists believe that reality is socially construed by a series of social, political, cultural, economic, ethnic, and gender factors. The meaning of the phenomenon under examination is constructed through an individual mind, including that of the investigator. Therefore, the process of inquiry requires qualitative methods (e.g., interviews, observations, open-ended questions) with much involvement of the

investigator. The knowledge generated is subject to the ability of the researcher's interpretation and assessment of the phenomenon, or to participants' understanding of the situation being examined. As such, comprehension of the subject of inquiry is highly subjective (Guba & Lincoln, 1994) and replication should not be used in social studies (Tsang & Kai-Man, 1999).

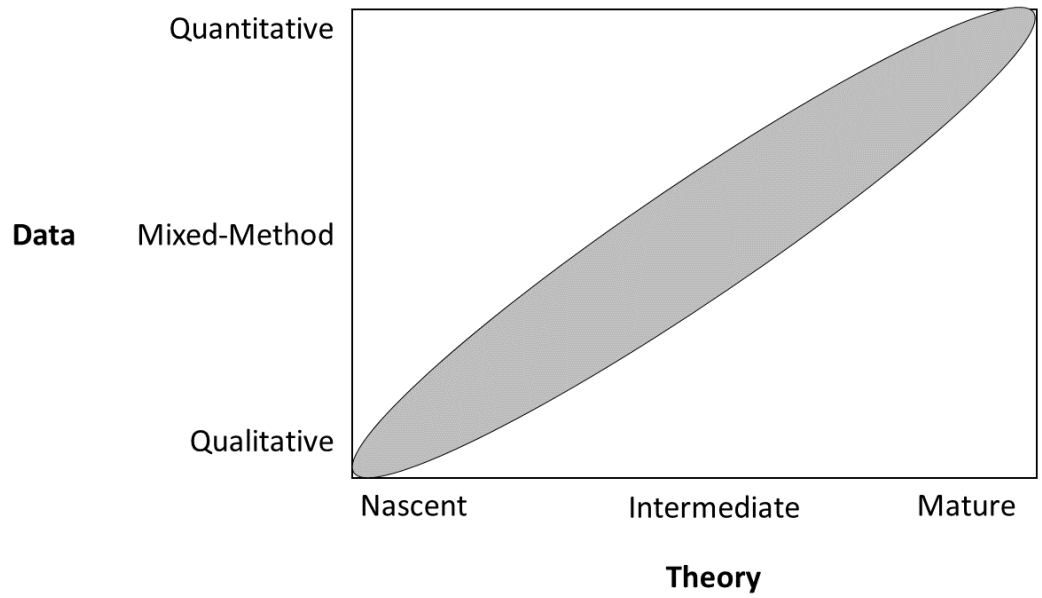
3.2.3 The Mixed-Methods Approach

Edmondson and McManus (2007) provide a contingency framework to connect research questions and research methods, giving an explanation of why and when a paradigm should be adopted (see Figure 3.1). The authors point out that research questions vary across stages of theory maturity, which can be grouped as nascent, mature, and intermediate. With a nascent theory, little or no previous theory exists and the purpose of a study is often to develop insights for a novel or unusual phenomenon. The nature of a research question bounded in a nascent theory is usually to explore the what, how, and why issues related to the phenomenon under study. Therefore, inquiry often starts with open-ended questions about the subject of interest and qualitative methods are best suited. This leads to the application of the constructivism research paradigm. On the contrary, a mature theory contains established models with supporting evidence. Mature theory research is often triggered by a need for further refinement, elaboration, clarification, or even to challenge specific aspects of the existing theory. A researcher is driven by further examination of the established theory in a new setting or under a new mechanism with the inclusion of new mediators or moderators. Outcomes in mature theory research can lead to the clarification of the boundary of a theory or to the provision of new evidence to support or stand against existing relationships. As a consequence, a mature theory research question is theory-driven to test a hypothesis in nature; this leads to the adoption of quantitative methods and the employment of the positivism paradigm.

Meanwhile, working in an intermediate theory arena, a researcher builds upon prior literature, often from different areas, to either propose new constructs or to hypothesise new relationships. Edmondson and McManus (2007) assert that an intermediate theory describes a zone where a theory is transformed from the nascent to the mature stage, and does not necessarily follow a steady linear pattern. Studies of

an intermediate theory can be diverted in a way that one could build on prior work to elaborate an existing theory while others use the literature to investigate the phenomenon in a new direction. However, these studies share one common feature in that the research question often addresses both variance and process aspects of the phenomenon. The authors argue that a mixed-methods approach is best employed for an intermediate theory for two reasons. It can reduce the risk of a lack of reliability and validity of measurement where quantitative methods are used; and can lower the potential risk of providing insufficient support for a theory, where only qualitative methods are adopted. This hybrid approach can fit within either research paradigm. In the same vein, other scholars (Hurmerinta-Peltomäki & Nummela, 2006; Sandelowski, 2000) agree that the use of a mixed-methods approach is paradigm-free and only concerns the technical issues related to data sampling, collection and analysis of a study.

Figure 3.1 Methodological Fit



Source: Adopted from Edmondson and McManus (2007, p. 1168)

Building on prior work, Johnson, Onwuegbuzie, and Turner (2007, p. 123) define the mixed-method study as: "the type of research in which a researcher or team of researchers combine elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. Depending on the purpose of the study, one approach may have a more

important role than the other or both approaches may remain equally important in the research process (Bryman, 2008; Creswell, 2013).

It has been revealed that the use of mixed-methods studies in organisational research can generally create more value than mono-method studies (Hurmerinta-Peltomäki & Nummela, 2006; Kaplan, 2015; Molina-Azorin, 2010). This is mainly due to the high possibility that multiple viewpoints can enable researchers to produce deeper insights and understanding of the phenomena they study (Edmondson & McManus, 2007; Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998). However, a mixed-methods strategy is not always the best option. Choosing a research paradigm is a matter of methodological fit, for which a researcher should start with a research problem that guides the knowledge inquiry (Hurmerinta-Peltomäki & Nummela, 2006).

As discussed in the previous chapter (see section 2.3), the purpose of this study is to examine how power-disadvantaged firms (PDFs) that participate in asymmetric networks can sustain their performance in the network by the dual practice of exploitation and exploration strategies. The study proposes that the value of this strategic duality is realised through the development of firm competitive capability. Additionally, the research suggests that this competitive capability is also influenced by the organisation's absorptive capacity.

As a consequence, the knowledge inquiry for this research is two-fold. First, the existing theory is tested in a new boundary, which is the context of the power-disadvantaged firm. Second, a mediating relationship is hypothesised, proposing a new perspective in examining the existing theory. Therefore, the current study builds up a theory in the intermediate stage, which aims to address both variance and process issues of the influence of exploitation and exploration on the performance of PDFs in their existing network. This purpose leads to the adoption of the post-positivism research paradigm. Therefore, a mixed-methods approach will be applied to the knowledge inquiry (Edmondson & McManus, 2007; Jang, McDougall, Pollon, Herbert, & Russell, 2008). Following this logic, the multiple approach adopts a quantitative component as the dominant component of the research design, whereas the qualitative method is deemed to supplement quantitative results with contextual evidence (Teddlie & Tashakkori, 2006). The key purpose for using the mixed-methods approach is complementarity

(Small, 2011). It is expected that insights from the qualitative study will be used for deeper explanation of proposed relationships set forth by the quantitative study.

With this aim, the research follows the convergent parallel mixed-methods design guided by Creswell (2013). This mirrors the practice of other research that addresses the same purpose (Hoetker, 2005). Guided by methodology literature (Creswell, 2013; Teddlie & Tashakkori, 2006), a concurrent strategy is applied to the two approaches, where data collection and analysis processes are undertaken simultaneously and later integrated for interpretive purposes. Additionally, the sample size for the qualitative study can be smaller than that of the quantitative study and the two studies can use the same respondents for data collection (Creswell, 2013; Sandelowski, 2000). Hurmerinta-Peltomäki and Nummela (2006) show that the strategy of combining both types of data collection and analysis, as done in this research, is likely to add more value to research in the business area.

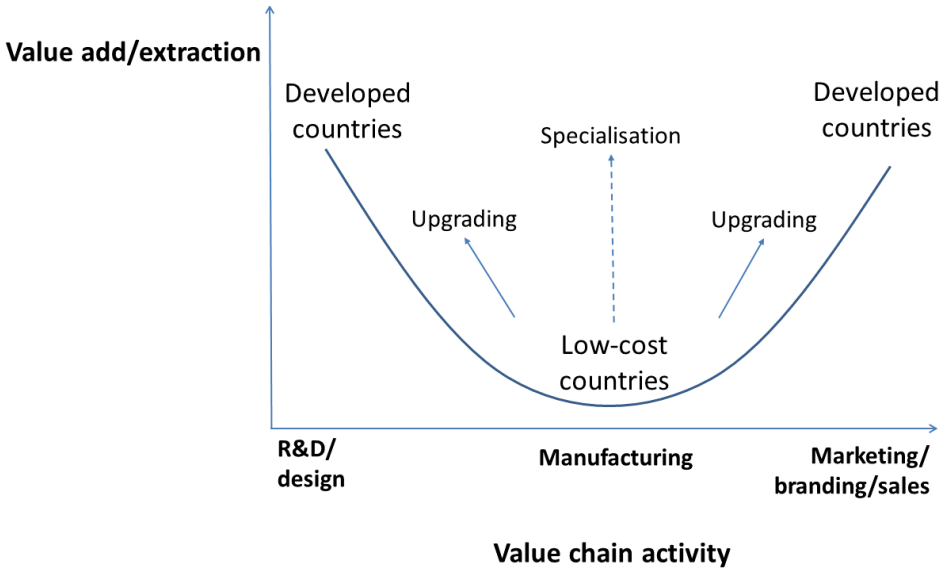
3.3 The Research Setting

3.3.1 The Context of Contract Manufacturing Exporters

The current study's model is tested in the context of contract manufacturing exporters. This group of exporters emerges from the rise of global value chains (GVCs) (Gereffi & Lee, 2012), which are shaped by the progression of developing countries' participation in global trade in manufactured goods (Martin, 2003) as well as the offshoring trend apparent in transnational corporations from developed countries (Kotabe & Mudambi, 2009; UNCTAD, 2011). By offshoring, multinational firms expand their value chains to the international level where they outsource their non-core activities, such as production, to contract manufacturers in developing countries while retaining higher-value activities for their own business. The multinational takes the key role in coordinating value chain activities and is often referred to as the lead firm (Buckley, 2009). This trend has created a geographic dispersion of global production networks where market intelligence, R&D and branding are conducted by lead firms in developed countries, while production is more concentrated in developing countries in Asia, Africa, Eastern Europe and Latin America (Gereffi, 2011; Kusaba, Moser, & Rodrigues, 2011; Shin et al., 2012). This study considers manufacturers in developing countries, who produce and export goods according to lead firms' specifications as contract

manufacturing exporters (CMEs). According to Gereffi et al. (2005), the interfirm arrangement between lead firms and their CMEs is typified by a power asymmetric structure in favour of the lead firm. Therefore, GVCs can represent asymmetric inter-organisational networks where CMEs act as PDFs.

Figure 3.2 The Smiling Curve



Source: Adapted from Dedrick et al. (1999) and Shin et al. (2012)

Although participating in GVCs is widely recognised as a mode of fast access to the international market for CMEs (Buckley, 2009; Mahutga, 2013), two critical issues related to their growth have been identified.

First, CMEs generally earn a meagre profit for their production activities. Scant investigation on cost structures has revealed that CMEs generally earn less than 2% of the product selling price (Memedovic & Mattila, 2008; UNCTAD, 2011), while lead firms get a much larger share. This pattern of value distribution among value chain players has been long described by the concept of a smiling curve (Dedrick et al., 1999; Shin et al., 2012), as shown in Figure 3.2. According to this concept, manufacturers in low-cost countries concentrate on production activities and make much less profit when compared to the other chain players such as retailers or brand marketers in developed countries, who perform the R&D and marketing activities.

Second, CMEs have limited opportunities to develop their capabilities for sustainable participation in the global market (Giuliani, Pietrobelli, & Rabellotti, 2005; Humphrey & Schmitz, 2000; Kaplinsky, 1998). In a series of cross-national interviews of both buyers and manufacturers in the footwear industry, Schmitz and Knorringa (2000) found that buyers often encouraged or placed pressure on manufacturers to improve their production competencies to lessen suppliers' risk of failure, hence strengthening buyers' own competitiveness. However, they did not encourage manufacturers to engage in activities where buyers built their core competencies. As a result, the manufacturers in the study who were from India, China, and Brazil were competent enough in production to satisfy buyers' requirements on quality, response time and delivery time, but their innovation ability remained weak. Similar results from other studies (Giuliani et al., 2005; Morrison, Pietrobelli, & Rabellotti, 2008) suggest that when participating in GVCs, CMEs depend on lead firms for market expansion but have limited opportunities to develop a sound standing in the global marketplace.

These issues have triggered researchers to examine strategies that allow CMEs to increase their earnings and to strengthen their competitiveness. Three strategies have emerged in GVC literature to address this problem: upgrading along a value chain (Humphrey & Schmitz, 2002b), diversifying value positions through various chains (Buckley, 2009), and improving CMEs' capabilities (Morrison et al., 2008; Navas-Alemán, 2011).

The first strategy of upgrading along a value chain is widely suggested as the best means of increasing the earnings of CMEs. There are three types of upgrading: product, process, and functional upgrading (Humphrey & Schmitz, 2000, 2002b; Schmitz, 2006; Tokatli & Kizilgün, 2004). Product upgrading refers to the manufacturers' attempts to switch to more sophisticated product lines rather than producing low-value products. Process upgrading concerns an increase in the efficiency of production. Efficiency can be increased through acquiring new machinery, implementing a quality control system, reducing waste, or shortening lead time. Unlike product and process upgrading, where firms' efforts are centred on production activities, functional upgrading refers to taking a new role in value chains such as designing, branding, and marketing. However, past

literature has pointed out that CMEs' face great difficulty in their upgrading efforts and are only supported when their efforts complement the lead firm's strategies (Li, 2011).

Since CMEs have limited opportunities to upgrade along value chains, the second strategy of multiple-chain participation has been suggested. Through multiple-chain participation, CMEs can participate in a low position within a global chain where they can exploit cost advantages and simultaneously reach for a higher position in a regional or domestic chain where they explore new market or product opportunities (Buckley, 2009). However, evidence for this strategy's positive influence on CMEs' performance – either organisational or performance in GVCs – remains scant in the existing literature (Schmitz, 2006). This leaves a gap to examine the phenomenon at the firm level.

Finally, taking the perspective of the Resource-Based Theory, researchers (Morrison et al., 2008; Navas-Alemán, 2011) have argued that CMEs should focus on building their operational capabilities instead of placing an emphasis on upgrading.

Among these three mentioned strategies, the benefits of multiple-chain participation on CMEs' operational capabilities have been found (Navas-Alemán, 2011; Pickles, Smith, Bucek, Roukova, & Begg, 2006). Meanwhile, its effect on CMEs' performance has not been established (Schmitz, 2006). However, the effect of chain diversification is often found at the cluster level as this is the common unit of analysis in GVC literature (Morrison et al., 2008). Furthermore, studies on the impact of improved capabilities on the performance of CMEs in GVCs remain sparse (Navas-Alemán, 2011).

The second strategy of multiple-chain diversification, which is the exploitation of cost advantages and the exploration of new opportunities (Buckley, 2009), tends to adopt the dual practices of exploitation and exploration strategies (Hitt et al., 2001b). The dearth of study on the impact of these two strategies on CMEs' performance in GVCs together with existing evidence of the impact of these two strategies on capability development at the cluster level makes the context of CMEs in GVCs a suitable research setting for the current study.

Further investigation of the GVC literature also shows that entrepreneurial practices are more likely to be observed in buyer-driven chains rather than in producer-driven chains.

The dichotomy of buyer-driven chains and producer-driven chains helps to identify industries where GVCs are more globalised and CMEs can have greater flexibility to form strategies for their growth. According to Gereffi (1999), buyer-driven chains are observed in labour-intensive industries such as garment, footwear, furniture or toy industries where retailers, marketers and branded manufacturers are the lead firms. Being motivated by cost-seeking behaviour, lead firms in buyer-driven chains offshore their production activities to low-cost destinations. They are disconnected from production and focus on other functions such as marketing or R&D. On the contrary, producer-driven chains are seen in capital-intensive industries, such as automobile, air craft or heavy machinery industries. Lead firms in these chains are global producers who are seeking market opportunities and access to raw materials. Besides their involvement in design, R&D and marketing activities, global producers in producer-driven chains still engage in manufacturing activities because they have ownership advantages of proprietary assets over production processes (Bair, 2005; Gereffi, 2001). Mahutga (2012) argues that the low level of manufacturing barriers and the greater availability of manufacturers in buyer-driven chains promote the higher level of globalisation of labour-intensive industries when compared to capital-intensive industries.

Furthermore, it is pointed out (Mahutga, 2012) that lead firms in producer-driven chains often use foreign direct investment to set up their manufacturing bases; therefore, they have greater control over the manufacturers in the chain. Nevertheless, the power asymmetric structure appears more pronounced in buyer-driven chains. This is because the lower entry barrier in manufacturing in buyer-driven chain creates a much larger pool of CMEs available to buyers as compared to availability of producers in producer-driven chains (Mahutga, 2014). Therefore, the context of CMEs in buyer-driven chains provides a better research setting for the study. Moreover, it has been pointed out that manufacturers in buyer-driven chains are more independent in terms of ownership and have greater flexibility to upgrade their roles in value chains (Gereffi & Frederick, 2010). It is expected that manufacturers in buyer-driven chains can have greater autonomy in developing their organisations' strategies than their counterparts in producer-driven chains. As a consequence, CMEs in buyer-driven chains are more appropriate for this

study. Due to the large number of CMEs participating in buyer-driven GVCs in Asia (Bair, 2005; UNCTAD, 2011), the region is proposed as the research location for the study.

3.3.2 Vietnam as the Research Setting

Vietnam has been selected as the research setting primarily because it is located in Asia, one of the world's key players in global production networks (Sturgeon, 2002; UNCTAD, 2011). The region is home to many countries that serve as major offshoring locations in both the service (Chadee & Raman, 2009) and manufacturing (Gereffi, 2011) sectors. Moreover, the existence of both buyer-driven chains and producer-driven chains in the area is also documented (UNCTAD, 2011; WTO & IDE-JETRO, 2011).

Furthermore, Vietnam is chosen for the country's participation in GVCs, especially in buyer-driven chain industries because this type of GVC is considered to be more appropriate for this study, as previously discussed (section 3.3.1). It has been noted that China and Vietnam are the region's leading producers in the low-skill manufacturing sector (WTO & IDE-JETRO, 2011), where buyer-driven chains are often found (Barrientos, Gereffi, & Rossi, 2011). Although Vietnam is second to China, the country is becoming more attractive as a favourable offshoring location due to the trend of shifting production from coastal China to other low-cost locations like Vietnam, Cambodia and Bangladesh (Gereffi, 2011). Further, in 2015, the country placed well in the ranking of the world's largest exporting countries in footwear (2nd), garment (3rd), and furniture (7th) (ITC, 2015). These three industries have globally dispersed value chains (Gereffi & Memedovic, 2003; Kaplinsky, Memedovic, Morris, & Readman, 2003; Memedovic & Mattila, 2008). Garment, footwear and wooden furniture are also the country's leading exporting industries (See Table 3.1).

In addition, previous studies on the context of CMEs or with a GVC perspective have focused on China (Li & Ogunmokun, 2008). An examination of another country, in this case Vietnam, is a valuable contribution especially when the country is seen as a favourable destination for production shifting from China (Gereffi, 2011).

Besides, the success of the garment, footwear, and wooden furniture industries in Vietnam is attributed to a large number of CMEs participating in GVCs, where they process products under international designs and brands (Pham, 2009; Vixathep &

Matsunaga, 2012). In the garment industry, for example, approximately 60 per cent of export sales are from the assembly processing activity (VITAS, 2012). Similarly, this assembly practice also dominates the footwear and furniture industries (Pham, 2008).

Table 3.1 Vietnam's Top Exporting Industries in 2015

Industry	Value (mil USD)	%	2011 - 2015 average growth rate	Share in world export	Rank in world export
All products	179,148	100.0	16.6%	1.1%	26
Top 10 industries	141,514	79.0	22.7%	-	-
Electrical and electronic equipment	64,118	35.8	49.5%	.7%	11
Garment	23,300	13.0	16.1%	3.0%	3
Footwear	15,590	8.7	23.4%	.3%	2
Machinery	12,424	6.9	31.4%	7.4%	27
Furniture	7,589	4.2	23.4%	.2%	7
Seafood	4,261	2.4	-3.6%	2.2%	5
Petroleum	4,250	2.4	-21.2%	4.4%	57
Coffee and tea	3,645	2.0	-.9%	7.0%	2
Leather	3,321	1.9	30.3%	2.1%	5
Fruits	3,015	1.7	15.0%	1.0%	9

Source: ITC (2015)

Finally, the benefits of this strategy for upgrading in value chains have been recognised in the three industries. A number of exporters in the industries have attempted to move along value chains and to try and market products they have designed to increase their share of products exported under Vietnamese designed brands (VITAS, 2012).

3.3.3 Export Performance as the Performance of PDFs

With the adoption of GVCs as an asymmetric network setting, the performance of CMEs in GVCs is the main focus of the study. Because products for GVCs are finally exported to international markets according to the specifications of the lead firm (Buckley, 2009; Gereffi et al., 2005), this study adopts CMEs' export performance to consider the performance of PDFs in their networks. Consequently, insights from the exporting literature are applied to determine the operationalisation of the performance construct for the study. Export performance is considered as the composite outcome of a firm's international sales and the achievement of firm non-economic goals (Cavusgil & Zou, 1994; Katsikeas et al., 2000). Appendix A presents a number of definitions and

measurements of export performance having been used in prior research. The operationalisation of export performance used for this study is centred on three key issues.

First of all, based on suggestions from existing studies that export performance should be assessed through multiple dimensions (Cavusgil & Zou, 1994; Katsikeas et al., 2000; Lages, 2000), two aspects of financial and strategic performance are adopted for this study. Financial performance expresses the firm's economic outcomes, while strategic performance reflects the achievement of non-economic goals of exporting activities. Following the practices employed in previous research (Cavusgil & Zou, 1994; Zou & Stan, 1998), financial performance most often refers to achieving export sales, growth, and profits. Meanwhile, strategic performance is considered as the managers' assessment of the achievement of export activities in international market expansion (Cavusgil and Zou 1994), building quality relationships with customers and distributors (Morgan et al. 2004), reducing market dependency (Da Rocha, Christensen, & Eduardo da Cunha, 1990) and gaining product diversification (Li & Ogunmokun, 2001a).

The adoption of financial and non-financial dimensions of export performance is also in line with the existing literature. Venkatraman and Ramanujam (1986) advance that business performance can be assessed against these two dimensions to reflect the fulfilment of economic goals and to capture the effectiveness of a business strategy or organisational operation as a whole. This multiple perspective has also been employed for research in the network setting. For example, Hughes, Morgan, Ireland, and Hughes (2014) consider different directions of performance such as market performance and response performance. The response performance in their research reflects the entrepreneurial firm's ability to adapt to changes and respond promptly to opportunities and threats in the network. In another study, Li and Ogunmokun (2001b) who investigate Chinese exporters in the supply chain context consider the two dimensions of financial and goal achievement performance. As a consequence, the current study also considers financial and strategic performance as two dimensions for evaluating the performance of PDFs in their networks.

Second, in measuring export performance, two principle modes of assessment have been employed in the literature: objective and subjective (Katsikeas et al., 2000).

Objective criteria are based on absolute values describing business outcomes derived from exporting activities while subjective measures are reflected through managerial perception of goal achievement (Sousa, 2004). Therefore, objective assessment is gathered through secondary data whereas subjective measurement is collected by primary data. Primary data is collected in the form of managers' responses to questionnaire items that ask for their perception of the success of their exporting activities. Items are often structured in the form of five or seven-point scales. Sousa (2004) points out that while objective measurement is often used to collect sales-related data, subjective measurements cover a broader range of criteria, ranging across sales, profits, market achievement, performance in specific functions, and the overall export performance.

This study uses subjective measurement for export performance for the following reasons. First, organisations are unable or unwilling to reveal their performance through objective data (Francis & Collins-Dodd, 2000; Leonidou, Katsikeas, & Samiee, 2002). Second, data for all sampled firms is not publicly available, which makes it impossible to check the accuracy of reported financial figures (Robertson & Chetty, 2000). Third, it is difficult to specify a fixed reference point for the comparison of success across firms because figures that indicate success to one firm can indicate failure for another (Lages & Lages, 2004). Fourth, the use of subjective data is favourable when researchers seek to explore managers' understanding and interpretation of the performance criteria in more depth (Brouthers & Xu, 2002; Crick, Kaganda, & Matlay, 2011). Fifth, subjective measures have been found to be positively correlated with objective data (Wall, Michie, Patterson, Wood, Sheehan, Clegg, & West, 2004) and extensively used in the exporting field (Katsikeas et al., 2000), especially in developing countries where respondents are reluctant to disclose objective figures (Brouthers & Xu, 2002). Finally , this mode of assessment would also encourage managers to respond to and allow for detailed inquiries about managers' application and interpretation of export performance criteria (Francis & Collins-Dodd, 2000; Leonidou et al., 2002).

Finally, performance will be evaluated at the firm level for all markets. It is better to examine the firm's performance on exporting activities to all foreign markets because CMEs have limited involvement in making decisions on products and markets since they

produce and export products according to orders from international lead firms (Guercini & Runfola, 2012; Mohiuddin & Su, 2013). Besides, exploitation and exploration strategies pertain to organisation-wide activities; therefore, their outcomes should also be measured at the same level (Oliveira, Cadogan, & Souchon, 2012).

3.3.4 Manufacturers' Capability as Competitive Capability of PDFs

Because CMEs are manufacturers by nature, the capabilities deemed necessary for manufacturers are the focus of this study. Previous research in the domestic context (Song et al., 2008) has identified capabilities which are essential to manufacturers who want to develop internal strategic resources for future growth. They are information technology (IT), technical, marketing, and market-linking capabilities. Except for marketing capabilities (Morgan, Katsikeas, & Vorhies, 2012; Zou et al., 2003), the other three capabilities have been under-examined in the exporting area. Furthermore, all four capabilities have not been sufficiently studied in the context of CMEs. To fill this void in the literature, the present research will employ the four capabilities highlighted by Song et al. (2008) to investigate CMEs' capabilities.

IT capability refers to a firm's skill in using information technology systems to facilitate internal communication and cross-functional integration. It has been pointed out that IT capability enhances the firm's ability to develop new products that respond to market needs (Moenaert & Souder, 1996). Technology (technical) capability mentions the firm's ability in managing financial resources, controlling operation costs, developing technology, and managing logistic activities. This capability enables firms to achieve cost reduction, efficiency improvement, and delivery consistency (Day 1994). Marketing capability highlights skills in segmentation, pricing, and advertising. Marketing capabilities are complementary to technical and market-linking capabilities, since the former enables a firm to take advantage of the latter two to effectively bring products to the market (Song & Parry, 1997). Finally, market-linking capability refers to a firm's ability to sense market trends, monitor changes in technology, and build relationships with customers or members along channels (DeSarbo, Di Benedetto, Song, & Sinha, 2005; Song et al., 2008). This capability enables a firm to respond to changes in its customers' needs and to use existing resources effectively to capture external opportunities (Day 1994).

3.4 The Quantitative Design

3.4.1 The Survey Design

Self-completion questionnaires were used to collect the quantitative data. As choice of delivery is the key issue in survey research (Jobber & O'Reilly, 1998), organisational researchers often employ one of three strategies: mail, web-based, or drop-and-collect. When using mailing methods, the survey is distributed to targeted respondents through the postal system with a self-addressed prepaid envelope for the return of the questionnaires. The major advantages of postal surveys are that they are cheaper, quicker to administer in case of a large scale survey (Bryman, 2008), and they are convenient for respondents (Babbie, 2015). Besides, objectivity can be enhanced due to the absence of the researcher (Bryman, 2008). However, data collection from mail surveys can have relatively high rates of non-response and missing data, which could require additional efforts to acquire a sufficient database. These include pre-notification, monetary incentives, and follow-up reminders (Jobber & O'Reilly, 1998). The ease and convenience of the Internet have made web-based surveys a popular choice for many researchers (Cook, Heath, & Thompson, 2000). As compared to the postal approach, web-based surveys are advantageous for their low-cost and quick turn-around time in collecting data (Dixon & Turner, 2007). However, it has been shown that non-response rates are usually higher with electronic surveys (Kwak & Radler, 2002) and difficult to improve upon with follow-up reminders (Shih & Xitao Fan, 2008). To remedy the low non-response rate associated with mail and electronic surveys, researchers turn to the drop-and-collect methods, especially in the context of developing countries (Aulakh et al., 2000; Brouthers & Xu, 2002). In a drop-and-collect, the questionnaire is hand delivered and collected through personal visits to the firm (Ibeh, Brock, & Zhou, 2004).

While personal site visits result in higher costs, the drop-and-collect survey is favoured by many social researchers and is employed for this study for three reasons. First, the response rate can be improved through the use of personal efforts in collecting data (Ibeh et al., 2004). Second, it is suitable for use in developing countries where managers are not familiar with mail surveys (Brouthers & Xu, 2002) or where there are existing issues relating to the postal system (Ellis, 2005). Third, it is appropriate to use drop-and-

collect surveys in a culture where personal interaction is crucial for information exchange (Sok, O'Cass, & Miles, 2015). Finally, the method has been tested and found to be appropriate in a transition economy, which is the case of Vietnam, where personal efforts are critical for gaining the trust and willingness of managers (Brouthers & Xu, 2002; O'Cass & Sok, 2013).

Respondents targeted for the study were mainly CEOs and export managers. They were targeted for their ability to provide information on their firms' strategies, its superior capabilities and its performance (Lubatkin et al., 2006; Zou et al., 2003). In surveying executives, the literature (Cycyota & Harrison, 2006; Rogelberg & Stanton, 2007) shows that response rates in social research have been declining with executive samples. Common techniques to increase the survey response rate such as pre-notification, follow-up reminders and prepaid stamp envelopes did not effectively improve the response rate of this group of respondents. To increase executive participation in surveys, scholars strongly recommend the use of social networks and topics salient to the organisation's operation as a means to reach targeted respondents and to generate responses (Cycyota & Harrison, 2006). Following these suggestions and previous practices employed in developing countries (Brouthers & Xu, 2002), this study used the drop-and-collect survey technique.

Besides, the convenience sampling strategy is deemed reasonable for this study because its main purpose is to apply a theoretical lens to understanding relationships that occur in the real world. Calder, Phillips, and Tybout (1981) advance that sampling strategy should be driven by the purpose of a study. If the purpose is to estimate parameters in the population, it is necessary that the sample match the population in reality. As a result, statistical sampling techniques are required to ensure that each object has an equal known probability to be selected in the sample. On the other hand, when the purpose of a study is to apply a theoretical understanding of proposed relationships, the sampling strategy is more lenient with regard to the representativeness of the sample. Cook (1993) asserts that theory application only requires that selected participants provide a rigorous test of the theory at issue. Ferber (1977) echoes this view when arguing that a convenience sampling technique is suitable for exploratory purposes. Since this study aims to explore the effect of the dual practice of exploitation and

exploration strategies on the export performance of CMEs, the convenience sampling technique is chosen to match the purpose of the study.

3.4.2 Population and Sample

The research setting of this study is CMEs in the garment, footwear, and furniture industries in Vietnam as discussed in section 3.3.2. Firms in these three industries are scattered in several industrialised regions of Vietnam. However, only firms in Ho Chi Minh City, Dong Nai, and Binh Duong provinces are targeted as the majority of exporting firms in the three industries is located in this region. Moreover, it is easier to approach a large number of firms due to the high density of industrial parks in the three areas.

With the objective of investigating some mechanisms to improve CMEs' export performance, the study received support from various industry associations and trade support institutions in these regions. Specifically, support was provided in terms of accessibility to potential respondents through the social networks of staff from these associations and institutions. To reach potential participants, personnel from industry associations and trade support institutions were recruited to distribute the questionnaire. Social networks from affiliated organisations have been shown to be effective in gaining executives' trust and willingness to participate in a survey (Brouthers & Xu, 2002; Cycyota & Harrison, 2006). To collect data, staff from these organisations contacted managers and invited them to participate in the survey primarily through the use of the drop-and-collect technique. Nevertheless, hand delivery of the questionnaire to executives on site or survey distribution in association meetings or trade fairs was also allowed as these channels are acceptable in the convenience sampling technique (Leszczyński & Zieliński, 2007).

In total, 175 questionnaires were distributed and 167 were subsequently collected. Managers not being on site was the main reason for the non-responses. Questionnaires with high number of missing values (over 20%) were eliminated, resulting in 156 usable surveys for analysis.

According to Ferber (1977), samples following the convenience sampling technique also need to meet three basic criteria. First, it is required that the sample is relevant to the issue of the study. Since this study focuses on the context of CMEs, only firms operating

as CMEs are included in the sample to preserve the relevance of the study. Second, the sample size needs to be adequate for analysis. This study employed the PLS-SEM technique as detailed in section 3.4.7.2. To conduct an analysis in PLS-SEM, the sample size is required to be at least ten times higher than the number determined by either the number of arrows pointing to an endogenous construct in the inner model, or the number of paths pointing to a formative construct in the outer model (Barclay, Higgins, & Thompson, 1995). Since there are no formative constructs in the model proposed, the minimum sample size should be at least 80 as indicated in the research model, e.g. ten times the highest number of arrows pointing to a performance construct in the inner model (see Figure 2.2). Cohen (1992) also suggests a sample size of 107 for multiple regression analyses consisting of eight independent variables as a requirement for data analysis to be able to detect the medium effect size at a statistical power of 80%. With 156 usable questionnaires, the sample size is sufficient for analysis. Third, a convenience sample is still required to represent the population being studied in some way. However, the determination is much more subjective and does not need to meet the requirement that every firm in the population have a known probability to be selected in the sample (Calder et al., 1981; Ferber, 1977). Table 3.2 presents the percentage of firms by industry, which is relatively proportionate with the distribution of firms in the three industries in the country (GSO, 2013, pp. 291-292).

Table 3.2 Overview of Sample and Population

Industry	Number of firms in sample		Number of firms in industry	
Garment	86	55.13%	4,950	48.00%
Footwear	23	14.74%	1,317	12.78%
Furniture	47	30.13%	4,044	39.22%

3.4.3 Instrumentation

3.4.3.1 Measuring the Dependent Variable

The selection of GVC as the research setting leads to the adoption of CMEs' export performance for the dependent variable. As explained in section 3.3.3, this study employs the two dimensions of financial and strategic export performance, which are measured subjectively and evaluated at the firm level. The financial component is determined through managers' perceptions of economic gains from their exporting

business. The measurement employs export sales volume, export sales growth, export profitability, and export sales intensity, as these four financial items are commonly used in the exporting literature (Katsikeas et al., 2000). Respondents are asked to indicate their perception against these criteria over seven anchors ranging from 'very low' to 'very high'. On the other hand, strategic export performance captures managers' judgement on the overall effectiveness of their firm's exporting business. The study borrows existing items from Li and Ogunmokun (2001b) as their study focuses on exporting in a supplying context, a setting closely relevant to GVCs. These four items focus on strategic goals regarding the firm's success in accessing new technology, reducing market dependency, improving lead time, and attaining better customer satisfaction. Increasing the share of high-value products is added as a new item in the instrument because the literature (Giuliani et al., 2005; Humphrey & Schmitz, 2002a; Matthyssens & Vandenbempt, 2008) indicates that offering higher-value products is also a goal of manufacturers in GVCs. These five-item scales for strategic performance are constructed along a five-point Likert scale, ranging from 'not achieved at all' to 'completely achieved'.

3.4.3.2 Measuring Exploitation Strategy and Exploration Strategy

Exploitation strategy contains activities aimed at the efficient management of a firm's existing resources and its capabilities to earn above-average economic returns. Measurement to record CMEs' exploitation strategy is taken from Sirén et al. (2012), who combine and refine statements employed in previous research (He & Wong, 2004; Lubatkin et al., 2006). The measurement includes six items, of which the first three focus on firms' refinement of current resources. The remaining three capture the tendency of firms to exploit the existing market base. The improvement of existing operations includes improving quality and lowering cost, improving the reliability of products and services, and increasing the level of automation in operations. Meanwhile, items referring to the exploitation of the current market ask respondents to what extent they agree that their firm constantly surveys existing customers' satisfaction, fine-tunes their offerings to keep current customers satisfied, and penetrates more deeply into their existing customer base.

On the other hand, exploration strategy pertains to entrepreneurial actions to manage the creation of new business opportunities emerging outside the scope of current strategies (Hitt et al., 2001b). The study also borrows the five-point six-item measurement from Sirén et al. (2012). The scale contains four items regarding firm ability to seek novel ideas by thinking 'outside the box', exploring new technologies, creating products and services innovative to the firm, and finding new ways to satisfy customers' needs. The other two items focus on firms' efforts to venture into new markets or to target new customer groups.

With the adoption of CMEs as the research setting, exploitation strategy focuses on their exporting activities. A sentence guiding respondents' thinking on their firm exporting activities was added prior to presenting the items of exploitation strategy. On the other hand, exploration strategy is not limited to firm exporting business and respondents were guided to think of their overall firm strategy before filling in their answers for exploration strategy.

To ensure targeting firms adopted both exploitation and exploration strategy, additional two questions were added in the questionnaire. One question presents four methods describing practices of CMEs in GVCs. This question lists four methods of participating in GVCs (Gereffi & Frederick, 2010): assembly, providing full-package services, providing designing services, or selling own-branded products in a foreign market. The other question asked the respondent whether their firm was selling own-designed or own-branded products in the domestic or regional market. Judgement for firms pursuing both exploitation and exploration strategies is based on evidences of various practices in GVCs or diversification into domestic or regional markets

3.4.3.3 Measuring Competitive Capability

As discussed in section 3.3.4, the adoption of IT, technical, marketing, and market-linking capabilities for capturing the competitive capability of PDFs is guided by the setting of manufacturers in GVCs. Following the conceptualisation of competitive capability advanced by Day (1994) and scale development procedures suggested by Churchill (1979), Song et al. (2008) develop 11 scale-point instruments to capture these capabilities of manufacturing firms. The scales are validated across three countries. Data are recorded through respondents' evaluations of their firm's capabilities in comparison

to their major competitor. These scales have been tested in the domestic context (Song, Di Benedetto, & Mason, 2007) but have been employed sparsely in the exporting area.

Following Song et al. (2008), this study defines IT capability as the relative capability that enables the creation of technical knowledge and market knowledge, and facilitates information flow for communication within and across the firm boundary. Their six-item instrument for IT capability is adopted for this study.

Originally, Song et al. (2008) used ten items derived from Day (1994) to measure manufacturers' technical capabilities. However, five items were removed after the cross-country validation process. The five items retained in the instrument capture a firm's relative capability in the prediction of technology change, technology and new product development, manufacturing processes, and production facilities. The five items removed from the original scales referred to a firm's relative capability regarding its integration of logistics systems, production facilities, cost and quality control skills, financial management skills, and technical resources and technical skills. However, technical capability is not necessarily limited to a firm's ability to generate or to catch up with the latest technology in the industry and should also be related to technical aspects used in a firm's daily operations such as cost reduction and quality control (Day, 1994). This study considers a firm's technical capability as relative capability concerning technical aspects used in the firm's operations and production. Subsequently, the study employs all ten items originally developed by Song et al. (2008).

Marketing capability refers to a firm's ability to effectively bring products to the market (Zou et al., 2003). This study adopts six items developed by Song et al. (2008) to measure firm marketing capability. The items include firm relative knowledge of competitors and customers, their skills to segment and target markets, the effectiveness of their pricing and advertising programmes, and their capability to control and evaluate market activities.

Similarly, the study also adopts Song et al.'s (2008) five-item instrument to measure firm market-sensing capability, which pertains to a firm's relative capability to understand market needs and to build durable relationships with other members along value chains (Day, 1994).

While borrowing measurement from Song et al. (2008), the study employs a five-point rating instead of the original 11 anchors. The modification is made because a five-point rating is perceived as quick and easy to use for respondents (Preston & Colman, 2000). Moreover, the reliability of the measurement is not likely to be impacted by this change in numbers of the scale points (Matell & Jacoby, 1971).

3.4.3.4 Measuring Absorptive Capacity

This study adopts the process approach to conceptualise absorptive capacity (Camisón & Forés, 2010; Zahra & George, 2002) and defines this construct as an organisation's capability to acquire, assimilate, transform, and exploit external knowledge. The instrument to capture these four components of absorptive capacity is borrowed from Flatten, Engelen, Zahra, and Brettel (2011). As capability emerges from firm processes and routines (Zollo & Winter, 2002), the measurement elicits respondents' agreement on 15 statements regarding a firm's organisational processes and routines deemed to form the firm's absorptive capacity. The items are designed with seven-scale points, ranging from 'completely disagree' to 'completely agree'.

The capability to acquire external information is captured through three items concerning firms' daily routines to search for relevant information in the industry, management motivation for employees to use information within the industry, and their expectation that employees deal with extended information beyond the industry.

Meanwhile, the capability to assimilate acquired knowledge refers to firm practices for knowledge sharing across business units or departments. Four items measuring this capability are statements regarding the communication of ideas across departments, using cross-departmental support to solve problems, information flows across business units or departments, and periodical cross-departmental meetings to exchange new developments, problems, and achievements.

The capability to transform knowledge includes the reconfiguration of both existing internal knowledge and newly assimilated knowledge to integrate and incorporate this transformed knowledge into firms' systems and operations. Five statements capturing this capability relate to employees' ability to structure and to use collected knowledge, to absorb new knowledge, to prepare new knowledge and make it available for further

purposes, to successfully link existing knowledge with new insights, and to apply new knowledge in practical work.

The last capability to exploit knowledge is recorded by three items concerning management support for the development of prototypes, regular consideration of technologies and adapting them according to new knowledge, and a firm's ability to work more effectively by adopting new technologies.

3.4.3.5 Control and Marker Variables

As outlined in the previous chapter, five variables are used to control for potential confounding effects of other extraneous factors.

The industry is recorded as 1 if a firm operates in the garment industry and 0 if it is in the footwear and furniture industries. This classification is made due to the observation that most upgrading practices are observed in firms in the garment industry. Therefore, it is likely that the impact of exploration strategy can be different from the other two industries. CMEs' export experience is used to capture their length of participation in GVCs. As the country opened export activities to all forms of organisations in 1998 (Vietnamese-Government, 1998), this year is used as a cut-off point to measure export experience. The export experience is used as a proxy for network age. CMEs that started their export activities before 1998 were coded as 0, otherwise as 1.

In Vietnam, small and medium-sized firms are defined as firms with workers numbering less than 300 (Vietnamese-Government, 2009). Therefore, firm size is coded as 0 for small and medium-sized firms and as 1 for large firms with 300 or more workers. Ownership control was coded 1 for firms solely under domestic funding, 0 for firms with foreign capital in their equity structure. Market operation was recorded as 1 for firms having businesses in both export and domestic markets, and 0 for firms with only exporting operations.

In addition, a three-item measure to identify firm brand association with a bank (Phan & Ghantous, 2013) is included in the questionnaire as a marker variable to allow for the additional analysis of the common method variance issues, outlined in section 3.4.6. These items are chosen for their theoretical un-relatedness to the main proposed constructs (Lindell & Whitney, 2001) and the way to measure them is similar to that

applied to the dependent variables (Williams, Hartman, & Cavazotte, 2010). Conceptually, the brand association pertains to the psycho-cognition processes (Keller, 1993) that can affect a firm's social association with a bank such as loyalty and relationships (Phan & Ghantous, 2013), rather than the firm's strategy, its performance, or capabilities.

3.4.4 Instrument Refinement and Verification

As the targeted respondents were Vietnamese managers, a translation of the measurement from English to Vietnamese was needed. Double translation was conducted as suggested by Werner and Campbell (1970) to avoid losing information and to maintain a high level of equivalence between the two versions.

Before the translation process, a questionnaire in English was first developed and finalised in consultation with two academic staff for question order, scale points, and format. Following prior practices of survey back-translation (Brouthers & Xu, 2002; Phan & Ghantous, 2013), the measurement was first translated into Vietnamese by two Vietnamese PhD students. These two translators discussed variation in the language and came up with the first version of the questionnaire. The first Vietnamese questionnaire was then developed with the format and question order specified by the questionnaire in the English version. This Vietnamese version was then back translated into English by a Vietnamese residing overseas. The two English versions were then compared by the researcher to check for the equivalence of the two versions. Where necessary, refinement was carried out to avoid losing information in terms of the constructs' meaning. The second Vietnamese version of the questionnaire was then developed.

This questionnaire was pre-tested with a group of 10 people consisting of three PhD students and seven managers. Ten respondents were deemed a sufficient number for a pre-test of the instrument (Brouthers & Xu, 2002). Each pre-tester completed the questionnaire and was asked to give feedback on understanding, comprehensibility, item variability, the length, and timing of the instrument (Cooper & Schindler, 2003, p. 392). The respondents found that the instruments were easy to complete, easy to understand and could be comfortably completed within 20 minutes. The pre-test also revealed that respondents were comfortable with the different scale points used in the

instruments. After this pre-test, the opening instructions were shortened, and some items were rearranged to improve the flow of the questionnaire.

3.4.5 Survey Implementation

The study employed the drop-and-collect strategy suggested by Ibeh et al. (2004) for data collection. First, targeted respondents were identified as managers in garment, footwear, and furniture companies from three regions: Ho Chi Minh City, Dong Nai and Binh Duong provinces. As previously mentioned, staff from trade support institutions and industry associations were recruited to distribute the survey according to their affiliations with the targeted firm. A list of potential respondents was developed based on existing contacts and networks of the recruited assistants. Firms not satisfying the criterion of being CMEs in the three targeted industries were deleted, resulting in 175 targeted respondents. Each assistant was then given a sub-list of potential respondents to approach. A criterion of firm size was included in the list to guide different approaches to managers. Large firms with over 300 workers (GSO, 2013) were given pre-notification before the survey drop-off, while direct visits were employed for small and medium-sized firms (Ibeh et al., 2004). The surveys could be collected immediately depending on the availability and willingness of the respondents, otherwise a reminder was issued one week after the drop, outlining a personal pick-up in subsequent 1-3 days. The entire collection process was undertaken from mid-March to mid-May 2014. The research assistants also capitalised on the convenience of reaching out to potential respondents at events such as trade fairs or association meetings (Leszczyński & Zieliński, 2007). Data were collected from 167 respondents out of a total 175 managers who had been asked to participate. Reasons for not participating were mainly due to the unavailability of targeted managers. 11 questionnaires were omitted due to a high rate of missing data. In total, 156 were usable for subsequent analysis, resulting in an 89.1% usable response rate.

3.4.6 Remedies for the Common Method Variance Issue

Common method variance (CMV) is the variance attributed to the research method rather than to the constructs of interest (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Relationships among variables can be inflated when CMV-driven bias is present in the data (Lindell & Whitney, 2001; Richardson, Simmering, & Sturman, 2009; Williams et al.,

2010). According to Podsakoff et al. (2003), there are generally four potential sources of CMV. Firstly, CMV is most likely to occur when retrieving data from one respondent for both predictor and criterion variables. Secondly, artefactual covariance between variables can also be rooted in the characteristics of measuring the items in case; for example, when they are written in a way that could reflect socially desirable attitudes or when they share the same format or endpoints. Thirdly, CMV can happen when the context of an item may influence a respondent's responses on other items. Finally, the context of measuring variables could cause CMV if data for predictors and criterion variables are collected at the same location, at the same time, or by the same method (e.g., face-to-face, computer-based survey).

CMV issues were deemed possible for the research as it was cross-sectional in nature and responses were recorded from a single informant (Podsakoff et al., 2003). Therefore, both procedural and statistical approaches suggested by Chang, Van Witteloostuijn, and Eden (2010) in dealing with CMV issues were employed for the current study to mitigate any potential effects from CMV.

As a procedural remedy, different scale anchors and endpoints for predictors and dependent variables were retained to reduce the possible systematic influence of scale format on the responses (Tourangeau et al., 2000). Besides, informants were assured anonymity as information referring to the names of the company and the managers would not be recorded in the questionnaire. Moreover, instructions to assure respondents that there were no right or wrong answers were included to encourage honest responses.

Furthermore, the study also applied three statistical techniques to address the issue of CMV. In particular, they were the Harman's one-factor test, the assessment of correlations between the marker variable and other constructs in the model (Raman et al., 2013; Sattler, Völckner, Riediger, & Ringle, 2010), and the assessment of the changes in path coefficients of the constructs between two cases of the marker variable being excluded and included in the model (Yu & Sharma, 2016). The selection for the marker variable is explained in section 3.4.3.5.

3.4.7 Data Analysis and Hypothesis Testing Procedures

The partial least square structural equation modelling technique is employed to validate the measurement model and test the hypotheses.

3.4.7.1 Structural Equation Modelling

Structural equation modelling is often referred to as the second generation of quantitative analyses with two key advanced features as compared to traditional techniques. First, structural equation modelling is more powerful as it allows researchers to analyse the measurement of, as well as the relationships between, multiple variables within one analysis with the use of simultaneous factor analysis and regression (Anderson & Gerbing, 1988; Chin, 1998a). This ability makes the technique more appealing since previous techniques could only handle one layer of analysis at a time (Gefen, Straub, & Boudreau, 2000). Second, structural equation modelling can achieve higher accuracy in estimation because it does not assume perfect reliability in measurement. Instead, it allows measurement errors to be taken into account in the model-building task (Bagozzi, 1977; Chin, Marcolin, & Newsted, 2003). This assumption largely differs from the error-free approach in presenting constructs employed by traditional techniques. Besides, structural equation modelling also provides other advantages such as estimating unobservable constructs and enabling tests of a priori theoretical and measurement assumptions against empirical data (Chin, 1998a).

Fundamentally, there are two structural equation modelling techniques: maximum likelihood (ML-SEM) and partial least square (PLS-SEM). These two types of structural equation modelling differ in three areas: analysis objectives, statistical assumptions, and the nature of the statistics used to evaluate the model (Barroso, Carrión, & Roldán, 2010; Gefen et al., 2000).

An ML-SEM analysis aims at examining how well the hypothesised model fits the data. In another way, the main objective is to confirm the model with empirical data. The key technique in this approach is to estimate loadings and path values (parameters) of the model to achieve minimal differences between the sample co-variances and those predicted by the model (Barroso et al., 2010), hence the name covariance-based SEM for this approach. When carrying out this technique, the analysis requires the data to

meet a number of statistical assumptions, such as large sample size – often at least 250 (Reinartz, Haenlein, & Henseler, 2009), reflective variables, multivariate normal distribution of the data (Henseler, Ringle, & Sinkovics, 2009), and the simplicity of the model to be tested (Anderson & Gerbing, 1988; Chin, 1998a; Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). Subsequently, the model is evaluated with a combination of fit indices (Anderson & Gerbing, 1988; Bagozzi & Yi, 1988), among which an indicator of overall-fit index acts as the main evaluation tool to assess the fit quality of the model (Chin, 1998a). The index can be obtained by a χ^2- test, where the alternative hypothesis is the difference between the sample and the model covariance matrices. This statistic looks for an insignificant result for a best-fitting model (Bagozzi & Yi, 1988).

On the other hand, the PLS-SEM technique uses a distinct approach, where its main objective is to predict the dependent variables as well as their indicators. This technique aims at maximising variances explained for all dependent variables through a series of ordinary least squares regression (Reinartz et al., 2009), hence the name variance-based SEM. PLS-SEM is often viewed as 'soft' modelling (Jöreskog & Wold, 1979) as it does not requires strict statistical assumptions to be fulfilled. In fact, PLS-SEM can be performed with non-normal data and small-sized samples (Gefen et al., 2000). PLS-SEM is similar to regression in its purpose of maximising variance explained. As such, this technique also uses R^2 as the main statistics to evaluate the prediction ability of model. PLS-SEM looks for a high value of R^2 and significant *t/p* values to reject the null hypothesis of no effect.

Although the ML-SEM and PLS-SEM appear distinct, (Jöreskog & Wold, 1979) suggest that these two techniques can be used complimentarily in building models. Nevertheless, researchers have been investigating when the use of each technique is more appropriate. For instance, using one sample, Gefen et al. (2000) run both techniques and recommend a dual consideration of research objectives as well as limitations imposed by the sample size and distribution. In a similar approach, Reinartz et al. (2009) and Barroso et al. (2010) also use identical samples and compare estimates produced by the two techniques. They advise that choosing one technique over the other is not a matter of statistical constraints. Instead, the decision needs to be congruent with the objective of the study. The ML-SEM technique is best suited to a study that aims at confirming theory; whereas, PLS-SEM is appropriate with predictive

and exploratory purposes. With these guidelines, the purpose of study is the key factor in deciding which SEM technique to use for the current research.

Relationships proposed in the model, which hypothesise the influences of exploration/exploitation strategies on firm competitive capabilities and the performance of PDFs in asymmetric networks, are not sufficiently examined in prior studies. The study does not aim at confirming existing theories. In fact, its primary interest is to point out potential relationships between proposed constructs. Therefore, it focuses on the prediction ability of the exogenous variables on the endogenous variable. Besides, the study also seeks to find statistical evidence to support relationships (e.g., exploitation strategy – capabilities; exploration strategy – capabilities; capabilities – export performance) which have not been adequately studied in the exporting area. As a consequence, the study is more exploratory and theory-building in nature. Therefore, the PLS-SEM technique is adopted for the study. Furthermore, when considering statistical requirements regarding sample size, PLS-SEM is favourable since with over 150 observations, the technique allows for the same level of statistical power attained by the ML-SEM approach which requires at least 250 observations (Reinartz et al., 2009).

3.4.7.2 Statistical Testing Procedures with PLS-SEM

3.4.7.2.1 Testing Mediation Effects

In establishing a mediation effect between a focal predictor on a dependent variable through a mediator, different approaches have been displayed in the existing literature. A review of testing approaches to examine mediation effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Wood, Goodman, Beckmann, & Cook, 2008) highlighted four general methods observed in the literature: the causal-step, the difference in coefficients approach, the product of coefficients approach, and finally the bootstrapping approach.

First, introduced by Barron and Kenny (1986), the causal step approach details three steps necessary to examine whether a mediation effect exists. These steps follow a three-step approach to establish conditions for potential mediation effects. The first step requires the significance of the direct effect between the two main variables of

interest. The second one tests the significant effect of the focal predictor on the mediator, and the final regression examines the effects of both the predictor and mediator on the dependent variable. Significant effects in the previous two regressions are required as conditions for a mediation effect. Furthermore, in the last regression the mediator must also be significantly linked to the dependent variable. If in this last step, the relationship between the focal predictor and the dependent variable is not significant, a full mediation is established; whereas a significant link which is relatively reduced in size in this path suggests a partial mediation effect.

A variation of this causal-step strategy primarily focuses on the bivariate relationships between the focal predictor and the mediator, and between the mediator and the dependent variable (James & Brett, 1984). A mediation is conditioned on the significance of the two individual paths, hence the name joint significance approach. This approach is also considered powerful in examining a mediation effect; however, it does not provide the magnitude of the effect of interest (Mallinckrodt, Abraham, Wei, & Russell, 2006).

The second general method examines the difference of the direct paths before and after the mediator is controlled for, the so-called the difference in coefficients approach (Clogg, Petkova, & Shihadeh, 1992; Olkin & Finn, 1995). The standard error of the difference is then estimated and used to test its significance against the t distribution (Freedman & Schatzkin, 1992; McGuigan & Langholtz, 1988 as cited in MacKinnon & Dwyer, 1993). A mediation effect is established when the difference in coefficients significantly differs from zero.

The third method tests the significance of the product term of the two paths linking the predictor and the mediator (path a) and the mediator and the independent variable (path b) (Zhao, Lynch, & Chen, 2010). Often referred to as the product of coefficients approach (Wood et al., 2008), the interaction term of *ab* is divided by its standard error and then compared to a *t* distribution to test for its significance. Depending on the assumption of the distribution of the product term, different approaches can be made to estimate the standard error. The most common way assumes that the product is normally distributed where the standard error can be calculated by the Sobel test (Sobel, 1982). Other estimations are the exact standard error, unbiased standard error, and

multivariate delta standard error, of which detailed discussion can be found in MacKinnon et al. (2002).

The test of significance comparing an estimate to a *t* distribution is often based on the assumption of multivariate normality, which is often not satisfied (MacKinnon et al., 2002). Therefore, resampling methods performed by bootstrapping techniques have been introduced to provide a more robust test for the confidence intervals, especially when testing the significance of indirect estimations (Efron & Tibshirani, 1993; Shrout & Bolger, 2002). Zhao et al. (2010) argue that the bootstrapping method outperforms the parametric approach and should only be used as the major technique in testing mediation effects. The basic idea of bootstrapping is to create a pseudo-population by resampling techniques which generate a large number of resamples from the existing data (Hayes, 2013). The empirical distribution resulting from bootstrap resamples is useful for providing estimates of the confidence intervals of the parameter of interest. Statistical inferences can be drawn based on the underlying logic that parameters are distributed normally with a large number, often thousands, of resamples. This assumption allows for the construction of confidence intervals for each parameter by taking the corresponding percentiles of the sampling distribution. Specifically, for a two-tailed test, the 2.5^{th} and 97.5^{th} percentiles can be used to estimate the 95% confidence intervals, the $.5^{th}$ and 99.5^{th} percentiles for the 99% confidence intervals, and the $.05^{th}$ and 99.95^{th} percentiles for the 99.9% confidence intervals. However, Efron and Tibshirani (1993) point out that the distribution of product terms is often asymmetric and the percentile confidence intervals should be further corrected for bias in skewness of the resampling distribution. Therefore, the bias-corrected percentiles should be used to obtain confidence intervals when making statistical inference with bootstrapping techniques, especially when estimations are involved with interaction (Mallinckrodt et al., 2006). Confidence bands not containing zero indicate sufficient evidence to reject the hypothesis that there is no effect between the two variables of interest.

Because the PLS-SEM technique makes no distributional assumptions, traditional parametric-based techniques are not deemed appropriate for significance testing, and resampling procedures like bootstrapping are employed to examine the stability of the estimates (Chin, 1998b). Therefore, for the current study, the bias-corrected

bootstrapping technique was applied whenever estimations of significance needed to be made. In particular, following procedures guided by Hayes (2013), estimations of the confidence intervals for the serial multiple mediation paths and the moderation effects, as well as the conditional indirect paths were derived using the bias-corrected bootstrap.

3.4.7.2.2 Testing Moderation Effects

Testing for conditional or moderation effects is performed when a researcher is interested in examining whether the effect of a focal predictor on an independent variable depends on the value of another predictor that is often considered to be the moderator.

Claims for conditional or moderation effects can be made when the coefficient of the interaction term between the moderator and the focal predictor significantly differs from zero (Fairchild & MacKinnon, 2009). Neither the link from the focal predictor to the independent variable nor that from the moderator to the independent variable is required to be significant (Gatignon, 2014; Hayes, 2013).

It is important to note that, with the presence of a moderation effect, the effect of the focal predictor on the independent variable varies across the values of the moderator; hence the name moderation effect. However, this moderation effect of the focal predictor on the independent variable may not be significant over the whole range of the moderator. Therefore, the presence of a moderation effect is only one part of the theory and it is essential that researchers test the significance range of the moderation effect (Bauer & Curran, 2005) by using a technique called “probing” an interaction (Aiken & West, 1991; Hayes, 2013).

When probing an interaction, researchers are often interested in addressing two issues. The first one is to find the values of the moderator which depict the significance range of the moderation effects. The second issue is to investigate the interaction effects of the focal predictor and the moderator on the dependent variable.

Generally, two approaches have been employed to identify values of the moderator where the significance range can be established, namely the pick-a-point approach and the Johnson-Neyman technique. Both the two approaches involve selecting particular

values of the moderator, calculating the moderation effect of the predictor on the independent variable, and performing a statistical test or generating confidence intervals of the effect at the chosen value of the moderator (Hayes, 2013, p. 235). The two approaches differ in their ways of finding the "particular" values. While the pick-a-point approach, as its name suggests, arbitrarily selects several values along the range of the moderator, the Johnson-Neyman technique follows a more structured way to locate them.

Following the pick-a-point approach, values of the moderator are often chosen from its distribution, the most commonly used ones are those at 1 standard deviation below the mean, at the mean, 1 standard deviation above the mean, or values at certain quartiles or percentiles (Aiken & West, 1991; Hayes, 2013). Meanwhile, values identified by the Johnson-Neyman technique are derived from a formula based on a parametric technique, which incorporates the estimate point of the moderation effect and its standard error.

As the study uses PLS-SEM, the pick-a-point approach as a non-parametric technique is applied. Six values of the moderator at 1 standard deviation below the mean, at the mean, 1 standard deviation above the mean, and others at the first, second, and third quartiles are used to identify the significance range of the moderation effect.

After identifying the significance range of the moderator, the interaction effect of the focal predictor and the moderator jointly explaining the independent variable can be identified by plotting its simple slope at different values of the moderator. Researchers can choose values of the moderator according to the significance range identified in the previous step or several common values of the moderators for the plotting technique, such as 1 standard deviation below the mean, at the mean, and 1 standard deviation above the mean corresponding to low, medium, and high values of the moderator (Aiken & West, 1991).

As part of the plotting exercise, researchers may be interested in finding where the interaction effects cross one another at different values of the moderators. This crossing point and the corresponding predicted value of the independent variable can be identified when setting the interaction effects equal to each other at different values of

the moderator. For any pairs of moderators, the value of the independent variable where the two interaction effects cross each other is identified as - β_3/β_2 (Aiken & West, 1991), where β_2 is the coefficient of the moderation effect and β_3 is the coefficient of the direct link between the moderator and the independent variable. This value can help researchers find out whether the crossing point falls within or out of the possible range of the independent variable.

3.4.7.3 Evaluation of the Model

The study adopts the two-stage approach to evaluate the measurement model and the structural model (Henseler et al., 2009; Tenenhaus et al., 2005; Vinzi, Trinchera, & Amato, 2010).

3.4.7.3.1 Evaluation of the Measurement Model

Examination of the measurement model's quality is centred on checking the reliability and validity of indicators and latent variables (Fornell & Larcker, 1981). The objective of this step is to examine how well the observed data represent the intended constructs of analysis. Criteria for checking measurement reliability and validity vary depending on variable types, either reflective, formative or a mixture of these two (Dijkstra, 2010). Because all latent variables included in this research are reflective, only criteria applied to this type of construct are relevant for the study. Table 3.3 presents these criteria, which include indicator loadings, average of variance explained, communality, Cronbach's α, composite reliability, cross-loadings, Fornell-Larcker criterion, and the heterotrait-monotrait ratio (HTMT).

The indicator loadings show correlations between indicators and their corresponding constructs (Henseler et al., 2009). They describe how observed indicators are related to their respective latent variables. The loading of each indicator on its associated constructs need to be positive (Tenenhaus et al., 2005). Acceptable values are at least .6 (Bagozzi & Yi, 1988) or .707 (Carmines & Zeller, 1979), although loadings between .4 and .7 can also be used in the case of newly developed scales and should be considered for removal only when their absence leads to an increase in composite reliability (Chin, 2010b; Henseler et al., 2009).

Table 3.3 Criteria for Measurement Model Evaluation

Criteria	Meaning	Assessment
Indicator loadings	To measure how observed indicators are related to their respective latent variables (Tenenhaus & Vinzi 2005)	. At least .6 (Bagozzi & Yi, 1988) . Loadings should be .707 or higher (Carmines & Zeller, 1979). . Loadings between .4 and .7 are acceptable for newly developed scales and should be considered for removal only when deleting the indicator leads to an increase in the composite reliability (Chin, 2010; Henseler et al., 2009).
Communality	Defined as the proportion of the variance of the variable that is accounted for by common factors (Hogarty et al., 2005) and measured the variance of each indicator explained by its respective latent variable (Henseler 2009)	. High values are desirable (Vinzi et al 2010) . From .6 is high and less than .4 is low (Hogarty et al., 2005).
Average variance extracted (AVE)	To measure the proportion of variance of observed indicators explained by the latent variable (Henseler, 2009)	. Should be .5 or higher (Fornell and Larcker, 1981)
Cronbach's alpha	A criterion to measure scale reliability. Defined as the proportion of test (the latent variable) variance due to all common factors among the items (Cronbach, 1951).	. Should be higher than .7 (Vinzi et al, 2010)
Composite reliability	Another criterion to measure scale reliability. It is suggested to be a better indicator than Cronbach's alpha (Werts et al., 1974; Chin 1998).	. Values from .6 are acceptable (Bagozzi & Yi, 1988) . At least .7 for a study in early research and .8 or .9 for more advanced research (Nunnally & Bernstein, 1994) . Should be higher than .9 but not larger than .95 for advanced research (Hair et al., 2013)

Table 3.3 (Cont'd)

Criteria	**Meaning**	**Assessment**
Cross-loadings	Values used to compare the loadings of an indicator to its respective latent variable and other latent variables	. An indicator's outer loading on the associated construct should be greater than all of its loadings on other constructs (cross-loadings) (Hair, 2013, p. 105).
Fornell-Larcker criterion	A matrix displaying correlations among variables and the square root of AVE values of each latent variable.	. The square root of each construct's AVE should be greater than its highest correlation with any other construct (Fornell & Larcker, 1981).
Heterotrait-Monotrait (HTMT) ratio	A matrix displaying the ratio of inter-construct correlations considering both item and construct levels (Henseler et al., 2015).	Discriminant validity is established when the ratio is . less than .85 (Clark & Watson, 1995, Kline, 2011) . less than .9 (Gold et al., 2001)

The average variance extracted (AVE), originally introduced by Fornell and Larcker (1981), reveals the amount of variance of indicators captured by the latent variable in relation to the total amount of variance, including variance due to measurement error. An AVE value of greater than .5 indicates the representativeness of the latent variable since it can capture more than half of the variation in its corresponding observable variables.

Communality demonstrates the amount of an indicator variance captured by its own latent variable. When loadings are standardised, communality is equal to the square of the loading of each indicator on its latent variables and should be at least .5. Nonetheless, a number as low as .16 can be considered for analysis as loadings of .4 can be acceptable in some cases (Hair, Hult, Ringle, & Sarstedt, 2013).

Blocks of indicators are assumed to indicate unique latent constructs. Indicators included in one block should represent all facets of the intended constructs (Bagozzi & Edwards, 1998; Bollen & Lennox, 1991) and are not less than 3 items (Chin et al., 2003; Williams et al., 2010). Because a latent construct's indicators are assumed to measure the same construct, they need to be examined to see whether they reflect the intended construct in a consistent way. For this objective, the reliability of a measurement model is also tested against its internal consistency, which demonstrates the homogeneity and unidimensionality of the constructs. Cronbach's α and composite reliability are the most common tools for this purpose (Bagozzi & Edwards, 1998; Henseler et al., 2009; Vinzi et al., 2010). Cronbach (1951) defines the coefficient alpha (α) as "the proportion of test variance due to all common factors among the items" and this criterion should exceed .7 for acceptance of the indicator block (Vinzi et al., 2010). Although commonly used, Cronbach's α has been argued not to be the best tool for assessing construct reliability (Cho & Kim, 2015). It often underestimates the reliability of the internal consistency of latent variables in PLS path models (Chin, 1998b; Henseler et al., 2009). Subsequently, methodologists (Chin, 1998b) recommend the use of composite reliability (p_c) introduced by Werts, Linn, and Jöreskog (1974) as a better tool to estimate measurement model reliability in structural equation modelling. Cronbach's α is still considered as a measure of the lower bound of internal consistency and should be used complimentarily to composite reliability in assessing construct reliability (Barroso et al.,

2010). Nunnally and Bernstein (1994) suggest .7 as a threshold of composite reliability for a study in early research and .8 or .9 for a more advanced research; while Bagozzi and Yi (1988) indicate .6 would also be acceptable.

Since latent constructs are supposed to be unique and not overlapping, they are subject to discriminant validity tests, often obtained through the examination of cross-loadings and Fornell-Larcker criteria. An investigation of cross-loadings looks at the indicator level and aims to compare the loading of an indicator to its associated latent variable to that of other latent variables. Loadings of accepted indicators to their corresponding construct should be substantially greater than all of their loadings to other constructs (Vinzi et al., 2010). Importantly, discriminant validity also needs to be examined at the latent construct level, which verifies that the shared variance between the latent construct and its indicators should be largest among variances shared between its indicators with other latent constructs (Hulland, 1999). This test checks the correlations between pairs of constructs and their variance explained by corresponding manifest indicators, where the former should not exceed the square root of the AVE of the latter (Fornell & Larcker, 1981).

The performance of the Fornell-Larcker criteria used in the PLS-SEM technique has been questioned in the literature due to its tendency to overestimate item loadings (Rönkkö & Evermann, 2013). As a consequence, another test of the heterotrait-monotrait ratio has been introduced (Henseler, Ringle, & Sarstedt, 2015) to provide supplemental evidence to the Fornell-Larcker criteria when using the variance-based technique. Besides checking loadings between indicators and their corresponding constructs, the heterotrait-monotrait ratio additionally examines the cross-loadings of indicators to other constructs. Discriminant validity is established when the ratio is less than .85 (Clark & Watson, 1995; Kline, 2011) or .90 (Gold, Malhotra, & Segars, 2001).

3.1.1.1.1 Evaluation of the Structural Model

Evaluation of the structural model should start with an examination for multicollinearity (Hair et al., 2013). The multicollinearity problem occurs when a large amount of variance of one predictor is explained by other predictors. The presence of multicollinearity implies redundancy in the set of predictors, resulting in an incorrect estimation of structure paths and of variance explained in the dependent variable (Hair et al., 2013).

The subsequent assessment of the structural model includes the evaluation of coefficients and the significance of the structural path. Finally, the quality of the model is evaluated by the amount of variance explained in the dependent variable (R^2) and its predictive validity (Q^2).

Table 3.4 presents key criteria for evaluation of the structural model. The assessment of multicollinearity can be based upon the criteria of the variance inflation factor (VIF). VIF values above 5 indicate high multicollinearity (Hair, Ringle, & Sarstedt, 2011). Structural path coefficients are assessed by their significance, which depends on their standard errors obtained by bootstrapping. Insignificant paths or paths displaying signs contrary to the hypothesised direction do not support the hypotheses. The assessment of each structural path should also take into account the degree to which the phenomenon presents in the population, measured by the effect size (f^2) of each parameter. The larger this value, the more substantial the phenomenon is (Cohen, 1988). The degree to which the parameter under study is manifested in the population is deemed as weak, moderate, and substantial with values of .02, .15, and .35, respectively (Chin, 1998b).

The determinant coefficient (R^2) is an important indication for the quality of the model (Chin, 2010a). While no threshold values have been suggested (Götz, Liehr-Gobbers, & Krafft, 2010), a larger R^2 is desirable since it reflects the ability of the model to explain a substantial amount of variance of the variable in question. The inclusion of new predictors always leads to an increase in the variance explained of the dependent variable; therefore, it is necessary to test whether the increase in variance (change in R^2) resulting from the inclusion of additional variables is significant (Field, 2009). The significance of additional variance explained indicates that the model is better with the new predictor.

Moreover, the model quality can also be tested against its predictive validity (Q^2) obtained by the blindfolding procedure developed by Geisser (1975) and Stone (1974). The logic of this test is rooted in the predictive ability as the main objective of the PLS-SEM technique, which emphasises that the prediction of observables or of potential observables is of much greater relevance than the estimation of artificial constructs (Geisser, 1975). A positive Q^2 value indicates predictive relevance whereas a negative one implies a lack of predictive relevance of the model (Hair et al., 2013).

Table 3.4 Criteria for Structural Model Evaluation

Criteria	Meaning	Assessment
Multicollinearity	Variance of one predictor can be explained by other predictors. A large amount of variance explained by other predictors indicates redundancy in the set of predictors of an endogenous construct (Hair et al., 2013).	. Variance inflation factor (VIF) values should be below 5 (Hair et al., 2011; Rogerson, 2001).
Size and significance of path coefficients	Description of strengths and significance of each structural path linking two variables	. Significance depends on the standard error obtained by means of bootstrapping. . Two-tailed tests t-values are 1.65, 1.96, 2.57 for significance level (p value) at 10%, 5%, and 1%, respectively.
Effect size (f2)	The increase in R^2 relative to the proportion of variance of the endogenous latent variable that remains unexplained (Cohen, 1988)	. Values of .02, .15, and .35 signify small, medium, and large effects, respectively (Chin, 1998).
Coefficients of determination (R^2)	Represents the amount of explained variance of each endogenous latent variable (Chin, 2010b)	High value is desirable - Values of .67; .33, .19 are considered substantial, moderate, or weak by Chin (1998). - Values vary across research areas (Hair et al., 2013)
Predictive validity (Q^2)	This criterion reflects the model ability to predict data points of indicators in reflective measurement models of endogenous constructs	. A positive Q^2 value indicates the model has predictive relevance whereas a negative one implies a lack of predictive relevance (Hair et al., 2003).

3.4.8 Usage of Control Variables

In addition to examining whether the proposed relationship can be established, it is crucial that researchers minimise the possibility of the relationship being affected by influences from extraneous factors. To this end, control variables are needed to rule out threats that may invalidate the research findings (Becker, 2005; Spector & Brannick, 2011). They are included in data collection and data analysis as a means to account for variance in the endogenous variables that can be associated with potential external factors (Aguinis & Vandenberg, 2014; Bernerth & Aguinis, 2015; Carlson & Wu, 2012). Five control variables of industry, network age, firm size, ownership control, and market operation are selected for the study based on their relevance to the focal constructs (Bernerth & Aguinis, 2015) as explained in section 2.4.5. Section 3.4.3.5 details how these variables are operationalised to capture their conceptual domain. Data analysis should capture the influences of these control variables by indicating the extent to which they correlate with the focal constructs and show the amount of variance in the dependent variable contributed by these control variables (Carlson & Wu, 2012).

3.5 The Qualitative Design

3.5.1 Objectives of Qualitative Study

As mentioned in section 3.2.3, the objective of the qualitative component is to seek contextual information for a deeper understanding of the hypothesised mechanism through which exploitation and exploration strategies influence the performance of power-disadvantaged firms in their network. As detailed in section 3.3.1, the context of CMEs is employed to test the model. As a result, the qualitative study adds value to the research by providing contextual details regarding the particular context of CMEs' practices in GVCs and further triangulating the results of the quantitative study.

With this purpose, the quantitative component is the primary technique and the qualitative study plays a supplementary role (Greene, Caracelli, & Graham, 1989). Nevertheless, this unequal weight does not lead to an unbalanced attention on the qualitative study, nor does it aim to add narrative description to the statistical results. As a matter of fact, the qualitative study is treated as complementary and intentionally consistent with the quantitative component in terms of the research purpose, research question, the selection of the sample and the interpretation of results (Morse, 1991).

Firstly, the purpose of the qualitative study is aligned with that of the whole project, which is to examine (i) the impact of the dual practice of exploitation and exploration strategies on the performance of PDFs in an asymmetric networks and (ii) the mechanism behind how the effects of these strategies work through firms' competitive capabilities. With the focus on the context of CMEs, the identification of key predictors as well as their interplay in influencing the export performance of CMEs is the main purpose of this research. Consequently, the qualitative study seeks to explore two main research questions: how do exploitation strategy, exploration strategy, and competitive capabilities contribute toward export performance of CMEs, and how do exporters use them to achieve better export performance?

Second, the qualitative component takes a purposeful approach to obtaining sample, which was aimed at exporters who experienced the phenomenon of interest. Practices of exploitation and exploration strategies were used as the main criteria for sample selection (Sandelowski, 2000). In addition, firms were also selected for their market operations because the conceptual model depicts different effects when firms only participated in the network context versus when they shifted their focus toward market-based competition. Therefore, firms only exporting (3 firms) and firms that both export and sell their products in the domestic market (7 firms) were chosen for the study.

Finally, the results of the qualitative study were analysed separately before being combined with findings from the quantitative component to garner an understanding of the issue of interest. With the purpose of seeking understanding from different approaches, the findings from the qualitative study were then compared with results from the quantitative study to seek convergence validity as well as to explain any discrepancy that may have occurred (Creswell, 2013).

3.5.2 Sample Selection

The sample selection is theoretically driven with the main criteria of displaying practices of exploitation and exploration strategies and different market operations. Firms were also chosen across three targeted industries. Table 3.5 presents the profile of qualitative respondents.

The firms were selected from the larger sample used for the quantitative study and interviews were conducted concurrently with the quantitative data collection process. The firms were initially approached via an invitation letter which outlined the purpose and objectives of the research (see Appendix B for a copy of the cover letter). Potential participants who expressed a willingness to take part in the study were then contacted by phone to arrange a time and location for the interview. The preferred meeting location was the firm's site, unless an alternative location was suggested by the participant. In total, ten interviews were conducted. This is deemed sufficient for mixed-methods studies aimed at seeking a deeper understanding of phenomenal issues in organisational research (Collins, Onwuegbuzie, & Jiao, 2007; Hoetker, 2005). Targeted respondents were CEOs, general managers or managers in export departments, as they were likely to provide information on the firm's strategic orientation as well as an evaluation of the firm's export performance.

Table 3.5 Qualitative Respondent Profile

Firm	Informant title/position	Industry	Size	Market Operation
1	General Director	Garment	Large	Exporting and domestic market
3	General Director	Garment	Large	Exporting and domestic market
4	Vice president	Garment	Large	Exporting and domestic market
5	President	Garment	Large	Exporting and domestic market
2	CEO	Garment	Large	Exporting only
6	CEO	Footwear	Large	Exporting and domestic market
7	CEO	Footwear	Large	Exporting and domestic market
8	CEO	Footwear	Large	Exporting only
9	Vice Director	Furniture	Large	Only exporting and domestic market
10	Owner	Furniture	Small	Exporting only

3.5.3 Data Collection

Data were collected via semi-structured in-depth interviews as this technique allows the researcher to obtain the respondent's insights on the issue of interest (Yin, 2013). The interviews were guided by open-ended questions (see Appendix C) across cases to enable comparison in subsequent analysis (Morse, 2005). Flexibility is allowed for by using prompts to pick up on issues of particular interest (Bryman, 2008).

The interviews were conducted face-to-face at the companies' premises. Each interview lasted from one to two hours. Prior to the interviews, managers were given a consent

form which indicated the voluntary nature of participating in the research (see Appendix D). The consent form also served as a means to inform them about the confidentiality and anonymity of the data and their rights to withdraw from the interview at any time. However, managers were not required to sign the form because it was considered culturally inappropriate. This practice resembles a written contract which is perceived as a protective remedy for a lack of trust in the local culture (Nguyen, 2005). With approval from the interviewee, a recording machine was used.

3.5.4 Data Analysis Procedures

The purpose of the qualitative study is to provide contextual details to supplement findings from the quantitative research proposed in the conceptual model. To this end, the qualitative study aims to extract patterns across the interviews that capture the relationships depicted in the research model.

The constructs used in the research model are used as keywords for thematic coding processes. The thematic coding follows, but is not limited to, the main constructs proposed in the model. The analysis centres on linkages between these constructs to illustrate the model from a qualitative approach (Braun & Clarke, 2006). Nevertheless, any inconsistency between the two approaches is acknowledged and discussed in the analysis. Results from each interview are then compared across cases to seek overall similarity. Findings are displayed following the matrix format suggested by Miles and Huberman (1994).

3.6 Chapter Summary

This chapter introduces the methodological approach and research setting for this study. Guided by the current state of theory development, which is considered intermediate, the research employs mixed methods to find answers for the proposed research question. While the quantitative component plays a major role in testing hypothesised relationships, the qualitative part adds value to the study by providing contextual details and complementing results from the quantitative method.

The context of CMEs who participate in GVCs was selected to investigate the phenomenon of interest. Because CMEs export their final products according to the buyer's specifications, their export performance was assessed to examine the

performance of PDFs in the network. Meanwhile, manufacturing capabilities were adopted for PDFs' competitive capability as CMEs are manufacturers by nature. Data were collected from CMEs in Vietnam. This study adopts an existing instrument used in prior research. The partial least square structural equation modelling technique is applied for the quantitative data analysis while thematic coding is used for the qualitative study.

CHAPTER 4 DATA ANALYSIS AND RESULTS

4.1 Introduction

Following the methodological guidelines outlined in the previous chapter, this chapter presents the research findings of both the quantitative and qualitative components. The results of the quantitative study are presented into two main parts: screening and preliminary analysis, and the model construction and evaluation. A summary of the hypothesis testing results is offered before proceeding to the qualitative findings. The chapter ends with the research findings that were derived from the two approaches.

4.2 Data Screening and Preliminary Analysis

4.2.1 Sample Characteristics

Table 4.1 shows the sample profile of the survey. Garment firms accounted for more than half of the sample (55.13%), followed by firms in the furniture (30.13%) and footwear (14.74%) industries. The year 1998 was used as a cut-off point for describing the firm's exporting experience because this year marks the time when Vietnam lifted exporting restrictions and all types of firms were free to practice exporting activities. Approximately three quarters (73%) of the firms acknowledged their engagement in exporting since 1998, whereas one-fifth of the sample started their exporting business before this time. Almost one third of the sample were small and medium-sized firms with less than 300 workers while more than half (59%) stated that they were large firms. Firms with foreign sources in their equity structure accounted for more than a quarter of the sample (26.3%); the remaining three quarters consisted of firms with entirely domestic funding. 78.8% of firms were exporting and selling their own products in the domestic market at the time of the survey. Firms only participating in GVCs accounted for approximately 21.2% of the sample.

4.2.2 Missing Data

The purpose of analysing missing values is to identify whether missing values occur randomly or follow a particular pattern that could impact the generalisability of findings (Schafer & Graham, 2002). Missing data analysis was conducted following the procedures detailed by Hair, Black, Babin, and Anderson (2010). Table 4.2 shows the amount of missing values in the data finally used for the analysis. More than three

quarters of the sample had no missing values. The highest number of missing values per case was 6, accounting for 8.6% of the data to be recorded. With missing values at less than 10% (Hair et al., 2010), occurring either non-randomly or at random, complex imputation remedy techniques are not required (Malhotra, 1987). A simple technique of mean substitution is employed to handle missing data in this study. With mean substitution, the missing values for one variable of an observation are represented by the mean value of the corresponding variable in the data analysis.

Table 4.1 Sample Characteristics

	Number of firms	%
Industry	156	
Garment	86	55.1
Footwear	23	14.7
Furniture	47	30.1
Years of Export Experience	146	
Since 1998	114	73.1
Before 1998	32	20.5
Missing	10	6.4
Number of workers	142	
Less than 300	50	32.1
>= 300	92	59.0
Missing	14	9.0
Type of ownership	156	
Wholly domestic funding	115	73.7
Having foreign funding	41	26.3
Market Operation	156	
Exporting only	33	21.2
Both exporting and domestic market	123	78.8

Table 4.2 Summary of Missing Data

Number of missing items per case	% of missing items (of 71 items)	Number of cases	Percent of sample
0	0	118	75.6
1	1.4	20	12.8
2	2.8	13	8.3
3	4.2	1	.6
4	5.6	2	1.3
6	8.4	2	1.3
Total	.54	156	100%

4.2.3 Normality

Normality was first assessed at the item level by examining the distribution of each manifest variable by its mean, median, standard deviation, skewness, and kurtosis. Items with absolute value of skewness scores less than 1 and kurtosis scores less than 2 are considered normal (Pallant, 2010). The results of the descriptive analysis (see Appendix F) show that normality was violated for a number of observable variables**.** This violation is often accepted in the social area considering the fact that the assumption of normality is often not satisfied (Hair et al., 2010; Hayes, 2013) and modern statistical techniques can robustly deal with non-normality (Reinartz et al., 2009).

Subsequently, normality was also investigated at the latent variable level in addition to the observable variable level. Inference for significant findings can be challenged when the assumption of normality is not met. However, this violation can be managed with the bootstrapping method in PLS-SEM (Preacher & Hayes, 2008; Taylor, MacKinnon, & Tein, 2008). As discussed in section 3.4.7, the current study was primarily based on this technique to draw statistical inferences. Results of the statistical tests (see Appendix G) reveal that none of the latent variables used for this research is normal, hence the application of the bootstrapping method for data analysis. The number of bootstrap resamples for the study was set at 5.000 as recommended by Hair et al. (2013).

4.2.4 Outliers and Influential Observations

Those observations with characteristics distinct from the others are considered to be outliers. Analysis efforts should attempt to identify those classified as influential as they could affect the regression results (Bollen & Jackman, 1985). Since the current models consisted of more than two variables, the multivariate examination for outliers was employed by checking the residual values of the dependent variables (Cook, 1977). The cut-off point was chosen at 3 for reference (Atkinson, 1994).

The analysis started with the full dataset of 156 observations. The initial examination of the residuals of the dependent variables identified two observations with values greater than 4. Additional analysis with the deletion of the two observations was performed. Model parameters were then compared between results derived from the two datasets. Results revealed that the parameters improved after the removal of the two identified

observations. Specifically, the discriminant validity was enhanced between the two latent variables of marketing and market linking (the heterotrait–monotrait ratio reduced from .875 to .851). Moreover, the significance level for a number of structural parameters was also enforced, leading to a better result. Furthermore, the absolute values of the new residuals for endogenous constructs also fell within the 3-point range. Therefore, the two outliers were considered influential and it was necessary to remove them from the dataset; giving a final sample size of 154 observations.

4.2.5 Sample Size and Power

Sample size is a critical factor for detecting significant potential relationships in survey research (Bartlett, Kotrlik, & Higgins, 2001; Hair et al., 2010). It is specified by the interplay among the desired statistical power, effect sizes, and the chosen significance level, where a probability of failing to reject a non-significant relationship is allowed (Cohen, 1992). Following common practices in social studies, the desired statistical power of 80% was chosen for the current research. As suggested by Cohen (1992), at this power level, a multivariate regression of eight independent variables used in this study would require 107 observations to detect a medium effect size at the .5% significant level or 147 at .1% significant level. Therefore the sample size of 154 observations is sufficient to allow for 80% chance to detect any significant effects on the relationships proposed in the model if they genuinely exist.

With the specified model, a sample size of 154 is also sufficient for running statistical analyses with PLS-SEM. As a common rule, the technique requires at least ten times the largest number of predictive paths in the model (Hair, Sarstedt, Ringle, & Mena, 2012). None of the latent variables is specified as formative; therefore, the largest number of predictive paths is eight, equal to the total number of explanatory paths for each endogenous variable. Consequently, a minimum of only 80 observations is required for testing the model using the PLS-SEM technique. Following this logic, a sample of a minimum of 110 observations is needed if all the capabilities are included in the model.

However, there were two reservations for not including all four capabilities in the model. From a technical point of view, the minimum sample size was determined by the

formula[1] suggested by Cohen, Cohen, West, and Aiken (2003, p. 93). Following this formula, the minimum number of observations needed to attain a statistical power of 80% is 144 and 163 when individual capability and all four capabilities are included, respectively, to detect small effect size. These sample sizes were estimated from the small effect size projected for the population, L values, and the number of predictors to be included in the model. The small effect size (.111) is estimated from the smallest value of R^2 projected for the population, which is based on the range of .10 to .50 found in prior studies in other developing countries (Aulakh et al., 2000; Brouthers & Xu, 2002; Li & Ogunmokun, 2001a, 2008). The L values at 16.8 and 15.02 taken from the L-value table provided by Cohen et al. (2003, p. 651) were used for the models with all four capabilities and with individual capability, respectively. The number of predictors was 11 for the model with all four capabilities and eight for the model with individual capability. Therefore, the sample size of 154 is more statistically sufficient for the model with one capability.

More importantly, the selection of the number of capabilities is considered from a theoretical perspective (Preacher & Hayes, 2008). All four capabilities are actually based on one theory underpinning the model, which is that firm competitive capability mediates the impact of the dual practice of exploitation and exploration strategies on performance. The model does not target all four capabilities as a set of mediators necessary to transmit the effect of interest. Therefore, each capability was analysed individually in four different models. Nevertheless, the four capabilities were examined together to ensure their reliability and validity in the assessment of the measurement model.

[1] $n^* = (L/f^2) + k + 1$, where:
L is the L values determined by number of predictors and statistical power desired
f^2 is the estimated effect size, calculated from the proposed R^2 of the population
k is the number of predictors

Table 4.3 The Construct Correlations Matrix and Fornell-Larcker Criteria

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Strategic ExPerf	3.97	.70	**.804**														
2. Financial ExPerf	5.32	1.27	.480***	**.906**													
3. IT capability	3.63	.73	.624***	.443***	**.817**												
4. Technical capability	3.75	.55	.544***	.292**	.714***	**.756**											
5. Marketing capability	3.75	.55	.494***	.422***	.664***	.668***	**.809**										
6. Market-linking capability	3.79	.67	.515***	.426***	.693***	.624***	.628***	**.816**									
7. Absorptive capacity	5.94	.97	.379***	.325***	.599***	.338**	.474***	.525***	**.750**								
8. Exploitation strategy	4.47	.56	.359***	.217*	.373***	.206*	.354***	.450***	.678***	**.723**							
9. Exploration strategy	4.23	.81	.577***	.435***	.624***	.465***	.511***	.574***	.569***	.594***	**.799**						
10. IND	.54	.5	.121	.323***	.235**	.156	.146	.208*	.191*	.045**	.134	**1**					
11. NwAge (n=144)	.72	.45	.028*	-.005	.033	.025*	.142	-.05	.02	.024	.097	-.173*	**1**				
12. SIZE (n=140)	.59	.49	.165*	.215*	.109	.069	.024	.19*	.139	.085	.080	.394***	-.213**	**1**			
13. OwnCtrl	.70	.44	-.169*	.001	-.107	-.174*	-.092	-.014	-.025	-.135	-.172*	.070	-.077	-.002	**1**		
14. MktOpr	.79	.41	.108	.316***	.313***	.279***	.259**	.317**	.142	.067	.332***	-.018	-.044	-.034	.09	**1**	
15. Marker	5.87	.57	-.019	.199*	.021	.048	.065	.025	.014	.044	-.016	.176*	.027	.049	-.024	.125	**.597**

Note: Sample size *n* = 154, unless specified otherwise; Pearson's two-tailed correlations with significant levels at ***p < .001, **p < .01, * p < .05
Numbers along the diagonal indicate square roots of the variance extracted of each construct.

- Industry (IND) was coded as 0 for Footwear or Furniture and 1 for Garment
- Network age (NwAge) was coded as 0 for firms beginning their export business before 1998 and 1 for those exporting since 1998.
- Size (SIZE) was coded as 0 for firms having less than 300 workers and 1 for 300 workers or more.
- Ownership control (OwnCtrl) was coded 0 for firms having foreign funding and 1 for wholly domestic funding.
- Market operation (MktOpr) was coded as 0 for exporting only and 1 for doing business in the domestic and export market.
- Firm brand association with a bank as the marker variable (Marker).

4.2.6 Common Method Variance

As detailed in section 3.4.6, besides procedural remedies, the study adopts three analytical techniques to address the issue of common method variance (CMV).

First, the Harman's one-factor test is performed with an exploratory factor analysis for all items. Indicators loading onto various factors and a low amount of variance extracted by the first factor (less than 50% of total variance) indicate that CMV issue is unlikely (Harman, 1976). Results of the Harman's one-factor test (see Appendix H) reveal 14 factors with eigen values greater than 1 emerging from the analysis. Approximately 21% of the variance is accounted for by the first factor. These findings suggest that the study does not suffer from the CMV issue.

Secondly, the correlational marker technique introduced by Lindell and Whitney (2001) is also applied to detect the presence of CMV. The marker variable should be one that is theoretically unrelated to at least one of the substantive constructs in the model (Williams et al., 2010). The logic behind the inclusion of the marker is that its correlation with the theoretically unrelated construct should not account for true relationships and is largely due to the source of the common method (Lindell & Whitney, 2001). Low correlations, usually less than .10 (Carlson & Wu, 2012), and non-significant links between the marker and other constructs indicate the absence of the CMV issue (Raman et al., 2013; Yang, Su, & Fam, 2012).

The results of the correlations among the constructs (see Table 4.3) reveal non-significant and relatively low correlations of the marker variable with most of the constructs except for its correlation with financial export performance ($r = .199$, two-tailed, $p < .05$) and industry ($r = .176$, two-tailed, $p < .05$). This result indicates the likely existence of CMV among the constructs of study. However, Kline, Sulsky, and Rever-Moriyama (2000) pointed out that correlations with a magnitude of less than .2 would not result in bias due to the presence of CMV. Therefore, findings from the correlation technique suggest that the CMV issue would not be a concern for the current research and no correction techniques were needed because the observed correlations in the model could still accurately describe the relationships among the constructs of study (Richardson et al., 2009).

Thirdly, the impact of the CMV issue is additionally assessed by examining substantial changes in the structural paths before and after the marker variable is controlled for (Yu & Sharma, 2016). Appendix I presents the result of the comparison test. It can be seen that most of the structural paths retain their size and significance levels after the marker is included in the model. There are two paths with changes in their significance levels, one from size to financial export performance in the model with marketing capability and the other from market operation to financial export performance in the model with technical capability. These changes are not substantial and are outnumbered by the other stable paths. This result indicates that relationships observed from the variables do not suffer from CMV bias (Richardson et al., 2009).

4.2.7 Inclusion of Control Variables

Results of the zero-order correlations (see Table 4.3) reveal that all the control variables significantly link to either of the two independent variables as well as to at least one other construct in the proposed model. This evidence for substantial linkages between each control variables to focal variables suggests that they should all be included in the final model (Carlson & Herdman, 2012).

4.3 Model Construction and Evaluation

4.3.1 Measurement (Outer) Model

As mentioned above, all constructs are tested together when assessing the measurement model. The latent variables are constructed with confirmatory factor analysis. The final model consists of nine latent variables, representing the two strategic orientations of exploitation and exploration, two dimensions of export performance, four capabilities of manufacturing firms, and absorptive capacity. Among these, three latent variables retain all of the original indicators: strategic export performance (five items), financial export performance (four items), and IT capability (six items). The removal of other items from the six constructs was mainly due to low loadings and violation of discriminant validity. These deleted items can be seen in Appendix E.

Concerning the predictors, four items remain in the measurement model to capture exploitation strategy while exploration strategy is reflected through three items. For exploitation strategy, the item “Our firm fine-tunes what it offers to keep its current

customers satisfied" can capture the facet of enhancing the satisfaction of current customers that the removed item "Our firm constantly surveys existing customers' satisfaction" intended to measure. Similarly, the item "Our firm commits to improving quality and lowering costs" can replace the statement of "Our firm increases the levels of automation in its operations" because attempts to increase automation are aimed at enhancing operational efficiency (He & Wong, 2004; Navas-Alemán, 2011). On the other hand, the statements measuring exploration strategy sufficiently capture the two key facets of the constructs, which are innovation and firms' activities that tap into new market bases.

The five items for technical capability are: a firm's relative technical capability in production facilities, quality control skills, manufacturing processes, financial management skills, and cost control capabilities. These items can capture the conceptualisation of technical capability as a firm's relative capability regarding technical aspects used in ongoing operations and production (Day, 1994). Three items of firm relative capability related to knowledge of competitors, knowledge of customers and effectiveness of pricing programmes can reflect a firm's capability to bring products to the market. A firm's knowledge of competitors and knowledge of customers can help it to effectively segment and target markets. Meanwhile, the effectiveness of a pricing program reflects a firm's consideration of cost factors and the market value of products, two aspects that can also be captured by the effectiveness of advertising programmes and the control and evaluation of marketing activities. "Market-sensing capability", "ability to retain customers", and "channel-bonding capability" – are three out of five items for market-linking capability retained in the measurement model. As a firm's ability to maintain relationships with its channel partners and its ability to sense market changes are two key dimensions of market-linking capability (Day, 1994), these three items are considered sufficient to present the construct.

Finally, only three out of fifteen items are eliminated from the original instrument for absorptive capacity. These three items are from three capabilities concerning knowledge acquisition, knowledge assimilation, and knowledge exploitation capability.

Table 4.4 The Measurement Model

Construct	Indicator	Loading	SE	Com*	t value
Exploitation Strategy (**L**)					
AVE=.523	Continuously improving the reliability of products and services	.795	.054	.63	14.77 ***
ρ_c = .813	Penetrating more deeply into the existing customer base	.733	.074	.54	9.84 ***
α = .705	Committing to improving quality and lowering costs	.711	.078	.51	9.28 ***
	Fine-tuning offerings to keep current customers satisfied	.644	.135	.42	4.82 ***
Exploration Strategy (**R**)					
AVE =.638	Looking for novel ideas by thinking 'outside the box'	.877	.026	.77	33.49 ***
ρ_c = .839	Aggressively venturing into new markets	.843	.028	.71	29.92 ***
α = .714	Creating products and services innovative to the firm	.658	.089	.43	7.36 ***
Strategic Export Performance (**STRA**)					
AVE =.646	Gaining access to new technology	.884	.016	.78	53.73 ***
ρ_c = .901	Increasing higher-value products	.870	.024	.76	36.21 ***
α = .862	Reducing market dependency	.804	.033	.65	24.30 ***
	Having better customer satisfaction	.728	.049	.53	14.89 ***
	Lead time improvement	.713	.058	.51	12.36 ***
Financial Export Performance (**FINA**)					
AVE =.82	Export sales growth	.943	.014	.89	68.79 ***
ρ_c = .948	Export profitability	.912	.023	.83	39.53 ***
α = .927	Export sales volume	.883	.033	.78	27.14 ***
	Export sales intensity	.882	.033	.78	27.11 ***
Information Technology Capability (**ITC**)					
AVE =.667	IT system for cross-functional integration	.873	.018	.76	47.79 ***
ρ_c = .923	IT system for market knowledge creation	.845	.027	.71	30.83 ***
α = .90	IT system for new product development	.844	.040	.71	21.16 ***
	IT system for technology knowledge creation	.802	.028	.64	28.53 ***
	IT system for external communication	.768	.032	.59	24.17 ***
	IT system for internal communication	.763	.033	.58	23.28 ***
Technical Capability (**TECH**)					
AVE =.572	Production facilities	.797	.031	.64	22.68 ***
ρ_c = .869	Quality control skills	.782	.035	.61	25.33 ***
α = .814	Manufacturing processes	.778	.030	.61	26.20 ***
	Financial management skills	.757	.038	.57	19.75 ***
	Cost control capabilities	.656	.060	.06	10.88 ***

Table 4.4 (Cont'd)

Construct	Indicator	Loading	SD	Com*	t value
Marketing Capability (**MARK**)					
AVE =.655	Knowledge of competitors	.852	.030	.73	28.85 ***
ρ_c = .85	Effectiveness of pricing programs	.821	.026	.67	30.99 ***
α = .744	Knowledge of customers	.755	.055	.57	13.69 ***
Market-linking Capability (**LINK**)					
AVE =.667	Market sensing capabilities	.873	.020	.76	44.67 ***
ρ_c = .856	Channel-bonding capabilities	.850	.029	.72	29.11 ***
α = .752	Ability to retain customers	.718	.056	.52	12.73 ***
Absorptive Capacity (**AC**)					
AVE =.563	Daily search for industry information	.711	.070	.51	10.23 ***
ρ_c = .934	Employees deal with information beyond the industry	.618	.080	.38	7.73 ***
α = .921	Cross-department support to solve problems	.767	.047	.59	16.48 ***
	Regular meetings to discuss new developments, problems, and achievements	.731	.053	.53	13.87 ***
	Company works more effectively by adopting new technologies	.785	.051	.62	15.54 ***
	Management supports the development of prototypes	.619	.084	.38	7.33 ***
	Employees used to absorb new knowledge	.869	.030	.76	28.71 ***
	Employees link existing knowledge with new insights	.801	.054	.64	14.75 ***
	Employees apply new knowledge in their practical work	.800	.051	.64	15.61 ***
	Employees are able to structure and use collected knowledge	.761	.044	.58	17.32 ***
	Employees used to prepare new knowledge for further purposes	.753	.070	.57	10.75 ***

Note: Sig.: Significant level at ***p < .001, **p < .01, *p < .05
Com*: Communality

One item measuring management motivation for employees to use information related to the industry is deleted from three statements concerning knowledge acquisition capability. This item can be supplemented by one of the remaining items that addresses the daily search for relevant information concerning the industry. One of the three statements measuring knowledge assimilation capability is also deleted. The removed item relates to the engagement of multiple departments in communication and information flows. This aspect can be captured by the two remaining items concerning

cross-departmental meeting and support for problem solving. Similarly, one item from the three statements measuring knowledge exploitation capability is deleted. This item regards the firm's regular consideration of technologies and its adaptation of technologies to new knowledge. This aspect can be alternatively captured by the item concerning the firm's ability to work more effectively by adopting new knowledge. All five items reflecting knowledge transformation are retained in the measurement model.

This examination on the content of the indicators retained in each latent variable shows their ability to represent multiple facets of each intended construct. Following the criteria outlined in the previous chapter to evaluate the measurement model, convergent validity is assessed against indicator loadings, average of variance explained (AVE), communality, Cronbach's α, and composite reliability. The evaluation of discriminant validity is based upon the cross-loadings, Fornell-Larcker criteria, and heterotrait-monotrait (HTMT) ratio.

4.3.1.1 Convergent Validity

Table 4.4 shows the reliability of the measurement model. Values of AVE of all constructs are above .5, demonstrating that the constructs capture an adequate amount of variance observed by their corresponding items. The majority of indicator loadings are greater than the ideal threshold of .707, meaning the shared variance between them and their respective constructs, expressed by the communality, are larger than the variance of their measurement errors (Götz et al., 2010). Five indicators with loadings above .6 are retained in the measurement model for their contribution to the construct's conceptualisation. Moreover, the removal of these indicators does not result in any improvement of criteria regarding the construct reliability, which is demonstrated by the internal consistency and variance extracted, and its discriminant validity; therefore, they are considered acceptable for the measurement model (Chin, 1998a; Hair et al., 2013) .

While item loadings demonstrate their adequacy in contributing to their respective construct, it is often of greater interest to examine how well a block of indicators jointly and adequately measures the construct by means of Cronbach's α and composite reliability (ρ_c). Scores of α above .7 (Vinzi et al., 2010) and ρ_c above .8 (Bagozzi & Yi, 1988) of all latent variables show a strong mutual association among indicators in describing

the intended constructs. Taken together, values of indicator loadings, AVE, α, and ρ_c provide evidence for the convergent validity of constructs of the study.

4.3.1.2 Discriminant Validity

Discriminant validity is first assessed at the item level. The results show that each indicator has the highest score on its intended construct and relatively lower loadings on others, at least .1 difference (Chin, 2010a). This is adequate evidence to judge that the indicator does not reflect more than one latent variable. Appendix J highlights the two highest loading scores for each item. The results demonstrates that all of the indicators score sufficiently higher on their corresponding construct than on other constructs, except for one item measuring knowledge exploitation capability (ACexpl1), which also scores highly on exploitation strategy. Nevertheless, its loading on absorptive capacity still has the highest score. Furthermore, absorptive capacity and exploitation strategy remain discriminant at the construct level. Therefore, the item is included in the measurement mainly for the construct's content validity.

Subsequently, discriminant validity at the construct level is examined by means of the Fornell-Larcker criteria, which compares the square root of the AVE score of each construct and correlations among constructs (Fornell & Larcker, 1981). The results in Table 4.3 indicate that the variance explained by the indicators of each construct is greater than the shared variance between the construct and other latent variables.

Finally, evidence for the discriminant validity of the constructs is also demonstrated through the heterotrait-monotrait ratio matrices (see Appendix K). When all constructs are examined together, most of the values are below the threshold of .85 deemed satisfactory for discriminant validity suggested by Clark and Watson (1995). Only one ratio between marketing capability and market-linking capability is slightly higher than the cut-off point at .851, which can also be accepted according a more lenient standard of .9 recommended by Gold et al. (2001). This high ratio is of no concern when capabilities are examined individually in separate structural models.

Meanwhile, significant correlations exceeding .6 observed between IT capability and other capabilities as well as between exploitation strategy and absorptive capacity are noted. However, they are not considered a serious issue for the study because

discriminant validity is established among these constructs, revealed by the Fornell-Larcker criteria and the heterotrait-monotrait ratio matrix as discussed above. In addition, the PLS-SEM technique is considered to provide robust estimations even in cases of high correlations or multicollinearity (Westlund, Källström, & Parmler, 2008).

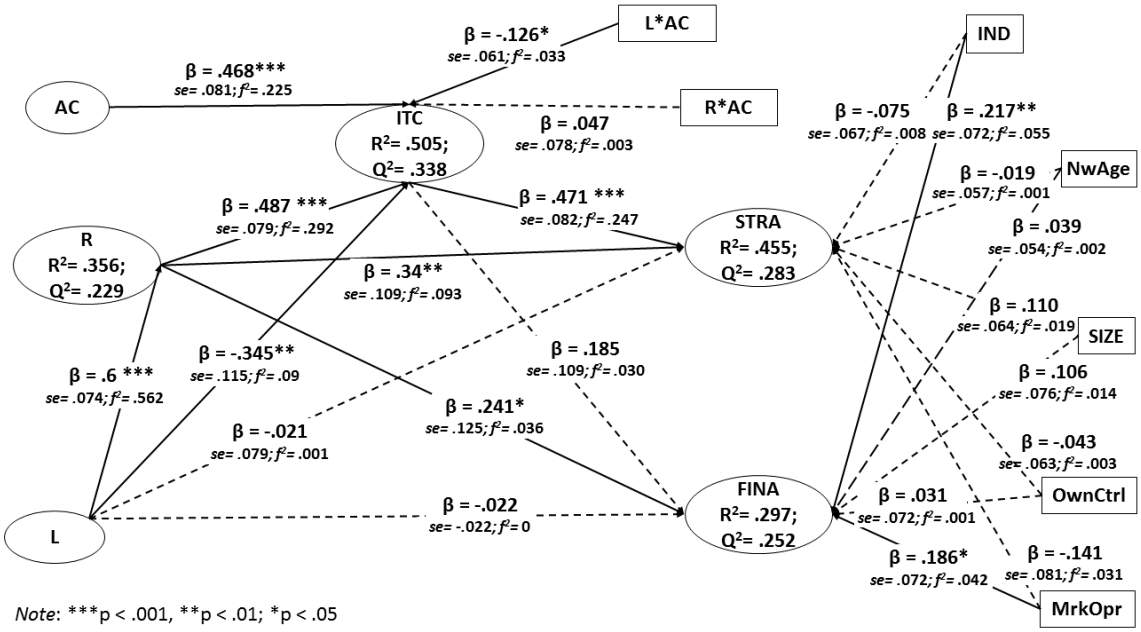
4.3.2 Structural (Inner) Model

4.3.2.1 Overview of Model Evaluation

As discussed in section 4.2.5, capabilities are examined separately. Subsequently four structural models are subject to examination. The results of this examination are displayed in Figure 4.1, 4.2, 4.3, and 4.4. As detailed in section 3.4.7.3, the evaluation of the structural model includes an examination of multicollinearity, effect size and significance of structural paths, and finally quality of the overall model.

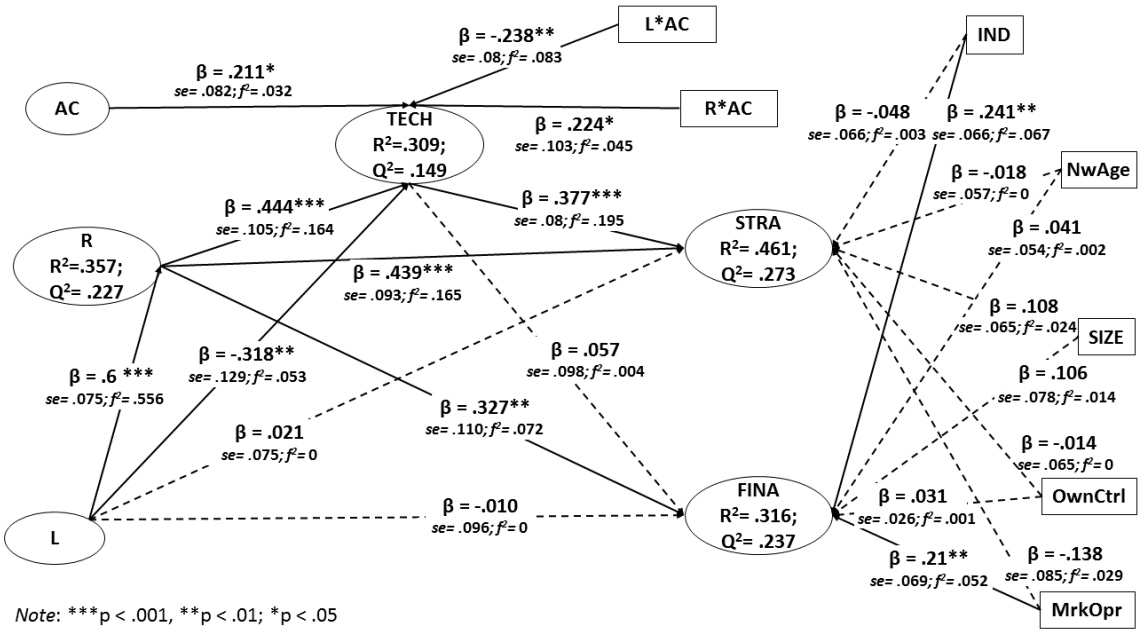
The results of VIF values (see Appendix L) below the common threshold of 5 (Hair et al., 2011) show that the models do not suffer from multicollinearity. The effect size (f^2) of each structural path (Cohen, 1988) indicates the influence of the predictor on the criterion variable. Values of effect size at .02, .15, and .35 are deemed as weak, moderate, and substantial (Chin, 1998b). This measure combined with the significance of its corresponding structural path describes the degree to which the observed relationship is manifest in the population. The final models show that exploitation strategy significantly links to exploration strategy ($\beta = .6$) at large effect size ($f^2 = .55$). The influence of exploitation strategy on each capability is observed at small effect size whereas the impact of exploration strategy on capability is noticed at medium effect size across the four models. The links between absorptive capacity and capabilities are all significant with small and medium effect sizes. All capabilities significantly link to strategic export performance at medium effect size. Meanwhile, their linkages to financial export performance are less substantial with small effect size. Overall, most direct significant paths have medium effect size, while significant moderation paths have small effect sizes.

Figure 4.1 The Structural Model for IT Capability



Note: ***p < .001, **p < .01; *p < .05

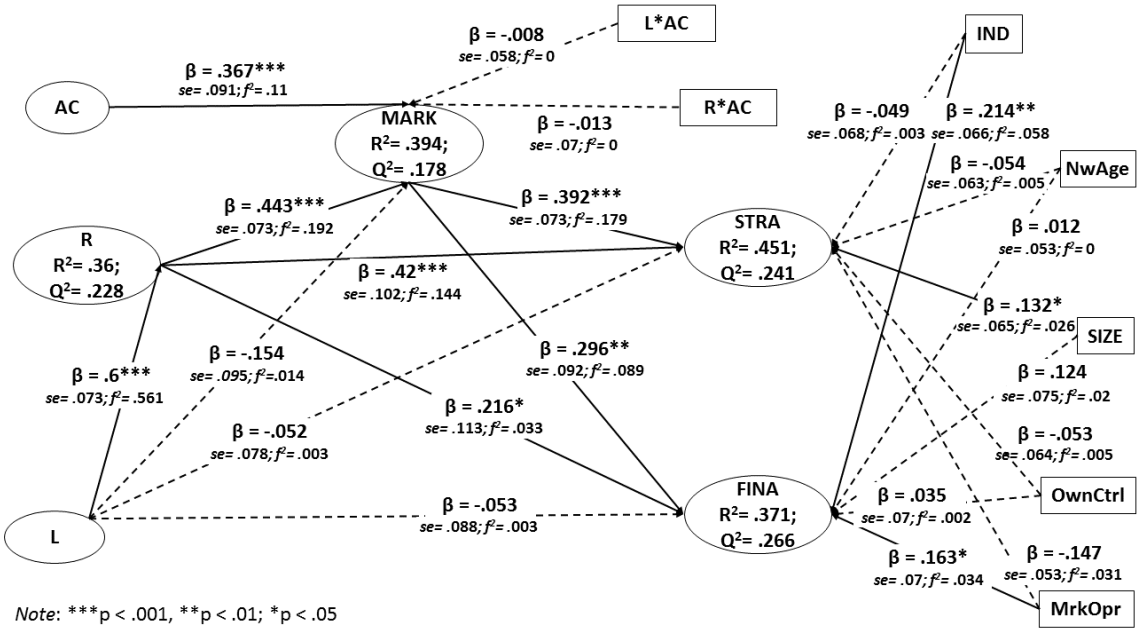
Figure 4.2 The Structural Model for Technical Capability



Note: ***p < .001, **p < .01; *p < .05

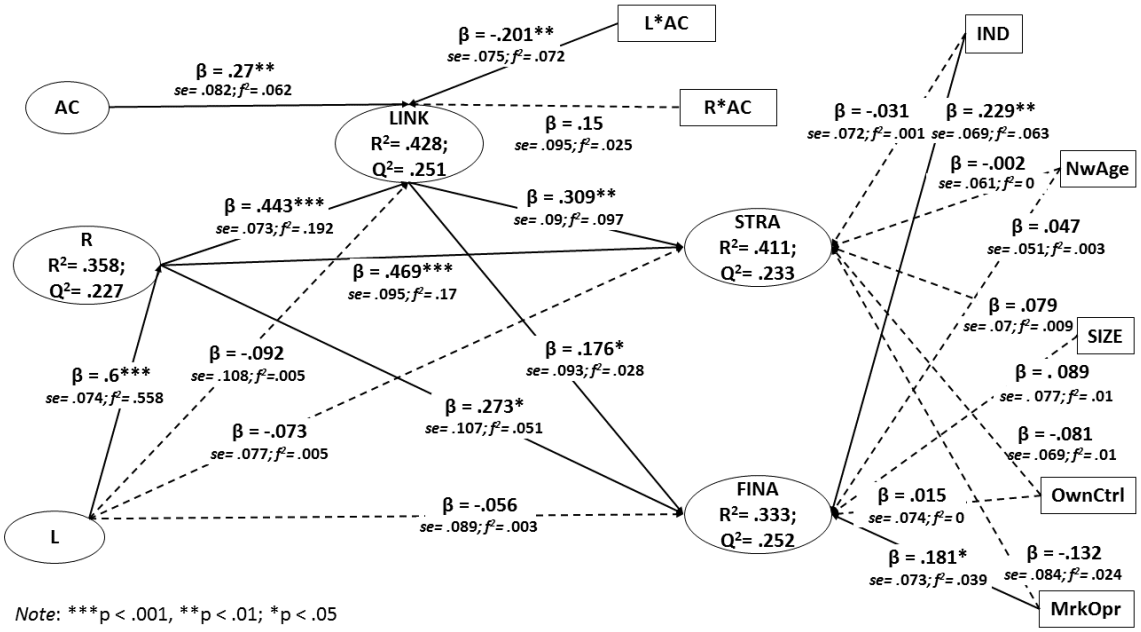
Note: L: Exploitation strategy, R: Exploration strategy, AC: Absorptive capacity
ITC: IT capability, TECH: Technical capability,
MARK: Marketing capability; LINK: Market-linking capability
STRA: Strategic export performance; FINA: Financial export performance
IND: Industry; NwAge: Network age; SIZE: firm size; OwnCtrl: Ownership control; MrkOpr: Market operation
β: Standardised coefficient; *se*: standard error; f^2: effect size
R^2: Coefficient of determination; Q^2: Predictive validity

Figure 4.3 The Structural Model for Marketing Capability



Note: ***p < .001, **p < .01; *p < .05

Figure 4.4 The Structural Model for Market-Linking Capability



Note: ***p < .001, **p < .01; *p < .05

Note: L: Exploitation strategy, R: Exploration strategy; AC: Absorptive capacity
ITC: IT capability, TECH: Technical capability,
MARK: Marketing capability; LINK: Market-linking capability
STRA: Strategic export performance; FINA: Financial export performance
IND: Industry; NwAge: Network age; SIZE: firm size; OwnCtrl: Ownership control; MrkOpr: Market operation
β: Standardised coefficient; *se*: standard errors; f^2: effect size
R^2: Coefficient of determination; Q^2: Predictive validity

These results show that the relationship between exploitation strategy and exploration strategy is most likely to be observed in the population. Likewise, the impact of exploration strategy on firm competitive capabilities and the influence of competitive capabilities on strategic export performance are likely to prevail in other samples. To a lesser extent, the existence of a link between exploration strategy and financial export performance is probable. Similarly, the likelihood of observing the moderation effect, in which absorptive capacity jointly interacts with exploitation strategy and exploration strategy to predict firm competitive capability, is also likely to exist at a lower level. However, even with weak effect size, significant moderation links observed in this research could still be meaningful for theory building purposes (Chin *et al.*, 2003).

Prior to the assessment of the quality of the final models, model construction should demonstrate whether the additional variance explained in a construct which results from the inclusion of an additional predictor is substantial (Field, 2009). For this purpose, four models are developed to compare the explanation ability of key variables in the model. The first model contains all five control variables (Carlson & Wu, 2012). Model 2 adds exploitation strategy as the main predictor in addition to the set of control variables. In model 3, exploration strategy is subsequently included and specified as a mediator between exploitation strategy and the two components of export performance. The final model 4 further includes capability, which is specified as a mediator between exploitation strategy and performance and also between exploration strategy and performance. Because the four capabilities are examined separately, four models demonstrating model 4 are constructed, each contains one capability. Each full model 4 consists of one capability and the two moderation effects of absorptive capacity. These moderation effects and absorptive capacity are specified as predictors of each capability and are not considered predictors for the performance constructs. Therefore, each model 4 contains eight predictors, of which five are the control variables and the other three are exploitation strategy, exploration strategy, and capability. Appendix M presents the structural paths of the first three models (model 1, 2, and 3) and Table 4.5 shows the changes in R^2 values from one model to the next.

Table 4.5 Overall Model Fit Comparison

	Model 1	Model 2	Model 3	Model 4			
				ITC	TECH	MARK	LINK
STRA							
R^2	.098 *	.199 ***	.354 ***	.483 ***	.462 ***	.451 ***	.411 ***
(Adjusted R^2)	(.067 ns)	(.166 **)	(.323 ***)	(.455 ***)	(.432 ***)	(.420 ***)	(.379 ***)
Δ R^2		.101	.155	.129	.108	.097	.057
(Δ adjusted R^2)		(.099)	(.157)	(.132)	(.109)	(.097)	(.056)
ΔF (for R^2)		3.905 ***	4.770 ***	4.526 ***	4.505 ***	4.488 ***	4.388 *
ΔF (for adjusted R^2)		(3.392 **)	(4.561 ***)	(4.495 ***)	(4.447 *)	(4.415 *)	(4.266 *)
Share of variance explained by the control variables (R^2_{M1} / R^2_{M4})				20.3%	21.3%	21.7%	23.8%
FINA							
R^2	.229 ***	.259 ***	.316 ***	.334 ***	.316 ***	.371 ***	.333 ***
(Adjusted R^2)	(.203 ***)	(.229 ***)	(.283 ***)	(.297 ***)	(.278 ***)	(.336 ***)	(.296 ***)
ΔR^2		.03 (.026)	.057 (.054)	.018 (.014)	0 (-.005)	.055 (.053)	.017 (.013)
ΔF		4.016 ***	9.636 ***	9.090 ***	N/A	10.691 ***	9.049 **
		(8.563 ***)	(8.232 ***)	(8.232 ***)		(9.172 ***)	(7.621 **)
Share of variance explained by the control variables (R^2_{M1} / R^2_{M4})				68.6%	72.5%	61.7%	68.8%
df	(5, 148)	(6, 147)	(7, 146)	(8, 145)			

Note: Significant levels are ***p < .001, **p < .01, *p <.05. Number in parentheses are adjusted R^2.
n = 154
df: degrees of freedom
Model 1 contains five control variables.
Model 2 adds exploitation strategy as the main predictor.
Model 3 adds exploration strategy as a mediator between exploitation strategy and performance.
Model 4 is the full model with each capability and its moderation effects.
ΔR^2 value is the change in the R^2 value of a model when compared with the previous one.

Table 4.5 demonstrates that most incremental variances resulting from the addition of each variable to the existing models are substantial. Among the four models of model 4, only the model with technical capability was not observed to add more value as compared to model 3. However, evidence that models with the other three capabilities add substantial variance extracted still confirms the quality of the final models. As a result, model 4 is considered significant as it is able to explain a substantial amount of the variance in the independent variables.

Table 4.5 also shows that control variables account for less than a quarter of the total variance extracted in the model for strategic export performance while they contribute almost 70% of variance explained for financial export performance. This result indicates that the final model is more profound for examining strategic performance than for financial performance.

Because the R^2 value describes the amount of variance of each dependent latent variable (Chin, 2010a), larger values are desirable as they reflect the quality of the model to capture variation in the construct of interest. Although this criterion varies across research areas, generally, values of .67, .33, and .19 are considered substantial, moderate, and weak (Chin, 1998a), respectively. For the current study, the R^2 values for strategic export performance were in the range between .40 and .47; and from .30 to .34 for financial export performance. These results show that the model can explain an adequate amount of variance for export performance. Given a range of .10 to .54 of R^2 values observed from other research conducted in developing countries (Aulakh et al., 2000; Brouthers & Xu, 2002; Li & Ogunmokun, 2001a, 2008), the model proposed in this study is deemed sufficient to explain the phenomenon of interest.

In addition, the range of Q^2 values from .22 to .33 indicates a satisfactory ability of the models to predict the dependent variables. This assessment is based on the suggestion that a positive value indicates that the model has predictive relevance, whereas a negative one implies poor performance regarding the predictive relevance of the model (Hair et al., 2013).

4.3.2.2 Results of Direct, Mediation, and Moderation Effects

4.3.2.2.1 Direct Effects

First of all, hypothesis 1 proposes that exploitation strategy is positively linked to exploration strategy. The result indicates a strong impact of exploitation strategy on exploration strategy with large magnitude and positive significant links in all four models. The effect is consistent across models with standardised coefficients at .6, significant level at $p < .001$, and large effect size of .56. Consequently, hypothesis 1 is supported.

Hypothesis 2 proposes that exploitation strategy is positively linked to the performance of power-disadvantaged firms (PDFs) in asymmetric networks. The result of structural paths in model 2, when exploitation strategy is first added to the model (see Appendix M), shows that exploitation strategy directly influences both strategic export performance ($\beta = .343$, $p < .001$, $f^2 = .141$) and financial export performance ($\beta = .178$, $p < .05$, $f^2 = .041$). As a result, hypothesis 2 is also supported.

Hypothesis 3 proposes the influence of exploration strategy on the performance of PDFs in asymmetric networks. The structural results of model 3, when exploration strategy is first included in the model, are used to examine this hypothesis. As can be seen from Appendix M, the direct effects from exploration strategy to both strategic and financial export performance are positive and significant at a significance level of .1%. The coefficients are .592 and .345, respectively. Therefore, hypothesis 3 is supported.

Hypothesis 4 proposes a negative association between exploitation strategy and competitive capability while hypothesis 5 predicts that exploration strategy positively links to competitive capability. The results of the structural models (see Figure 4.1, 4.2, 4.3, and 4.4) show that exploitation strategy is negatively linked to competitive capability in all four models. However, significant links are only observed for three models and with small effect size. Therefore, hypothesis 4 is partially supported. Meanwhile, exploration strategy is positively and significantly linked to capability across four models, all with medium effect size. Consequently, hypothesis 5 is supported.

Hypothesis 6 suggests a positive association between competitive capability and the performance of PDFs in asymmetric networks. Results show that all the capabilities

exhibit strong significant and positive associations with strategic export performance in all four models ($p < .001$). However, their effects on financial export performance are weaker regarding both magnitude and significance levels. Specifically, only two significant links are observed in models with marketing and market-linking capabilities, whereas IT capability and technical capability are not significantly associated with financial export performance. Therefore, hypothesis 6 is supported when it comes to strategic export performance and partially supported when it comes to financial export performance.

Among the control variables, both industry and market operation are significantly and positively linked with financial export performance with a small effect size in all four models. Firm size is observed to positively and significantly link to strategic export performance only in the model with marketing capability. Other relationships between the other control variables and the dependent variables are non-significant.

4.3.2.2.2 Mediation Effects

The conceptual model proposes five mediation effects. Three of them which connect exploitation strategy and performance are part of a serial multiple mediation. In this case, the analysis software only reports results for the sum of mediation effects. Therefore, the size of each mediation effect connecting exploitation strategy and performance is calculated by the product of the individual path coefficients as suggested in the literature (Preacher & Hayes, 2008). Their significance (see Appendix N) is assessed with the bias-corrected bootstrap technique of 5,000 resamples as discussed in section 3.4.7.2. Table 4.6 shows the results of these mediation effects.

Hypothesis 7 proposes that exploration strategy mediates the link between exploitation strategy and the performance of PDFs. The results in Table 4.6 provide strong evidence to suggest that exploration strategy mediates the links from exploitation strategy to both dimensions of export performance in all models. The mediation effects of exploitation strategy through the mediator of exploration strategy are stronger for strategic export performance and less pronounced for financial export performance.

Table 4.6 Results of Mediation and Moderation Effects

Path	ITC		TECH		MARK		LINK	
	β	Sig.	β	Sig.	β	Sig.	β	Sig.
Exploitation strategy and the performance of PDFs (H7, H8, H10)								
L - STRA								
Direct effects	-.021	ns	.021	ns	-.052	ns	-.073	ns
Mediation effects								
***H7**: L - R - STRA*	*.204*	**	*.273*	***	*.252*	***	*.281*	***
***H8**: L - CAP - STRA*	*-.163*	*	*-.110*	*	*-.060*	ns	*-.028*	ns
***H11**: L - R - CAP - STRA*	*.137*	***	*.097*	***	*.104*	***	*.071*	***
Sum of mediation effects	.178	*	.241	**	.296	***	.324	***
Total effects	.157	*	.281	**	.243	**	.251	**
L – FINA								
Direct effects	-.022	ns	-.010	ns	-.053	ns	-.056	ns
Mediation effects								
***H7**: L - R - FINA*	*.144*	*	*.187*	**	*.129*	*	*.164*	**
***H8**: L - CAP - FINA*	*-.064*	*ns*	*-.018*	ns	*-.045*	ns	*-.016*	ns
***H11**: L - R - CAP - FINA*	*.054*	*ns*	*.015*	ns	*.079*	**	*.041*	*
Sum of mediation effects	.134	*ns*	.174	*	.163	*	.188	**
Total effects	.112	ns	.177	*	.110	ns	.134	**
Exploration strategy and the performance of PDFs (H9)								
R - STRA								
Direct effects	.340	**	.439	***	.420	***	.469	***
H9: Mediation effects	.229	***	.169	**	.174	***	.119	**
Total effects	.569	***	.603	***	.594	***	.588	***
VAF[2]	*40.2%*		*27.8%*		*29.3%*		*20.2%*	
R - FINA								
Direct effects	.241	*	.327	**	.216	*	.273	*
H9: Mediation effects	.090	ns	.026	ns	.130	**	.068	*
Total effects	.331	**	.337	**	.346	**	.341	**
VAF	*no mediation*		*no mediation*		*37.6%*		*19.9%*	
Exploitation strategy and competitive capabilities								
L – CAP								
Direct effects	-.345	**	-.318	**	-.154	ns	-.092	ns
H10**:** Mediation effects	.292	***	.268	**	.266	***	.231	**
Total effects	-.503	ns	-.050	ns	.112	ns	.139	ns
Moderation effects								
AC - CAP **(*H12*)**	.468	***	.211	*	.367	***	.270	**
L - CAP by AC (AC*L) ***(H13a)***	-.126	*	-.238	**	-.008	ns	-.201	**
R - CAP by AC (AC*R) ***(H13b)***	.047	ns	.224	*	-.013	ns	.150	ns

Note: Sig.: significant levels at ***p < .001, ** p < .01, *p < .05, ns: not significant
VAF: variance accounted for, determined by the size of the mediation effect over the total effect

[2] This criterion should not be calculated in the case of competing mediation, where the direct and mediation effects have opposite signs (Hayes, 2013; Shrout & Bolger, 2002)

These findings demonstrate that an increase in exploitation strategy would translate to an increase in both strategic and financial export performance through exploration strategy. These findings support hypothesis 7.

Hypothesis 8 advances that exploitation strategy influences the performance of PDFs through firm competitive capability. As can be seen from Table 4.6, only two capabilities, IT and technical, mediate the relationship between exploitation strategy and strategic export performance ($p < .05$). The negative results of the mediation effect of exploitation strategy on strategic export performance through IT capability and technical capability indicate that with the same level of these capabilities, the addition of exploitation strategy contributes less to strategic export performance through IT and technical capabilities. Meanwhile, marketing capability and market-linking capability do not mediate the link between exploitation strategy and strategic export performance. On the other hand, exploitation strategy does not influence financial export performance indirectly through any capabilities in all four models. Therefore, hypothesis 8 is partially supported for strategic export performance and not supported for financial export performance.

Hypothesis 9 suggests that exploration strategy influences the performance of PDFs in the network indirectly through firm capability. Table 4.6 shows that all four capabilities mediate the relationship between exploration strategy and strategic export performance. These findings suggest that an increase in exploration strategy enhances strategic export performance indirectly through competitive capabilities. However, the mediation effects of exploration strategy through competitive capabilities are less pronounced for financial export performance. Results show that only marketing capability and market-linking capability transmit the effects of exploration strategy on financial export performance. This finding predicts that an increase in exploration strategy exerts a positive influence on financial export performance only through marketing and market-linking capabilities. As a consequence, hypothesis 9 is supported in the model with strategic export performance, while it is partially supported for financial export performance in the models with marketing and market-linking capability.

Hypothesis 10 proposes that exploration strategy mediates the relationship between exploitation strategy and competitive capability. The results show that this mediation is significant in all models. This finding indicates that an increase in exploitation strategy increases firm competitive capability through exploration strategy. Therefore, hypothesis 10 is supported.

Finally, hypothesis 11 puts forward that exploitation strategy also influences the performance of PDFs through the link between exploration strategy and firm competitive capability. Evidence supporting 11 is present in the models with strategic export performance ($p < .001$). For the models with financial export performance, the mediation effects are only observed with marketing capability and market-linking capability. Therefore, H11 is supported for strategic export performance and partially supported for financial export performance. The positive estimates of the effect suggest that an increase in exploitation strategy leads to better achievement of export performance as higher exploitation strategy increases exploration strategy, resulting in the enhancement of competitive capability, which in turn increases export performance.

4.3.2.2.3 Moderation Effects

In the conceptual model, the effects of exploitation strategy and exploration strategy on competitive capability are hypothesised to be conditioned on the level of the firm's absorptive capacity. Prior to the moderation effect, the direct effect of absorptive capacity on firm competitive capability is proposed by hypothesis 12. The results show that absorptive capacity is significantly linked to all four capabilities with small or moderate effect size. Therefore, hypothesis 12 is supported. These positive results indicate that an addition of absorptive capacity would contribute to an increase in competitive capability.

Hypotheses 13a and 13b propose that absorptive capacity intensifies the effects of exploitation strategy and exploration strategy on competitive capability. Specifically, an increase in absorptive capacity strengthens the negative influence of exploitation strategy on competitive capability by a negative moderation effect (H13a). Meanwhile, it strengthens the positive influence of exploration strategy on competitive capability with a positive moderation effect (H13b).

As can be seen from Table 4.6, significant evidence of conditional direct effects of exploitation strategy are found for the three capabilities of IT, technical, and market-linking capability. These negative results indicate that when CMEs increase their absorptive capacity, the influence of exploitative strategy on competitive capability reduces. These findings partially support hypothesis 13a.

On the other hand, the positive impact of exploration strategy on the capabilities only depends on absorptive capacity when predicting technical capability. This result indicates that the impact of exploration strategy on technical capability is higher when absorptive capacity increases. Therefore, hypothesis 13b is partially supported.

As discussed in section 3.4.7.2, testing of moderation effects should examine the significance range where the moderator would influence the impact of the focal predictor on the independent variable. This study employs the pick-a-point approach for this purpose as suggested in the literature (Bauer & Curran, 2005; Hayes, 2013).

Six values of absorptive capacity at the 1st quartile (-.674), 2nd quartile (.326), 3rd quartile (.716) and at 1 standard deviation below the mean (-1), at the mean (0), and 1 standard deviation above the mean (1) were selected for probing the interaction effect. The 95% confidence intervals of the moderation effects (see Table 4.7) were estimated with the bias-corrected bootstrap technique of 5,000 resamples.

As can be seen from Table 4.7, the effect of exploitation strategy on IT capability is observed to be moderated by absorptive capacity at all selected values. This finding indicates that absorptive capacity moderates the link between exploitation strategy and IT capability at low, medium, and high levels of absorptive capacity. Three values of -1, 0, and +1 of absorptive capacity are chosen to visualise how the moderation effect of absorptive capacity would differ at these three levels of absorptive capacity.

Meanwhile, the significance range at the 95% confidence level of the moderation effect of exploitation strategy on technical capability is determined when absorptive capacity moves in the range from medium to high, specifically from approximately -.2 to 1 unit of standard deviation. The two values of absorptive capacity, 0 and 1, were chosen to plot this interaction effect at the medium and high levels of absorptive capacity.

Table 4.7 The Moderation Effects at Various Values of Absorptive Capacity

AC values	L - ITC by AC		L - TECH by AC		L - LINK by AC		R - TECH by AC	
	LL CI 95%	UL CI 95%	LL CI 95%	UL CI 95%	LL CI 95%	UL CI 95%	LL CI 95%	UL CI 95%
-1.000	**-.456**	**-.027**	-.349	.207	-.166	.373	-.115	.552
-.674	**-.486**	**-.065**	-.407	.110	-.200	.282	**.008**	**.573**
-.200	**-.537**	**-.107**	**-.507**	**-.009**	-.271	.160	**.175**	**.615**
0	**-.564**	**-.122**	**-.555**	**-.055**	-.305	.116	**.237**	**.645**
.326	**-.622**	**-.147**	**-.648**	**-.128**	-.370	.046	**.316**	**.712**
.600	**-.675**	**-.161**	**-.731**	**-.176**	**-.431**	**-.002**	**.374**	**.783**
.761	**-.710**	**-.173**	**-.785**	**-.206**	**-.476**	**-.026**	**.405**	**.835**
1.000	**-.763**	**-.186**	**-.865**	**-.243**	**-.542**	**-.059**	**.434**	**.922**

Note: LL CI 95%: lower limit of the 95% confidence intervals
UL CI 95%: upper limit of the 95% confidence intervals
The 95% confidence intervals were determined by the bias-corrected bootstrapping technique with 5,000 resamples.

The moderation effect of exploitation strategy on market-linking capability by absorptive capacity is observed to be significant when absorptive capacity is at medium-high to high values as it ranges from approximately at least .6 units of standard deviation. Values of absorptive capacity at .6 and 1 are chosen to illustrate this moderation effect.

Finally, Table 4.7 shows that the significance range of the positive moderation effects by absorptive capacity on the link between exploration strategy and technical capability is established when absorptive capacity approximately exceeds the value at the first quartile of -.674 units of standard deviation. Three values of absorptive capacity at -.647, 0, and 1 - corresponding to low-medium, medium, and high levels of absorptive capacity - are chosen to plot this moderation effect.

Figures 4.5, 4.6, and 4.7 display the visualisation of the negative moderation of exploitation strategy on IT, technical, and market-linking capabilities by absorptive capacity. As can be seen from the graphs, the slopes of the effects of exploitation strategy on these three capabilities are all negative and steeper for higher values of absorptive capacity. These graphs also show that the crossing points of the moderation effects on IT and market-linking capability are out of the possible range of exploitation

strategy[3], whereas the crossing-point for the effect on technical capability is at a very high value of exploitation strategy. The negative sign indicates a reduction in IT, technical, and market-linking capabilities when exploitation strategy increases. The steeper slopes at higher values of absorptive capacity capture its moderation effect by describing that when absorptive capacity is higher, the negative effect of exploitation strategy on the three capabilities reduces faster with the addition of exploitation strategy. That the crossing points are close to the maximum value or out of the possible range of exploitation strategy reveals that the capabilities are higher for high than for low levels of absorptive capacity in most of the cases. This finding indicates that while an increase in exploitation strategy contributes less toward the three capabilities, it is still beneficial for CMEs.

Meanwhile, Figure 4.8 presents the moderation effect of exploration strategy on technical capability. The positive result of the moderation effect demonstrates that the direct effect of exploration strategy on technical capability is increased with the addition of absorptive capacity. This graph also indicates that when exploration strategy exceeds -.94 units of standard deviation, the contribution of exploration strategy on technical capability is greater when absorptive capacity is higher.

Furthermore, because exploitation strategy links to exploration strategy and both of their effects on technical capability are moderated by absorptive capacity, the mediation effect and total effect of exploitation strategy on technical capability can be investigated to examine if this mediation and the total effects are also moderated by absorptive capacity (Edwards & Lambert, 2007; Hayes, 2013; Preacher, Rucker, & Hayes, 2007). Appendix O presents the methodology and testing results of this analysis. The investigation shows that absorptive capacity moderates the mediation effect but not the total effect. Figure 4.9 displays a graphical visualisation of this moderated mediation effect.

[3] The possible range of exploitation strategy is found to range from -6.223 to .935 units of standard deviation, which is determined from the actual data of the mean value (4.478), its standard deviation (.559) and the scale range of its measurement (from 1 to 5) of exploitation strategy.

Figure 4.5 **The Moderation Effect of Absorptive Capacity on Exploitation Strategy and IT Capability**

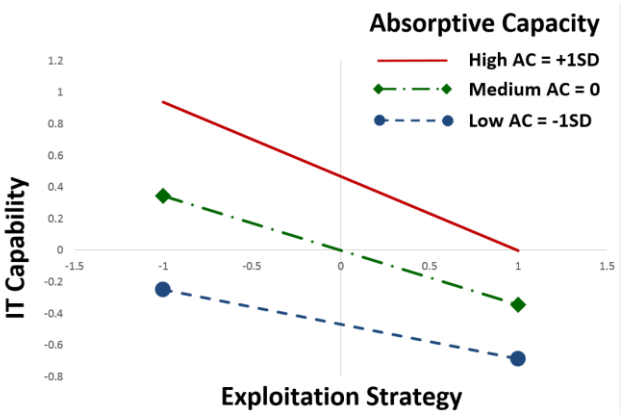


Figure 4.6 **The Moderation Effect of Absorptive Capacity on Exploitation Strategy and Technical Capability**

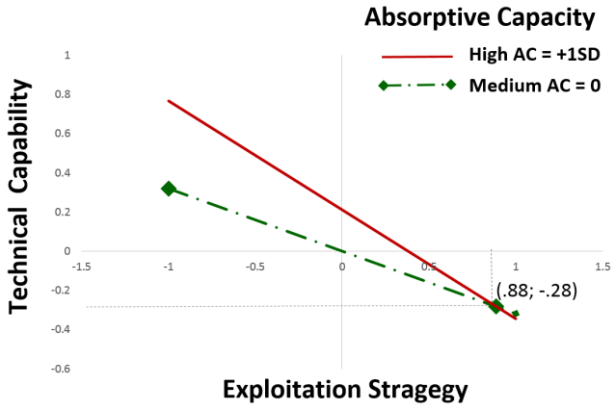


Figure 4.7 **The Moderation Effect of Absorptive Capacity on Exploitation Strategy and Market - Linking Capability**

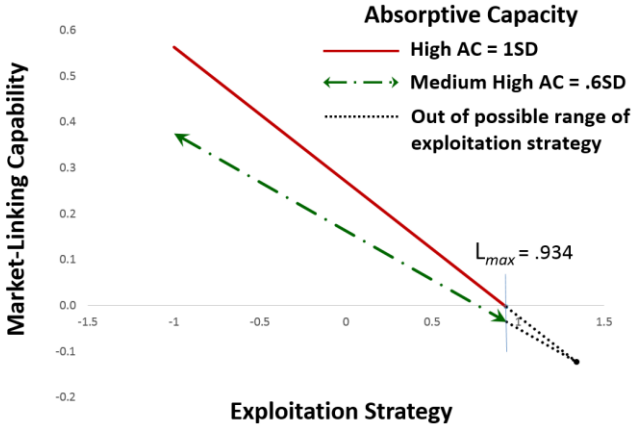


Figure 4.8 **The Moderation Effect of Absorptive Capacity on Exploration Strategy and Technical Capability**

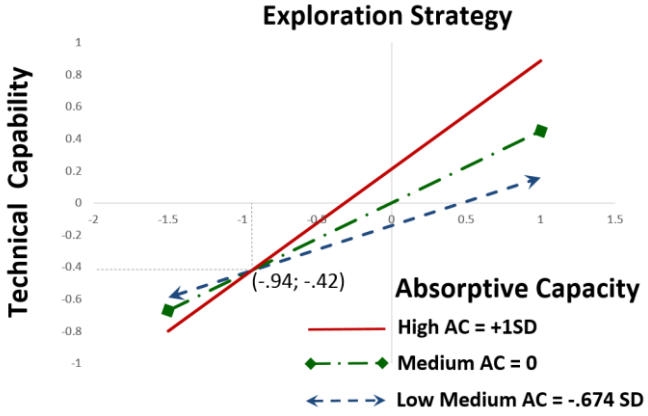
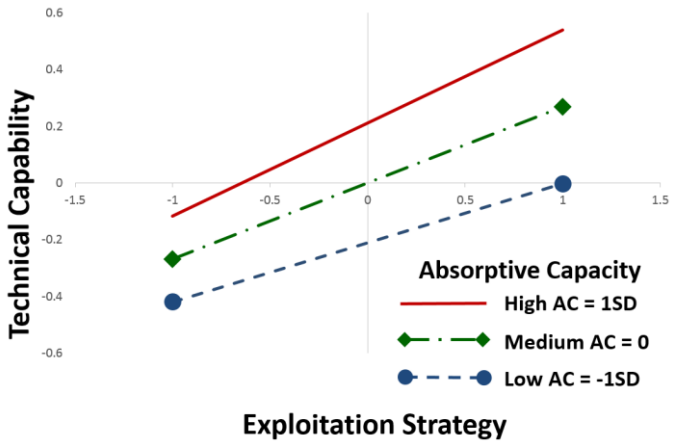


Figure 4.9 The Moderated Mediation Effect of Absorptive Capacity on Exploitation Strategy and Technical Capability



The analysis at the 95% confidence level shows that the mediation effect of exploitation strategy on technical capability is positively moderated by absorptive capacity at low, medium, and high levels of this moderator. The finding indicates that, with the addition of firm absorptive capacity, exploitation strategy exerts a stronger influence on technical capability through exploration strategy. However, this positive influence is not observed for the total effect, probably because it is offset by the negative moderating effect of absorptive capacity on the direct link between exploitation strategy and technical capability.

4.4 Summary of the Hypothesis Testing Results

Table 4.8 summarises the hypothesis testing results of the quantitative research. The results show consistency in research findings for most of the proposed relationships.

Of the fourteen hypotheses, seven are supported (H1, H2, H3, H5, H7, H10, and H12) and three are partially supported (H4, H13a, and H13b) with both financial and strategic dimensions of export performance. The remaining four hypotheses are observed to be more significant for strategic export performance than for financial export performance. In particular, three relationships are supported by the model with strategic export performance and partially supported by financial export performance (H6, H9, and H11). The last hypothesis (H8) is partially supported with strategic export performance but not supported in the model with financial export performance.

Table 4.8 Summary of the Hypothesis Testing Results

	Hypothesis	Strategic export performance	Financial export performance
H1	Exploitation strategy is positively associated with exploration strategy	Supported	Supported
H2	Exploitation strategy is positively associated with the performance of PDFs in asymmetric networks	Supported	Supported
H3	Exploration strategy is positively associated with the performance of PDFs in asymmetric networks	Supported	Supported
H4	Exploitation strategy is negatively associated with competitive capability	Partially supported *with IT and technical capabilities*	Partially supported *with IT and technical capabilities*
H5	Exploration strategy is positively associated with competitive capability	Supported	Supported
H6	Competitive capability is positively associated with the performance of PDFs in asymmetric networks	Supported	Partially supported *with marketing and market-linking capabilities*
H7	Exploration strategy mediates the relationship between exploitation strategy and the performance of PDFs in asymmetric networks	Supported	Supported
H8	Competitive capability mediates the relationship between exploitation strategy and the performance of PDFs in asymmetric networks	Partially supported *with IT and technical capabilities*	Not supported

Table 4.8 (Cont'd)

	Hypothesis	**Strategic export performance**	**Financial export performance**
H9	Competitive capability mediates the relationship between exploration strategy and the performance of PDFs in asymmetric networks	Supported	Partially supported *with IT and technical capabilities*
H10	Exploration strategy mediates the relationship between exploitation strategy and competitive capability	Supported	Supported
H11	The link of exploration strategy and competitive capability mediates the relationship between exploitation strategy and the performance of PDFs in asymmetric networks	Supported	Partially supported *with marketing and market-linking capabilities*
H12	Absorptive capacity is positively associated with firm competitive capability	Supported	Supported
H13a	Absorptive capacity negatively moderates the influence of exploitation strategy on competitive capability	Partially supported *with IT, marketing, and market-linking capabilities*	Partially supported *with IT, marketing, and market-linking capabilities*
H13b	Absorptive capacity positively moderates the influence of exploration strategy on competitive capability	Partially supported *with technical capability*	Partially supported *with technical capability*

4.5 Results of the Qualitative Study

As discussed in the Methodology chapter, the purpose of the qualitative study in this research was triangulation, aimed at enhancing understanding of the dual practice of CMEs' exploitation and exploration strategies and seeking contextual information to complement the quantitative findings. This section presents the qualitative findings of the study. Data from the 10 interviews were analysed to reveal patterns of CMEs' exploitation and exploration practices and their reconfiguration of capabilities as an attempt to implement these strategies.

4.5.1 The Duality of Exploitation Strategy and Exploration Strategy

Across ten interviews, exploitation strategy was viewed as the main area providing a strong base for firm existence, with all firms citing this activity as their first operation when they started up their businesses. Meanwhile, exploratory activities were often referred to as a practice stemming from exploitation strategy.

4.5.1.1 Exploitation Strategy

Table 4.9 displays the activities pertaining to exploitation and exploration strategies of the interviewed firms. The establishment date was taken as the date when they first started up as factories. All firms started in the 1970s and 1980s were in fact previously stated-owned enterprises. Some of them were originally established by Taiwanese owners before being confiscated by the government after the end of the war in 1975. Firms established in the 1970s and 1980s (Firm 1, 2, 4, 5, and 6) acknowledged that their operations back then primarily served as a part of the national central economic plan and their exporting activities were in fact a part of the country's barter trade with other countries within the socialist group. Opportunities to engage in international trade were opened up for Vietnamese exporting firms when the country turned to export-led policy in the early 1990s and especially when the United States eliminated its embargo on Vietnam in 1994. This shift in the economic system promoted the proliferation of the private sector and released many state-owned enterprises (SOEs) from the control of the government (Masina, 2006). A large number of textile and garment firms were able to make decisions for themselves and they quickly began to participate in global value chains (GVCs) through agents based in Taiwan, Hong Kong, or Singapore (Nadvi, Thoburn, Thang, Ha, Hoa, Le, & Armas, 2004).

Table 4.9 Exploitation and Exploration Activities of the Interviewed Firms

Firm	Industry	First establishment		Exploitation activities (share in revenues)	Incorporation/ privatisation	Years to exploration strategy	Exploration activities
1	Garment	SOE	1973	Assembly in GVC (**15%**)	2003	30yrs (2003)	• Full-package service in GVCs • Designing services (ODM) in GVCs • Selling own-branded products (OBM) in a foreign and domestic markets
2	Garment	SOE	1980s	Assembly in GVC (**na**)	2007	27yrs (2007)	• Full-package service in GVCs • ODM service in GVCs
3	Garment	Private	1992	Assembly in GVC (**40%**)	1993	4yrs (1997)	• Full-package service in GVCs • OBM in a foreign and domestic markets
4	Garment	SOE	1989	Started as assembly, moved to Full-package services in GVC (**90%**)	2007/2015	15yrs (2004)	• Providing full-package service in GVCs for higher-value added products • Recently started OBM in the domestic market
5	Garment	SOE	1976	Assembly in GVC (**40%**)	1994/2006	17yrs (2003)	• Full-package service in GVCs • ODM in GVCs
6	Footwear	SOE	1975	Assembly in GVC (**60%**)	2007	29yrs (2007)	• Full-package service in GVCs • ODM in GVCs • OBM domestic market
7	Footwear	Private	Late 1990s	Assembly in GVC (**60%**)	2009	10yrs (2009)	• Full-package service in GVCs • OBM domestic market
8	Footwear	Private	1998	Assembly in GVC (**80%**)	1998	12yrs (2010)	• Full-package services in GVCs
9	Furniture	Private	1994	Assembly in GVC (**75%**)	1994	14yrs (2008)	• Full-package services in GVCs • OBM domestic market
10	Furniture	Private	1996	Subcontract for domestic firms (**80%**)	1996	12yrs (2008)	• Full package service in GVCs for small-sized orders when required

Source: Author's compilation from the interviews

Therefore, for many Vietnamese firms, engaging in GVCs was possible right after the country opened up thanks to the national competitiveness of low-cost labour and the availability of resources that were previously provided by the government.

All of the companies that started either as private or as state-owned enterprises, cited that their first activity when engaging in GVCs was to act as a production base for agents based in the region. Their activities were simply to receive materials and run production against product specifications provided by the agent, as an interviewee put it:

> *"We began as a processing base for large companies. We worked mainly as a labour force. At this stage, we were like workers who followed instructions and got their wages. It was safe, did not require much capital. With our low level knowledge of foreign trade back then, doing assembly suited best." (Firm 1)*

All the interviewed managers confirmed the power inequality setting favouring international buyers when they engaged in GVCs with this processing activity.

Data displayed in Table 4.9 provide evidence for three observations relating to exploitation and exploration practices of power-disadvantaged firms (PDFs) in an asymmetric network.

First, eight out of the ten firms maintained the processing work or assembly services as their most basic methods of operation. While firms in the footwear and furniture industries relied on this activity as their major source of revenue (more than 50%), firms in the garment industry had managed to reduce the share in revenues by this production method in their operations. Three out of four firms, who disclosed this information, reported that the processing job currently accounted for up to 40% of their total revenue. The remaining firm (firm 4) had the highest ratio of exploitation strategy in its business activities. This firm acknowledged that it had quit the processing job approximately ten years prior to the interview, so it no longer carried out this simple production method.

Following on from the first observation, it became apparent that PDFs can have a better position in the network when they engage in explorative activities. As can be seen in Table 4.9, firm 4 was successful in transiting from doing assembly to providing full-

package services, where it could draw better earnings in the GVCs (Gereffi, 2011). The success of this transition was attributed primarily to the improvement of the operation system and to the leadership of the manager as the interviewee mentioned:

> *"I think the management system plays the most important part. Second is the workforce. Those are two factors that help us develop. We need time to develop our management team and system. And we need a leader to identify strategies for the firm" (Firm 4)*

He later explained that the firm strategy was intensively looking for opportunities to obtain better earnings in the network by making investments into three areas. Initially, they tried to adopt production systems following the ISO standards in manufacturing or HA standards in managing the workforce. Later, they were continuously seeking new buyers who could place orders of higher-value products. And finally, they tried to raise productivity through investments in machinery and automation. As ISO and HA standards became industrial norms (Benner & Tushman, 2003), meeting the standards helped the firm function properly in the network. All managers from the ten interviews confirmed that these standards were not compulsory under assembly contracts. However, with full-package services, these standards became industrial norms and acted like a prerequisite for better participation in a GVCs (Ruwanpura & Wrigley, 2011). Moving from an assembler to a full-package provider described a firm's explorative effort to switch to another product domain. Therefore, it was critical for firms to improve their working capability in order to pursue the exploration strategy. Similarly, the second strategy to reach for new buyers reflected a different explorative activity to expand the customer base. On the contrary, the last strategy to invest into machinery and automation indicated an exploitative action, where the firm strengthened its new network position. This finding revealed that an explorative strategy was critical for PDFs to obtain a better network position, where they could gain higher earnings. In addition, the fact that this firm (firm 4) made 90% of its revenue from the full-package activity indicated a strong reliance on the exploitation activity after obtaining a better position in the network.

In addition to the quest for a better position in the existing network, a change towards a lower network position was also observed in the interview with firm 10. This firm

initially started as an assembler for global buyers but later stepped down to mainly work as a domestic subcontractor for manufacturing firms participating in GVCs. As the owner explained, the main reason for this change was the economic downturn which severely reduced its international orders. However, two other reasons were also noted in the interview. On one hand, it was a deterioration in the firm's competence. After the economic downturn, there was a big loss in the number of workers, largely due to the instability of international orders. To be on the safe side, the owner decided to focus on worker loyalty to maintain a stable workforce and less attention was paid to investments into productive assets such as tools and machinery. Subsequently, the firm was not able to strengthen its productive competence compared to other manufacturers in the industries. Training for workers relied on free support from the industry association which probably did not help much in differentiating the firm from other manufacturers. On the other hand, the firm did not have sufficient resources to serve international buyers. This insufficiency was due to the lack of working capital and number of workers necessary to serve an average international order. This likely resulted from the poor economic gains obtained through the reduced assembly activities. Since productive competence was required for network participation, a downgrade in this capability led to a departure from the existing network.

Findings from the interviews show that PDFs need to possess a certain level of resources which serve as prerequisites for their participation in the network. Failing to meet these requirements can lead to network relinquishment. Besides, firms can upgrade their network position by a combination of continuously improving working competence and seeking new network partners, who bring more value to their operational activities.

4.5.1.2 Exploration Strategy

Data from Table 4.9 also provide information about the explorative strategies practiced by the interviewed firms. All ten firms provided full-package services in GVCs as their exploration practices. Full-package services are different to assembling work in that they require higher levels of technical capability and investments into productive assets and resources. Three managers illustrated this difference:

> *"When you do CMT [assembly], buyers would provide patterns as well as the cutting diagram. Fabrics are also provided." (Firm 5)*

> *"When we do CMT, we only run production and products are under buyers' names." (Firm 3)*

> *"So when we decided to move toward FOB [full-package service], we needed to prepare ourselves. Implementing standards and systems for quality would help us do the job better. We had to prepare for everything, production facility, workers, working conditions, working safety. They are very strict on packaging and inventory as well. The CMT method [assembly] does not require that much." (Firm 4)*

Firm 4, who already relied on the full-package services, pursued their explorative strategy by extensively searching for new buyers who could place orders for higher-value products.

> *"Now, we look for buyers that can bring us higher values. A few years ago, we could only made chemises for $10-12, less than $15. Now, we can make $32-35 chemises"*

Firm 10, who stepped down from serving international buyers in favour of subcontracting for other domestic companies, also provided full-package services for small-sized orders. However, this activity only made up 20% of its revenue and the customer base was not stable.

Apart from providing full-package services, other methods of exploration strategy were also observed. Eight out of ten firms were engaging in other areas such as providing designing services in GVCs (Firm 1, 2, 5, and 6) or selling their own branded products in the domestic market (Firm 1, 3, 4, 6, 7, and 9). This expansion into other businesses required firms' attention and investments into activities unfamiliar to their traditional practices in the production area such as marketing or building their own supplier base.

Furthermore, Table 4.9 also indicated that firms previously established as SOEs took a longer time to initiate their exploratory activities when compared with firms that started as private companies. This was most likely due to the command economic system by which strategy was directed by the government and management was not able to make decisions for firm growth. Soon after incorporation or privatisation, with more freedom in management, these firms quickly began to engage in exploratory practices. One manager attributed this change in the firm's strategic orientation to its freedom from government control as he mentioned:

> *"Our company was state-owned until 2003, when we changed to a shareholding enterprise through privatisation… The privatisation was agreed upon the condition that the state would not have a majority share. As a consequence, the state holds less than 50% capital in our firm and we are more flexible in making our strategies." (Firm 5)*

For private firms, as they were free from government control, the reason for their spending time on exploitative activities was likely due to the lack of business network, skills, and resources as part of the liability of newness (Hannan & Freeman, 1984), as evidenced in two interviews:

> *"We had had more than ten years of doing processing work. This period can be viewed as the training time for us to know how to do the job." (Firm 9)*

> *"At first, we were a small-sized factory, whose main purpose was to create jobs. We had 40 machines and 60 workers back then... we received orders from subsidiaries of large companies. Following a rather long order, we were lucky to receive training and techniques from a Japanese firm. They taught us everything." (Firm 3)*

These findings revealed that firms often spent time on exploitation strategy before pursuing explorative activities. The lack of ability to make decisions resulting from ownership control and liability of newness were probably the major drawbacks stopping the firm from getting on an explorative path. Furthermore, firms can pursue multiple explorative strategies – either moving up the network or diversifying their market base.

4.5.1.3 Factors that Influence the Decision for Exploration Strategy

Table 4.10 summarises the factors influencing CMEs' decisions to follow exploration practices. CMEs' exploration activities were found to be discouraged by three factors. Apart from being tied up in making strategic decisions and the liability of newness, firms tended to stick with exploitation strategy because of the benefits they could gain from doing assembly work. This strategy was simple and easy for firms when they first engaged in the global value chain. The requirements as network prerequisites affected tangible assets in term of machinery, production facility, and workers as these were the primary resources needed to run the assembly work. To prevent the risk of supplier failure (Schmitz, 2006), agents often sent their technical staff to the firms to ensure

product quality. Manufacturers only concentrated on production. Other input such as materials or cutting patterns were provided. With greater involvement of agents in the production process, manufacturers faced less rejection risk upon product delivery. Therefore, this strategy was safe for manufacturers. Additionally, the assembly work also provided a stable source of earnings albeit with meagre profits. For this advantage, in the global economic recession, one firm (Firm 1) chose to strategically increase its assembly activity to reduce income volatility.

Moreover, evidence from firm 4 showed that firms would focus largely on exploitation strategy rather than exploration upon being successful in obtaining a better position in the network. 90% of this firm's revenue came from its exploitation practices of providing full-package services in GVCs. With a better network position, the relationship with international buyers was less biased and they could enjoy more freedom as well as greater earnings from network participation. Since this firm became relatively on par with its international buyer, the power unbalanced setting was less applicable to them. Thanks to better earnings from the network, it subsequently had less motivation for excessive exploration practice. Therefore, the majority of its production activities were based on the exploitation strategy

As can be seen in Table 4.10, the key reasons for CMEs adopting exploration strategy related to poor earnings from the assembly work, exploitation by the dominant partners, managers' entrepreneurship, increased confidence in their competencies, encouragement from the powerful partners, the availability of network capital, and environmental threats and opportunities. The most common reason cited as the main motivation for an explorative practice was poor earnings from the simple practice of assembly work (nine out of ten firms). When doing assembly work, the network resources contributed by CMEs were mainly labour and production facilities. Since these resources are considered to have low network value (Mudambi, 2007), network rents derived from these resources are limited accordingly. As a consequence, these nine firms made attempts to add more value in their production activities by providing additional activities through full-package services. While both assembly and full-package services are centred on the production stage, the latter requires more effort from CMEs.

Table 4.10 Factors Influencing CMEs' Decisions to Pursue Exploitation and Exploration Strategies

Factors	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Motivations for exploitation strategy											
1. Being tied up under state ownership	x	x		x	x	x					. *"After 1975, it was nationalised and became a state-owned firm... We still exported, but only to socialist countries as part of the national barter trade, according to protocol set among these countries. [...] We could not develop strategies for ourselves." (Firm 1)*
2. The liability of newness	x	x	x	x	x	x	x	x	x	x	. *"With our low-level knowledge of foreign trade back then, doing CMT [assembly] suited best" (Firm1)*
3. Benefits of exploitation practices		x	x				x			x	. *"The processing work helps us exploit our capacity and maintain stable earnings." (Firm 7)*
Motivations for exploration strategy											
4. Poor earnings	x	x		x	x	x	x	x	x	x	. *"The only thing is low profits, because we can only earn from labour work." (Firm 8)*
5. Being treated poorly by the powerful partner		x					x				. *"They never support us during off seasons. They will not raise the price when we have few orders. Moreover, they forget their promises from time to time. Or if they cannot make the sales, they can try to look for our mistakes to return the products to us." (Firm 7)* . *"They were harsh on prices." (Firm 2)*
6. Manager's entrepreneurial behaviour	x	x	x	x	x	x	x		x	x	. *"He is very proactive and wants us to do the ODM" (Firm 1)* . *"I have to say that this success is thanks to my husband's leadership and strategy. He is like a pioneer who shapes the strategy and leads us this way." (Firm 3)* . *"I realised that the designing, product development, and advertising are core capabilities of our buyers. After I figured it out, I think we can do it." (Firm 7)* . *"Taking risks is somehow like creating a crisis for us to build up quality" (Firm 9)* . *"It is a hard time for all of us now. I really worry and want to play on the safe side." (Firm 10)* . *"We need a leader to identify strategies for the firm." (Firm 4)*
7. Competent for the exploration practices	x		x	x	x	x	x		x		. *"We develop skills gradually, to a certain level, we could take FOB orders." (Firm 1)* . *"We had more than ten years doing processing work. This time can be viewed as the training time for us to know how to do the job." (Firm 9)*

Table 4.10 (Cont'd)

Factors	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
											. *"Our products for the domestic market were actually based on the design of export products. So the designs for our brands are actually at a higher level for the domestic market." (Firm 7)*
											. *"Buyers are assured about quality when they come to us." (Firm 4)*
8. Driven/Encouraged by the powerful partners	x	x						x	x	x	. *"I think that buyers tend to want us to do the FOB [full-package service]" (Firm 8)*
											. *"Now we provide full-package service because buyers prefer it. We didn't have a choice." (Firm 10)*
											. *"Designers at retailing corporations are quite laid back. They are innovative but still welcome ideas from vendors." (Firm 2)*
											. *"Large companies having distribution channels encourage design services." (Firm 9)*
9. Network capital		x	x								. *"Then she took me to Hong Kong with her and later to the head-quarters in the United States. I observed their system and talked to retailers and wholesalers there. After talking to them, I understand what they expect from their manufacturers. I tried to understand how they do their business and later on I could talk with them in their 'language'." (Firm 2)*
											. *"He built his brand in Germany and outsourced the production to us. Initially, he went to another company. We were also a manufacturer for him. Now the couple is getting old and they don't have children. He offered to sell the brand to us." (Firm 3) [OBM in a foreign market]*
10. Market threats/opportunities	x		x		x	x					. *"The quota system was to be eliminated when we joined WTO in 2006 and we faced the problem of how we could find alternative sources for this revenue. So that was when we decided to go for FOB." (Firm 5)*
											. *"We will face tough competition in the near future. So this forces us to do ODM." (Firm 5)*
											. *"Suddenly, in late 1996 and 1997, the regional economic crisis exploded. Our Japanese buyers reduced their order size and shifted to China." (Firm 3)*
											. *"The domestic market has potential." (Firm 6)*
											. *"The Vietnamese market is actually huge. We can make really good profits in this market." (Firm 1)*

Table 4.11 summarises additional requirements identified across the ten interviews when moving from assembly to full-package services.

Table 4.11 Additional Activities from Assembly to Full-Package Services

Additional Activities as Compared to Assembly	Requirements
1. Active sourcing of materials . Suppliers are assigned by buyers . Developing its own sources of supply	. Working capital . Communication skills . Database . Sourcing skills
2. Developing samples from sketches provided by buyers	. Technical skills to understand product requirements . Inter-departmental collaboration
3. Collaborating with buyers to modify samples and prototypes	. Communication skills . Time and costs
4. Improving productive resources and assets	. Industrial standards of production activities and working conditions for labour

Source: Author's compilation from the interviews

When providing full-package services, CMEs can add more value through four extra activities. These activities are not required with the assembling service. Consequently, higher skills and more resources are needed. For example, they need to have good financial resources to fund material sourcing activities. Investments into tangible assets are important because they need to align with industrial standards regarding production processes and working conditions for labour, which is not compulsory for assembly work. Similarly, good human resources are also required because of the need for higher technical skills to develop samples and good communication skills for contact with buyers and suppliers. In addition, collaboration encompassing different departments – be they sourcing, finance, technical, production plan, or human resources – becomes necessary as compared to a focus on the production unit while doing the assembly service. Because adding these activities entails a higher contribution to network resources, CMEs can enjoy a better network earnings. With full-package services, rent extraction is not only dependent on labour but also based on other activities, particularly from sourcing materials. As a consequence, eight firms acknowledged that after a

certain time working as assemblers, they wanted to provide full-package services primarily to capture higher profitability.

The other motivation for exploration strategy related to the fact that firms are often treated poorly by the dominant firm. Two out of ten firms (2 and 7) referred to being heavily exploited when working as an assembler. This led them to undertake exploration strategies. These firms were participating in GVCs by receiving assembly orders from buyers' agents. They were often required to reveal their cost structure to the intermediaries, subsequently it was hard for them to bargain on prices. Besides, when the intermediaries had difficulty selling the products to the buyers, they could transfer this market risk to them by rejecting the products. As a result, these CMEs decided to simultaneously explore opportunities in the domestic market (Firm 7) or to skip the intermediaries and contact the international buyers directly in an attempt to gain better earnings. It was noted that firm 7 still took processing orders from buyers' agents at the time of the interview, though with a smaller share in its total activities.

Besides poor earnings, managers' entrepreneurship appears to be a major factor in prompting firms to pursue exploration strategy. Except for firms 8 and 10, eight out of the interviewed firms managed to seek opportunities out of the production area by either providing designing services in the GVC or selling their own products in the domestic market. All of the interviewees from these firms attributed this shift in strategic direction to the manager in chief (six firms) or the management board (Firm 5). The pro-activeness and risk-taking behaviour of the managers were considered essential to leading the firm into a new direction. On the contrary, the evidence from firm 10 showed that the firm kept engaging in assembly work because its owner decided to be cautious.

On the other hand, confidence in competencies is also identified as a major motivation for explorative activities from seven interviews. For firms moving from assembly to full-package services, this competence is related to human capital, particularly a good base of skilled workers. The interviewed managers generally acknowledged that the assembly service was a training time for them; by training, they generally meant developing working skills for the labour force. This was done by the agents or buyers sending their technical staff to the firm site to train the workers how to work properly. This type of

training was on ad hoc basis and mainly order-specific. However, through time, the firms could enhance the skills of their labour workforce and overcome the liability of newness. As a result, they were confident to proceed with provision of full-package services; a decision followed by investments into the manufacturing system to meet industrial standards. Subsequently, these standards are prerequisites for CMEs to receive full-package orders from international buyers. Therefore, having a good base of skilled workers obtained from the experience with the assembly job was considered a factor in motivating CMEs to change from processing to providing full-package services.

Moreover, confidence in competence was also observed for CMEs who expanded their market base to the domestic market. All five firms that were selling their own brands in the domestic market acknowledged that the development of their own products was based on the modification of exported products. By participating in GVCs, they were able to access designs for international products. Because the international market is usually ahead of and more demanding than the domestic market, being able to capitalise on international designs can reduce CMEs' market risks and uncertainty, subsequently motivating their expansion into the domestic market.

Another reason for CMEs to take the exploration path related to the encouragement of powerful buyers as evidenced in five interviews. Four firms (Firm 1, 4, 8 and 10) confirmed that they started their full-package services as buyers preferred this method, probably because it allowed them to save on their sourcing costs. Even when the firm was not initially competent enough to provide the full-package service, it were assisted by the buyers. The assistance was not a voluntary act but likely resulted from the buyer's need to reduce the supplier's failure risks (Schmitz, 2006) because it helped the buyer ensure the quality of the materials, as a manager explained:

> *"To be more exact, at first, we could not source the materials when we started doing FOB [full-package services - interviewer]. We needed to follow the buyer's specifications. They appointed suppliers for us. […] After a while, when we knew more about the market, we could source the materials by ourselves." (Firm 1)*

Likewise, two firms (2 and 9) that provide designing services in GVCs acknowledged that their designing services were encouraged by the buyers. However, it was noted that

although buyers were willing to review the CMEs' designs, only a few designs could pass the review process. Nevertheless, the CMEs appreciated this encouragement and followed suit to provide designing services as an attempt to capture more revenue in the network.

Meanwhile, the availability of network capital developed while practicing exploitation strategy as producers in GVCs is also identified as another reason for CMEs' exploration strategy. This reason was observed in two companies (Firm 2 and 3). For firm 2, the manager admitted that he was able to get to know the working system established by the buyer through a relationship with a regional representative of a large buyer. From understanding of how the system worked, the firm was able to deal with the buyer directly and no longer needed to go through their agents. For firm 3, the benefits of network capital first became apparent after three years of subcontracting for a global brand name. A representative from a world-class company paid a visit to their factory and promptly suggested that they would be more successful if they would step up and invest into a licensing contract with his firm. Consequently, selling their own brands in the domestic market began as a part of the operations to sell licenced products. The business of selling licensed products in the domestic market entailed high fixed costs as well as high risks because the products were required to be sold at a price set for other international markets. This price was considered expensive for a large number of consumers in the local market back then. As a consequence, their own-branded products were actually considered as a means to spread out the management costs and risks inherent to the selling of the high-end product. However, it unexpectedly became their leading business in a short period of time. Later, they had another opportunity to acquire an established brand in Germany. After a while serving as a producer for the German brand, they were offered to buy it since the owner had no successor and wanted to retire. As a result, they became a brand owner in a foreign market after working as a service provider for this brand. This evidence shows that exploitative practices can lead to opportunities for the pursuit of exploration strategy.

Finally, four firms (Firm 1, 3, 5, and 6) were noted to practice exploration strategies due to threats and opportunities they perceived from the environment. While opportunities were associated with the domestic market (Firm 1 and 6), market threats seemed to

emerge from the international market (Firm 3 and 5). Both managers from firm 1 and 6 said that they decided to market their products in the domestic market because they perceived great potential in the future. However, the share of this business in their company revenues was still little compared to the other activities from participation in GVCs (both less than 10%). Meanwhile, managers from firm 3 and 5 acknowledged that they moved up the value chain because of international market threats. The manager from firm 3 said that when facing the elimination of the global quota system, they decided to be a full-package service provider as an effort to find an alternative source of income previously generated from the assembly service. At the time of the interview, the firm had just implemented new strategies for designing services. The reason for this move was rooted in the firm's anticipation of future competition which would likely happen after the establishment of the Trans-Pacific Partnership agreement. On the other hand, firm 3 confirmed that they were forced to start full-package services when the economic crisis occurred in 1998. Upon seeing processing orders reduced from their traditional buyer, they had to look for other markets and become a full-package provider.

It was noted that this firm (Firm 3) had had a good relationship with its traditional buyer - a Japanese subsidiary of a multinational enterprise - who was willing to help the firm set up a production system based on a Japanese manufacturing system. The manager acknowledged that the firm's production capabilities had improved substantially by learning from this buyer as she said: "They taught us everything." There was no evidence of this firm being heavily exploited by doing business with the Japanese subsidiary. In fact, the manager said that they felt comfortable and trusted the Japanese firm since they cared for the interfirm relationship in the long run. She also mentioned that this would not be possible for firms serving buyers from the European or US markets. If their Japanese partner had maintained their order sizes and frequencies, the manager said her firm would have been an assembler for a longer time. This finding suggests that in a network where the powerful partner does not exercise its power and considers a long-term relationship by transferring knowledge and taking into account the benefits of the power-disadvantaged party, the weaker firm would have less desire for an exploration strategy.

4.5.2 Exploitation Strategy, Exploration Strategy, and Export Performance

4.5.2.1 Exploitation Strategy and Export Performance

Appendix P reveals that when working as an assembler – the lowest position in GVCs – CMEs could only earn limited income. "Low profitability" and "only earn from labour work" were often mentioned across the ten interviews. This low profitability was due to a low-position in a network which probably resulted not only from the power asymmetry structure but was also determined by competition among other PDFs.

However, three managers also indicated a benefit of exploitation strategy on their performance, commenting that this strategy created a stable source of income for them. The manager from firm 1 further said that the firm strategically increased its assembly work as this strategy would provide shelter during an economic downturn.

Therefore, while exploitation strategy focuses on doing businesses with the existing dominant partner, PDFs can still generate earnings. However, these earnings - while stable - were not considered a sustainable source of income for them. As a result, nine out of ten firms acknowledged that they were not satisfied with the profits generated from the exploitation strategy and this was their main reason for pursuing an exploration path for better earnings as discussed in section 4.5.1.3.

4.5.2.2 Exploration Strategy and Export Performance

Evidence of better profitability and stronger growth as a result of an explorative strategy strongly displayed across the interviews (see Appendix P). All managers from the ten firms acknowledged that their incomes improved upon the provision of additional activities. It was observed that their network's financial performance was primarily associated with explorative actions attempting to acquire a better network position, determined by strategic transitions from working on processing to providing full-package services and then to providing designing services, or selling their own products in the domestic market.

As previously mentioned (section 4.5.1.2), an exploration strategy can help CMEs escape the low-position of doing assembly in GVCs as indicated by evidence from firm 4. Therefore, in line with the quantitative research, evidence from the qualitative study

also shows that with the pursuit of exploration strategy, PDFs can improve their performance in power asymmetric networks both financially and strategically.

4.5.3 Exploitation Strategy, Exploration Strategy, and Competitive Capabilities

4.5.3.1 Exploitation Strategy and Competitive Capabilities

As previously discussed, all ten CMEs had experienced in working on assembly orders when they first participated in GVCs. At the time of the interviews, nine firms still carried out assembly work as the simplest form of GVC participation. To address the impact of exploitation strategy on firm capabilities for these firms, managers were asked for their opinion on the requirements and changes in their resources and skills while providing the assembly or processing services. Subsequently, four observations regarding this issue were noted.

First, all ten managers acknowledged that there were a few requirements for the strategy of focusing on assembly work. Only workers and production facilities such as plants or machinery were compulsory for this strategy while all the materials and cutting patterns would be provided by the buyers. Three managers (Firm 1, 4, and 5) explicitly said that this strategy would best suit small and inexperienced manufacturers. Besides, to ensure product quality, buyers would also send their technical staff to help the manufacturers with technical issues regarding specific orders.

This led to the second observation that the skills of the labour force can be enhanced through experience from processing work. Therefore, thanks to the training provided by the buyer's technical staff, CMEs' human capital in terms of skilled workers can be improved. Although technical assistance from buyers was primarily ad hoc and order-specific, CMEs can acquire that knowledge into their production process. As displayed in Table 4.10, seven CMEs acknowledged that they gained more confidence as the assembly work trained them to function properly in the industry. However, having skilful workers - based on which firms function properly and can achieve competitive parity in the industry - is generally considered ordinary and not a sustainable source of income (Warnier et al., 2013). As a consequence, rent created from these resources can erode

quickly with increased competition, as exemplified by the quote from the manager of firm 2 presented in section 4.5.2.1.

Third, besides working skills, CMEs can also make investments in tangible assets such as purchasing more machinery or expanding production plants when implementing the exploitation strategy. Decisions for such increases in the resource base were largely due to the promise of frequent future orders as the manager from firm 3 explained:

> *"At first, we were a small-sized factory, with the main purpose of creating jobs. We had 40 machines and 60 workers back then. After quite a large order, we were lucky that we could receive training and techniques from a Japanese firm. Back then the Japanese buyer told us to expand our production facility […]. If we were to take their advice, they would bring buyers to us." (Firm 3)*

Finally, whilst the enhancement of resources was observed, the improvement of organisational routines and processes was not mentioned across the interviews. Although all the managers acknowledged that they received technical assistance from buyers, two managers showed their reluctance to incorporate the knowledge from the buyers to their organisational system when they said:

> *"If we let them guide everything, we need to build up a system just like them. It could be good, but may not match our conditions. If we follow them, we need to make many changes, which don't work for us." (Firm 9)*

> *"We must follow their advice. From the technical viewpoint, it is sometimes difficult to work on some details for a specific order and it is good to learn from their experience and knowledge. When the buyer requires us to follow their instructions, we must do it even though the technical department proposes alternative processes and ensures the quality of output." (Firm 9)*

This evidence suggests that incorporating skills acquired from buyers into their daily working processes was not attractive for CMEs. This probably resulted from incompatibility between buyers' knowledge and firms' operational systems. On the other hand, it could also be that the technical skills learned from buyers were order-specific and would not be generalised to firm-wide practices for every order.

As a result, exploitation strategy helped the CMEs enhance their resource base. Meanwhile, they developed their organisational practices and routines according to their own conditions. Subsequently, their practices and routines would probably not be as effective and efficient as those of other manufacturers owned by multinationals in the industry. Since multinationals can be more experienced compared to Vietnamese firms, their subsidiaries would likely have a better operational system thanks to the advantage of receiving knowledge transfers from their parents. The manager from firm 2 mentioned the strength of these foreign subsidiaries as follows:

> *"If you look around, you will see that large Korean firms are dominant manufacturers for knitwear products, Han Song Vina, Hanse, Chungtech, Noria. They are all large firms owned by Koreans. If we don't come together, they will take the whole part and there will be nothing left for our Vietnamese firms." (Firm 2)*

Therefore, while the influence of providing assembly services on firm capabilities was not substantially present across all ten interviews, this evidence substantiated the notion that a focus on exploitation strategy could lead to inferior production systems compared to other players in the industry.

On the other hand, for the one and only firm (Firm 4) that successfully upgraded its network position from an assembler to a full-package provider, there was little evidence on how its capabilities would vary when focusing on full-package service. Following the exploitation strategy at a higher level, the firm made investments into automation and machinery to increase its productivity as the manager said that with machines, "it is much faster and there are fewer mistakes". Similar to the previous finding, with an exploitation strategy, firms tend to emphasise tangible assets rather than the operational system.

4.5.3.2 Exploration Strategy and Competitive Capabilities

As can be seen from Table 4.9, CMEs' explorative activities were observed when they provided full-package services, designing services along existing value chains, or sold their own products in the domestic market or an international market in addition to their traditional practices as a processing manufacturer. The impact of exploration strategy on capabilities was revealed when managers were asked to provide insights on

the requirements and changes of their firm capabilities when pursuing these exploration strategies. Appendix Q summarises selected quotes illustrating this issue. From this evidence, three findings were noted concerning the CMEs' capability evolvement when they implemented their exploration strategies.

First of all, nine out of ten managers expressed the importance of organisational processes and routines in the provision of higher value-added services different from the assembly work. Unlike an emphasis on machinery and the labour workforce when discussing assembly work, the managers tended to use the word 'system' in mentioning the implementation of their explorative strategies. By 'system', they often referred to organisational processes and routines, according to which a particular department functioned or a collaboration across departments was facilitated. Whilst acknowledging the critical role of resources such as machinery or a sizeable and skilful workforce, they agreed that building effective management systems was more vital. Therefore, there was a shift away from resources and toward firm capabilities when the CMEs followed an explorative strategy.

Second, half of the CMEs recruited experts from the industry to help them strengthen firm capability. As they participated in GVCs, experienced experts sought by CMEs often came from developed countries. It can be seen from this practice that CMEs seek to recruit experts with knowledge specific to the network they are participating in. However, it was noted that this strategy of human capital acquisition was not effective if the firm failed to incorporate the knowledge and skills of the experts into its operations. Evidence from firm 1 and 2 (see Appendix Q) shows that CMEs can capitalise on acquired expertise by using team performance measures to encourage knowledge transfers from these experts to create a business unit competent at a global level. Meanwhile, evidence from firm 8 revealed that the CME did not benefit when only exploiting the expertise of the foreigner. These findings indicated the importance of operational processes over static resources when firms pursued explorative strategies.

Finally, there was substantial evidence (see Appendix Q) for the necessity of all four types of manufacturing capabilities which were employed in the quantitative study. In particular, seven managers said that IT capability was essential for their operations. They further acknowledged that the realisation of the critical role of IT capability only

emerged when they moved from assembly to full-package service. Besides, it was especially vital for firms who sold their products in the domestic market. Therefore, the higher the value-added activities the firms wanted to do, the more they intended to invest in IT systems for better information flow in the organisation. Similarly, CMEs also emphasised the need for better technical capability with a focus on the technical skills of staff (six firms) and the effectiveness of the production facility (six firms). Again, managers also spoke of the importance of having a competent team when they referred to technical skills and not to any star person. In addition, seven firms discussed the importance of marketing capability in their business activities. It was noted (see Table 4.9) that all of these seven firms either offered designing services in GVCs (Firm 1, 2, 5, and 6), sold their own products in the domestic market (Firm 1, 3, 4, 6, 7, and 9), or exported their products to an international market (Firm 1 and 3). It can be seen that marketing capability is essential for CMEs with a strategy to explore opportunities outside the production area. Besides, eight firms further emphasised the significance of knowledge of customers, which also presented in the measurement model of the quantitative study. Finally, seven firms stressed the importance of market-linking capability when they referred to the need for strong linkages with both buyers and suppliers. Additionally, six managers also discussed the importance of sensing changes in the environment, especially market trends for both output and input market. Therefore, data from the qualitative study gave strong evidence for the significance of the four capabilities investigated in the quantitative research.

4.5.4 The Need for Absorptive Capacity

Data displayed in Appendix Q also indicates that all ten CMEs paid attention to increasing their firm's knowledge base from external sources.

They emphasised the importance of willingness to learn. This learning attitude was seen to encompass multiple organisational levels: workers, middle managers, and top-level managers. Often, the managers themselves took a leading role in encouraging a positive learning attitude across the organisation's boundaries. The managers themselves acknowledged that they were open to new ideas and often requested their staff to update the firm's knowledge by monitoring for new information and changes in the external environment. They showed that their subordinates understood the pressure of

continuously extending their knowledge. Subsequently, these subordinates were also actively involved in the knowledge extension processes.

The managers also indicated the essential role of inter-departmental information flow and collaboration for the effectiveness of firm operations. Linkages between the technical team and other units such as planning, marketing, and supplying teams were often mentioned during the conversations.

Moreover, external knowledge was often applied into firms' business activities. The commercialisation of outside knowledge was especially pronounced for firms that capitalised on the designs provided by the buyers to develop their own products. On the other hand, the importance of applying technical knowledge from buyers in the production area was also observed for the ten firms. However, as mentioned in section 4.5.3.1, this type of knowledge was often order-specific and typically helpful in improving worker's skills rather than being beneficial for firm capability enhancement, thus it was rarely realised in the organisations' productive processes and routines.

Nevertheless, these findings revealed the importance of acquiring and applying external knowledge into firm practices. However, it was not obvious under what conditions this ability worked best. It seemed from the interviews that the more the ability to learn, the better the skills of the staff and the opportunities to market own-branded products.

4.5.5 The Impact of Firm Size

Seven out of ten interviewed managers mentioned the impact of firm size on their export performance. Findings from the qualitative data (see Appendix R) demonstrate that with large size, firms are able to serve large orders and run production in a more effective way. Besides, two managers (Firm 4 and 10) indicated that larger firms often had better product quality. Likewise, two managers (Firm 1 and 10) mentioned that small firms were lacking in the ability to serve international buyers because of insufficient tools or skills to conduct negotiation and to settle international payments. This evidence suggests that with larger size, firms are likely to have a better product quality and ability to fulfil order requirements of international buyers. Therefore, the qualitative study shows that firm size has an effect on firm export performance.

4.5.6 Market Operation in both the Export and Domestic Market

Among the ten interviewed companies, six were selling their products in the domestic market along with providing production services to international buyers in GVCs. The benefits to export performance when operating in different markets with different positions in value chains were often noted along with maintaining a stable workforce and capitalising on production capacity as one manager explained:

> *"There are two months when there is not much production for exporting activities, March and September. So I can make products for local business during these times." (Firm 6)*

Having production at a stable level was found to be important for firms because it helped maintain the stability of the labour force, which was vital for their operations. As two managers put it:

> *"Regarding our workforce, we try to create a good environment where workers can feel safe. If they work without attention, they could make mistakes. This in turn affects productivity." (Firm 3)*

> *"Workers can switch to other companies or to a different industry if they are not satisfied with their wages. We need large number of workers in this labour-intensive industry […] If a factory is 30%short of workers, we lose $400.000 per month. It is impossible to make profits." (Firm 1)*

The evidence above shows that having businesses in the domestic market was complementary to exporting operations since it helped maintain the workforce during the exporting off season. A stable workforce in turn would help to retain customers for the exporting business.

4.5.7 Summary of the Qualitative Findings

The following table summarises findings from the qualitative study with regard to the relationships proposed in the conceptual models.

Table 4.12 Summary of the Qualitative Findings

Path	Evidence	Number of firms
L - R	Poor earnings from exploitation encourage exploration	9
	Manager's entrepreneurial behaviour	9
	CMEs became competent	7
	Exploration was driven by buyers	6
	Being treated poorly by the powerful partner	2
	Network capital	2
	Market threats/opportunities	4
L - FINA	Low profitability	10
	Stable income	3
L - STRA	Dependence on buyers	2
R - FINA	Better earnings	10
R -STRA	Higher risks	2
L - CAP	Increasing technical skills for workers	6
	Reluctant to incorporate knowledge learned from buyers into the existing operation system	2
R - CAP	Improving IT capability	7
	Improving technical capability	6
	Improving marketing capability	7
	Improving market-linking capability	7
AC	Willingness to learn	10
	Application of technical knowledge from buyers in production activities	10
	Inter-departmental information flows and collaboration	10
SIZE	Ability to receive large orders	7
	Maintain effectiveness in production	2
	Having better quality	2
	Small firms lack the ability to serve international buyers	2
DomExp	Enhancing financial export performance	4
	Negatively influences strategic export performance	1

4.6 Summary of the Quantitative and Qualitative Findings

Both the quantitative and qualitative findings show consistency in supporting most of the proposed relationships of the study. Overall, statistical testing results of the survey data show support for all hypotheses. They are either fully or partially supported. Only one hypothesis on the mediation effect of competitive capability in the link between exploitation strategy and the performance of PDFs is not confirmed by the model with financial export performance. However, this hypothesis is supported with strategic export performance. Meanwhile, qualitative evidence from the ten interviews provided

contextual details to substantiate most of the quantitative results. The qualitative study provides more understanding about the direct relationships and an explanation for indirect links rather than the moderation impact advanced by the research model.

Table 4.13 Summary of Quantitative and Qualitative Findings

Relationship	Quantitative	Qualitative
Exploitation strategy – PDFs' performance	Supported	Supported
Exploration strategy – PDFs' performance	Supported	Supported
Exploitation strategy – exploration strategy	Supported	Supported
Exploitation strategy – competitive capability	Partially supported	Supported
Exploration strategy – competitive capability	Supported	Supported
Absorptive capacity – competitive capability	Supported	Supported
Competitive capability – PDFs' performance	Partially supported	Inferred
Exploitation strategy influences PDFs' performance indirectly through exploration strategy	Supported	Supported
Exploitation strategy influences PDFs' performance indirectly through competitive capability	Partially supported	Inferred
Exploitation strategy influences competitive capability through exploration strategy	Supported	Inferred
Exploitation strategy influences PDFs' performance indirectly through exploration strategy and competitive capability	Partially supported	Inferred
Moderation effects of absorptive capacity on the influence of exploitation strategy and exploration strategy on firm competitive capability	Partially supported	No evidence

4.7 Chapter Summary

This chapter presented results of the quantitative and qualitative studies which were concurrently conducted to test the research model in the context of CMEs who participate in GVCs.

From the quantitative perspective, testing of the proposed hypotheses was based on the results of the structural model, which was performed after the establishment of the

measurement model. The measurement model of this study was assessed against the three criteria of Cronbach's alpha, composite reliability, and average of variance explained. Results showed that the measurement model satisfied requirements for both construct convergent and construct discriminant validity. The structural model exhibited good prediction ability, which was evaluated on the model quality criteria regarding the amount of explained variance (R^2) and the predictive relevance (Q^2) of each endogenous construct. Furthermore, the structural path coefficients and their corresponding effect sizes also indicated the critical role of the dual exploitation and exploration practices and four types of firm capabilities in improving the performance of PDFs in asymmetric networks.

On the other hand, insights from the qualitative study provided additional information detailing the practices of exploitation and exploration. Evidence from the interviews indicated that the exploration practices of CMEs derived from the exploitation of assembly work due to five reasons. They were: limited earnings of the exploitation strategy, the increased competence from the experience of the processing job, encouragement from the buyers, the efforts to escape being heavily exploited by the buyers, and the opportunities brought by network capital. Additionally, the interviews also indicated that when CMEs pursued explorative strategies they paid attention to the development of the four capabilities investigated in the quantitative research, namely IT, technical, marketing, market-linking capabilities.

Overall, the findings from the two approaches are complementary in providing an understanding of the research model. The next chapter presents the conclusion of the study.

CHAPTER 5 DISCUSSION AND CONCLUSION

5.1 Introduction

The main focus of this study was to examine the mechanism through which the dual practice of exploitation and exploration strategies influences the performance of power-disadvantaged firms (PDFs) in asymmetric networks. To address this issue, a research model was conceptualised and tested using the context of contract manufacturing exporters (CMEs) who participate in buyer-driven global value chains (GVCs). Data were collected concurrently using both quantitative and qualitative approaches. While the quantitative study played the leading role in validating the relationships hypothesised in the model, findings from the qualitative research provided contextual details to complement and enhance understanding from the statistical results. This chapter discusses the results of the study with reference to the extant relevant literature. It also provides implications, limitations, future research areas and conclusions for the study.

5.2 Discussion

This study sets out to investigate how the dual adoption of exploitation and exploration strategies impacts the performance of PDFs. It proposes that the influences of simultaneous practices of exploitation and exploration strategies on firm performance are mediated by competitive capability. It furthers posits that the association between these strategies and competitive capability are moderated by absorptive capacity.

5.2.1 The Relationship between Exploitation and Exploration Strategies and their Influence on Firm Performance and Competitive Capability

5.2.1.1 The Effect of Exploitation Strategy on Exploration Strategy

A key finding of the research is the identification of the link between exploitation strategy and exploration strategy of PDFs. This relationship is primarily driven by the context of firms on the weaker side of power asymmetric environments. According to Lavie (2006), PDFs are in an unfavourable position to capture fair network value because the dominant firm can bargain away relational value. As a consequence, this low profitability urges them to find better ways to seize higher value from their network activities. Therefore, PDFs' opportunity-seeking behaviour is motivated by their dissatisfaction with their limited earnings from their current network activities. Findings

from the qualitative study reveal that the existing imbalanced network can embrace opportunities for PDFs to seek a better source of income. In the context of Vietnamese CMEs in buyer-driven GVCs, the most basic form of opportunity-seeking activity is to extend product offerings by providing additional features in the network products or services which are valued by their powerful counterparts. Findings from the interviews also show that CMEs can take advantage of network capital to move up the value chain. This finding is consistent with a study by Prashantham and Birkinshaw (2008), who point out that PDFs can capitalise on network capital between the firm managers and individuals from the dominant firm to extend their network boundary.

5.2.1.2 The Effect of the Dual Practice of Exploitation and Exploration Strategies on Performance

The findings of the study show that both firm exploitation and exploration strategies are positively linked to the performance of PDFs. As exploitation strategy focuses on deeper penetration of the current market and customer base (Ireland et al., 2001), this finding highlights the value of the strategy for PDFs to enhance their participation in the existing asymmetric network. Similarly, this research also provides strong evidence to support the positive association between exploration strategy and firm performance. These results indicate that exploring new markets or new product offerings is beneficial for the performance of PDFs. As a result, this research is consistent with the literature that maintains that pursuing both strategic and entrepreneurial behaviours is necessary for PDFs' sustainability (Bierly & Daly, 2007; Ireland et al., 2001).

5.2.1.3 The Influence of Exploitation Strategy on Competitive Capability

The findings show that exploitation strategy inhibits the development of IT and technical capability. However, its effects on firm marketing and market-linking capabilities are not significant. An explanation for the negative impact of exploitation strategy on IT and technical capabilities can be found in the literature. Song et al. (2008) examine 709 manufacturers across the United States, China, and Japan to investigate the fit between firm strategic types and organisational capabilities. The authors find that IT capability and technical capability are necessary for prospectors, who innovatively and proactively seek out new markets (Miles, Snow, Meyer, & Coleman, 1978). In another study, Song and Parry (1997) find that these capabilities are essential when firms introduce new

products to the market. However, developing new products for the market is not a common practice for CMEs who participate in GVCs. Insights from the interviews show that CMEs capitalise on other firm's products; they run production according to buyers' specifications. As a result, investments into developing new products may not be attractive for CMEs who focus on assembly work. Subsequently, they are less likely to invest in capabilities not important for their current network activities.

From this point of view, it is possible that the negative effects of exploitation strategy on IT and technical capabilities can be bounded by the context of CMEs. A generalisation of these findings should consider the specific context of this study. Nevertheless, the general conclusion is that developing organisational capabilities that are not necessary for current network activities may be considered wasteful when PDFs focus on an exploitation strategy.

Prior research points out that suppliers need to make relational investments into resources and capabilities to align with their buyers' needs (Wang, Tai, & Grover, 2013). Vandaie and Zaheer (2014) find that alliances with larger partners increase small firms' reliance on growth opportunities driven by the former. Subsequently, the latter can shift its focus away from the competitive market and pay more attention to network activities. This study corroborates findings from Vandaie and Zaheer's (2015) study by confirming that interfirm linkages can provide alternative growth opportunities for PDFs. Moreover, this study also contributes the finding that the development of market-based capability may become less attractive for PDFs due to the presence of better growth opportunity in the network.

5.2.1.4 The Influence of Exploration Strategy on Competitive Capability

The results show that exploration strategy impacts the four organisational capabilities under investigation. Evidence from the qualitative study reveals that Vietnamese CMEs paid attention to the development of all four organisational capabilities because of their need for a more effective management system. IT capability was necessary as a result of the need for better information flows in the organisation. Technical capability was critical because it helped the firm to build up its team of skilled technical staff and strengthen the effectiveness of its production facility. On the other hand, CMEs who sought opportunities outside the production area emphasised the need for a better

knowledge of customers, knowledge of competitors, and the effectiveness of pricing programmes; elements that make up firm marketing capability. Finally, the role of market-linking capability was highlighted when managers mentioned the need for strong linkages with other players in value chains as well as the importance of the ability to sense new trends and changes in the market.

As IT, technical, marketing, and market-linking capabilities are essential for manufacturers who compete in the market (Song et al., 2008), this finding sheds light on a solution critical to the sustainability of PDFs. This result shows that the development of market-based capability to enhance competitive strength is important to PDFs. As Dyer and Singh (1998) put forward, firm resources and network resources can be combined for network value creation activities. The improvement of operational capability can help the weaker firm utilise network resources in a more efficient way (Lahiri & Kedia, 2009). As a result, attaining competitive capability enables the firm to increase its contribution to network value. Moreover, fostering competitive capability strengthens firm competition for scarce network resources because it reduces the risk of being replaced in the network by market-based rivals. This finding is consistent with a study by Chen et al. (2012), which finds that subsidiaries strategically develop their own capability as a means of distinguishing themselves from network peers to retain their position in a multinational network.

Furthermore, this finding supports the idea that opportunity-seeking behaviour involves the development of new organisational resources and capabilities and extends the variety of a firm's resource base (He & Wong, 2004; Kim & Rhee, 2009). The link between exploration strategy and competitive capability indicates that the development of internal firm resources should be aligned to the strategic direction set forth in the exploration strategy.

5.2.1.5 The Influence of Competitive Capability on Performance

The research findings showed that all four capabilities were positively linked to CMEs' export performance. However, while marketing and market-linking capabilities were linked to export performance in all models, the effects of IT and technical capabilities on CMEs' financial export performance were positive but not significant.

The insignificant result of IT and technical capability on CMEs' financial export performance can be attributed to the context of CMEs where these capabilities may not be essential because they are more applicable to the case of firms innovatively and proactively launching new products to the market (Song et al., 2008; Song & Parry, 1997). Data from the interviews revealed that CMEs who moved from assembly work to providing full-package services still depended entirely on the product specifications of their buyers. Even in the case when CMEs provided designing services, their product development process was in line with their buyers' business concept and relied largely on their knowledge of customers as well as collaboration with other chain partners. The CMEs offering designing services were still far from being capable of introducing an entirely new product range for buyers. Moreover, when CMEs introduced their own-branded products to the market outside the network, the qualitative study indicated that they also took advantage of their partners' product specifications to create their product offerings. Therefore, the capability to develop new products is likely a strategic resource of international buyers rather than of CMEs. As a consequence, CMEs may see less value in this strategic resource in their network activities. Subsequently, the context of CMEs may explain the insignificant, though positive, effect of IT and technical capabilities on their financial export performance.

On the other hand, the significant, positive relationships between marketing, market-linking capabilities and CMEs' financial export performance indicate the value of these two capabilities in the context of Vietnamese CMEs. The finding of a positive influence of marketing capability on export performance is in line with prior studies in exporting literature, which highlight the contribution of firm capabilities in marketing activities geared toward export performance (Katsikeas, Piercy, & Ioannidis, 1996; Morgan et al., 2012; Zou et al., 2003). As marketing and market-linking capabilities are more important for firms who want to protect their market (Song et al., 2008), this finding also suggests that it is necessary for CMEs to improve these two capabilities as a means to secure their network position.

While IT and technical capabilities were not found to be significantly linked to CMEs' financial export performance, their relationships with strategic export performance were positive and significant. Likewise, both marketing and market-linking capabilities

were also significantly linked to strategic export performance. This finding reveals that strategic performance benefits from the endowment of firm capability. Consequently, this finding supports the Resource-Based Theory (RBT) that the ownership of strategic resources drives performance heterogeneity (Barney, 1991; Wernerfelt, 1984).

The finding that competitive capability contributes to the performance of CMEs in GVCs indicates the importance for PDFs to develop new internal resources while participating in the inter-organisational environment. There is evidence in the literature to suggest that a supplying firm's enhancement of operational competence does not help it achieve better performance in the supplier-customer relationship. In particular, Kim and Wemmerloev (2015) investigate 158 Taiwanese manufacturers and find that when suppliers' enhance their competencies to achieve better quality, low production costs, shorter delivery times, flexibility to support non-routine demands, and the development of new products, these actions do not contribute to better performance even though it can reduce the power gap. However, in the context of supply chain management, quality, cost, delivery, and flexibility are criteria critical to the buying firm's performance (Kristal, Huang, & Roth, 2010) and commonly used for supplier selection (Katsikeas, Paparoidamis, & Katsikea, 2004; Paresha, Michèle, Qiang, & Qian, 2011). As a consequence, it can be drawn from the literature that focusing on meeting the buyer's current requirements may not be an effective solution for the supplying firm to achieve better performance. The findings of this research suggest that concentrating on firm competitive strengths may be a promising approach in terms of PDFs' performance in asymmetric networks.

5.2.2 The Mediating Role of Exploration Strategy and Competitive Capability

Mediation testing is an analytic framework for investigating the hypothesis that a predictor causes a mediator, which in turns causes the independent variable. Baron and Kenny (1986) advance a causal-step approach to examine mediation effect. In line with this method, a significant relationship between the predictor and the independent variable prior to the inclusion of the mediator is a prerequisite for a mediation effect. However, this condition has been argued unnecessary because its absence does not exclude the opportunity for a mediation effect (MacKinnon et al., 2002; Shrout & Bolger,

2002). In fact this condition can inhibit theory building (Zhao et al., 2010). According to Zhao et al. (2010), claims of a mediation effect should be based upon the significance of the mediation effect determined by the influence of the predictor on the mediator, which in turn exerts an effect on the independent variable. This study employs the latter approach in testing the mediating mechanism because it has increasingly gained approval for the purpose of theory building (Hayes, 2013; Taylor et al., 2008; Williams & MacKinnon, 2008).

Following this approach, the implications for theory building can be grouped into five types based on the mediation testing results. Among these, the first three types are associated with claims for a mediation effect. Complementary mediation occurs when both direct and indirect relationships exist and have the same direction. On the other hand, when both direct and indirect relationships are significant but their effects are in opposite directions, the mediation effect is considered competitive mediation. Zhao et al. (2010) advance that the mediator identified in these two types of mediation effect is consistent with the hypothesised theoretical framework. However, the presence of a significant direct effect signifies incompleteness of the framework and a likelihood that meaningful mediators have been omitted. These mediation effects are referred to as partial mediation in Baron and Kenny's (1986) terms. On the contrary, the identification of an insignificant direct effect together with a significant mediation effect results in the indirect-only mediation, a mechanism that is not likely to have excluded meaningful mediators. This effect is also referred to as full mediation by Baron and Kenny (1986). This indirect-only mediation or full mediation effect is desirable as it shows that the mediator proposed in the model is consistent with the hypothesised theoretical framework.

The last two types of mediation testing results involve a lack of evidence supporting the indirect path; therefore, no mediation is established. The proposed mediation is completely inconsistent with the theory when neither the indirect nor the direct effect is significant. This situation is considered no-effect non-mediation by Zhao et al. (2010). Meanwhile, the presence of a direct relationship, resulting in direct-only non-mediation, indicates problematic theorisation due to the specification of an incorrect mediator.

With exploration strategy and competitive capability specified as serial mediators, the model proposed five mediation mechanisms to explain the effect of the dual practice of exploitation and exploration strategies on performance and resource transformation of PDFs in asymmetric networks. The results supported all five proposed mediation mechanisms to various extents. The results indicated that the identification of exploration strategy and firm competitive capability as mediators linking exploitation strategy and firm performance is consistent with the proposed theoretical framework.

The first mechanism where **exploitation strategy impacts firm performance through exploration strategy** is the most prominent channel as it was evidenced in all models. This finding is consistent with the literature showing that explorative activities that capitalise on opportunities deriving from exploitative practices are beneficial for PDFs' performance (Prashantham & Birkinshaw, 2008). Subsequently, this finding indicates that a fit between exploitation strategy and exploration strategy is necessary for firm value creation.

The mediation effect predicting the competitive **mediation effect of capability in the link between exploitation strategy and performance** was less profound in the model. However, it was partially supported in the two models with strategic performance (with IT capability and technical capability). The significant and negative result of this mediation effect shows that investments into competitive capability can be wasteful when implementing exploitation strategy. Therefore, PDFs gain less value when making investments into developing capability while focusing on exploitation strategy.

Meanwhile, the results showed the significant **mediation effect of exploration strategy on performance through capability** in most of the cases. The effect of CMEs' exploration strategy on their strategic export performance was transmitted via all investigated capabilities, whereas its influence on financial export performance only passed through the marketing and market-linking capabilities. A lack of evidence for the mediation effects of IT and technical capabilities may be attributed to the context of CMEs as explained in section 5.2.1.5.

The evidence of a significant direct effect indicates a complementary mediation effect (Zhao et al., 2010) between exploration strategy and performance through capability.

This mediation reveals the incompleteness of the framework due to the likely exclusion of other meaningful mediators (Zhao et al., 2010). Besides, an examination of the variances of dependent variables attributed to this mediation also showed that exploration strategy exerts more effect through the direct link than through the indirect path. Nevertheless, this finding is important as it reveals the critical role of capability in achieving value in exploration strategy. The implication is that investments into firm capability should be made along with the implementation of exploration strategy to achieve better performance. The finding that firm capability plays a critical role in enhancing performance is consistent with both RBT (Barney, 1991) and exporting literature (Kaleka, 2002; Li & Ogunmokun, 2001a; Morgan, Kaleka, & Katsikeas, 2004; Zou et al., 2003).

In addition, the findings of the study show that **exploration strategy mediates the impact of exploitation strategy on firm competitive capability**. This result indicates that while exploitation strategy discourages the development of firm capability, explorative activities which take advantage of opportunities deriving from exploitation practices can help remedy this negative impact. It is interesting to note that this mechanism is an indirect-only mediation (full mediation) for two capabilities, marketing and market-linking, while it is a competitive mediation (partial mediation) for the other two capabilities – IT and technical. This result firstly shows that firm explorative behaviour is vital for transformation of firm capability. However, while exploration strategy alone is sufficient to rectify the unfavourable impact of exploitation strategy on marketing and market-linking capabilities, the improvement of IT and technical capabilities may require other factors to redress the negative effect. This result may be because IT and technical capabilities are more vital to firms who innovatively introduce new products to the market, (Song et al., 2008; Song & Parry, 1997), and may not be relevant to the case of CMEs. As indicated in the interviews, CMEs' exploration strategies are not related to innovation and introducing new products to the market. Therefore, the implementation of this strategy probably does not require any improvement in capabilities pertaining to innovation. Instead, to secure accessibility to network resources, it probably relies on marketing and market-linking capabilities as these two capabilities are necessary for market protection (Song et al., 2008). The implication of this inconsistence is that

exploration strategy is vital as it is the only factor needed to offset the unfavourable impact of exploitation strategy on the capability necessary to implement an exploration strategy. There are additional factors that rectify the negative effect of exploitation strategy on capabilities that may not be relevant to the implementation of exploration strategy.

The effect of the dual practice of exploitation and exploration strategies on firm capability has been under-explored in the existing literature (Simsek, Lubatkin, Veiga, & Dino, 2009b). The scant research investigating the interaction of these two strategies on firm capability has revealed different mechanisms. For example, He and Wong (2004) find that simultaneous use of exploitation and exploration strategies impact firm performance through investments into different firm resources. Meanwhile, in a study that investigated the impact of these two strategies on the same capability, exploitation strategy was found to negatively moderate the impact of exploration strategy on firm strategic learning capability (Sirén et al., 2012). The findings of this research reveal another mechanism where exploitation and exploration strategies jointly affect firm capability. The mediation effect of exploration strategy on the link between exploitation strategy and firm capability may be shaped by the asymmetric power structure embedded in the interfirm environment. In such networks, PDFs can find opportunities while practising their exploitation strategy (Prashantham & Birkinshaw, 2008; Zimmermann et al., 2015).

Finally, the mechanism where **exploitation strategy exerts indirect influence through the link between exploration strategy and competitive capability** is also confirmed. This mechanism is supported for all models with strategic performance and partially supported in two models with financial performance, concerning marketing and market-linking capabilities. This result indicates that exploitation strategy leads to practices of exploration strategy, which in turn directs firm investments into the development of firm capability, a strategic resource that subsequently enhances the performance of PDFs in the network. These findings reveal that exploration practices serve as a channel for manoeuvring the allocation of firm resources into areas that are beneficial to firm performance.

It is noted that among the three mediation effects where exploitation strategy impacts firm performance, the mediation effect of exploitation strategy through competitive capability is negative. However, the other two mediations – where one only passes through exploration strategy, and the other first passes through exploration strategy and then through competitive capability – are both positive. However, the total mediation effects when combining all three mediation processes are positive and significant in almost all models. Only in one model, combining IT capability with financial performance, is the total mediation effect non-significant. A significant total mediation effect points out the essential role of exploration strategy and firm competitive capability in realising value of exploitation strategy. The study shows that while investment into capability reduces the value of exploitation strategy, its negative effect is rectified when aligned with exploration practices. This finding supports the notion that the combination of competitive-seeking and opportunity-seeking behaviours is essential for a firm's long-term sustainability (Hitt et al., 2001b).

5.2.3 The Moderating Role of Absorptive Capacity

The results from the quantitative study showed that CMEs' absorptive capacity influenced all four capabilities under investigation. Insights from the interviews showed that CMEs valued willingness to learn which encompassed multiple levels of their organisation - from top-management, to the middle management team and workers. The interviews showed that elements of absorptive capacity such as information flow and collaboration across different departments (Zahra & George, 2002) were essential for CMEs' operational activities and organisational processes. In the knowledge management literature, Wu and Chen (2014) find that the better the firm's level of knowledge assets and knowledge process capabilities, the more effective its organisational capability will be. The findings of this study complement Wu and Chen's (2014) study by highlighting that absorptive capacity contributes to organisational capability thanks to its ability to acquire external knowledge and incorporate it into the firm's existing knowledge base.

The findings from the quantitative study showed that the negative effects of exploitation strategy on three capabilities of IT, technical, and market-linking further reduced with an increase in absorptive capacity. On the other hand, only one positive influence of

exploration strategy on technical capability increased when absorptive capacity was higher.

The findings also indicated that the moderating effects occur at different levels of absorptive capacity. At low, medium, and high levels of absorptive capacity, an increase in exploitation strategy will exert less impact on IT capability. However, an increase in exploitation strategy will exert less impact on technical capability at medium and high levels of absorptive capacity. The negative moderation effect of exploitation strategy on market-linking capability is only observed at medium-high or high levels of absorptive capacity. Meanwhile, absorptive capacity is found to enhance the positive influence of exploration strategy on technical capability at low, medium, and high levels of absorptive capacity.

Regarding the variation of capabilities at different levels of absorptive capacity, an examination of the moderation effects revealed that IT and market-linking capabilities were always higher for high than for low values of absorptive capacity, regardless of firm levels of exploitation strategy. Likewise, technical capability was also higher for high than for low values of absorptive capacity, except when exploitation strategy was extremely high at the highest level of its possible range. These findings show that it is still beneficial for firms to improve their absorptive capacity practices along with their exploitation strategy. Meanwhile, the investigation also showed that exploration strategy translates to higher technical capability in the presence of higher absorptive capacity. Therefore, increases in absorptive capacity are valuable for explorative activities. The need for absorptive capacity is consistent with prior research which points out that it is beneficial for firms to improve their operational capability in the interfirm environment (Lane et al., 2001; Modi & Mabert, 2007).

Moreover, the results of the moderation effect show that the absorptive capacity of the firm complements its strategic postures by intensifying the influence of strategy on the firm's knowledge-based resources. This finding provides evidence for the proposition put forward by Martinkenaite and Breunig (2016) that activities of absorptive capacity are undertaken in the particular strategic context of the firm to generate firm knowledge-based resources.

5.2.4 The Influence of Market Operation

Findings from both quantitative and qualitative studies reveal that business diversification outside the current network is beneficial for CMEs' financial export performance. Data from the interviews showed that CMEs can maintain a stable workforce with additional production activity for the domestic market. This finding further substantiates Dyer and Singh's (1998) suggestion that firms can combine network and firm resources to create value. From the same perspective, Lavie (2007) finds that firms can use network resources to enrich their competitiveness in the market place. The findings from this research provide evidence in the opposite direction that market activities complement network resources, thus strengthening the proposed synergistic effect of network and market resources set forth by Dyer and Singh (1998).

5.3 Research Contributions and Implications

5.3.1 Contributions to Theory

This study developed and examined a model of how the dual practice of exploitation and exploration strategies enhances PDFs' performance in power asymmetric relationships. The theoretical contributions of this study relate to the relationship between exploitation and exploration strategies, the mediation role of competitive capability, the influence of absorptive capacity on firm capability, and its moderating effects on the links between strategy and capability.

The existing literature examining the dual practice of exploitation and exploration has largely focused on the interaction effect of these two diverse strategic directions on firm performance (Cao et al., 2009; He & Wong, 2004; Lubatkin et al., 2006; Sirén et al., 2012). This research interest is probably shaped by March's (1991) original idea that the implementation of these two directions poses a great challenge for organisations as these two directions are competing for limited resources and causing ambiguity in organisational operations. Correlations between exploitation and exploration have been suggested and documented in prior studies (Bierly & Daly, 2007; Birkinshaw & Gupta, 2013). However, the influence of exploitation strategy on exploration strategy has not been adequately established. This study extends our existing knowledge of the relationship between exploitation and exploration strategies by revealing that explorative activities can emerge from exploitative practices. This finding contributes to

the strategic entrepreneurship domain by showing that **a firm's opportunity-seeking behaviour is derived from both pressures and opportunities rooted in exploitative activities**.

The study also contributes to RBT by pointing out the **mediating role of firm capability between the linkages of exploitation and exploration strategies on firm performance**. The literature has revealed that the dual practice of exploitation and exploration strategies requires firm dynamic capabilities to mobilise and combine firm knowledge for a performance effect (Sirén et al., 2012). This study adds to the existing literature by highlighting the mediating role of firm competitive capabilities in transmitting the effect of exploitation and exploration strategies on firm performance. While competitive capabilities are vital for realising the benefits of exploration strategy, their development can be wasteful if firms are biased toward exploitation strategy. The finding that exploitation and exploration strategies have opposite influences on firm capability confirm the competing nature of these two strategies on firms' knowledge-based resources (March, 1991). This finding also confirms the strategic fit paradigm that for each firm strategic posture, there is a set of firm resources and capabilities to facilitate its performance effect (DeSarbo et al., 2005). It further adds that the development of firm capability is in favour of achieving long-term sustainability rather than for exploiting current competitive advantages.

Another contribution of this study pertains to the **mediation effect of the exploration strategy - capability link in the relationship between exploitation strategy and performance**. This multiple mediator link shows that capability resulting from an attempt to add value into ongoing network value creation activities is necessary for PDFs to get value out of participating in a network. The significance of this finding is that it sheds light on a mechanism showing how RBT can help explain firm behaviour in dealing with external environmental constraints, which is the focus of the Resource Dependence Theory (RDT). Insights from RDT shows that a power imbalance structure motivates the weaker firm to undertake a unilateral strategy due to a lack of support from the dominant partner for power restructuring plans (Casciaro & Piskorski, 2005). As a unilateral strategy, weaker firms have been found to pursue diversifications and entrepreneurship to manage autonomy and dependence in the interfirm relationship

(Alexy et al., 2013; Choudhury & Khanna, 2014; Gras & Mendoza-Abarca, 2014; Su et al., 2014; Xia & Li, 2013). Drees and Heugens (2013) have put forward that the ultimate goal of firm power restructuring plans is not to deal with control from the external environment but to attain performance and sustainability. However, research examining how weaker firms use unilateral strategy to reach this ultimate goal remains scant. Freiling (2008) argues that a shift towards focusing on the internal strengths of the firm provides a solution for the weaker firm to control its environment; therefore, RBT and RDT should be combined to investigate the issue. This study answers this call and contributes to the literature by providing empirical validation for a mechanism by which a focus on the firm's internal environment can help PDFs enhance their ability to benefit from network resources and achieve sustainability.

Another important contribution of this study is the identification of **the influence of absorptive capacity on firm capability**. Existing research related to absorptive capacity primarily focuses on its direct effect on firm innovation and performance (Lane et al., 2006; Volberda et al., 2009). The findings of this study draw attention to an under-studied relationship in the literature, which identifies absorptive capacity as a critical dynamic capability that endorses the enhancement of firm capability.

More importantly, the findings around the moderation effect of absorptive capacity add to the existing literature by showing that **absorptive capacity intensifies the effect of firm strategic postures on firm capability**. Extant literature reports that absorptive capacity and entrepreneurial orientation complementarily enhance firm performance because absorptive capacity enables firms to select and exploit opportunities in a more effective and efficient way (Engelen et al., 2014; Wales et al., 2013). The findings of this study provide additional evidence that absorptive capacity also works in line with exploitative strategy by shifting internal investments away from capabilities not valued by the strategy. Moreover, the evidence that the addition of absorptive capacity enhances firm capability confirms the beneficial role of this dynamic capability in fostering firm knowledge-based resources regardless of the strategic postures of the firm. This finding contributes to the process approach of RBT by confirming that absorptive capacity as a firm dynamic capability drives the transformation of firm strategic resources (Eisenhardt & Martin, 2000; Teece, 2014).

Finally, the study also contributes toward existing literature by providing a **contextual understanding of CMEs' practices**. By considering two streams of research, the global value chain literature (Gereffi et al., 2005; Mahutga, 2012; Navas-Alemán, 2011; Schmitz, 2006) and the exporting domain (He & Wei, 2013; Kotabe & Mudambi, 2009; Li & Ogunmokun, 2001b, 2001a), this study advances knowledge regarding a group of organisations that has received little interest in both management and exporting research. By testing the performance effect of value chain upgrading, the research provides empirical support for the benefit of this practice to suppliers in global value chains. Therefore, it answers the question of the economic benefits of upgrading practices advanced by global value chain scholars (Navas-Alemán, 2011; Schmitz, 2006). On the other hand, it can provide additional explanation for the practices of exporters from developing countries which have been observed to be different from those of exporters from developed countries (Aulakh et al., 2000; He & Wei, 2013). Additionally, the findings of this study also present insights into the practices of exporters from Vietnam, whose activities have not been sufficiently documented in exporting literature.

To summarise, the contribution of this study involves identifying a mechanism to explain the impact of exploitation and exploration strategies on performance of PDFs in asymmetric networks. First, the study confirms that not only can exploitation and exploration strategies coexist but also exploitation strategy influences exploration strategy in this context. Second, the study highlights the mediating role of firm competitive capability in realising value in exploitative and explorative practices. Third, it identifies absorptive capacity as a dynamic capability transforming the firm resource base and moderating the fit between a firm's internal resources and its strategic postures. Finally, the study enriches both global value chain and exporting literature by providing an understanding of the practices of CMEs who participate in GVCs.

5.3.2 Managerial Implications

This study offers several managerial implications which can be considered beneficial to practitioners.

First, firms relying largely on alliance partners in asymmetric interfirm relationships should consider **employing an explorative behaviour to seek opportunities for future growth**. Too much focus on existing network activities and a heavy reliance on the

powerful partner can lead to an unfavourable situation where they cannot capture a fair share in the relational value created by network activities. Opportunities for a better source of income for PDFs can be identified in the existing network environment (Alvarez & Barney, 2001; Zimmermann et al., 2015). To start, PDFs can look for opportunities to add incremental value to their current network activities. Network activities provide a chance for learning and strengthening productive competence. Opportunities for long-term network sustainability should focus on activities to expand the existing product/market domain. The product/market domain can be expanded by introducing new services or products to their network activities to create more value in the network. With an increase in the value creation of network activities, the focal firm has a better chance at capturing more relational rent. Alternatively, firms can expand to a new product/market domain by capitalising on network products to create other product or service offerings for a new market base. This research shows that with explorative practices, PDFs are likely to develop strategic resources which can be essential for stronger growth. The combination of these new strategic resources with existing network resources (Dyer & Singh, 1998) can subsequently help PDFs improve their performance in the network.

Besides, **exploiting current resources which are necessary to establish interfirm relationships is not sufficient for PDFs' growth. It is essential for them to develop strategic resources that are valuable for their long-term viability.** Reliance on network resources can lead to high dependence on other firms and drive firm attention away from nurturing internal strengths for their own growth. This research reveals that relational capital can create opportunities for growth. However, to fully make use of this opportunity, it is essential that PDFs nurture and build up strategic resources along with capitalising on network resources provided by their partners. In line with RBT, the study also highlights that capability makes a good strategic resource for the focal firm.

Moreover, it is noted that **capability to be developed should be directed from the need of the explorative strategy**. Prior research (Kim & Wemmerloev, 2015) shows that competence enhancement directed by existing network activities did not help PDFs to capture better relational rents. This study suggests that a fit between new capability and explorative strategy can provide a better solution for the PDFs to attain sustainability in

their network participation. Since exploration strategy is actually derived from the practice of exploitation strategy in the context of asymmetric networks, the combination of capability guided by the exploration strategy and resources currently shared in the network can help PDFs increase value creation for network activities. As a result, they can protect rent extraction from the network. This benefit may result from the fact that when powerful firms appreciate the contribution of PDFs, they would refrain from exercising their power or bargaining away unadjusted rent (Gulati & Sytch, 2007).

Finally, this research suggests that **investing in absorptive capacity is beneficial** for PDFs in asymmetric relationships as it serves as a conduit for transforming externally valuable knowledge into firms' operating processes and routines. As manager and individual cognition is suggested to be instrumental for identifying and understanding knowledge (Mom, Van den Bosch, & Volberda, 2007), training and recruiting programmes should pay attention to personnel ability and openness to new knowledge. However, it is important to note that firm absorptive capacity is not resident in any single person but is conducive to the link "across a mosaic of individual capability" (Cohen & Levinthal, 1990, p. 133). Therefore, channels fostering knowledge linkages should also be nurtured and strengthened. Formal and informal communication networks such as multi-unit collaboration, cross-functional teams, and job rotation (Lam, 1997; Lane et al., 2001; Meeus, Oerlemans, & Hage, 2001) appear to be instrumental for this purpose. Moreover, at the interfirm level, establishing trust and collaboration with alliance partners creates a favourable condition to facilitate the exchange of quality and privileged information (Lane et al., 2001; Malhotra, Gosain, & Sawy, 2005; Modi & Mabert, 2007). As a result, nurturing quality relationships is also a necessary enabler for the success of knowledge acquisition processes.

5.4 Limitations of the Study

While this research provides a number of valuable insights, it is worth noting a few limitations of this study.

The context of the study is limited to the case of contract manufacturing exporters in global value chains. A cautious application of the research findings to other settings should be considered. For example, the context of high-technological based firms that

use their innovation ability to create new products and allegiances with larger firms who can help them introduce the product to the market (Alvarez & Barney, 2001) may provide different answers to the set of capabilities vital to their performance in the interfirm linkage. Because IT and technical capabilities are critical for innovative firms (Song et al., 2008), an investigation into this group of firms may shed lights on the relationship between these two capabilities and firm performance, which are not confirmed by this study. Therefore, it remains empirically interesting to examine the effect of exploitation and exploration strategies on capabilities and performance in another context of power asymmetric relationships.

The use of a single informant is considered a limitation of the study. Data sourced from one respondent may be subject to systematic bias and random errors, which could cause the deviation of observed values from true values (Kumar, Stern, & Anderson, 1993). To avoid the vulnerability of single-rater bias, the use of multiple informants has been suggested for organisational studies (Boyer & Verma, 2000; Wagner, Rau, & Lindemann, 2010). However, similar to other studies in developing countries (Aulakh et al., 2000; Li & Ogunmokun, 2001a; Racela, Chaikittisilpa, & Thoumrungroje, 2007; Zou et al., 2003), this research relies largely on a single informant mainly due to time and cost constraints inherent to recording data from multiple sources (Enticott, 2004). To reduce the potential bias of having a single informant, the study employs a survey targeted at top managers. The use of a key informant from a top management team is acceptable because top managers are competent in providing information related to overall firm strategy, distinctive competence, and performance (Snow & Hrebiniak, 1980).

Similar to other studies conducted in the manufacturing sector in developing countries (Aulakh et al., 2000) and in the South East Asia region (Bierly & Daly, 2007), the study relies on a relatively small sample size. Although the sample size is sufficient for the model analysis (Hair et al., 2013), the stability of results are expected to be enhanced with larger dataset.

Finally, the **sample** comes from **a country** with a history of entrepreneurship constraints and entrepreneurs who are less innovative and proactive, but higher risk-takers than their counterparts in other developing countries (Swierczek & Ha, 2003). Furthermore, Nguyen and Rose (2009) point out that Vietnamese firms emphasise trust as a primary

measure for enhancing interfirm relationships. Research has shown that when trust is involved, firms tend to nurture ongoing relationships and increase the sharing of interfirm resources (Jiang, Jiang, Cai, & Liu, 2015). Therefore, Vietnamese firms may be more inclined toward focusing on network activities and less inclined to be innovative to identify opportunities outside of current network activities. As a consequence, these two country-specific features can have an influence on explorative activities that rely on the network activities of Vietnamese firms. Therefore, the knowledge that exploration strategy is based on exploitation strategy should also take into consideration of the country-specific context.

5.5 Directions for Future Research

The above limitations lead to further avenues of research that could be fruitful for future studies.

Future research may find it beneficial to **investigate the model in another context of interfirm arrangements**. A variety of interfirm relationships with power asymmetric structures can be used such as alliances between parents and subsidiaries, established firms and new corporate ventures, manufacturers and distributors, or innovative ventures and larger established firms. One caution is that the power structure should be traced back to resource dependence and ownership embedded in the interfirm exchanges in the context of study. Settings other than contract manufacturing exporters in low-technology industries can provide new insights regarding the linkages of exploitation and exploration as well as their influences on the development of firm capability as a new strategic resource. Similarly, an understanding of the mediation effect of firm capability on the link between exploitation strategy and performance, which is partially supported by the study, can be extended with additional investigation in other research contexts.

Moreover, the partial mediation effect of capability between exploration strategy and performance suggests that other factors exist that potentially mediate the exploration strategy – performance relationship. Therefore, it can be fruitful for future studies to **identify these potential mediators**.

Besides, future studies can strengthen the generalisability of the research findings by either **employing multiple respondents or incorporating longitudinal data**. The examination of exploitation and exploration strategies over a sufficient timeframe would be critical in clarifying a research boundary where the findings can be established.

Future studies may find it useful to achieve larger sample size when combining both mail-out survey and the drop-and-collect method with extensive personal involvement as conducted in this study. The use of a larger dataset should also consider incorporating more control variables when the sample size increases.

Additionally, future studies in the same context of CMEs should not limit themselves to the use of the two types of export performance (strategic and financial) as dependent variables. Investigation on other types of dependent variables such as export satisfaction or customer satisfaction can open up other interesting findings on the issue.

Furthermore, it is compelling to **investigate the model in another country** where different entrepreneurial practices can be found than those present in Vietnamese firms. For example, conducting studies in a country where firms are more innovative and proactive in finding new ways for future growth could provide more insights into the influence of exploitation and exploration strategies and how these two strategies drive firms' development of new strategic resources.

Finally, there are a **number of questions that future research is likely to find important**. For example, which capability is likely to be critical in different asymmetric network contexts? Under what condition is exploration strategy out of the current network activities more beneficial to PDFs? Does the practice of exploration strategy vary according to the level of power exercised by the powerful partner? Future studies can address the costly nature of absorptive capacity (Wales et al., 2013) in examining conditions where practices of absorptive capacity can be more valuable to PDFs.

5.6 Conclusion

The dual practice of exploiting current competitiveness and exploring new opportunities for future growth as a key driver for firm sustainability has gained favourable interest in management research (Hitt et al., 2011; Ireland et al., 2001). The case of weaker firms in asymmetric interfirm networks poses a great challenge for focal firms' long-term

sustainability because they are in a disadvantaged position to capture a fair share in the interfirm arrangements (Lavie, 2006). While PDFs have been documented to simultaneously exploit existing network activities and explore new opportunities (Hill & Birkinshaw, 2014; Su et al., 2014), the influence of these strategies on their performance in the network has gone under-explored. As a result, the benefit of integrating strategy and entrepreneurship has not been completely established. Therefore, this study endeavours to develop the theory regarding the benefits of the dual practice of exploitation and exploration strategies.

Along this line, the study proposes a conceptual model suggesting some mechanisms through which exploitation and exploration strategies can influence the performance of PDFs in asymmetric networks. Using multiple approaches to test the model with a sample of Vietnamese contract manufacturing exporters who participate in buyer-driven global value chains, the study provides empirical evidence for the critical role of the simultaneous practice of exploitation and exploration strategies in this context. The research indicates that, in the context of power asymmetry, PDFs' exploitation strategy strongly influences their exploration strategy. Besides, there are multiple mediating effects in the relationship between exploitation strategy and the performance of PDFs that pass through exploration strategy or through the link between exploration strategy and competitive capability. In addition, the study also reveals that capability development of PDFs is conducive to their firm absorptive capacity. Moreover, this dynamic capability is found to align with firm strategic directions in directing firm investments in capability. While exploitation strategy capitalises on growth opportunities arising from the network context, it tends not to favour market-based capability. Absorptive capacity is found to further enhance the negative effect of exploitation strategy on capability. However, this joint negative effect on capability can be redressed when exploration strategy is combined with an increase in firm absorptive capacity. Absorptive capacity complements the favourable effect of exploration strategy in redirecting PDFs' focus toward strategic resources which can be essential for their network sustainability. Overall, the study extends the existing knowledge on the mechanism involving the two diverse strategic directions of exploitation and exploration

and how their value can be realised in the context of PDFs through their influences on firms' development of capability and the absorptive capacity of the firm.

APPENDIXES

Appendix A Selected Definitions and Measurements Used in Exporting Literature

Author(s)	Definition/measurement
Export performance is defined as	
(Cavusgil & Zou, 1994)	The extent to which a firm's objectives. Both economic and strategic, with respect to exporting a product into a foreign market, are achieved through planning and execution of export marketing strategy
(Shoham, 1996)	The outcome of a firm's activities in export market
(Katsikeas et al., 1996)	The achievement of firm export objectives
(Zou & Stan, 1998)	The financial and strategic performance of the export venture and the firm's satisfaction with the export venture
(Li & Ogunmokun, 2001a)	The outcomes of a firm's activities in export markets
Measurement – 1 component	
(Katsikeas et al., 1996)	Three-item 5-point Liker scale, ranging from "very badly" (1) to "very well" (5), assessing managers' perception on the achievement of firm export objectives in terms of - Export sales - Market share - Profitability
(Brouthers & Xu, 2002)	Four-item measurement, 10-point Likert scale ranging from "very dissatisfied" (1) to "very satisfied" (10), assessing managers' satisfaction on performance of the firm export activities, regarding: - Sales growth - Profitability - Market share - Overall export performance

Appendix A (Cont'd)

Author(s)	Definition/measurement
(Cadogan, Kuivalainen, & Sundqvist, 2009)	10-point Likert scales, ranging from "very dissatisfied" (1) to "very satisfied" (10) for items marked with "A" and from "poor" (1) to "outstanding" for the item marked with "B". These items assess managers' satisfaction and perception of the firm export activities during the past 3 years in terms of: - Satisfaction with export sales volume [A] - Satisfaction with export market share [A] - Satisfaction with export market entry [A] - Average annual sales growth compared to industry average [B]
Measurement – 2 components	
(Li & Ogunmokun, 2001a)	5-point Likert scales, ranging from , assessing managers' perception on the achievement of export ventures in terms of: Strategic export performance: - Reducing market dependency - Lead time improvement - Gaining product diversification Financial export performance: - Increasing company profitability - Enhancing company awareness - Achieving additional resource leverage
(Zou & Stan, 1998)	5-point Likert scales, ranging from "strongly disagree" (1) to "strongly agree" (5), assessing managers' perception on performance of export ventures regarding one product and one market in terms of: Financial export performance: - Has been very profitable - Has generated a high volume of sales - Has achieved rapid growth Strategic export performance - Has improved our global competitiveness - Has strengthened our strategic position - Has significantly increased our global market share Satisfaction with export venture - The performance of this export venture has been very satisfactory - This export venture has been very successful - This export venture has fully met our expectations

Appendix A (Cont'd)

Author(s)	Definition/measurement
(Morgan et al., 2004)	7-point Likert scales, ranging from "much worse" (1) to "much better" (7), assessing outcomes of export venture in comparison with main competitors over past 12 months in terms of: Economic: - Export sales volume - Export market share - Profitability - Percentage of sales revenue derived from products introduced in this market during the past three years Distributor: - Service quality - Quality of the company's relationship with distributor - Reputation of the company - Distributor loyalty to the company - Overall satisfaction with total product/service offering End-user: - Quality of the company's end-user customer relationships - Reputation of the company - End-user customer loyalty to the firm - End-user customer satisfaction
(Racela et al., 2007)	Financial export performance: 7-point Liker scales, assessing managers' perception on SBUs performance in relation to its major competitors, ranging from "much worse" (1) to "much better" (7) - Export sales - Export market share - Export profits Export satisfaction: 7-point Liker scales, assessing managers' satisfaction regarding the SBU's export performance, ranging from "very dissatisfied" (1) to "very satisfied" (7) - Export sales volume - Export profitability - Export market share - Rate of new market entry
(Morgan et al., 2012)	7-point Likert scales, ranging from "much worse than competitors" (-3) to "much better than competitors" (3), assessing managers' perception on the performance of export venture over the past year relative to major competitors in terms of: Market performance: - Market share growth - Growth in sales revenue - Acquiring new customers - Increasing sales to existing customers

Appendix A (Cont'd)

Author(s)	Definition/measurement
	Financial performance: - Export venture profitability - Return on Investment (ROI) - Export venture margins - Reaching export venture financial goals

Appendix B Cover Letter

PARTICIPANT INFORMATION SHEET FOR INTERVIEW
Victoria University of Wellington

A study of enhancing the export performance of contract manufacturing exporters

Researcher: Thao Kim Nguyen, School of Marketing and International Business

I am a doctoral student in International Business at Victoria University of Wellington. This form provides detailed information on the purpose and nature of my research project.

I am undertaking a PhD thesis and intend to examine the influence of firms' strategic orientation and dependence on international buyers on the export performance of contract manufacturing exporters in the three Vietnamese industries: garment, footwear, and wooden furniture. The university requires approval for research involving human participation and the study has been assessed and approved by the Human Ethics Committee of Victoria University of Wellington.

The research involves individual interviews with managers who will discuss how their firms evaluate the performance of their export business, how they build up skills and capabilities for enhancing their competitive advantage, and how these skills and capabilities benefit the firm's performance. The discussion should take about an hour and a half and will be audio-recorded. I would like to hold discussions at your company venue which would require the availability of a quiet and professional space.

This research is completely confidential. The voice recordings will be reviewed by the researcher and the person transcribing the tape for the sole purpose of the study. An agreement will be made with the transcriber to ensure confidentiality. The recordings will be securely stored for three years in a password protected computer. The interview will begin only with your consent.

As well as being included in the PhD thesis, the research findings may also be published in academic journals or conference papers. In all published materials, no information traceable to you will be included. Code names will be used to disguise the source of the information. Confidentiality is assured at all times. The PhD thesis will be held by Victoria University of Wellington. If you would like an executive summary of the research, please provide your contact

details on the consent form. The written summary will not contain any information that is traceable to you or any other participants.

Participation in the interview may provide an opportunity for your company to reflect on its strategies, and capabilities critical to your firm's export performance. You have the right to withdraw from the study at any time. If you choose to withdraw, any information you have provided will be destroyed.

If you have any questions about my research, please do not hesitate to contact me or my supervisors.

Contact Details:

Thao Nguyen PhD Candidate School of Marketing and International Business Victoria University of Wellington Email: thao.nguyen @vuw.ac.nz	Prof. David Crick (Supervisor) School of Marketing and International Business Victoria University of Wellington Email: david.crick@vuw.ac.nz	Dr. Revti Raman (Supervisor) School of Marketing and International Business Victoria University of Wellington Email: revti.raman@vuw.ac.nz

Vietnamese Version of the Cover Letter

THƯ MỜI THAM GIA DỰ ÁN NGHIÊN CỨU

VỀ NÂNG CAO KẾT QUẢ XUẤT KHẨU CỦA CÁC DOANH NGHIỆP XUẤT KHẨU HÀNG GIA CÔNG

Nghiên cứu viên: Nguyễn Kim Thảo,
Nghiên cứu sinh, khoa Marketing và Kinh doanh quốc tế
Đại học Victoria tại Wellington, New Zealand

Thưa Ông/Bà,

Tôi hiện là nghiên cứu sinh ngành Kinh doanh quốc tế tại Đại học Victoria, Wellington ở New Zealand. Thư này giới thiệu chi tiết mục đích và tính chất dự án nghiên cứu của tôi. Tôi mong rằng sau khi đọc thư này, Ông/Bà sẽ đồng ý cho tôi được gặp và thực hiện một cuộc phỏng vấn về các hoạt động tại doanh nghiệp của Ông/Bà.

Nghiên cứu của tôi nhằm xem xét mức độ ảnh hưởng của chiến lược kinh doanh và sự phụ thuộc vào khách hàng xuất khẩu đối với kết quả xuất khẩu của các doanh nghiệp trong các ngành công nghiệp dệt may, da giày, và đồ gỗ của Việt Nam. Các cách thức để thu thập thông tin của nghiên cứu này đã được Ủy ban đạo đức của Đại học Victoria chấp thuận và thông qua.

Nghiên cứu của tôi cần thực hiện các cuộc phỏng vấn cá nhân với các nhà quản trị cấp cao tại các công ty có thực hiện gia công xuất khẩu. Chủ đề của các phỏng vấn này xoay quanh các nội dung sau: 1) cách đánh giá hiệu quả của hoạt động xuất khẩu hàng gia công tại các doanh nghiệp,

2) cách thức doanh nghiệp xây dựng kỹ năng và năng lực để nâng cao năng lực cạnh , và 3) làm thế nào mà các kỹ năng và năng lực này đóng góp cho hoạt động kinh doanh của công ty. Các cuộc thảo luận sẽ kéo dài từ 1 tiếng đến 1 tiếng rưỡi và cần phải được ghi âm. Các cuộc thảo luận sẽ diễn ra ngay tại các doanh nghiệp để đảm bảo một không gian yên tĩnh và chuyên nghiệp.

Nội dung cuộc thảo luận sẽ được giữ bí mật. Chỉ có nghiên cứu viên và người chép băng (nếu cần) mới có thể tiếp cận các băng ghi âm. Trong trường hợp cần sự trợ giúp của người chép băng, một thỏa thuận sẽ được ký kết để đảm bảo nội dung của phỏng vấn sẽ được bảo mật. Các bản ghi âm sẽ được lưu trữ an toàn bằng một máy tính có mật khẩu bảo vệ và sau đó sẽ bị xóa hẳn sau 3 năm kể từ khi nghiên cứu này kết thúc. Cuộc thảo luận sẽ chỉ bắt đầu khi có được sự đồng ý của Ông/Bà.

Kết quả nghiên cứu này sẽ được báo cáo trong luận án tiến sĩ của tôi và trong các tạp chí khoa học hoặc các hội thảo khoa học. Trong tất cả các tài liệu công bố kết quả nghiên cứu, sẽ không có nội dung nào có thể dùng để truy xuất nguồn gốc doanh nghiệp cung cấp thông tin. Tên doanh nghiệp sẽ được mã hóa để bảo vệ nguồn thông tin. Nội dung phỏng vấn sẽ luôn được bảo mật. Luận án tiến sĩ sẽ được lưu giữ tại Đại học Victoria ở Wellington, New Zealand. Nếu Ông/Bà muốn nhận một bản tóm tắt kết quả nghiên cứu, xin vui lòng cung cấp chi tiết liên lạc trên mẫu đồng ý cho thực hiện nghiên cứu. Bản tóm tắt nghiên cứu sẽ không có bất kỳ thông tin nào có thể dùng để xác định được Ông/Bà hay bất kỳ người tham gia phỏng vấn khác.

Việc tham gia vào phỏng vấn có thể đem lại một cơ hội để Ông/Bà đánh giá lại các chiến lược của doanh nghiệp và xem xét lại các năng lực quan trọng đối với hoạt động xuất khẩu của doanh nghiệp. Ông/Bà có quyền rút khỏi nghiên cứu bất cứ lúc nào. Nếu Ông/Bà chọn không tham gia vào nghiên cứu nữa, mọi thông tin đã cung cấp sẽ bị loại bỏ.

Mọi thắc mắc về nghiên cứu này, xin Ông/Bà vui lòng liên hệ với tôi hoặc các giáo sư hướng dẫn của tôi.

Nguyễn Kim Thảo
Email:
thao.nguyen @vuw.ac.nz

Giáo sư David Crick
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Tiến sĩ Revti Raman
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Appendix C Interview Guide

Interview Questions

This interview is semi-structured and expected to last for approximately one hour. Below is the outline of the proposed interview questions.

1. From your experience, to what extent do you think contract manufacturing is good or bad for your firm?
   - *Prompts*: types of contract manufacturing
2. What are your main success factors?
   - *Prompts*: Firm-level capabilities: marketing capabilities, capabilities to understand market needs and to build relationships with customers, technical capabilities in production, information technology systems
3. How has contract manufacturing contributed to your firm's export activities?
4. To what extent are your firm's export activities dependent on international buyers? Why do you think the dependence on international buyers is good or bad for your firm?
5. To what extent has your firm made any efforts to move up the value chain, which means making higher value-added products? Why do you think this strategy is good or bad for your firm?
6. Why do you think making low value-added products is good or bad for your firm?
7. How do you assess your firm's ability to exploit knowledge from the external environment? To what extent is it good or bad compared to your major rivals?
8. How has your firm's ability to exploit knowledge from the external environment benefited your firm's growth?
9. What are the most significant things for your firm to remain internationally competitive?
10. Supposing your firm could have a budget of USD 1 million, please list the three most pressing issues your company would spend it on and how much money you would allocate for each issue.

Appendix D Consent Form

Consent Form

The impact of strategic entrepreneurship and manufacturing dependence on the export performance of contract manufacturing exporters: a study of the Vietnamese garment, footwear, and wooden furniture industries

This consent form outlines my rights as a participant in the study.

- My participation is entirely voluntary. Any information provided in the interview is confidential. I agree to be interviewed for the purpose of the study.
- I have been provided with adequate information about the project and have been given the opportunity to seek further clarification or explanation.
- I agree that the interview may be electronically recorded.
- I have the right to decline to answer any questions asked.
- I have the right to withdraw my consent to participate in this study by informing the researcher within one week after the interview date. If I do so, all information I gave will be destroyed.
- I understand that an agreement will be arranged with the transcriber to maintain the confidentiality of the research.
- I understand that my identity will not be disclosed in any presentation or publication resulting from this research.
- I will have the opportunity to review notes, if required, to ensure my views are correctly recorded.
- I understand that the data will be used for the researcher's PhD thesis and read by the researcher, supervisors, and the transcriber. I also understand that the research may be published in academic or professional journals and disseminated at academic or professional conferences.
- I understand that when this study is completed, the raw data obtained from the research will be kept for three years and then destroyed.

Name of interviewee: .....

Signature of interviewee: .....

Date: .....

Please tick here if you would like to receive a copy of the summary for this study.

☐ Yes, please provide your email address……..

☐ No

Vietnamese Version of the Consent Form

Bản chấp thuận tham gia phỏng vấn dự án nghiên cứu sự ảnh hưởng của định hướng chiến lược kinh doanh và sự phụ thuộc vào khách hàng xuất khẩu đến hoạt động của doanh nghiệp xuất khẩu hàng gia công

Bản chấp thuận này nêu ra quyền lợi của tôi khi tham gia vào dự án nghiên cứu này.

- Sự tham gia của tôi vào nghiên cứu này là hoàn toàn tự nguyện. Mọi thông tin tôi cung cấp sẽ được bảo mật. Tôi đồng ý tham gia cho mục đích nghiên cứu của dự án
- Tôi đã được cung cấp đầy đủ thông tin về dự án nghiên cứu này và đã có cơ hội để làm rõ hay được giải thích thêm về dự án này.
- Tôi đồng ý là cuộc phỏng vấn này sẽ có thể được ghi âm
- Tôi có quyền từ chối trả lời bất kỳ câu hỏi nào
- Tôi có quyền rút lại lời chấp thuận tham gia vào dự án này bằng cách thong báo cho nhà nghiên cứu trong vòng một tuần kể từ ngày phỏng vấn. Nếu tôi chọn lựa không tiếp tục tham gia, mọi thông tin tôi đã cung cấp sẽ bị hủy bỏ
- Tôi hiểu là tên tuổi của tôi sẽ không bị tiết lộ qua bất kỳ báo cáo nào liên quan đến nghiên cứu này.
- Tôi hiểu là sẽ có một cam kết với người chép băng để đảm bảo nội dung phỏng vấn sẽ được bảo mật
- Tôi sẽ có cơ hội để xem xét lại các ghi chú của cuộc phỏng vấn này để đảm bảo quan điểm của tôi được ghi lại một cách chính xác.
- Tôi hiểu rằng nội dung cuộc phỏng vấn sẽ được dùng cho bản luận án tiến sĩ của người nghiên cứu và chỉ được đọc bởi người nghiên cứu và người chép băng.
- Tôi hiểu rằng nghiên cứu này có thể sẽ được công bố qua các tạp chí khoa học và chuyên nghành đồng thơi cũng có thể được phổ biến tại các hội nghị khoa học.
- Tôi hiểu rằng khi nghiên cứu này được hoàn thành, các dữ liệu thô thu được từ phỏng vấn này sẽ được lưu giữ trong 3 năm và sau đó sẽ bị phá hủy.

Chữ ký người được phỏng vấn: ……..

Ngày: ……..

Xin vui lòng đánh dấu để cho biết Ông/Bà muốn nhận được một bản tóm tắn kết quả nghiên cứu của dự án

- ☐ Có. Xin vui lòng cung cấp địa chỉ email: ……..
- ☐ Không

Appendix E Survey Instruments

Constructs	Measurements	Sources
Independent variables (7 variables)		
Exploitation strategy 5-point scale 1 = 'strongly disagree' to 5 = 'strongly agree'	1. Our firm commits to improve quality and lower cost 2. Our firm continuously improves the reliability of its products and services *3. Our firm increases the levels of automation in its operations (D)* *4. Our firm constantly surveys existing customers' satisfaction (D)* 5. Our firm fine-tunes what it offers to keep its current customers satisfied 6. Our firm penetrates more deeply into its existing customer base	Siren et al. (2012) based on Lubatkin et al. (2006) and He and Wong (2004)
Exploration strategy 5-point scale 1 = 'strongly disagree' to 5 = 'strongly agree'	1. Our firm looks for novel technological ideas by thinking 'outside the box' *2. Our firm bases its success on its ability to explore new technologies (D)* 3. Our firm creates products and services that are innovative to the firm *4. Our firm looks for creative ways to satisfy its customers' needs (D)* 5. Our firm aggressively ventures into new markets *6. Our firm actively targets new customer groups (D)*	Siren et al. (2012) Based on Lubatkin et al. (2006) and He and Wong (2004)
IT capabilities 5-point scale 0 = 'much worse than your major competitors' 5 = 'much better than your major competitors'	1. IT systems for new product development projects 2. IT systems for facilitating cross-functional integration 3. IT systems for facilitating technology knowledge creation 4. IT systems for facilitating market knowledge creation 5. IT systems for internal communication (e.g., across different departments, across different levels of the organisation) 6. IT systems for external communication (e.g., suppliers, customers, channel members)	Adapted from Song et al., 2008

Appendix E (Cont'd)

Constructs	Measurements	Sources
Technical capabilities 5-point scale 0 = 'much worse than your major competitors' 5 = 'much better than your major competitors'	*1. Integrated logistics systems (D)* 2. Cost control capabilities 3. Quality control skills 4. Financial management skills *5. Technical resources and Technology skills (D)* *6. Ability of predicting technological changes in the industry (D)* 7. Manufacturing processes *8. Technology development capabilities (D)* *9. New product development capabilities (D)* 10. Production facilities	Adapted from Song et al., 2008
Marketing capabilities 5-point scale 0 = 'much worse than your major competitors' 5 = 'much better than your major competitors'	1. Knowledge of competitors 2. Knowledge of customers *3. Skill to segment and target markets (D)* 4. Effectiveness of pricing programs *5. Effectiveness of advertising programs (D)* *6. Control and evaluation of marketing activities (D)*	Adapted from Song et al., (2008)
Market-linking capabilities 5-point scale 0 = 'much worse than your major competitors' 5 = 'much better than your major competitors'	1. Market-sensing capabilities *2. Customer-linking capabilities (i.e., creating and managing durable customer relationships) (D)* *3. Capabilities of creating durable relationship with our suppliers (D)* 4. Ability to retain customers 5. Channel-bonding capabilities (e.g., creating durable relationship with channel members, such as whole sellers, retailers)	Adapted from Song et al., (2008)
Absorptive capacity 7-point scale 1= 'Completely disagree' and 7 = 'Completely agree'	**Knowledge acquisition capability** 1. The search for relevant information concerning our industry is every-day business in our company *2. Our management motivates the employees to use information sources within our industry (D)* 3. Our management expects that the employees deal with information beyond our industry	Adapted from Flatten et al. (2011)

Appendix E (Cont'd)

Constructs	Measurements	Sources
	Knowledge assimilation capability *1. In our company ideas and concepts are communicated cross-departmental (D)* 2. Our management emphasises cross-departmental support to solve problems *3. In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments (D)* 4. Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements **Knowledge transformation capability** 1. Our employees have the ability to structure and to use collected knowledge 2. Our employees are used to absorb new knowledge 3. Our employees are used to prepare new knowledge for further purposes and to make it available 4. Our employees successfully link existing knowledge with new insights 5. Our employees are able to apply new knowledge in their practical work **Knowledge exploitation capability** 1. Our management supports the development of prototypes *2. Our company regularly reconsiders technologies and adapts them accordant to new knowledge (D)* 3. Our company has the ability to work more effective by adopting new technologies	
Dependent variables (2 variables)		
Financial export performance 7-point scale 1 = 'Very low' to 7 = 'Very high'	Please rate your firm's export financial performance based on following objectives 1. Export sales volume 2. Export sales growth 3. Export profitability 4. Export sales intensity	Adopted form Kasikeas et al. (2000)

Appendix E (Cont'd)

Constructs	Measurements	Sources
Strategic export performance 5-point scale 1 = 'Not achieved at all' 5 = 'Completely achieved'	Please evaluate the achievement of strategic goals concerning your firm exporting activity 1. Gaining access to new technology 2. Reducing market dependency 3. Lead time improvement 4. Having better customer satisfaction 5. Increasing share of higher-value products	Adapted from Li and Ogunmokun (2001b)
Controlling variables (5 variables)		
Industry	□ Garment □ Footwear □ Wood furniture	
Network age	How long has your firm involved in exporting? Since _____	Cavusgil and Zou (1994)
Firm size	Number of full-time workers: _____	Cavusgil and Zou (1994)
Ownership control	What is the business's type of ownership 1. Domestic own (private/joint stock) 2. Domestic state-owned 3. State-owned enterprise 4. Wholly foreign-invested 5. Joint-venture with foreign investment	Adapted from Pietrobelli & Salio (2006) Ling-yee and Ogunmokun (2001)
Market operation	Do you sell own-branded or own-designed products in the home market? □ Yes □ No	
Marker variable (1 variable)		
Firm brand association with a bank 7-point scale 1 = 'Completely disagree' 7 = 'Completely agree'	Please think of a bank which your firm has been dealing with lately, please evaluate these following statements in regard to this bank 1. This bank has a good reputation 2. This bank has a better image than its competitors 3. This bank is very useful for the Vietnamese society	Adopted from Phan and Ghantous (2013)

Note: Items removed from the measurement model are marked with *(D)*

Appendix F Descriptive Analysis of Indicators with Outliers

Indicator	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
Sperf1	0	4.026	4	1	5	.946	.389	-.795
Sperf2	1	3.569	3	1	5	1.046	-.318	-.270
Sperf3	0	4.052	4	2	5	.737	.053	-.476
Sperf4	0	4.136	4	3	5	.645	-.628	-.137
Sperf5	0	4.104	4	1	5	.934	-.225	-.741
Fperf1	2	5.322	5	1	7	1.331	1.256	-.847
Fperf2	0	5.273	5	1	7	1.316	1.192	-.793
Fperf3	0	5.234	6	1	7	1.476	.116	-.728
Fperf4	0	5.455	6	1	7	1.464	.721	-1.025
l1	0	4.526	5	1	5	.758	**3.844**	**-1.853**
l2	0	4.669	5	2	5	.645	**3.834**	**-2.044**
l3	0	4.253	5	1	5	1.066	1.616	-1.495
l4	0	4.591	5	1	5	.778	**4.095**	**-2.061**
l5	0	4.474	5	1	5	.740	**4.284**	**-1.801**
l6	1	4.242	4	1	5	.915	**3.470**	**-1.690**
r1	0	4.318	5	1	5	1.067	1.340	**-1.475**
r2	1	3.830	4	1	5	1.332	-.410	-.890
r3	0	4.195	4	1	5	.933	1.897	-1.319
r4	1	4.588	5	1	5	.805	**6.808**	**-2.457**
r5	0	4.182	5	1	5	1.009	.535	-1.100
r6	0	4.370	5	1	5	.925	**3.145**	**-1.748**
ITC1	1	3.667	4	1	5	.977	-.850	-.094
ITC2	2	3.618	3	2	5	.966	-1.073	.124
ITC3	2	3.428	3	1	5	.893	.399	-.395
ITC4	0	3.682	4	1	5	.958	-.544	-.172
ITC5	0	3.773	4	1	5	.810	-.058	-.226
ITC6	1	3.647	4	2	5	.788	-.409	-.091
TECH1	0	3.662	3	1	7	.982	-.270	.307
TECH2	1	3.595	4	1	5	.671	.728	-.220
TECH3	1	3.856	4	1	5	.736	1.947	-.759
TECH4	1	3.797	4	2	5	.744	-.660	.060
TECH5	0	3.688	4	2	5	.810	-.635	.039
TECH6	0	3.701	4	1	5	.884	-.486	-.115
TECH7	2	3.809	4	2	5	.714	**-.037**	**-.248**
TECH8	1	3.614	4	1	5	.872	-.026	-.237
TECH9	1	3.824	4	1	5	.894	-.514	-.254
TECH10	0	3.714	4	2	5	.745	-.704	.235
MARK1	0	3.636	4	1	5	.691	.925	-.561
MARK2	0	3.851	4	1	5	.672	**2.205**	-.849
MARK3	1	3.601	4	2	5	.770	-.553	.306
MARK4	0	3.779	4	2	5	.667	-.329	.023
MARK5	0	3.227	3	1	5	.864	.736	-.277
MARK6	0	3.656	4	1	5	.928	-.018	-.390

Appendix F (Cont'd)

Indicator	Missing	Mean	Median	Min	Max	SD	Kurtosis	Skewness
LINK1	0	3.584	4	1	5	.803	.045	-.316
LINK2	0	3.955	4	2	5	.724	.247	-.449
LINK3	1	4.052	4	1	5	.799	1.124	-.717
LINK4	1	4.072	4	2	5	.715	.028	-.432
LINK5	0	3.714	4	1	5	.938	.338	-.591
ACacq1	0	5.721	6	1	7	1.544	1.031	-1.277
ACacq2	0	6.156	7	2	7	1.064	1.410	-1.297
ACacq3	0	5.422	6	1	7	1.635	1.409	-1.332
ACassi1	0	5.714	7	1	7	1.875	.924	-1.435
ACassi2	1	6.366	7	1	7	1.302	**6.919**	**-2.607**
ACassi3	1	5.399	6	1	7	1.901	.386	-1.215
ACassi4	0	6.253	7	1	7	1.302	**6.252**	**-2.405**
ACexpl1	0	6.370	7	2	7	1.025	**4.458**	**-2.035**
ACexpl2	0	5.747	6	1	7	1.742	1.651	-1.578
ACexpl3	0	5.987	6	1	7	1.233	1.505	-1.299
ACtrsf1	0	5.812	6	1	7	1.258	**2.567**	**-1.399**
ACtrsf2	0	5.851	6	1	7	1.303	**2.047**	**-1.319**
ACtrsf3	4	5.700	6	1	7	1.513	0.943	**-1.193**
ACtrsf4	1	5.941	6	1	7	1.086	**2.069**	**-1.242**
ACtrsf5	0	5.987	6	1	7	1.128	**2.410**	**-1.372**
IND	0	0.545	1	0	1	.498	-1.992	-.184
AGE	10	0.653	1	0	1	.476	-1.602	-.649
DomExp	0	0.792	1	0	1	.406	.117	**-1.455**
MARKER1	4	5.727	6	2	7	1.166	-.676	-.420
MARKER2	5	5.678	6	1	7	1.265	.928	-.838
MARKER3	4	5.840	6	1	7	1.222	1.610	**-1.039**

Note: Indicators in bold were used for the measurement model
SD: standard deviation

Appendix G Test of Normality of Latent Variables

Construct	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistics	*df*	Sig.	Statistics	*df*	Sig.
STRA	.120	154	.000	.955	154	.000
FINA	.097	154	.001	.926	154	.000
ITC	.105	154	.000	.967	154	.001
TECH	.121	154	.000	.975	154	.006
MARK	.201	154	.000	.952	154	.000
LINK	.113	154	.000	.969	154	.001
AC	.145	154	.000	.883	154	.000
L	.185	154	.000	.817	154	.000
R	.208	154	.000	.854	154	.000

Note: a: Lilliefors significance correction;
df: degree of freedom

Appendix H Results of the Harman's One-Factor Test

Component	Initial Eigenvalues			Un-rotated Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.375	21.803	21.803	9.375	21.803	21.803	5.618	13.065	13.065
2	4.291	9.979	31.782	4.291	9.979	31.782	3.868	8.994	22.060
3	3.529	8.207	39.989	3.529	8.207	39.989	3.630	8.442	30.501
4	2.805	6.524	46.513	2.805	6.524	46.513	3.302	7.679	38.180
5	2.123	4.937	51.450	2.123	4.937	51.450	3.163	7.357	45.536
6	1.694	3.940	55.390	1.694	3.940	55.390	3.069	7.136	52.673
7	1.499	3.487	58.877	1.499	3.487	58.877	1.743	4.053	56.726
8	1.319	3.068	61.945	1.319	3.068	61.945	1.719	3.998	60.724
9	1.273	2.961	64.905	1.273	2.961	64.905	1.306	3.038	63.762
10	1.171	2.723	67.628	1.171	2.723	67.628	1.281	2.979	66.741
11	1.095	2.546	70.174	1.095	2.546	70.174	1.270	2.954	69.695
12	1.044	2.428	72.602	1.044	2.428	72.602	1.148	2.671	72.365
13	1.033	2.403	75.005	1.033	2.403	75.005	1.082	2.517	74.883
14	1.006	2.340	77.345	1.006	2.340	77.345	1.059	2.462	77.345

Appendix I Testing Structural Paths with and without the Marker Variable

Structural path	ITC				TECH				MARK				LINK			
	Marker		No marker		Marker		No marker		Marker		No marker		Marker		No marker	
L -> FINA	-.043	ns	-.022	ns	-.033	ns	-.010	ns	-.067	ns	-.053	ns	-.077	ns	-.056	ns
L -> STRA	-.021	ns	-.021	ns	.023	ns	.021	ns	-.044	ns	-.052	ns	-.072	ns	-.073	ns
L -> R	.600	***	.600	***	.598	***	.598	***	.600	***	.600	***	.599	***	.599	***
L -> CAP	-.345	***	-.345	**	-.318	*	-.318	*	-.107	ns	-.154	ns	-.092	ns	-.092	ns
L*AC -> CAP	-.126	*	-.126	*	-.238	***	-.238	**	-.005	ns	-.008	ns	-.201	**	-.201	**
R -> CAP	.487	***	.487	***	.449	***	.449	***	.371	***	.443	***	.385	***	.385	***
R -> FINA	.269	*	.241	*	.343	**	.312	**	.292	**	.216	*	.303	**	.273	*
R -> STRA	.340	**	.340	**	.432	***	.434	***	.476	***	.420	***	.468	***	.469	***
R*AC -> CAP	.047	ns	.047	ns	.224	*	.224	*	.001	ns	-.013	ns	.150	ns	.150	ns
AC -> CAP	.468	***	.468	***	.211	**	.211	**	.338	**	.367	***	.270	***	.270	**
CAP -> FINA	.191	ns	.185	ns	.055	ns	.057	ns	.221	**	.296	**	.182	*	.176	*
CAP -> STRA	.471	***	.471	***	.378	***	.377	***	.306	***	.392	***	.309	***	.309	***
IND -> FINA	.182	**	.217	**	.209	**	.241	***	.186	**	.214	**	.195	**	.229	***
IND -> STRA	-.075	ns	-.075	ns	-.046	ns	-.048	ns	-.045	ns	-.049	ns	-.030	ns	-.031	ns
NWAge -> FINA	.026	ns	.039	ns	.028	ns	.041	ns	.000	ns	.012	ns	.035	ns	.047	ns
NWAge -> STRA	-.019	ns	-.019	ns	-.017	ns	-.018	ns	-.054	ns	-.054	ns	-.002	ns	-.002	ns
SIZE -> FINA	.107	ns	.106	ns	.108	ns	.106	ns	.117	ns	.124	ns	.090	ns	.089	ns
SIZE -> STRA	.110	ns	.110	ns	.108	ns	.108	ns	.120	ns	.132	*	.079	ns	.079	ns
OWN -> FINA	.042	ns	.031	ns	.041	ns	.031	ns	.041	ns	.035	ns	.026	ns	.015	ns
OWN -> STRA	-.043	ns	-.043	ns	-.014	ns	-.014	ns	-.060	ns	-.053	ns	-.081	ns	-.081	ns
MktOpr -> FINA	.157	*	.186	*	.177	*	.204	**	.154	*	.163	*	.151	*	.181	*
MktOpr -> STRA	-.142	ns	-.141	ns	-.142	ns	-.144	ns	-.123	ns	-.147	ns	-.132	ns	-.132	ns
Marker -> FINA	.145	ns			.139	ns			.135	ns			.146	ns		
Marker -> STRA	.001	ns			-.011	ns			-.015	ns			-.003	ns		

Appendix J Indicator Cross-Loadings

Indicator	STRA	FINA	L	R	ITC	TECH	MARK	LINK	AC
Sperf1	**.873**	.527	.390	.534	.661	.525	.518	.547	.457
Sperf2	**.816**	.275	.316	.497	.445	.372	.349	.357	.317
Sperf3	**.737**	.324	.177	.447	.374	.416	.323	.275	.180
Sperf4	**.725**	.263	.294	.336	.315	.358	.391	.322	.235
Sperf5	**.857**	.480	.253	.478	.631	.488	.384	.513	.290
Fperf1	.405	**.887**	.222	.413	.340	.269	.316	.370	.238
Fperf2	.450	**.943**	.243	.426	.437	.290	.425	.402	.321
Fperf3	.483	**.907**	.192	.428	.483	.303	.430	.427	.365
Fperf4	.388	**.883**	.127	.299	.318	.186	.341	.332	.232
l1	.146	.053	**.712**	.341	.162	.120	.212	.287	.500
l2	.347	.248	**.794**	.517	.395	.185	.331	.410	.525
l5	.135	.043	**.642**	.373	.091	-.020	.142	.203	.470
l6	.317	.192	**.735**	.444	.308	.227	.276	.337	.483
r1	.547	.369	.491	**.881**	.510	.418	.384	.468	.447
r3	.319	.329	.503	**.664**	.328	.159	.303	.341	.421
r5	.488	.350	.455	**.836**	.615	.480	.512	.541	.497
ITC1	.482	.434	.236	.560	**.844**	.492	.491	.611	.492
ITC2	.555	.340	.199	.505	**.872**	.633	.499	.586	.452
ITC3	.508	.327	.264	.531	**.802**	.665	.552	.541	.369
ITC4	.521	.377	.416	.530	**.845**	.563	.603	.650	.613
ITC5	.504	.330	.328	.449	**.763**	.568	.562	.490	.466
ITC6	.489	.353	.391	.476	**.769**	.594	.554	.506	.529
Tech2	.323	.063	.163	.227	.464	**.661**	.456	.392	.171
Tech3	.427	.276	.115	.431	.521	**.782**	.531	.491	.246
Tech4	.412	.197	.240	.364	.567	**.762**	.531	.496	.251
Tech7	.403	.328	.155	.365	.576	**.771**	.591	.570	.353
Tech10	.474	.179	.123	.330	.568	**.796**	.416	.393	.231
Mark1	.427	.400	.294	.497	.578	.490	**.854**	.542	.412
Mark2	.301	.185	.295	.241	.437	.442	**.744**	.477	.384
Mark4	.441	.384	.283	.441	.571	.670	**.826**	.508	.365
Link1	.424	.398	.415	.538	.588	.494	.562	**.873**	.489
Link4	.311	.266	.271	.312	.527	.504	.540	**.714**	.335
Link5	.501	.361	.393	.516	.587	.544	.463	**.853**	.443
ACaqui1	.327	.150	.425	.405	.425	.183	.305	.324	**.718**
ACaqui3	.043	.172	.289	.193	.327	.203	.302	.315	**.617**
ACassi2	.337	.195	.536	.389	.405	.223	.380	.409	**.761**
ACassi4	.351	.254	.516	.375	.455	.272	.349	.408	**.727**
ACtrsf1	.279	.157	.510	.412	.359	.166	.299	.240	**.766**
ACtrsf2	.334	.248	.537	.467	.564	.325	.388	.453	**.873**
ACtrsf3	.307	.352	.428	.383	.505	.274	.485	.462	**.749**
ACtrsf4	.226	.246	.598	.431	.427	.237	.319	.346	**.801**
ACtrsf5	.294	.308	.643	.520	.491	.346	.396	.471	**.799**
ACexpl1	.171	.190	.609	.532	.338	.153	.277	.322	**.617**
ACexpl3	.365	.336	.509	.548	.541	.320	.365	.491	**.786**

Appendix K Heterotrait-Monotrait Ratio

Construct	STRA	FINA	ITC	TECH	MARK	LINK	AC	L	R
STRA									
FINA	.517								
ITC	.687	.476							
TECH	.634	.320	.836						
MARK	.593	.472	.797	.842					
LINK	.609	.497	.842	.799	.851				
AC	.407	.337	.645	.371	.572	.611			
L	.416	.232	.419	.265	.458	.571	.849		
R	.716	.535	.758	.583	.650	.747	.701	.831	

Appendix L Variance Inflation Factors of Endogenous Constructs

Construct	STRA	FINA	ITC	LINK	MARK	TECH	R
L			2.10	2.10	2.10	2.10	1
R			1.67	1.67	1.67	1.67	
AC			2.02	2.02	2.02	2.02	
ITC	2.87	2.80					
LINK	2.23	2.22					
MARK	2.23	2.23					
TECH	2.16	2.15					
IND	1.10	1.08					
AGE	1.07	1.07					
DomExp	1.16	1.16					

Appendix M Structural Paths of Models Prior to the Final Model

Model 1	STRA			FINA		
	β	t value	f2	β	t value	f2
IND	.129	1.154	.015	.299***	4.472	.096
NwAge	.081	.972	.007	.087	1.504	.009
SIZE	.127	1.560	.019	.127	1.56	.017
OwnCtrl	-.182	1.676	.036	-.043	.585	.002
MrkOpr	.152	1.437	.025	.333***	4.824	.143

Model 2	STRA			FINA		
	β	t value	f2	β	t value	f2
IND	.073	.872	.006	.288***	4.424	.093
NwAge	.052	.698	.003	.077	1.346	.008
SIZE	.118	1.435	.014	.111	1.362	.013
OwnCtrl	-.137	1.633	.023	-.019	.256	0
MrkOpr	.109	1.222	.133	.317***	4.706	.133
Exploitation Strategy	.343***	4.520	.141	.178*	2.411	.041

Model 3	STRA			FINA			Exploration Strategy		
	β	t value	f2	β	t value	f2	β	t value	f2
IND	.003	.044	0	.248***	3.755	.073			
NwAge	-.017	.265	0	.039	.735	.002			
SIZE	.105	1.458	.014	.105	1.325	.013			
OwnCtrl	-.067	.902	.006	.027	.374	.001			
MrkOpr	-.082	.987	.009	.211**	2.975	.054			
Exploitation Strategy	-.017	.203	0	-.024	.260	.001	.602***	8.136	.57
Exploration Strategy	.592***	6.813	.277	.345***	3.505	.089			

Note: ***p < .001

Appendix N Statistical Inference for the Individual Indirect Paths with the Bias-Corrected Bootstrap Technique of 5,000 Resamples

Confidence Interval	L-R-STRA	L-CAP-STRA	L-R-CAP-STRA	Sum L-STRA	L-R-FINA	L-CAP-FINA	L-R-CAP-FINA	Sum L-FINA
ITC								
Estimates	.204	-.163	.137	.179	.144	-.064	.054	.134
Sig. level	**	**	***	*	*	ns	ns	ns
99.9% CI	[-.0355; .4296]	[-.4689; .0291]	[.0344; .3943]	[-.1928; .4384]	[-.1530; .5090]	[-.3897; .0637]	[-.0689; .2319]	[-.1901; .4896]
99% CI	[.0331; .3866]	[-.3699; -.0239]	[.0498; .3216]	[-.0521; .3760]	[-.0448; .3929]	[-.2282; .0250]	[-.0270; .1795]	[-.0916; .3778]
95% CI	[.0793; .3473]	[-.3089; -.0592]	[.0659; .2562]	[.0068; .3289]	[.0009; .3223]	[-.1854; .0036]	[-.0083; .140]	[-.0301; .3134]
TECH								
Estimates	.260	-.120	.101	.241	.187	-.018	.015	.184
Sig. level	***	**	***	**	**	ns	ns	*
99.9% CI	[.0675; .5321]	[-.3592; .0572]	[.0098; .2878]	[-.0371; .5446]	[-.0409; .5285]	[-.1723; .1218]	[-.1241; .1201]	[-.0528; .4884]
99% CI	[.1019; .4629]	[-.2923; -.0006]	[.0284; .2310]	[.0305; .4584]	[.0209; .4262]	[-.1201; .0920]	[-.0727; .0981]	[-.0075; .4211]
95% CI	[.1349; .4106]	[-.2443; -.0290]	[.0429; .1935]	[.0779; .4024]	[.0597; .3607]	[-.0949; .0506]	[-.0449; .0721]	[.0498; .3629]
MARK								
Estimates	.252	-.060	.104	.296	.129	-.045	.079	.162
Sig. level	***	ns	***	***	*	ns	**	*
99.9% CI	[.0292; .5299]	[-.2669; .0704]	[.0288; .2569]	[.0408; .5756]	[-.1137; .4219]	[-.2264; .0374]	[-.0024; .2422]	[-.1349; .5103]
99% CI	[.0882; .4447]	[-.1897; .0322]	[.0395; .2138]	[.0977; .5026]	[-.0445; .3428]	[-.1684; .0196]	[.0152; .1915]	[-.0182; .3789]
95% CI	[.1288; .4004]	[-.1535; .0096]	[.0518; .1817]	[.1509; .4532]	[.0009; .2891]	[-.1324; .0043]	[.0285; .160]	[.0253; .3301]
LINK								
Estimates	.281	-.028	.071	.324	.164	-.016	.041	.188
Sig. level	***	ns	***	***	**	ns	*	**
99.9% CI	[.0653; .5633]	[-.1854; .0873]	[.0064; .2374]	[.0559; .6018]	[-.0276; .4987]	[-.1436; .0455]	[-.0401; .1572]	[-.0141; .4918]
99% CI	[.130; .4920]	[-.1373; .0567]	[.0182; .1847]	[.1469; .5338]	[.0119; .3978]	[-.1140; .0265]	[-.0159; .1225]	[.0338; .4127]
95% CI	[.1612; .430]	[-.1082; .0321]	[.0287; .1463]	[.1907; .4695]	[.0466; .3317]	[-.0833; .0119]	[.0010; .1022]	[.0693; .3511]

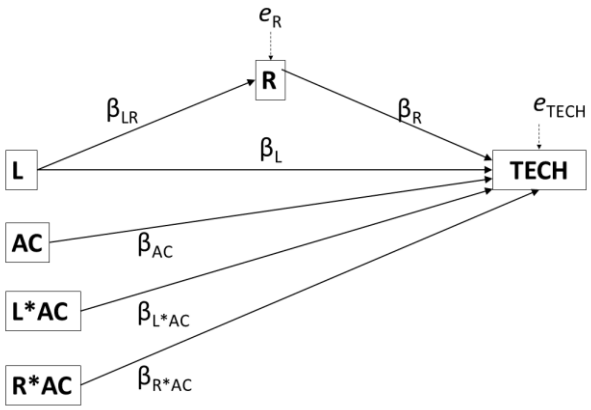
Note: Significant levels at ***p < .001, **p < .01, *p < .05, ns: not significant

Appendix O Testing the Conditional Indirect and Total Effects of Exploitation Strategy on Technical Capability through Exploration Strategy by Absorptive Capacity

This appendix examines whether the total effect and the mediation effect between exploitation strategy and technical capability through exploration strategy are moderated by absorptive capacity. This test involves the investigation of conditional process analysis or moderated mediation effect (Preacher et al., 2007).

Following testing procedures suggested in the literature (Hayes, 2013), the moderation effect for the mediation link was first examined to check whether the mediation effect of exploitation on technical capability is contingent on absorptive capacity. Subsequently, various values of absorptive capacity are employed to test for the significance range of the moderated mediation effect if it exists. A statistical model is developed (Figure N.1) to assist the testing procedure as suggested by (Hayes, 2013).

Figure O.1: The Statistical Diagram to Examine the Moderation Effects



The equations corresponding to the model in statistical form are estimated as:

$R = \beta_{LR}.L + e_R$

$TECH = \beta_L.L + \beta_R.R + \beta_{AC}.AC + \beta_{L*AC}.L.AC + \beta_{R*AC}.R.AC + e_{TECH}$

where e_R and e_{TECH} define the error terms for exploration strategy and technical capability

When R is replaced by $\beta_{LR}.L$, the above formula can be rewritten as:

$TECH = \beta_L.L + \beta_R.(\beta_{LR}.L) + \beta_{L*AC}.L.AC + \beta_{R*AC}.(\beta_{LR}.L).AC + + \beta_{AC}.AC + e$

Elements of the above formula can be rearranged as follows:

$$TECH = [\beta_L.L + \beta_{L*AC}.AC.L] + (\beta_R.\beta_{LR}).L + (\beta_{R*AC}.\beta_R.\beta_{LR}).\ AC.L + \beta_{AC}.AC + e$$

$$= [\beta_L + (\beta_R.\beta_{LR})].L + (\beta_{L*AC} + \beta_{R*AC}.\beta_R.\beta_{LR}).AC.L + \beta_{AC}.AC + e$$

From this formula, the moderation effects of exploitation strategy on the direct, mediation, and total effect of exploitation strategy on technical capability are estimated as:

moderated direct effect: $\beta_L. + \mathbf{\beta_{L*AC}}.AC.$ (i)

moderated mediation effect: $(\beta_R.\beta_{LR}) + \mathbf{(\beta_{R*AC}.\beta_R.\beta_{LR})}.AC$ (ii)

moderated total effect: $[\beta_L + (\beta_R.\beta_{LR})] + \mathbf{[(\beta_{L*AC}) + (\beta_{R*AC}.\ \beta_R.\beta_{LR})]}.AC$ (iii)

The three moderation effects can be claimed when the coefficients related to the moderation effects of absorptive capacity (bolded elements) are statistically significant. For this study, the significance of these three moderation effects is examined using the bias-corrected bootstrapping technique with 5,000 resamples. As can be seen from Table N.1, all the three moderated effects are significant.

Table O.1 Moderated Effects of Exploitation Strategy on Technical Capability

	Moderated direct effect	Moderated mediation effect	Moderated total effect
Estimate	-.238	.060	-.178
Sig. level	**	*	**
CI 99.9%	[-.5360; .0250]	[-.0350; .3159]	[-.4816; .0265]
CI 99%	[-.4580; -.0360]	[-.0063; .2254]	[-.0239; -.0221]
CI 95%	[-.4040; -.0830]	[.0139; .1553]	[-.3251; -.0593]

Note: CI: confidence intervals
Sig. level: significance level at ***p < .001, **p < .01, *p < .05

However, even when the estimates are statistically significant, they may not be significant for all values of absorptive capacity (Bauer & Curran, 2005). Therefore, examining values of absorptive capacity where the moderations occur is necessary. To examine the significance range of the moderated effects, the current study follows the pick-a-point approach, by which various values of absorptive capacity are plugged into formula (i), (ii), and (iii) to identify the significance range of the estimates. Six values of absorptive capacity at -1, 0, and 1, and values of 1st, 2nd, and 3rd quartiles are employed to investigate the significance range of each moderation. When the significance ranges of the moderated effects are determined, different values of absorptive capacity within

these ranges will be used to demonstrate the moderation effect of exploitation strategy on technical capability at different levels of absorptive capacity.

Consistent with the results of the analysis on the moderation effects in section 4.3.2.2.3, the significance range of the negative moderation effect on the direct link of exploitation strategy on technical capability is approximately at or higher than 0. Meanwhile, the mediation effect of exploitation strategy on technical capability is found to be positively moderated at all selected values of absorptive capacity (see Table N.2). On the other hand, the moderation effect for the total effect is not significant at any of the selected values of absorptive capacity. These findings indicate that exploitation strategy exerts more influence on technical capability through exploration strategy when there is an increase in absorptive capacity. On the other hand, when absorptive capacity is at medium or high levels, the direct effect of exploitation strategy on technical capability is reduced if there is an increase in absorptive capacity. These two competing mechanisms probably offset each other as an increase of absorptive capacity is not observed to moderate the total effect of exploitation strategy on technical capability.

Table O.2 Significance Ranges of the Moderated Effects at Various Values of Absorptive Capacity

AC value	Moderated direct effect		Moderated mediation effect		Moderated total effect	
	CI LL 95%	CI UL 95%	CI LL 95%	CI UL 95%	CI LL 95%	CI UL 95%
-1.000	-.349	.207	**.117**	**.590**	-.094	.468
-.674	-.407	.141	**.105**	**.477**	-.148	.413
.000	**-.555**	**-.002**	**.133**	**.543**	-.291	.342
.326	**-.648**	**-.030**	**.146**	**.588**	-.368	.319
.761	**-.785**	**-.053**	**.165**	**.660**	-.483	.387
1.000	**-.865**	**-.057**	**.173**	**.715**	-.547	.374

Note: CI LL 95%: lower limit of confidence intervals at the 95% confidence level
CI UL 95%: upper limit of confidence intervals at the 95% confidence level

The moderation effect of absorptive capacity on the link between exploitation strategy and technical capability is displayed in Figure 4.6. Meanwhile, Figure 4.9 presents the moderated mediation effect of absorptive capacity of exploitation strategy and technical capability.

Appendix P The Impact of Exploitation and Exploration Strategies on CMEs' Export Performance

Influences	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Exploitation Strategy											
Low profitability	x	x	x	x	x	x	x	x	x	x	. *"In fact, we did not reduce production, quantity actually increased, but because we returned to working more CMT, our export revenues reduced." (Firm 1)* . *"Our earnings were so small. They only allowed us small earnings for our production work. It was just enough for us to survive." (Firm 7)* . *"Our pricing covers all the cost, but allows us a very small margin" (Firm 10)* . *"The reason is simple, FOB is more profitable. We earned little from CMT, while we can have a little bit more on the materials with FOB." (Firm 4)* . *"We were making small profits on the production. Until 2003, we realised that we were working for others, helping others become rich while we only earned enough for our living and could rarely save up any money for ourselves." (Firm 5)* . *"They know our costs and our margins." (Firm 1)* . *"When undertaking processing jobs, the buyer watches our costs closely. They know our cost structure precisely, wages, production, fabrics, and materials. If we want them to raise the price by 15%, they will tell us that that is the price they are already paying Bangladeshis firms, so we need to sort it out ourselves." (Firm 2)* . *"Our pricing covers all the cost, but allows us a very small margin." (Firm 10)*
Dependent on buyers							x			x	. *"We depend on buyers in several aspects. We need to follow their specifications strictly. When they tell us where to get the materials, we need to go to that place, and no others." (Firm 7)* . *"Being small like us, we have fewer options and need to depend on buyers." (Firm 10)*

Appendix P (Cont'd)

Influences	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Less risk/Stable earnings	x		x						x		. *"We got orders frequently. Old buyers helped us to get to new buyers. We never worried about getting orders and never thought of building our own brand. Back then, we were known as a processing company, mainly to help creating jobs. Indeed we were." (Firm 3)* . *"We keep the easy work as our basic operation so we can have a stable profit. Hard orders are to learn." (Firm 9)* . *"However, to reduce risks during the time of economic crisis, we strategically switched back to CMT." (Firm 1)*
Exploration Strategy											
Better earnings	x	x	x	x	x	x	x	x	x	x	. *"It helps us gain more value from the sourcing of materials." (Firm 1)* . *"Our core business has been men's suits shirts. But now we've shifted toward women […] Profits from women's products are high due to short fashion cycles." (Firm 1)* . *"The value-added from designing work is very high." (Firm 1)* . *"I think that we would have not made this much profit if we had not gone into FOB." (Firm 5)* . *"I mean when doing ODM the profits will be higher, so will risks." (Firm 5)* . *"If we do the FOB, we can make some profit on the materials." (Firm 8)*
Stronger growth	x										. *"We cannot have strong growth if we stay working as CMT or FOB." (Firm 1)*
Higher risks					x			x			. *"Doing FOB poses some risks in sourcing the materials. We need to meet the quality and standard required by the buyers. We mostly export to Europe and America so there are high requirements to meet." (Firm 8)*

Appendix P (Cont'd)

Influences	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Better interfirm balance	x	x		x							. *"When we become their key vendor, the relationship becomes more like a partnership." (Firm 2)* . *"Actually buyers need us more than we need them. We have our reputation and it takes lot of time and investment to build such factories. We have skilled workers and can service large orders. So we're quite well-known. Buyers are assured about quality when they come to us. So actually, they come to us, rather than us reaching out for them." (Firm 4)*

Note: CMT: Cut-Make-Trim, referring to CMEs providing assembly service
FOB: Free on Board, referring to CMEs providing full-package service
ODM: Original Design Manufacturing, referring to CMEs providing owned-designed products
OBM: Original Brand name Manufacturing, referring to CMEs selling own-branded products

Appendix Q The Impact of Exploration Strategies on Firm Capabilities

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Critical role of capabilities	x	x	x	x	x	x	x	x	x		. *"When you know the rules of the game, you can build a system to deal with them." (Firm 2)* . *"I realise there are many opportunities with higher involvement. I don't think there is a limit. It is a matter of competencies and how good our services are." (Firm 2)* . *"At the beginning, we tried to seek 1 or 2 new buyers, who would test us for a whole year. Their concerns were product development ability, worker skills, and the production system. When we pass all their evaluations, we receive new orders. When we become better, this testing time can be reduced. Now it only takes us 3 to 4 months to get a new buyer." (Firm 2)* . *"I think the management system plays the most important part. Second is the workforce […] When we talk about management capabilities, we also refer to maintaining and seeking out customers as well as planning and monitoring production." (Firm 4)* . *"We simply need to learn bit by bit every day to improve our management." (Firm 3)*
Recruiting experts	x	x	x		x			x			. *"This designer previously worked for our buyers. And now we have employed them. So they are basically doing what they did before. So we can be fast in getting customers." (Firm 1)* . *"We need to hire foreign designers. They are our opportunity." (Firm 2)* . *"Currently, we hire five foreign experts. Their responsibilities are to ensure the quality of fabrics and materials, and communicate with buyers. We have four Japanese experts, they take care of technical issues in production. The other one is German. He is in charge of managing the suit business, because we export suits to Germany. We need him for his knowledge of the culture and consumer preferences in this market." (Firm 3)*

Appendix Q (Cont'd)

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
											. *"There are two designers working there [in the firm's foreign representative office]. (Firm 5)* . *"We hired a German designer. He attended trade fairs, created a number of designs. But I see the buyers can only choose 20% of what he offered. After all, the investment in the designing work has not been effective." (Firm 8)*
Experts help building up capabilities by training local staff	x	x	x								. *"Under his management, he trained our staff through human empowerment. Right now, this department can run smoothly even when he is not around. We operate in a developing country and we can have a team with practical international knowledge and skills." (Firm 1)* . *"He helps to train our teams. Our firm is Vietnamese, but it can be considered a global firm." (Firm 2)*
IT capability	x	x	x	x	x	x	x				. *"IT is one of the capabilities you really need when you grow." (Firm 2)* . *"[IT is] very important. We are controlled by our IT system." (Firm 4)* . *"We are thinking of using ERP [enterprise resource planning]. We feel that we need it [IT system] because the selling of our branded products requires us to be masters in every stage." (Firm 7)* . *"We are going to implement ERP. I hope to use SAP." (Firm 2)* . *"We have built up a rich database of suppliers. These suppliers are willing to offer us good prices. So when the design team inquiries about specific fabrics, they can quickly retrieve the information." (Firm 5)*
Technical capability											
Technical skills	x	x	x		x	x			x		. *"I found that we need to be more active… we should serve them right at the product development stage. We need to build up a team of domestic and foreign designers." (Firm 2).* . *"No firm in Vietnam outperforms us in waxing techniques for making jeans. This is because we can apply technology from our buyers and we have invested in modern technology." (Firm 2)*

Appendix Q (Cont'd)

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
											. *"This requires that the technical staff have good knowledge and skills. It is required to have a committed, skilful technical team who are competent in communicating in foreign languages to deal with buyers. It is easy to have a technical team. Every company does. But having a competent team is a real challenge." (Firm 5)*
											. *"Our principle is slow but firm. We don't go for quantity which we could not control. We can control things at this size. If we expand too much, the quality will decrease." (Firm 3)*
											. *"There are not many differences when moving from processing to making designs, except for higher requirements for the account managers. The account manager needs to pay more attention to projects that require some design work." (Firm 9)*
Production system and facility	x	x	x	x	x				x		. *"I want to strengthen our brand. And the brand will have to be based on production. We need a good, skilful workforce and a good facility for production. We need to have more automation for our manufacturing. I really want to improve our production capability in this aspect." (Firm 3)*
											. *"We need to build our reputation on quality and production." (Firm 4)*
											. *"They send experts from France at our cost. They instructed us on technical issues to fit their system. Before, we followed the Japanese system." (Firm 3)*
Marketing capability	x	x	x		x	x	x		x		. *"The first action was to register our brand. I hired experts to create our logo, many things need to be done. Then we started production and ran our marketing programs." (Firm 7)*
											. *"So for us, except for the designing, the ODM and FOB are quite similar in all other aspects, especially in marketing capabilities." (Firm 1)*
											. *"ABC is our own brand. So we need to do it ourselves. We set up our own system. We are well prepared regarding the production capability. But we have to build up our own marketing abilities. No one helps us on*

Appendix Q (Cont'd)

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
											that function. We need to build a program to train our staff to serve customers in our way. It largely depends on the manager." (Firm 3)
											. *"Our strength is production and we can reach customers directly. Their strength is marketing capabilities. So we come together. From our side, we want to avoid risks and capitalise on their marketing capabilities." (Firm 5)*
Knowledge of customers	x	x	x		x	x	x		x	x	. *"It is not introducing product lines, but brand solutions. The whole marketing team needs to work on new brands. They need to get online to understand the brand's target customers. Then they can fly to Hong Kong, buy the products and conduct some research on the materials, on buyers' concepts and their styles. What detail they put on jeans, for example. Then they can make some designs. At the beginning the goal is to make something similar to the existing products and later add or modify the details. After that, we go to the buyers and present our designs. They don't know our designs. We need to show them and tell them why we think our designs suit their brands." (Firm 2)*
											. *"He was our client. He has a great understanding of our buyers. What he creates will be in line with our buyer's needs" (Firm 2)*
											. *"We cannot get an order if we don't understand them." (Firm 10).*
Market-linking capability											
Linking with customers and ability to retain customers			x					x	x		. *"I think our strength resides in the cooperation with buyers." (Firm 8)*
											. *"We have drop boxes at every store to collect customer feedback. If they are not satisfied, we will try to improve." (Firm 3)*
											. *"After dealing with us for a while, one of our buyers switched to China. They were happy with us but they made their decisions based on costs. I found out when I went to China to visit some factories and I saw their products being made there. For Chinese firms, the order is done when they ship the products. They would not fixing issues if they arise.*

Appendix Q (Cont'd)

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
											So I saw our buyer come to their Chinese factories, uncover 300 chairs and fix the mistakes himself. - *Interviewer: Did the buyer return to you?* - *Respondent: Yes, they did. And obviously the Chinese firm could not stand behind their products.* *(Firm 9)*
Linking with suppliers			x		x			x			. *"You need to do it yourself if you want to do FOB. It is probable that many companies out there cannot source materials. The key is having the capabilities to source them. We have to find suppliers with good quality and good price. We can borrow money from banks if we are short of capital. Money is not the reason why many companies haven't opted for FOB. It is the skills and knowledge of the staff." Firm 5)* . *"We want to increase our ability in sourcing materials" (Firm 8)*
Market-sensing ability	x	x	x	x	x				x		. *"They need to see what colour will be the theme for next year." (Firm 5)* . *"When they attend trade fairs, they need not only to sense the output market, but also the input market. If we only stayed here and received orders from buyers, we would be well behind the market. Market trends for 2016 can be introduced now in international trade fairs. So it is very helpful that we attend trade fairs. It's even better if there are fashion shows that are organised there." (Firm 6)* . *"However, when we run the baby furniture business, we need to have more preparation, on technical issues and especially on production forecast. We face much pressure when dealing with retailing. For example, if we receive an order, we will need to deliver next week. We cannot tell customers to wait for three months. So we need to make a forecast of how many items can be made in advance." (Firm 9)*

Appendix Q (Cont'd)

Capabilities	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Absorptive capacity	x	x	x	x	x	x	x	x	x	x	. *"Generally, new trends start in Italy. They will come to Vietnam after 2 years and always reach large cities first. So we can learn from their designs for this year and make products for next year in our market. They're actually willing to share and don't try to prevent us from using their designs." (Firm 7)* . *"In my firm, I always demand that staff have a learning attitude […] After all, those who are willing to receive new knowledge often perform well." (Firm 8)* . *"As leaders, we have to learn ourselves, and we encourage our staff to learn." (Firm 3)* . *"Our staff can learn and develop themselves." (Firm 1)* . *"That's their job. They'll be eliminated if they don't do it [acquiring new knowledge]. To survive, they must learn." (Firm 4)* . *"We need to be open to new things. We cannot be rigid and just order workers to do it our way. When workers come and tell me that they see people are doing things differently out there, I am willing to consider and apply this knowledge if it suits us." (Firm 10)* . *"I think the marketing department is doing a great job in acquiring knowledge from the environment." (Firm 6)* . *"And now we apply the same method for our current suppliers. We keep increasing the quality standards for our materials." (Firm 3)* . *"If we copy their [buyers'] instructions, we can make good products and increase our worker skills." (Firm 8)* . *"People from all departments need to discuss and make proposals for changes." (Firm 5)*

Appendix R The Impact of Firm Size on Export Performance

Firms	1	2	3	4	5	6	7	8	9	10	Illustrative quotes
Receiving large orders	x		x	x	x	x			x	x	. *"With this capacity, we have the right to choose customers. Larger buyers often come to larger manufacturers." (Firm 1)* . *"We started in May 1992 at that size. In the following year, we started to receive orders from Japan just by word-of-mouth. We invested in expansion every year, to the point where we were then able to fulfil large orders." (Firm 3)* . *"We have our reputation and it takes lot of time and investment to build such factories." (Firm 4)* . *Small companies could not compare with large ones." (Firm 5)* . *"If you look around at other firms, only large companies can survive and get orders from international buyers. Small companies are facing tough times now. Only large firms can succeed in this industry." (Firm 6)* . *"At this size, we can choose orders of mass production." (Firm 9)* . *"If larger buyers come here, they never pay attention to small manufacturers. Larger buyers always look for large manufacturers." (Firm 10)*
Production effectiveness	x				x						. *"For a factory of 1,000 labourers, there is only one director, 1 accountant, 1 technical manager. If you are short of labour, let's say only 700, 30% of the workforce, the cost remains the same to run the factory. If there are not enough workers, we cannot survive." (Firm 1)* . *"I have more than 3,000 workers now divided into three factories, 1,000 workers each. That is ok. If I break them down into factories of 300-500 workers, it is not effective." (Firm 5)*
Better quality				x						x	. *"We have skilled workers and can serve large orders. So we're quite well-known. Buyers are assured about quality when they come to us. Actually, they come to us, rather than us reaching out for them." (Firm 4)* . *They are large in several dimensions, such as financial strength and workforce. They have more money and more workers. They also often have better product quality." (Firm 10)*

Appendix R (Cont'd)

Firms	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Illustrative quotes**
Small firms lack the ability to serve international buyers	x									x	. *"There a numerous small-sized factories out there, at 1,000 workers or less. They are quite small and they probably don't have the skills to do international trade, negotiations and to receive payments from abroad. So it's probable that they will work with us." (Firm 1)* . *"We keep the machines and tools updated. We really need to improve our machinery for more automation. Productivity is much lower when we work by hand. You can only make a few items, whereas it's possible to make hundreds of items when you have sufficient tools." (Firm 10)*

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