# The Impact of Innovation Capabilities and Institutional Distance on Competitive Advantage and New Export Product Performance

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# Abstract

New Export Product Performance is an unexplored dimension of export performance given the rapid change in technology and markets that the firm face. Drawing on export performance and innovation literature, this study focusses on how firms can employ innovation capabilities, that is, the technological capability and new product development capability, which can best improve competitive advantage and new export product performance. Despite the exponential growth of studies focusing on export performance, the literature has not focused on new export product performance. In the current study, new export product performance conceptualized as the performance of new or/and significantly improved product(s) created for export only.

Based on The Resource-Based View and Institutional Theory, we develop a model to investigate the role of innovation capabilities on the firm's new export product performance. Accurately, this model depicts the consequence of innovation capabilities and focuses on the relationship among innovation capabilities, competitive advantage, and new export product performance. In addition, how institutional distance moderates the relationship between innovation capabilities and competitive advantage. Based on a survey of 218 UK-Based exporting organizations.

The findings indicate that some UK exporting firms tend to develop new export products with a tremendous competitive advantage. The study further focuses on how institutional distance and competitive advantage constructs interact to create new export product performance. Findings also suggest that institutional distance has a negative and a positive moderating impact on competitive advantage. By further examining the moderating effects of institutional distance on the link between innovation capabilities and competitive advantage, the analyses reveal the different scenarios in which the benefits of innovation capability firms may outweigh its implementation cost.

This study makes important contributions. 1. Highlights the important new export product performance construct. 2. Extends the RBV discuss by revealing the exact mediating effect of cost and differentiation competitive advantage on the innovation capabilities – new export product performance relationship. 3. Reveals the moderating effects of regulatory, normative, and cognitive institutional distance on the link between innovation capabilities and competitive advantage. 4. The analysis in this study reveals the different scenarios in which export related innovation capabilities benefits exporting firms that create new products for exports only, and this has practical implication.



**Keywords:** Innovation Capability, Technological Capability, New Product Development Capability, Competitive Advantage, New Export Product Performance.

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# Declaration

I, the author of this thesis, declare that this thesis is the result of my own work. The material contained in this thesis has not been formerly published nor submitted to any other institution. The copyright of this thesis shall remain with the author, hence acknowledgment related to any information derived from it should be noted. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

Israa Daoud

PhD Candidate

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# Dedication

I dedicate this thesis to my family for their love and support.

# Chapter One: Introduction

## 1.1 Introduction to Research Background

Export performance is of paramount importance to business organizations as it helps firms to safeguard their market position and increase their likelihood of survival (e.g., Leonidou, Katsikeas, & Samiee, 2002). Due to the increasing global competitiveness, export operations have become a significant model of international market entry (Leonidou et al., 2002; Morgan, Kaleka, & Katsikeas, 2004). Consequently, export researchers have focused on understanding the export performance construct (e.g. Chen, Sousa, & He, 2016; Katsikeas, Leonidou, & Morgan, 2000; Sousa & Bradley, 2008; Zou & Stan, 1998a) and its determinants (e.g. Cavusgil & Zou, 1994a; Katsikeas, Samiee, & Theodosiou, 2006; Morgan et al., 2004). Nevertheless, despite the fact that the export performance construct is well researched, "o*ne limitation of the* existing *studies, however, is that typically they do not distinguish between new and existing exports."* (Cirera, Marin, & Markwald, 2015, p. 1962).

Firms cannot rely only on new products created for use in the domestic market for export success (Castellani & Fassio, 2019). Increasingly, they must look beyond existing new products (*which might satisfy domestic markets but fail to meet foreign market needs/wants*), to new export products (*explicitly created for overseas markets)* if they are to realize the full potential for export performance. As firms strive for success in the export marketplace, they respond to local differences in preferences (McDonough III, Kahn, & Barczak, 2001), regulatory requirements, and sometimes political pressures to create ''local content'' (Gassmann & Keupp, 2005). Products designed for only the domestic market, and later adjusted and sold to the nearest neighbor export markets, might not be enough (Cooper, 2019). The magnitude of the differences between international/export new products and domestic products is striking: 2 or 3:1 on various performance gauges (Cooper, 2019).

The reason is that export markets demand an export innovation culture and a global/export innovation strategy (De Brentani & Kleinschmidt, 2015). To limit new products to the domestic market and a few nearby convenient countries severely limit export opportunities. For maximum success in new product innovation, the objective must be to design for the export market and market to the export market.

Despite the importance of new products made especially for foreign markets (Castellani & Fassio, 2019), the new export product performance dimension is often overlooked or, if included, is handled as export performance. Thus, there is little empirical evidence on the performance of new export products that have never been exported before. In this thesis, we focus on "new export product performance". It is conceptualized as the performance of new or significantly improved products made specifically for export markets. New export product performance represents an accurate reflection of the commercial value of an export firm's activities of new export product. Most innovations do not influence performance until they are launched in the market. Therefore, in this study, similar to the new product introduction construct used commonly as a proxy for firms' innovation performance[1] (OECD, 2005), new export product performance is the performance of new or/and significantly improved product(s) created for export only. For this study, new export product performance is measured by a three-item scale indicate how satisfied managers with new export product market share, sales volume, and profitability.

While recent studies have referred to the introduction of new products (new to the country or the firm) for export as export diversification (Castellani & Fassio, 2019; Cirera et al., 2015), in this research the focus on the performance of newly produced export products as a dimension of export performance. We argue that it is crucial to distinguish between new

[1] Formally, new product innovations are defined as goods or services that are new or significantly improved in terms of characteristics or intended uses (Organization for Economic Co-operation and Development, 2005).

products innovated by a firm for both home market and foreign market and products innovated by a firm for only the export market when assessing export operations. This is because firms need to prioritize how to allocate their resources and capabilities for optimal performance.

Due to the importance of exporting to the competitiveness of firms and countries (Anning-Dorson, 2018; Leonidou, Katsikeas, Palihawadana, & Spyropoulou, 2007), is necessary to study and better understand the factors that increase the firm's effectiveness of new products for export markets only, and which contribute to the success of international activities of exporting firms (Morgan, Vorhies, & Schlegelmilch, 2006). According to the resource-based view (Barney, 1991; Brouthers, Brouthers, & Werner, 2008), exporting firms perform differently because they control different resources and capabilities. Distinctive resources and capabilities enable firms to achieve new and innovative ways of competitive advantage and thus a greater performance in export markets (Kaleka, 2012; Lages, Silva, & Styles, 2009). Previous studies identify several resources and capabilities as determinants of export performance (Chen, Sousa, et al., 2016; Kaleka, 2012; Sousa, Martiez‐Lopez, & Coelho, 2008). However, the literature does not provide agreement about the resources and capabilities that are most relevant to exporting firms (Chen, Sousa, et al., 2016; Sousa, Martiez‐Lopez, et al., 2008), and often describes contradictory conclusions about their influence on export performance (Chen, Sousa, et al., 2016).

These insights guide the current study, which seeks to identify the key resources and capabilities that UK manufacturing exporting firms must use and develop in order to improve their new export product for export market effectiveness. This is a key issue for firms, in general, and managers, in particular. By understand what kind of resources and distinctive capabilities lead to better effectiveness in export markets, firms may increase their export

market share, export sales revenue, the acquisition of new export customers and the sales volume to current export customers (Morgan et al., 2006).

Within international markets, firms face a constantly changing environment, with an increasing global competition, shorter product life cycles, easy imitation of product innovations, and rapid technological changes (Roper & Love, 2002; Tan & Sousa, 2015). In this context, innovation capability is a critical factor for the competitiveness of international manufacturing firms (Lisboa, Skarmeas, & Lages, 2011; Vicente, Abrantes, & Teixeira, 2015). Innovation capability increases the ability to respond to markets' changes (Danneels, 2002), allowing firms to achieve and sustaining competitive advantage (Weerawardena & O'Cass, 2004), and thus to improve performance in international markets (O'Cass & Weerawardena, 2009; Vicente et al., 2015). Despite the growing importance and increasing research on innovation capability (Vicente et al., 2015; Zhang, Garrett-Jones, & Szeto, 2013), studies that investigate which elements integrate innovation capability in the export markets field are very scarce (Tomiura, 2007). In addition, most of these studies focus on the innovation (e.g., Cassiman & Golovko, 2011). Therefore, it is important to identify the key components of the innovation capability of exporting firms, in order to develop strategies more effective for the new export product performance and ensure the firms' success in foreign markets (Akman & Yilmaz, 2008).

The resource-based view (RBV) theory analyses capabilities by which exporters acquire and deploy innovation resources as the key to explaining performance differences in the same industry (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997). The elements that are essential for developing exporting firms' innovation capability have not been fully exploited. Understanding the multidimensional nature of innovation capability is helpful in identifying the key elements that represent the exporting firms' overall ability to produce new export product and achieve superior international performance.

Innovation capability is the firm's capacity to develop new products for export, through the combination of innovative behaviours, strategic capability, and internal technological processes (Wang & Ahmed, 2004). Firms create innovative, differentiated, and high quality products that enable them to increase performance in export markets (Dibrell, Craig, & Neubaum, 2014). In line with the above, product development, and technological capabilities are key competencies to produce new export product and achieve superior performance in export market.

Furthermore, The study of export in the international business, and marketing has been influential in the increase of commercial transactions between countries (Chen, Sousa, et al., 2016; Sousa, Martiez-Lopez, et al., 2008). Scholars over the years have taken in charge the study of distances between countries and developed theories to explain firms' strategic behaviour across borders and how to facilitate operating overseas. Institutional Theory (IT, hereafter), as one of the most paramount theories in international management, arose in the United States when scholars during the 1970s recognized that organizations cannot be explained without the understanding of wider environmental forces (Lammers & Garcia, 2017).

Some studies have presented contradictory relations of the influence of variables on export performance, because of the different conditions of each review, in the marketing and international business field (Kostova et al., 2020; Sousa, Martiez-Lopez, et al., 2008). Several studies have used the resources and capabilities view to successfully explain a high export performance (e.g., Krammer, Strange, & Lashitew, 2018). Few studies have utilized institutional variables as essential factors of export performance, although it is a crucial variable (He, Brouthers, & Filatotchev, 2018; Meyer, Estrin, Bhaumik, & Peng, 2009).

Institutional distance is mainly concerned with the institutional environments as it represents the dissimilarity between countries besides the ability to measure this contrast, by providing

many indices such as Scott's (1995) three pillars of the institutional framework (regulative, normative, cognitive). The substantial importance behind ID is allowing firms to make different decisions on the international level. Xu and Shenkar (2002); and Gaur and Lu (2007), have argued that institutional distance has implications for strategic decisions in international business. Studies that used ID dimensions have been always focusing on their impacts on firms operating or willing to operate across borders, because this latter explains the environment by which firms engage in, using the principle of comparing and calculating the dissimilarities ratios between environments through analysing the institutions and isomorphism levels, thence using the results to enhance the decision-making process, and decrease the unfamiliarity in a given context. The rewards behind aligning within the institutional context are gaining legitimacy, resources, stability, and better survival chances, (Meyer & Rowan, 1977), thus achieving competitive advantages, because as (Cos, Colom, & Cabasés, 2019) demonstrated, firms by expanding their operations globally and exploit their core competencies in a good way can leverage their competitive advantages.

Therefore, we explain the study of the innovation capabilities with the implementation of competitive advantage to achieve an excellent new export product performance with external variables, such as institutional distance.

## 1.2 Contextual Research Background and Research Rational

The contextual interest for the current study included export manufacturing and high-tech firms around the United Kingdome. The importance of manufacturing and high-tech industries in the UK economy is undeniable, manufacturing firms accounting for 50 per cent of exports with three million jobs (14 per cent of the workforce) and £152bn of output (per cent of GDP compared to 13 per cent in manufacturing industry (WEF, 2010). In 2009, UK exports of goods produced by the manufacturing sector totalled some £205bn in 2009, representing around 53% of total UK export by value. The UK exported £141 billion of

goods and services to the US in 2019, 21% of all exports. This was more than double the value of exports to Germany, the UK's second largest export market (£56 billion). 11 of the UK's top 25 export markets in 2018 were EU member states, as were 11 of the top 25 countries from which the UK imports.

Trade with China has expanded rapidly in recent years. China now accounts for over 7% of UK imports compared with 2% in 1999 and is the UK's fourth largest source of imports. The UK exported £30 billion of goods and services to China in 2019 making it the UK's sixth largest export market.

Additionally, High-tech industries have a substantial economic impact, fuelled both by large Research and Development spending, and a higher than industry average sales growth. Firms operating in high-tech industries are often with few products and services in the market, as substantial investments are often required to develop the services and products, and therefore it is not just important to have a high market success rate, but it is even more important to have higher financial performance. Developing innovative new products are the fundamental means by which a firm can achieve competitive advantage (Porter, 1985).

Therefore, manufacturing, and high-tech industries represent a significant volume of UK export trade and are particularly important for medium and large-sized exporters.

## 1.3 Research Gaps

In this section, the potential research gaps are outlined and explained.

First, existing studies do not distinguish between new and existing products to exports. Export performance is usually evaluated as the propensity to export existing products or to enter new export markets (see Estrada & Heijs, 2006 for a review ). However, new export product performance is a rarely explored dimension of export performance: this is the propensity of firms to introduce new products intended only for export. Such gaps in knowledge cause concern, considering the widespread pressure for companies to compete on

a worldwide basis by developing new products for export markets (Castellani & Fassio, 2019).

Second, limited empirical research has focused on firms' ability to leverage innovation capabilities into a competitive advantage (Weerawardena & Mavondo, 2011). Although several studies have examined the importance of competitive advantages, most of these researchers have not focused on innovation capabilities as a critical determinant of competitive advantage. Also, prior research has not investigated which innovation capabilities firms should develop to gain different kinds of competitive advantage (i.e., low-cost advantage and differentiation advantage). There is a chance that some capabilities are less critical than others for the development of certain kinds of competitive advantages (Ferreira, Coelho, & Moutinho, 2020). In this case, previous studies provide limited insights into the fine-grained relationship between innovation capabilities and competitive advantage.

Third, very few attempts have been made to capture the relationship between competitive advantage and performance in their research model. In the literature, competitive advantage has been used interchangeably with performance, although both constructs are conceptually different (Newbert, 2008). This discussion has continued in the export performance field (Keskin et al., 2021; Martin, Javalgi, & Cavusgil, 2017; Pham, Le Monkhouse, & Barnes, 2017; Tan & Sousa, 2015). This research gap is attributed in part to the disagreement exists in the literature regarding what constitutes competitive advantage. Albeit the substantial body of research aiming to address competitive advantage, there is no consensus on how it should be measured, often leading to the use of performance measurements to evaluate competitive advantage (Li & Liu, 2014) or to the use of the capabilities— performance linkage as the bases for researching capabilities' role while disregarding the function of competitive advantage (Sirmon, Hitt, Arregle, & Campbell, 2010). Yet competitive advantage is an

inherent aspect to the importance of dynamic capabilities (Teece, 2013) therefore research needs to address its role in the export context of new export product.

The theory of competitive advantage refers to a positional advantage over competitors derived from the exploitation of capabilities based on low-cost advantages and differentiation advantages (Day& Wensley, 1988). Alternatively, performance has continuously been considered in international business a unidimensional measure related to the economic value that is captured from the commercialization of firms' capabilities (Hult et al., 2008; Nguyen & Kim, 2020). In this research it is argued that competitive advantage is not equivalent to performance, and that performance is not a unidimensional economic value. According to Day and Wensley (1988) and Hunt and Morgan (1995), firms that obtain positional advantages are equipped to reap superior performance. For example, by reducing the cost of the delivered offering compared to the competitors' offerings, firms are likely to both attain higher profit margin and increase their profitability. Therefore, competitive advantage is best conceived as a potential antecedent of performance. Drawing from the RBV, we develop a novel framework to investigate the interplay among innovation capabilities, competitive advantage, new export product performance. By ignoring competitive advantage as a potential mediator in new product export performance relationships, these studies distort our understanding of what drives a firm's export performance (Piercy, Kaleka, & Katsikeas, 1998) and new export product performance.

Fourth, The major attention of existing research has focused on the relationship between institutional distance and strategic decisions including foreign entry mode choices (Hernández & Nieto, 2015), partner selection of international alliances (Krammer, 2013), the performance (He et al., 2018) and joint ventures (Lin & Wang, 2008), and management of foreign subsidiaries (Hitt, Li, & Xu, 2016). However, the impact of institutions on competitive advantage has received scant attention in international business research, and the

issue of cost and differentiation of competitive advantage is influenced by institutional distance is rarely touched upon in the extant literature. Moreover, previous studies have mainly examined institutional distance as a single variable but largely over looked the different impacts due to the formality of institution (Kostova et al., 2020). Institutions are the outcomes of social interaction and they exist in both formal (e.g., political and legal) and informal (e.g., cultural and social norms) systems (Wang, Shi, & Barnes, 2015). Formal institutions are explicitly set forth by a relevant authority and Informal institutions are generally unwritten societal rules, norms, and traditions (North, 1990). Institutional theorists have long been concerned with the negative influences of heterogeneous institutional environments on doing business and conducting innovation across countries (Chang & Ogasavara, 2019),but the extant literature is unclear regarding whether, and how, different pillars of institutions would have different impacts on international business strategies and performance. Although RBV claims that firm-specific resources/capabilities can provide sustainable competitive advantages to enhance firms' performance, some scholars argue that the contexts in which the resources/capabilities are embedded can affect the value of the resources/capabilities (Yi, Wang, & Kafouros, 2013). The three pillars of institutions are such a context; since export firms often operate between two institutional environments: the institutional distance influence on firm's resource based competitive advantage is deserving more academic enquiry. Given the above limitations, it has remained difficult to ascertain the value of innovation capabilities for a firm's competitive advantage, especially under different institutional distance.

## 1.4 Research Questions

This thesis fills the above gaps by addressing the following questions:

1. Do firms produce new/or significantly improved products for the export market only?

2. Does competitive advantage ((a) low-cost advantage, (b) differentiation advantage) mediate the innovation capabilities (technological capability and new product development capability), and new export product performance relationship?
3. Do regulative, normative, and cognitive institution distance moderate innovation capabilities (technological capability and new product development capability)-competitive advantage ((a) low-cost advantage; (b) differentiation advantage) relationship?

This thesis addressed these questions by using a sample of British export firms to explore the influence of export-related innovation capabilities (technological capabilities, and new product development capability) and institutional distance (regulative, normative, and cognitive institutions) on competitive advantage (cost leadership and product advantage) and new export product performance. Based on RBV, this thesis aims to investigate the different roles of innovation capabilities on competitive advantage and new export product performance and integrate RBV with institutional theory to explore the moderating effect of institutional distance on competitive advantage, based on differing innovation capabilities.

## 1.5 Research Contributions

By addressing the above issues, this thesis makes the following contributions.

The first contribution of this research is to highlight a dimension of export performance that has been under-researched "new export product performance". Existing research about innovation and export performance might benefit from distinguishing existing products from new export products as a measure of export performance. This study contributes to current research about innovation and export performance by introducing new export product performance, providing the first step in this direction. Export performance is established as "the extent to which a firm's objectives, both economic and strategic, concerning exporting a product into a foreign market, are achieved through planning and execution of marketing

strategy" (Cavusgil & Zou, 1994b). New export product performance is the performance of new or/and significantly improved product(s) created for export only. New export product performance is a good proxy for exporters' ability to continually introduce substantially new or/and improved products for the foreign market only.

Second, we expand on RBV in an attempt to address the call for a greater understanding of the sets of capabilities that underpin competitive advantage, followed by a more focused endeavor addressing the potential effect of innovation capabilities on competitive advantage and new export product performance. This study offers new theoretical insights by using the RBV and focusing on the relationship between innovation capabilities, competitive advantage, and new export product performance. Which innovation capabilities have a better chance of successfully generating low-cost advantage or differentiation advantage, and which competitive advantage has a better chance of yielding better new export product performance. In this case, firms could seek to match their innovation capabilities with their competitive advantage by either adapting innovation capabilities or adapting their competitive advantage.

We do not claim to focus on all relevant innovation capabilities, as many others could be considered. However, these have been identified as pertinent for international businesses to harness in competitive environments (Vicente et al., 2015) and are as yet untested as a set in international business research.

Third, we contribute to the literature by examining the relationship that exists between different sources of competitive advantage and new export product performance. While previous studies used competitive advantage and performance constructs interchangeably (Newbert, 2008), we adopt the theory of RBV to differentiate them and investigate their relationship. Specifically, we compare the importance of low-cost advantage vs. differentiation advantage in explaining the firm's new export product performance. This

comparison allows us to understand which of the competitive advantages (i.e., low-cost advantage or differentiation advantage) a firm should focus on to achieve better new product export performance. While a few studies have indicated that it is essential to differentiate between the two types of competitive advantages because they have different impacts on firm performance (Langerak, 2003; Murray, Gao, & Kotabe, 2011), this issue has been largely ignored in the literature.

The fourth contribution from this research is the emphasis on identifying the role of three pillars of institutional distance on moderating the relationship innovation capabilities and competitive advantage. Prior studies have pointed those capabilities that offer competitive advantages in one institutional context may not be valuable in another institutional context (Barney, Ketchen Jr, & Wright, 2011; Oliver, 1997; Peng, Wang, & Jiang, 2008). Since the institutional environment is different in each country, differences in institutions will influence the value of firms' capabilities, the competitive advantage, and then new export product performance. By exploring the moderators of these relationships, this study clarifies the institutional distance between UK and other countries that may alter the strength and direction of the linkages between innovation capabilities and competitive advantage. We respond to the institutional theory by highlighting the force of the three pillars of institutional distance upon the potential congruent between innovation capabilities and competitive advantage (Martin, 2014). This study enriches institutional theory by identifying and testing the different effects of the three pillars of institutions in moderating capabilities' impacts on competitive advantage: this is a knowledge gap that prior researchers have not filled.

## 1.6 Thesis Outline

To accomplish the above-mentioned research objectives, this study follows the research plan. First, a review of the ever-growing literature is provided with the view of aiding our understanding of role of innovation capabilities and competitive advantage to explain the firm's new export product performance. Pertinent literatures put

excessive emphasis on the concept of innovation as a means of surviving in highly competitive and dynamic environments. Since innovation capabilities are deeply embedded in organizations and have a high level of value, scarcity, inimitability, and non-substitutability, they should be considered as an essential determinant of competitive advantage. The aim of the literature review is to determine how much research has focused on new export product performance. Accordingly, this study draws on an examination of the two streams of literature: export performance and innovation literature. This thesis focuses on the role of innovation capabilities and competitive advantage to explain the firm's new product export performance.

Drawing on the conclusions of the literature review, and in line with the research objectives, in chapter three the conceptual model for the study is developed and the hypotheses are discussed in detail. Regarding the hypotheses, the primary focus is on the effect of innovation capability on new export product performance mediated by competitive advantage.

Chapter four explains the study's research methodology employed to test the conceptual model and the hypotheses. This chapter provides information on the choice of cross-sectional research design, the sampling procedures, data collection techniques, questionnaire design and administration procedures are presented.

In the next chapter (i.e., Chapter five), issues relating to questionnaire modification; characteristics of the respondents contacted; steps taken to ensure high response rate, survey bias assessment are discussed in detail, also Chapter five focuses on providing descriptive statistics of the firms that are studied and the general characteristics of the respondents are provided. In addition, the results of the Exploratory Factor Analysis are presented. This provides evidence of the validity and reliability of the information gathered. In chapter six, the results of the item assessment and the development of the key constructs used in this study are outlined. Therefore, the psychometric proprieties of the scales are assessed. The

primary focus in this chapter is to provide results of the scale reliability, unidimensionality and validity measures. The procedure applied and the strategy deployed to test the hypotheses is described in chapter seven. The evaluation of the measurement model and the hypotheses in this study are tested using the aid of Structural Equation Modelling (SEM). The structural equation model was tested in AMOS 24 using a Maximum Likelihood (ML) estimation technique. Finally, chapter eight presents the conclusion drawn from the results of this study. The primary focus of this chapter is to summarise the key findings related to the study's research goals. In addition, in this chapter, discussion of the theoretical and practical implications of the study is presented. Finally, the chapter concludes with an examination of the limitations of the study is highlighted while providing useful suggestions for future research.

# Chapter Two: Innovation Capabilities and its Relationship with Competitive Advantage and New Export Product Performance: Literature Review

## 2.1 Introduction

A large number of studies have highlighted the vital relationship between the ability of firms to continually introduce new products and their ultimate export success (Cassiman, Golovko, & Martínez-Ros, 2010; Dosi, Grazzi, & Moschella, 2015; Fagerberg, 1988; Lewandowska, Szymura-Tyc, & Gołębiowski, 2016; Wakelin, 1998). In today's turbulent competitive landscape, firms' ability to start exporting new products not available to the domestic market represents a crucial indicator of their competitiveness and ability to stay ahead of the competition in international markets (Cirera et al., 2015). Exporting firms need to constantly renew and adapt the portfolio of products that they sell abroad, by upgrading the quality of existing products, or by introducing new ones (Castellani & Fassio, 2019). Increasing globalization has made competitiveness essential for the survival of firms (Buckley & Ghauri, 2004). This competitiveness manifests itself when firms can gain a competitive advantage.

This thesis focuses on the role of innovation capabilities and competitive advantage to explain the firm's new product export performance. Since innovation capabilities are deeply embedded in organizations and have a high level of value, scarcity, inimitability, and non-substitutability (Slater, Mohr, & Sengupta, 2014; Vicente et al., 2015), they should be considered as an essential determinant of competitive advantage.

Innovation capabilities are defined as the firm's capacity to continuously transform knowledge and ideas into the development of new products and to introduce new markets, through the combination of product innovativeness, market and process innovativeness, and behavioral and strategic innovativeness (Wang & Ahmed, 2004). Many companies seek to

develop their innovation capability to attain innovative outputs, increase their profits, gain competitive advantage, and achieve higher performance.

In the recent years, the extant literature puts excessive emphasis on the concept of innovation as a means of surviving in these highly competitive and dynamic environments (Azar & Ciabuschi, 2017; Bagheri, Mitchelmore, Bamiatzi, & Nikolopoulos, 2019). In the current intense competitive market, a firm must refine, make its existing resources useful, and focus on the implementation and adaptation to the changing needs and wants of the customers. By doing so, firms can focus on new export products to achieve two types of competitive advantage. In the current study, innovation capabilities are viewed as crucial capability for exporting firms. The hypothesis is tested in the context of an export firm's approach to developing export products and products with advantages for the export market only. In this study, the focus on two dimensions of innovation capabilities; technological capability and new product development capability. Those capabilities have been identified as significant drivers for a firm to gain competitive advantage, and to succeed in export operations (e.g. Azar & Ciabuschi, 2017; Hortinha, Lages, & Lages, 2011; Vicente et al., 2015).

Further, a variation in the relative advantages of different capabilities across cultures has been suggested by researchers; they claim that the utility of capabilities depends on the market environment and that institutions in markets are likely to shape the effects of capabilities on firm performance (Eisenhardt & Martin, 2000; Meyer & Sinani, 2009).

Much of the extant literature tends to take the conditions of the institutional environment as given, rather than explicitly incorporating the dynamic aspects of changes in strategy and the environment in theoretical and empirical modeling (Rajagopalan & Spreitzer, 1997; Zajac, Kraatz, & Bresser, 2000). The studies that do look at the issue of strategic adaptation focus on industry-specific changes in certain aspects of the environment, such as regulatory

changes (Smith & Grimm, 1987; Zajac & Shortell, 1989). In related work, scholars have examined the effect of dimensions of the institutional environment on firm-level outcomes (Banalieva, Cuervo-Cazurra, & Sarathy, 2018; Boso, Story, Cadogan, Micevski, & Kadić-Maglajlić, 2013; Krammer, 2017), and how different institutional dimensions interact with each other to affect firm behavior (Mukherjee, Makarius, & Stevens, 2018). However, much of the literature fails to incorporate the dynamic interactions between the institutional environment and firm competitive advantage. Due to the lack of such understanding, we often fail to see those firm strategies studied in a cross-section are usually subordinate to the multi-faceted and broad changes that can occur in institutional environments. The relationship between institutional distance and competitive advantage is presently not studied or fully understood.

These gaps in both innovation, export performance, and institution research literature offer excellent opportunities for future research. As such, this study aims to deepen our understanding of innovation capabilities, their impact on competitive advantage and new export product performance, and the moderating effects of institutional distance on competitive advantage and new export product performance.

The previous section outlined the research questions and described the context of this study. This chapter investigates the existing literature, focusing on innovation capabilities, competitive advantage, institutional distance, and new export product performance. To identify the existing theoretical gaps in the research, this chapter is divided into four sections. First, we discuss the theoretical underpinning the importance of innovation capabilities, competitive advantage, new export product performance and the moderating role of institutional distance; second, this chapter focuses on the mediating influence of competitive advantage between the innovation capabilities and new export product performance relationship; and finally, the moderating role of the three-pillar institutional distance between

innovation capabilities and competitive advantage. Finally, a summary is provided to end this chapter.

## 2.2 Classification of the Literature

This study draws on an examination of the two streams of literature: export performance and innovation literature. Introducing a new product for export has received only limited research attention compared to export existing products. Thus, it can be argued that the new export product performance study is only at its nascent stage and needs further development. In this sense, the existing new export product research can be organized according to the interplay between innovation and an export level measure of the new product. This interaction gives rise to three important bodies of literature. First and the largest body of work are those studies that have sought to explain firm economic performance (Cirera et al., 2015; De Brentani & Kleinschmidt, 2004; Hesse, 2009). The second, and a much smaller group, are those scholars who have focused on modeling the impact of innovation capabilities on export (or international) outcomes (Guan & Ma, 2003; Kyläheiko, Jantunen, Puumalainen, Saarenketo, & Tuppura, 2011; Lages et al., 2009; Lawson & Samson, 2001; Vicente et al., 2015). Finally, the third group of researchers is those who, like the current study, have contemplated the need to develop a separate line of inquiry that is aimed at examining new export product performance. Hoping that a high degree of innovation capability (technological and new product development capability) might lead to increased new export product performance. Unfortunately, studies belonging to this last group have so far been scarce.

In classifying the export performance and innovation literature this way, this study reveals some more important voids that also need addressing. First, an important issue that is under-developed is the influence of innovation capabilities on new export product performance. In fact, to the best of our knowledge, none of the earlier studies has been concerned with the outcomes of innovation capabilities construct using the two-dimensional model

(technological capability and new product development capability) originally advocated by Vicente et al. (2015). Second, while much attention has been given to firms' capabilities, few attempts have been made to capture the full picture through the integration of both firms' competitive advantage and performance in the same study (Tan & Sousa, 2015). Therefore, this body of work still largely ignores the central role of the competitive advantage (e.g., low-cost advantage and differentiation advantage) plays in achieving new export product performance. Competitive advantage acts as an integrator of capabilities, through which these capabilities are transformed into a significant value offering (Murray et al., 2011). By ignoring competitive advantage as a potential mediator in the innovation capabilities - new export product performance relationship, these studies distort our understanding of what drives firms' export outcomes (Piercy et al., 1998). Third, prior studies have examined the direct effects of capabilities or their mediating role in relationships of organizational resources with competitive advantages and/or performance outcomes. Although innovation capabilities – export performance studies have identified some moderators of the relationship (e.g., Yi et al., 2013), no study includes institutional distance as a moderator when examining the innovation capabilities – competitive advantage relationship. Thus, it seems that what remains unknown is the new export product performance impact of innovation capabilities in the different institutional environments and internal organizational environment contexts.

## 2.3 Theoretical Background (RBV and Institutional Theory).

RBV maintains that firms can achieve competitive advantage and superior performance by leveraging their valuable, rare, imperfectly imitable, and no substitutable resources and capabilities (Barney, Wright, & Ketchen Jr, 2001; Brouthers & Hennart, 2007).

RBV addresses the potential impact of capabilities on firms' competitive advantage and performance. Performance is referred to as value captured from the commercialization of firms' capabilities (Newbert, 2008). Competitive advantage is defined as "the relative

superiority of the export venture's value offering to customers in the target export market and the cost of delivering this realized value" (Morgan et al., 2004, p. 91 ). Finally, capability can be considered as the "ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result" (Helfat & Peteraf, 2003, p. 999).

The theory of competitive advantage elaborates on how capabilities create competitive advantage and drive a firm's export performance. The competitive advantage framework contends that the low-cost advantage and differentiation advantage are critical determinants of performance (Barney, 1991; Hunt & Morgan, 1995). Competitive advantage is often regarded as being facilitated by superior value creation (Adner & Zemsky, 2006), therefore leading to enhanced performance (Grahovac & Miller, 2009). Yet, whether defined by a set of capabilities enabling firms to achieve better performance (López, 2005) or viewed as a performance contingent (Peteraf & Barney, 2003), competitive advantage is still poorly understood. Due to confounding effects from operationalizing competitive advantage in performance terms.

Through competitive advantage, a firm's capabilities can realize their full potential concerning performance (Day, 1994; Hunt & Morgan, 1995). As such, the logical relationship between capabilities and performance can be precisely captured if the competitive advantages of low-cost and differentiation are considered simultaneously (Weerawardena & Mavondo, 2011).

Competitive advantage refers to the outcome of an organization developing attributes that outperform its competitors in a way that makes it difficult for competitors to imitate (Sun & Tse, 2009). However, competitive advantage and performance are often used interchangeably (Newbert, 2008).

Barney et al. (2001) pointed out that a better understanding of the capabilities leading to competitive advantage is needed. In fact, they claim that firms cannot achieve competitive advantage without knowing their institutions' effect on the firm's resource accumulation and exploitation. Barney et al. (2001, p. 631) further argue that "…firms in a rapidly changing market are more nimble, more able to change quickly, and more alert to changes in their competitive environment, they will be able to adapt to changing market conditions more rapidly than competitors, and thus can gain competitive advantage". Capabilities cannot be viewed as equivalent and interchangeable, though clusters of capabilities might share similar (dynamic) characteristics, which, may drive superior international business performance (Prange & Verdier, 2011).

Ambrosini, Bowman, and Collier (2009) emphasize the importance of fully understanding the nature and source of each capability leading to competitive advantage. They claim that in case of a misunderstanding, the competitive advantage might be jeopardized. Although in terms of performance indicators such a dispute might not immediately be noticed, it will eventually lead to a negative impact. International capabilities are developed through learning and the creation of unique international know-how (Villar, Alegre, & Pla-Barber, 2014; Yalcinkaya, Calantone, & Griffith, 2007). Both the learning process and the unique know-how created through it serve to form the principles of capabilities, embodied in the endeavor to adjust to the firm's environment while aiming to improve results (López, 2005). In a sense, they represent the firm's shock absorbers, enabling the firm's competitive advantage to adjust to every shift and change in the international trade environment (Wu & Voss, 2015).

Previous research recognized several core aspects of capabilities such as the development of new technological processes and products (e.g., Hurley & Hult, 1998); the development of strategies that create progressive changes in the firm's culture; and the generation of new ideas (e.g., Dibrell et al., 2014). These led to the identification of technological capability

and new product development capability that international firms can rely on (Vicente et al., 2015). Consequently, we address this issue by examining innovation capabilities in a study that links them to competitive advantage and new export product performance.

While the RBV treats the external environment as an exogenous element in the firm's decision to export, the institutional theory (IT) emphasizes that institutional factors, external and internal to the firm, shape the behavior of actors in a given environment (North, 1990; Scott, 1995). Moreover, according to IT, the strategic choice of the firm depends on institutional forces that may either promote or hinder the upgrading of a firm's resources (Dunning & Lundan, 2008). IT suggests that most external uncertainty comes from the differences of institutions between host and foreign countries. Firms have to act following institutions to get organization legitimacy and to survive in the competition (Brouthers & Hennart, 2007). Thus, the competitive advantage strategy selected by the firm reflects its reactions towards the institutions.

Prior work has found relationships between particular institution-related variables and strategy (e.g., Peng et al., 2008). However, most of them focus on how specific strategies can help firms reduce the institution-related cost in exporting, and largely ignore how institutions influence the firm's value creation through competitive advantage. Or how the firm makes use of the institutions by selecting particular competitive advantages to boost their export success. The application of IT on competitive advantage does not emerge until 2014 when Martin (2014) studies the institutional advantage concept. However, as the application of IT in competitive advantage research is still in its early stages, more research is needed to investigate the institution's role in affecting a firm's competitive advantage. According to IT, the three pillars of institutions can play different roles in restricting and affecting an organization (Scott, 1995). As the foreign market is institutionally distanced from the home country, the competitive advantages that boost the new export product performance can be

affected by the increased institutional distance. Therefore, the difference in three kinds of institutional settings can have a potential moderating ability on the relationship between innovation capabilities and competitive advantage.

## 2.4 Firm Capabilities and Competences

Researchers have studied the association of firms' capabilities and competences with export performance (Boso, Adeola, Danso, & Assadinia, 2019; Morgan et al., 2004; Zou, Fang, & Zhao, 2003). The possession of capabilities and competencies, it can be argued, can enable firms to identify the idiosyncrasies in foreign markets, and develop and implement the necessary strategies to achieve superior export performance (Chen, Sousa, et al., 2016; Sousa, Martiez-Lopez, et al., 2008).

### 2.4.1 Innovation Capabilities

There are several definitions of innovation capability, according to Calantone, Cavusgil, and Zhao (2002), it is defined as the level of organization inventiveness. Girma, Gong, and Görg (2009) described innovation capability in terms of the connection between exports and innovation capacity. Guan and Ma (2003) used the "innovative capability" term to describe organisational knowledge and skills in developing products to generate better offers. Akman and Yilmaz (2008), defined innovation capability as an innovative culture and organisational characteristics that can provide an understanding for organisations in responding to market challenges. Thus, as established by Wang and Ahmed (2004), scholars employ similar terminology with different meanings, thus contributing to the confusion.

Innovation capability can be described at the various levels to which it meets the requirements of a firm's strategy, adapts to different conditions and a competitive environment (Guan & Ma, 2003). According to the resource-based firm's view, innovation capability is considered essential to firms attaining strategic competitiveness. Concerning RBV, it is deemed to be critical to firms obtaining and sustaining competitive advantage and enhancing firm performance in a dynamic environment (Barney, 1991). For this study,

innovation capability is the firm's capacity to develop new products and break into new markets, through the combination of product innovativeness, market and process innovativeness and behavioural and strategic innovativeness (Wang & Ahmed, 2004). Innovation capacity involves innovation culture, the capability of internal processes, and the ability to comprehend the environment (Neely, Filippini, Forza, Vinelli, & Hii, 2001). Opportunities in the international environment lead to the development of strategies that create a progressive change in the firm's culture, stimulating creativity, and the generation of new ideas (Dibrell et al., 2014).

Further, exporting firms with innovation capability can integrate their core capabilities to effectively stimulate output (Guan & Ma, 2003; Lawson & Samson, 2001). Success in international markets, primarily, can be influenced by innovative capability. In other words, firms with a higher level of innovative capability have a greater chance of overcoming the liability of foreignness (LOF) and become internationalized because they can offer superior products to international markets (Knight & Cavusgil, 2004; Volchek, Jantunen, & Saarenketo, 2013). For instance, the findings of Kuivalainen et al. (2013) show that a firm's export performance is positively affected by product innovation. In another study conducted by Makri, Theodosiou, and Katsikea (2017), it was shown that the firm's ability to develop international innovative capability increased success in exporting operations. In addition, Guan and Ma (2003), show that it is essential for export firms, as a source of sustainable internationalization, to be able to develop and commercialize new products, particularly in an increasing technological change era.

In a dynamic export environment, the lack of innovation capability may cause business stagnation or even force firms to exit the markets (Yam, Guan, Pun, & Tang, 2004). Innovation capability reflects the firm's potential to generate innovative outcomes (Pla-Barber & Alegre, 2007) that depend on the firm's culture, strategy, and internal processes

(Neely et al., 2001). Organizations without innovation capability may invest time and resources in the study of markets, but are unsuccessful to turn this knowledge into practice (Hult, Hurley, & Knight, 2004). The link between innovation and exporting has a particular interest for many authors (e.g., Azar & Ciabuschi, 2017; Cassiman et al., 2010; Silva, Gomes, & Lages, 2017). Innovation has been demonstrated as an important tool to capture market share in international markets (O'Cass & Weerawardena, 2009). However, the investigation on the role of innovation capability in the export context is till sparse (Tomiura, 2007).

Differentiation worldwide strongly realized through launching novel and unique export products that meet particular specifications and needs. This product advantage results in greater customer loyalty (Knight & Cavusgil, 2004). This situation brings adaptation and flexibility to the firm and reduces the market risks. Firms with strong innovation capability are able to develop new, high-quality export products faster than others. With a substantial innovation capability firms could change their existing products, and replace them with effective new products; and so improve their international competitiveness and provide more foreign revenue (Monreal-Pérez, Aragón-Sánchez, & Sánchez-Marín, 2012).

In earlier research, innovation capability has often been measured by a single dimension (e.g. Cavusgil, Calantone, & Zhao, 2003) or by dichotomous variables, such as product or process (e.g., Cassiman & Golovko, 2011), exploratory or exploitative (e.g., Hortinha et al., 2011), and radical or incremental capabilities (Subramaniam & Youndt, 2005). However, both RBV and innovation theories support a multidimensional nature for the innovation capability concept (Hogan, Soutar, McColl-Kennedy, & Sweeney, 2011). Innovation is an extraordinarily complex phenomenon that requires a full set of organizational elements in order to achieve success (Guan & Ma, 2003).

In this study, we follow Vicente et al. (2015) that innovation capability is the firm's capacity to develop new products for the export market by combining innovative behaviours, and internal technological processes. Thus, innovation capability encompasses two key dimensions, namely product development capability, and technological capability.

#### *2.4.1.1 Technological Capability (TC)*

Technological capability is the ability to perform relevant technical function or volume activity within the firm, including the ability to develop new products and processes, and to operate facilities effectively (Teece et al., 1997). Technological capability is becoming extremely important because responding to a dynamic market requires the development of new products that are increasingly engaged in new technologies (Azar & Ciabuschi, 2017). Such technologies change rapidly (Bagheri et al., 2019), necessitating firms to keep abreast of this technological change. International firms with well-developed technological capabilities tend to be high performing (e.g., Wu, Ma, & Liu, 2019; Zhou & Wu, 2010). Mastering updated technologies allow them to pioneer in innovations leading to competitive advantage through efficiency gains (Teece et al., 1997). They are also more innovative (Azar & Ciabuschi, 2017) and can distinguish themselves by innovating products in response to the changing market environment (Teece et al., 1997; Verona, 1999).

#### *2.4.1.2 New Product Development (NPDC)*

Exporting is a popular way for firms to explore business opportunities for their products abroad. Firms need to have a well-developed product that fits the target market. New product development capabilities serve as a firm's ability to organise, exploit, and integrate its product innovation efforts in order to meet export customers' needs quickly and successfully (Morgan, Katsikeas, & Vorhies, 2012; Murray et al., 2011; Rubera, Chandrasekaran, & Ordanini, 2016; Tan & Sousa, 2015). Although superior NPDC allows firms to seize opportunities in export markets (Kaleka, 2012; Lages et al., 2009; Tan & Sousa, 2015), it does not automatically transfer into superior performance. According to the RBV, firms need

to find particular advantage strategies that help them capitalise on the resources/capabilities such as NPDC to achieve higher new export product performance.

In today's fast-paced environment, characterized by rapid technological advancement and increasingly volatile customer preferences (Schubert, Baier, & Rammer, 2018), , the efficiency by which firms can successfully develop new products has significant implications. NPDC is paramount to a firm's competitive cost and differentiation, opening new markets, and impacting on performance (Sheng et al. 2013).

## 2.5 Competitive Advantage

Competitive advantage, embedded as both direct and indirect, has been considered as a critical concept in international business and strategic management (Cenamor, 2021; Keskin et al., 2021; Kryscynski, Coff, & Campbell, 2021). Business management studies first focussed on formulating business strategies to gain competitive advantage (Porter, 1989), latter studies examined firm capabilities which complement firm strategies towards attainment of competitive advantage (Leonidou, Palihawadana, & Theodosiou, 2011). Studies in the recent years have centred around the moderating influence of competitive advantage from an international gain (Efrat, Hughes, Nemkova, Souchon, & Sy-Changco, 2018; Keskin et al., 2021; Tan & Sousa, 2015).

The concept of competition in firms was explored by Chamberlin in his book on the theory of monopolistic competition (Chamberlin, 1949). The term 'competitive advantage' was not found to be widely used in the studies before the year 1980 (Powell, 1992). Porter (1985) proposed that competitive advantage was generated only when the value created by a firm for its customers exceeded the cost of creating such value. Wernerfelt (1984) studied how firms could be analysed from the perspective of resources, which laid the early foundation for the resource-based view of the firm. Barney (1986) studied the attributes of a firm's culture which led to competitive advantage. Porter (1981) also discussed the contribution of

industrial organization to strategic management and how it applied to assessment of competitive strategies of firms. The decade of the 1990 s extended the discussion on the resource based view of the firm (Wernerfelt, 1995). A decade since 2000 studies viewed the development of technology as an essential part of firm processes and its contribution to firm performance (Li & Ye, 1999). Technological capabilities as a key firm capability for competitive advantage was the focus of multiple studies in this decade (Hsieh & Tsai, 2007; Renko, Carsrud, & Brännback, 2009). Recently, few studies discussed the influence of competitive advantage as mediation mechanisms for translating export performance gains from market orientation and specific capabilities (Efrat et al., 2018; Tan & Sousa, 2015). Mostafiz, Hughes, and Sambasivan (2021) demonstrated how competitive advantage mediated the relationship between innovativeness, proactiveness and risk-taking dimensions of entrepreneurial orientation and firm performance.

The competitive advantage framework contends that the low-cost advantage and differentiation advantage are critical determinants of performance (Barney, 1991; Hunt & Morgan, 1995). The theory also holds that it is essential to use a firm's capabilities as an alternative to gain positional competitive advantage (Day, 1994). Therefore, the literature suggests that to enjoy superior performance, a firm should invest in its capabilities. These capabilities would allow the firm to deliver products and services better than competitors. Consequently, it is through the achievement of positional competitive advantage that capabilities are able to realize their full potential with respect to performance (Day, 1994; Hunt & Morgan, 1995). As such, the logical relationship between capabilities and performance can be precisely captured if the competitive advantages of low-cost and differentiation are considered simultaneously (Murray et al., 2011). Competitive advantage refers to the positional superiority of the firm in the market segment in which it operates. This superiority is based upon delivering superior customer value and/or achieving lower costs in

than competitors (Hooley, Greenley, Cadogan, & Fahy, 2005). Positional advantage based on cost, promotion, and sales is the crucial factor enhancing a firm's performance (Hill, 1988). A firm's positional advantage is the outcome of competitive strategies for low-cost production and/or by differentiation in its line of products/services. The competitive strategy suggests that a firm can outperform its rivals if it can establish a difference that it can preserve (Porter, 1985). The firm must deliver higher value to customers or create comparable value at a lower cost (Parnell, 2006). Winning business decisions regularly emerge from their combination of cost leadership and differentiation.

The literature on the competitive strategy based on delivery differentiation illustrates that customer demand increases with guaranteed delivery and lower delivery times. In addition, shorter delivery times can allow a price premium (So, 2000). Marketing the differentiation competitive strategy provides uniqueness through developing new product offering, and using marketing communication to build awareness (Menguc, Auh, & Shih, 2007).

Further, Kaleka (2011) asserts that the relationship between competitive advantages and performance in the export context has been insufficiently explained. Much research in the marketing and strategy literature tends toward speculation. Research into a competitive advantage in exporting has found positive performance effects (Kaleka, 2011; Leonidou et al., 2011). Also, there is indication of the influence of competitive advantage as mediation mechanisms for translating export performance gains from market orientation and specific capabilities (Efrat et al., 2018; Tan & Sousa, 2015). Despite those studies, the relationship between advantage and performance is not clear in exporting. Studies have found that domestic competitive advantage does not necessarily translate into export markets (e.g., Marukawa, 2009). Therefore, innovation capabilities are essential to attain sustainable competitive advantage, which in turn contributes to superior new export product performance.

## 2.6 Institutional Distance

### 2.6.1 Definitions

When there is an ability to manage the different resources of firms across borders, we can consider that international management is mainly distance management (Zaheer, Schomaker, & Nachum, 2012). Thus, the term institutional distance refers to the similarity/dissimilarity between in home and host countries in terms of their institutional environments (Kostova et al., 2020; Kostova & Zaheer, 1999; Xu & Shenkar, 2002). According to Beugelsdijk, Maseland, and Van Hoorn (2015), the distance can be measured between two entities, but in most IB research, distance is measured between countries. Furthermore, the greater the geometric distance between the two countries, the larger the negative effect of distance, due to the misfit ratio between home and host country (Kostova et al., 2020). Kostova and Zaheer (1999), argued that a large institutional distance can be considered as a challenge for firms to overcome and to establish legitimacy and adapt their domestic practices to foreign markets. And also, to determine their strategies in the host environment. Besides, large institutional distance increases risk and uncertainty and requires organizational learning which makes it more difficult for MNEs to effectively operate across diverse countries (Xu & Shenkar, 2002).

Therefore, the institutional distance is the dissimilarity between two institutional environments and precisely a measurable contrast between two countries which allows the firms to make different decisions on the international level. Previous research have argued that institutional distance has implications for strategic decisions in international business (e.g., Gaur & Lu, 2007; Xu & Shenkar, 2002). The institutional distance can be measured by researchers with many indices based on Scott's (1995) three pillars of the institutional framework (regulative, normative, cognitive), who provide a wide base to recognize and differentiate between the countries' institutional profiles' aspects.

North (1993), defines institutions as "the humanly devised constraints that structure human

interaction". He further distinguishes 'formal constraints (rules, laws, constitutions)' from 'informal constraints (norms of behaviour, conventions, and self-imposed codes of conduct)' and from enforcement characteristics. Whom helped thereafter the researchers to dive into the institutional distance and determine its crutches.

Scott (2008), explained that institutions are a general definition that can be explored to provide a wider understanding and that they comprise regulative, normative, and cultural-cognitive elements that, when associated with activities and resources, provide stability and give meaning to social life (Chang & Ogasavara, 2019) This means that the institutional environment consists of institutions that are moderated by the three pillars of the institutional distance that when combined with activities and resources lead effectively to stability and affect social life. And each pillar of those can be measured by distances between home and host countries (Moore et al., 2018).

Brouthers (2013) and Zaheer et al. (2012), also contributed to the field by highlighting the aspects of convergence between the three pillars and criticized the excessive generalization in their definition (Chang & Ogasavara, 2019).

Regulative pillar describes three important aims: (a) rule-setting, (b) monitoring, (c) and sanctioning activities settled by institutions (Chang & Ogasavara, 2019). Therefore, regulative distance is the perceived contrast between two legal environments, i.e. the home and the host country environment. Regulative distance focuses closely on formal behaviour and the effective creation of a system of rules that rewards compliance and penalizes noncompliance (Scott, 2008).

Normative pillar concerns values and norms that rule and run people's behaviour (Kostova et al., 2020). Thus, normative distance is related to the perceived differences in social norms, values, beliefs, and premises and behaviour, between home and host countries. Normative

elements prevail in more value-loaded environments, such as family groups, religious communities, and occupational and professional groups (Chang & Ogasavara, 2019).

Thus, normative pillar incorporates informal norms, procedures, and codes of conduct, which are often unwritten and subsequently difficult to learn. Consequently, they constrain the transfer of MNE routines (Xu & Shenkar, 2002).

Cultural-cognitive pillar sheds light on the shared conceptions that are built based on the use of a shared vocabulary between individuals. These shared conceptions reflect the nature of social reality and the fixation of mutual meanings (Chang & Ogasavara, 2019). Scott (2008), claimed that cultural-cognitive pillar is the most important the three institutional pillars, since the cultural elements and structures have a direct effect on building norms and rules, which they cannot be determined in the absence of the cultural-cognitive pillar. Hence, this pillar focuses on the different sides of culture and treats them as symbolic systems that consist of subjective beliefs. Symbols, such as words, signs, and gestures, aim to give shapes to meanings and what is intangible (Chang & Ogasavara, 2019). Symbols are technically related to cognitive elements, like thought patterns, feelings, and actions (De Mooij & Hofstede, 2010). However, the greater the cultural dissimilarities between home and host countries, the less an MNE can operate efficiently through subsidiaries (Tihanyi, Griffith, & Russell, 2005). A large institutional distance may reflect on the firms' ability to overcome, as they endeavour to establish legitimacy and transfer their domestic practices to foreign markets (Kostova et al., 2020).

### 2.6.2 Institutional Distance Challenge for MNE's

The differences in regulations, norms, and cognition between the home and host countries make the challenge of MNEs harder in monitoring, interpreting the behaviour of foreign firms, and obtaining accurate and full information about subsidiary actions and performances (Ando & Paik, 2013). Besides, they complicate transferring organizational practices and

knowledge (Kostova et al., 2020). Consequently, they affect firm's strategy, decisions, and practices in the host country.

Likewise, institutional distance between home and host countries is considered as a challenge to MNEs concerning the legitimacy settlement and preservation in the host country (Kostova et al., 2020; Xu & Shenkar, 2002), as long as it is defined as an obligation to use appropriate structures and practices that suits and go along with the local context (DiMaggio & Powell, 1983; Scott, 2008). This means that institutions of a host country may affect the practices of a mother country and makes it difficult for a firm to transmit its organizational practices (Brouthers et al., 2008; Kostova & Zaheer, 1999). Reversely, when the firm submits to the legitimacy practices of the parent firm, local host culture expectations may be left unfulfilled or contradicted (Jamali & Neville, 2011).

MNEs should build their strategies focusing on the institutional environment and the institutional distance between the parent's and the host countries. Kostova et al. (2020) showed that in IB, institutional dimensions influence strategies and operations of subsidiaries. They control the acceptance of MNE's norms and practices within the system of rules, norms, and cognitive structures in different host environments, which eventually facilitate or impede the transfer of strategic organizational practices from a parent firm to their subsidiaries (Kostova & Roth, 2002). Therefore, firms usually adapt to the external environment's norms and regulations. Distance is not decreasing according to recent research (Beugelsdijk et al., 2015), even when there is an increasing level of socio-cultural and business exchange between countries. They showed that distance continues to be an important factor in managing MNEs in their constant grapple with the ID challenges where the lack of external fit is a take for granted issue in a host environment (Fortwengel, 2017).

### 2.6.3 Moderating Influence of Institutional Distance Between Competitive Advantage and New Export Product Performance

Unique institutional structures guide a firm's strategic activities and affect the nature and amount of innovation and competitive advantage that take place within a country's borders (Nelson, 1993). A basic premise of international business research is that firms are embedded in country-specific institutional arrangements in which they are based (Kostova et al., 2020). As an MNE continues to conduct business across-borders into distant foreign markets, it is faced with larger institutional distances (Zaheer et al., 2012). Such distances reflect the differences in regulative settings, societal beliefs and norms of

doing business, between the home and host countries. With increasing differences in the regulative and normative contexts, costs of doing business abroad increase and are likely to outweigh the benefits that the MNE derives from its international operations. With increasing institutional distance between home and host countries, the competitive advantage of a firm gets negatively affected as the firm continues on its path of international expansion. The major sources of the negative moderating effect emanate from the following factors.

First, one of the main sources of competitive advantage, and thereby superior performance, of MNEs over domestic firms lies in their ability to enable firms to employ various technologies to develop new products (Wu, Ma, et al., 2019) and to develop innovative products with global potential (Rubera et al., 2016). If the foreign markets are institutionally very distant, transferring technological and new product development capabilities to and from foreign firms becomes an arduous task (Kostova et al., 2020). This can have two implications for the firm: (1) The firm may decide to invest significant innovation capabilities in overcoming the challenges of transfer, or (2) the firm may decide not to integrate the particular foreign firm located in the very distant host country with the rest of the organization. In the first situation, costs of operating in the foreign market will be very high and influence the competitive advantage, at least for some time. In the second situation, the firm will not be able to benefit

from its foreign operation to its full potential. As such, even if competitive advantage does not decrease, it will not improve in any possible manner. On the other hand, a strong institutional context may reduce uncertainties involved with operating in a new and foreign location and enable a firm to quickly recover its initial investments.

From the standpoint of a firm, the differences between the institutional contexts where it conducts or plans to conduct business are of key concern since dealing with the differences is what substantially accounts for overall competitive advantage and performance effects. Based on this line of argument, we include institutional distance as a moderating factor in the conceptual and empirical framework of innovation capabilities and competitive advantage.

The institutional context in a country can shape how companies operate and how they perform (Peng et al., 2008). The influence of capabilities on export performance can depend on the institutional context (Boso et al., 2013; Wu, 2013). According to institutional theory, firms need legitimacy (i.e., endorsement by relevant institutional actors) to thrive in different environments (North, 1990). Legitimacy can be acquired by conforming to various institutional pressures (DiMaggio & Powell, 1983)): coercive ones (from an established authority), normative ones (from societal values, beliefs, and norms), and mimetic ones (pressure to imitate the behaviour of successful peers).

When exporting to a foreign market that is not similar to the home market, firms have to face pressures from local institutions. As institutions are 'transported by various carriers—cultures, structures, and routines', there are three main pillars of institutions. (1) Regulative institution: the rules and laws to ensure stability and order in society. (2) Normative institution: values and norms are governing people's behaviour. (3) Cognitive institution: the rules are constituting the nature of reality and the frames building up the meaning (Powell, 1991; Scott, 1995:33). Firms have to act corresponding with institutions in order to get organisation legitimacy and survive in the competition (Brouthers & Hennart, 2007). Due to

international business characteristics, firms have to face at least two institutional environments (the home and market country), which make them face dual pressures for conformity (Xu et al., 2004). The three pillars of institutions have different characteristics, respectively, and their routes to gain legitimacy are varied (Suchman, 1995). For regulative institutions, there is a stress on affecting other party's behaviour through established rules, laws, and sanctions. These regulative institutions can be delivered through informal mechanisms or formal authorities like government (Scott, 1995). Organizations will be rewarded or punished depending on their conformity to these rules. Normative institutions focus on using both values and norms to 'introduce a prescriptive, evaluative, and obligatory dimension into social life' (Scott, 1995:37). Value is the preferred or desirable conceptions that fit the existing standards while norms specify how things should be done (Scott, 1995). Following the model and standards, can help firms meet the normative expectation in the local environment (Suchman, 1995). The third pillar of institutions is that cognitive institutions underline the rules that "constitute the nature of reality and the frames through which meaning is made" (Scott, 1995:40).

## 2.7 Conceptualizing New Export Product Performance

### 2.7.1. Introduction

This part of the chapter focuses on defining new export product performance. Accordingly, both innovation and export performance literature are integrated. In fact, the innovation literature has considerably influenced discussions on new products in the export literature. As such, greater value can be derived by combining the two streams of research. A major advantage derived from integrating the two bodies of literature is that a comprehensive definition of a new product specific to exporters can be provided. An export specific definition of the new product will also enable this study to then define a new export product performance for exporters. Thus, in the sections that follow an evaluation of both the innovation and export performance literature is undertaken.

### 2.7.2 Innovation Outcomes

The process of innovation may be as old as mankind: it represents the dynamic and systematic advancement of products, processes, and organizational work methods of all kinds. In the specific context of firm innovation, the literature on innovation widely accepts the work of Joseph Schumpeter in 1934 as the pioneering contribution in the field. According to Schumpeter (1934, p. 65), innovation is expressed as "*the development of a new product, a new method of production or a new source of supply, and the exploitation of new markets and new ways of organizing a business"*. This definition of innovation has essentially survived to the present time and is the basis of a similar definition by the Oslo Manual (OECD, 2005) and the Eurostat's Community Innovation Surveys[2]. The Oslo Manual emphasizes that minor and insignificant changes or an insufficient level of novelty are not recognized as innovation. At the same time, those with significant improvements are acknowledged as innovation (OECD, 2005, p. 37).

In the process of innovation, firms may initially develop conceptual models for new products or processes. The newly developed models may represent inventions and not innovations (Freeman, 1982). In order to become an innovation, conceptual models have to be converted into a commercialized proposition. Mansfield (1968, p. 83) posits that inventing an idea may not have any importance if it cannot be applied. A new inventive idea will have economic sense and impact if it is commercialized. Innovation does not necessarily need to represent an invention (Schumpeter, 1934, p. 89). Innovation inputs or the expenditure on research and development may lead to both inventions and innovation but may also fail to generate an output. Firms engage in innovation in order to increase their productivity, competitiveness, and market share, which will ultimately increase their profits (Love, Roper, & Zhou, 2016).

[2] The Oslo Manual (OECD, 2005, pp. 31-39) defines innovation as the development of a new or significantly improved product (good or service), or process, a new marketing method or a new organisational method in the business practice, workplace organisations or external relations. The Community Innovation Survey, undertaken in all EU member states also uses the Oslo Manual definition of innovation.

#### *2.7.2.1 Dimension of Innovation*

The first 'Oslo Manual' published by the Organisation for Economic Co-operation and Development (OECD) in 1992 set the guidelines for gathering and interpreting technological innovations (Becheikh, Landry, & Amara, 2006). These guidelines extended the original work with respect to the definition of innovation by Schumpeter (1934, p. 65) and innovation is expressed as the development of a new product, a new method of production or a new source of supply, and the exploitation of new markets and new ways of organising a business. The Oslo Manual guidelines were based on the first harmonized Eurostat Community Innovation Survey (CIS) at the firm level in the European Union member states and candidate countries, carried out in 1993 (and regularly since then). The survey is designed to offer information on a range of innovation activities of firms across different sectors and regions. Also, to employ new measures of innovation: both qualitative (newly introduced products, services, processes, and marketing and organisational methods) and quantitative (sales of newly produced products and services). As the data on firm-level innovation became available, new innovation indicators began to be used by an increasing number of studies (Cassiman & Golovko, 2011; Freel, 2003; Hortinha et al., 2011; Kyläheiko et al., 2011; Lewandowska et al., 2016; Subramaniam & Youndt, 2005).

The quality of innovation reflects the knowledge intensity of a firm and the economy. The concept of novelty has been illustrated in various ways in the innovation literature. Radical innovation is considered an innovation that derives from the engagement of substantial knowledge, technology, and other resources, which offers higher benefits to consumers (Leifer, 2000; Sorescu, Chandy, & Prabhu, 2003; Therrien, Doloreux, & Chamberlin, 2011). Radical innovation is associated with a higher risk than the introduction of incremental innovations, although it may offer higher benefits and even alter consumers' behaviour in local and international settings (Silva, Styles, & Lages, 2016).

The degree of innovation novelty is measured in various ways. Amara, Landry, Becheikh, and Ouimet (2008) have created an index ranging from 5 to 25 as a sum of scores from different types of risk encountered by firms during the innovation process. Nieto and Santamaría (2007) made a distinction between an innovation denoting an incremental change, which may include changes in the presentation, design or any other component, and innovation representing a more significant change or products incorporating new functions. These concepts generally emphasise the degree of technological improvements over existing products rather than the market, which means that innovation can be new to the firm, but not to the market. Other concepts defining novelty of innovation in terms of a market refer to radical innovation as a breakthrough (Phene, Fladmoe‐Lindquist, & Marsh, 2006; Silva et al., 2016; Zhou, Yim, & Tse, 2005), disruptive (Bower & Christensen, 1996) or discontinuous innovation (Anderson & Tushman, 1990).

Table 2.1 presents the degrees of innovation novelty defined by the Oslo Manual (OECD 2005, p.36), expressing the novelty that a new product represents in a market. Products new to the firm represent the lowest degree of novelty, products new to the market express an intermediate degree of novelty. In contrast products new to the world present the highest degree of novelty.

*Table 2. 1 Degree of novelty of product innovation*

| Degrees of novelty | Maximum | Intermediate | Minimum | Not an innovation |
|---|---|---|---|---|
| Category | New to the world | New to the market | New to the firm | Already in the firm |

Source: Oslo Manual (OECD 2005, p. 36)

The literature refers to new products introduced, for the first time, to a firm's market or the world as a radical innovation, while new products that are only new to the firm are referred to as an incremental innovation or imitation (Amara et al., 2008; Blindenbach‐Driessen & Ende, 2014; Cozzarin, 2006; Therrien et al., 2011; Vega-Jurado, Gutiérrez-Gracia, Fernández-de-Lucio, & Manjarrés-Henríquez, 2008).

ndez-de-Lucio, & Manjarrés-Henríquez, 2008). The category of product innovation introduced for the first time to the world is rarely used in the literature. It is not included in the innovation surveys, except for Canada, where the data is available; the category of innovation new to the market is generally used for developed economies. The respective degrees or categories of novelty ensure the same measurement methodology across different countries. If a product is new to the firm's market, it presents a relative degree of novelty compared to the competition in the same market, In contrast, products that are new to the firm only represent an imitation of the products already introduced by their competitors. Of course, it has to be noted that the categorisation of new products introduced by firms depends on the subjective judgment of firms' managers: if they lack sufficient information on products available in the market, they may incorrectly categorise the product and cause a measurement bias.

Overall, a broad range of indicators allows for flexibility in analysing the innovation and its outcomes but limits the generalisation of results as each indicator may present a particular perspective. The input measures, such as R&D expenditure, may not always result in innovation output, while patents as an output indicator may not always lead to the commercialization of the product. Alternatively, commercialised or introduced innovation output provides a direct measure of innovation success.

### 2.7.3 Export Outcomes

#### *2.7.3.1 What is Exporting?*

People traded resources, materials, goods, and services in order to derive something they do not have in their local areas. These trading activities included importing and exporting from the perspectives of purchase and selling. Trading provides more choices and selections of goods and services for customers/clients to advance a country's living standard and to build up positive competitions between enterprises. Consequently, in this dynamic economic era, countries have tried to enhance their exporting development (rather than reliance on

importing) in order to maintain high and rapid production and to increase economic growth. Because exporting activities can affect currency values, governments' monetary policies, shape public perception of competitiveness, and can indeed determine a country's capacity to import (Czinkota, 1994). Therefore, in order to expand the business, some companies focus not only on domestic markets but also on foreign markets to increase their market share.

#### *2.7.3.2 Export Performance Definition*

A pursuit for the comprehension of the phenomenon of export performance has been made for the last forty years (Diamantopoulos, 1999). The studies developed sought for "organizational, managerial, environmental, and strategic determinants of export performance" (Sousa, Martinez-Lopez, & Coelho, 2008). To this end, Diamantopoulos (1999) states that export performance is the reflex of the results of export behavior when exposed to different firm-specific and environment-specific circumstances. Similarly, Cavusgil and Zou (1994a, p. 3) define export performance "as a strategic response by management to the interplay of internal and external forces". Furthermore, these authors establish it as "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 marketing strategy".

Interestingly, export performance is "multifaceted and cannot be captured by any single performance indicator" (Diamantopoulos, 1999, p. 3). Shoham (1998, p. 62) posits that "export performance can be conceptualized as a composite outcome of a firm's international sales". He thinks of the concept as a three-dimensional construct, whose dimensions are export sales, export profitability, and performance change. This multifaceted nature of export performance reveals the need to follow a multidimensional approach when defining the measurement for assessing export performance, as single-items measures are insufficient for any reliable assessment (Shoham, 1998).

It can be presumed that export performance is an idiosyncratic concept. As each conceptualization, operationalization, and measures' definition are tailored-made to the reality of study, the type of firm considered and its settings (Chen, Sousa, et al., 2016; Katsikeas et al., 2000; Sousa, Martinez-Lopez, et al., 2008).

#### *2.7.3.3 Export performance and its controversy*

Although export performance is one of the most studied areas of International Marketing and International Business, it is still largely ambiguous. As Katsikeas et al. (2000, p. 493) state, "export performance is one of the most widely researched, but least understood and most contentious areas of international marketing". This fact is due to the rising tendency towards economic globalization, the increasing liberalization of the markets, the economic and monetary unions, and because a significant number of countries rely on their export performance to achieve economic growth (Cavusgil & Zou, 1994a). Thus, this field of management is essential not only for researchers but also for managers and public policymakers (Chen, Sousa, et al., 2016; Katsikeas et al., 2000; Sousa, Martiez-Lopez, et al., 2008). Hence, despite being a deeply studied area, export performance is the subject of a lack of consensus and synthesis concerning its conceptualization, operationalization, methodology, determinants and performance measures (Cavusgil & Zou, 1994b; Chen, Sousa, et al., 2016; Katsikeas et al., 2000; Shoham, 1998; Zou, Taylor, & Osland, 1998).

#### *2.7.3.4 Dimensions of performance*

According to reviews on the topic of dimensions of export performance, authors consider performance as a complex, multidimensional phenomenon, which comprises three main dimensions: effectiveness, efficiency, and adaptiveness (Katsikeas et al., 2000; Katsikeas, Morgan, Leonidou, & Hult, 2016; Walker & Ruekert, 1987). Walker and Ruekert (1987, p. 19) define these three concepts as follows: effectiveness is a measure of the firm's success compared to its competitors. Efficiency is the outcome of a firm's policies, compared to the resources involved in its implementation, and finally, adaptiveness is how the firm

successfully responds to the environmental changes. Styles (1998) suggests, in their scale to assess the business performance of the export, apply these three dimensions, as well as "economic and strategic considerations" Styles (1998, p. 15). Clark (2000) also uses the three dimensions mentioned above.

Diamantopoulos and Kakkos (2007) follow the line of thought of Al-Khalifa and Morgan (1995) and Walker and Ruekert (1987) and argue that export sales are related to effectiveness, profits are similar to efficiency, and new products are linked to adaptiveness. Morgan et al. (2012) emphasize the importance of the effectiveness of the implementation of export marketing strategy to the success of the performance of the venture of the exporting firm. To sum up, a considerable number of authors apply at least one of these dimensions – effectiveness, efficiency, and adaptiveness - even if implicitly, in order to assess their performance.

### 2.7.4 New Export Product Performance

Even though export performance is one of the most studied areas of International Marketing and International Business, it is still largely ambiguous. As Katsikeas et al. (2000, p. 493) state, "export performance is one of the most widely researched, but least understood and most contentious areas of international marketing". This fact is due to the rising tendency towards economic globalization, the increasing liberalization of the markets, the economic and monetary unions, and because a significant number of countries rely on their export performance to achieve economic growth (Cavusgil & Zou, 1994a). Thus, this field of management is vital not only for researchers but also for managers and public policymakers (Chen, Sousa, et al., 2016; Katsikeas et al., 2000; Sousa, Martiez-Lopez, et al., 2008). Hence, despite being a deeply studied area, export performance is the subject of lack of consensus and synthesis concerning its conceptualization, operationalization, methodology,

determinants and performance measures (Cavusgil & Zou, 1994a; Chen, Sousa, et al., 2016; Katsikeas et al., 2000; Shoham, 1998; Sousa, 2004; Zou & Stan, 1998a).

The extant lack of consensus results in the absence of a reference framework and fragmented findings (Leonidou et al., 2002). This reality is prompted by reasons like the lack of homogeneity of research designs and terminologies (Mostafiz, Sambasivan, & Goh, 2022). The majority of the studies represent individual endeavors instead of coordinated efforts, and each study has its frame of reference (Leonidou et al., 2002). Another element that contributes to this controversy is the fact that the dimensions of export performance have different degrees of importance according to the stakeholder groups (not only investors but also employees and customers) considered (Sousa, 2004, p. 14), innovation-related activities (Cirera et al., 2015; Kim & Cavusgil, 2020) and the objectives of the management, i.e., whether it is short- or long-term oriented (Walker & Ruekert, 1987).

A pursuit for the comprehension of the phenomenon of export performance has been made for the last forty years (Diamantopoulos, 1999). The studies developed sought for "organizational, managerial, environmental, and strategic determinants of export performance" (Sousa, Martinez-Lopez, et al., 2008). To this end, Diamantopoulos (1999) states that export performance is the reflex of the results of export behavior when exposed to different firm-specific and environment-specific circumstances. Similarly, Cavusgil and Zou (1994a, p. 3) define export performance "as a strategic response by management to the interplay of internal and external forces". Shoham (1998, p. 62) posits that "export performance can be conceptualized as a composite outcome of a firm's international sales of products". Therefore, these authors establish it as "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 marketing strategy"

However, the limitation of this literature is that research has typically not distinguished between new exports and existing exports (i.e., export performance is usually evaluated as the propensity to export existing products or to enter new export markets)[3] (Xiao, Lew, & Park, 2021). Therefore, in this study, similar to the new product introduction construct used commonly as a proxy for firms' innovation performance[1] (OECD, 2005), new export product performance is the performance of new or/and significantly improved product(s) created for export only. New export product performance is a good proxy of the ability of exporters to constantly introduce significantly new or/and improved products to be sold abroad.

In this study, new export product performance is measured using the financial performance scale.

## 2.8 Chapter Summary

This chapter has provided a comprehensive assessment of the recent works that have advocated innovation capabilities as a determinants of export performance. Also, the role of competitive advantage and institutional distance in the export performance in the existing export marketing and related literature. And most importantly, it has introduced a new export product performance construct.

The assessment shows that different literature streams, including innovation, and export performance have contributed to the research on new export product performance. A major conclusion from the literature assessment is that the role of new export product performance has rarely been considered in the export performance literature. In addition, there is a research gap with respect to the relationship between innovation capabilities, competitive advantage, institutional distance, and new export product performance.

3 Out of 46 studies explored by Estrada and Heijs (2006), none uses the introduction of new to the firm exports as the measure of exports performance.

On the basis of the gaps that have been identified, the literature assessment turned to a discussion of innovation capabilities and its relation to new export product performance. Drawing on the existing innovation and export performance literature, three important facts consequently emerged. The first key fact that emerges is the gap in our understanding of new export product performance. The second, is how competitive advantage mediate innovation capabilities and new export product performance relationship. The third, how institutional distance moderates the relationship between innovation capabilities and competitive advantage. Thus, academic research should be directed to examining the consequences of new export product performance in different institutional distance contexts.

In the next chapter, a conceptual model is presented with the objective of addressing the various research gaps mentioned in the current chapter and in the previous chapter. The next chapter focuses on the conceptual model proposed and how this model covers the research gaps. Then, based on the existing literature, the research hypotheses are developed and explored.

# Chapter Three: Conceptual Framework, Research Model and Hypotheses

## 3.1 Introduction

Drawing on the theoretical perspectives from innovation, and export performance literature, chapter three proposes a research model to delineate the relationship between factors including innovation capabilities, institutional distance, competitive advantage, and new export product performance. To achieve this objective, this chapter is organised into three sections. The first part introduces the theoretical framework used to develop the conceptual model. In the second part, the proposed research model explores the relationship between innovation capabilities and new export product performance. In the third part of this chapter, the hypotheses linking the independent, dependent, mediating, and moderating variables are discussed in detail. Finally, a summary of the chapter is presented.

## 3.2 Theoretical Framework

Researchers have often adopted insights from various theories to underpin the antecedent(s) and the consequence(s) of export performance. In this section, the primary objective is to focus on the critical theories used by researchers to justify the use of various predictors, the methodological settings in which these studies have been conducted, and their findings. Then the focus shifts on the vital theory that underpin the current study.

The resource-based view scholars argue that the basis for sustainable competitive advantage and eventual economic prosperity of firms hinges primarily on the possession and application of superior internal resources (Barney, 1991; Barney & Clark, 2007). The RBV theory argues that firms create resources that act as a source of competitive advantage that generates performance. The RBV theoretical perspective is largely used to explain the export performance and has a significant impact on building frameworks in the literature.

Other than the extensive use of the RBV theory, few other theories have received substantial importance from the researchers working on export performance literature. The first is the

structure-conduct performance (SCP) model of industrial organisation (e.g., Cavusgil & Zou, 1994b). This microeconomic theory assumes that firms create a "fit" that links their strategies with the external environment (Hofer & Schendel, 1978). The summary frameworks that have been developed by export researchers (e.g., Chen, Sousa, et al., 2016; Matthyssens & Pauwels, 1996; Sousa, Martiez-Lopez, et al., 2008; Zou & Stan, 1998b) are primarily drawn on the SCP model. It enables researchers to divide the determinants of export performance into controllable and uncontrollable variables. There is no doubt that this theoretical perspective has largely influenced the kind of predictor variables, and to some extent, the sort of methodological approaches adopted in past studies of export performance determinants.
The second is the behavioural theory proposed by Leonidou et al. (2002) to study the association between export marketing strategy and different export performance variables in a meta-analysis. The third is the relational theory proposed in the seminal work of Styles and Ambler (2000). Zhang, Cavusgil, and Roath (2003), for example, have drawn on a mixture of the behavioural and relational theories to model the effect of organisational behaviours on export performance, focusing more on the producer-distributor relationship.
The fourth body of work emanates from the International Marketing and Purchasing (IMP) group, which focuses on network theory with particular reference to the communication between buyers and sellers operating in international markets (e.g., Holm, Eriksson, & Johanson, 1996). A significant contribution from the network theory is its clarification of the interaction and network of relationships between buyers and sellers as they engage in international operations. Johanson and Vahlne (1977's) internationalisation theory is a major framework in this area, which argues for gradual, incremental knowledge acquisition as a path to international engagement (Holm et al., 1996). The fifth is the industrial organisation theory (Collis, 1991), which holds that the external environment imposes pressures to which firms must adapt in order to survive and prosper.

Finally, some researchers have argued that the benefits that exporters derive from export behaviours are contingent on a selected number of external environmental forces and organisational characteristics. In this respect, researchers have drawn mainly on the institutional theory. Institutional theory suggests that not all countries are alike (North, 1990) and that differences in institutional settings can have an impact on the value a firm can generate from resource-based advantages (Brouthers et al., 2008; Kostova et al., 2020; Meyer & Sinani, 2009). Thus, any positive relationship between innovation capabilities and competitive advantage might change, positively or negatively, in different external environments and internal organisational contexts. Accordingly, as mentioned in the previous chapter, the institutional theory is used to model the moderating effects of institutional distance on innovation capabilities – competitive advantage linkage, in opposition RBV models the mediating influence of competitive advantage between innovation capabilities and new export product performance.

In the sections that follow, the effort is made to discuss the conceptual model.

## 3.3 Hypotheses Development

### 3.3.1 Innovation capabilities – competitive advantage

The resources that can provide firms competitive advantages can be categorized into two types: assets and capabilities (Day, 1994; Zou et al., 2003). The assets are 'the resource endowments a firm has accumulated (e.g., investments in the facilities)' (Zou et al., 2003, p. 34). The capabilities are 'complex bundles of skills and accumulated knowledge, exercised through organizational processes that enable the firm to coordinate activities and make use of its assets'(Day, 1994, p. 38).

Prior RBV studies indicate the positive relationship between the heterogeneity of the firm competing in the market and the importance of unique resources in offering competitive advantages (Barney, 1991; Zou et al., 2003). Firms' distinctive capabilities can help them gain competitive advantages over other competitors. Unlike special assets, capabilities are

intangible and are accumulated through learning over a length of time. They are deeply embedded in organizational routines and practices (Zou et al., 2003). In comparison with accumulating particular assets, the efficient way to ensure a firm's resources to provide competitive advantages is to combine assortments of necessary resources to achieve a special valuable capability (Morgan & Hunt, 1999). RBV assumes that a firm possesses or controls a pool of resources and capabilities (Newbert, 2008), and that these resources and capabilities, which are different among firms, create competitive advantages, which can improve performance (Barney, 1991; Newbert, 2008).

Thus, the unique capabilities owned by export firms can play an essential role in firm's competitive advantage overtime (Makri et al., 2017; Morgan, Vorhies, & Mason, 2009).

Innovation capability is crucial for firms to adapt to fast-changing turbulent environments and achieve competitive advantage (Zhou & Wu, 2010). It acts as a barrier for the entry and exit of competitors (Annavarjula & Mohan, 2009) and aids in differentiating a firm from its competitors (Su, Ahlstrom, Li, & Cheng, 2013). Innovation capability is the firm's capacity to develop new products through innovative behaviours, strategic capability, and internal technological processes (Wang and Ahmed, 2004). The above four elements are intertwined to the extent that each element complements the others. Opportunities in the export environment lead to the development of strategies that create progressive changes in the firm's culture, stimulating creativity, and the generation of new ideas (e.g., Dibrell et al., 2014). We propose that technological capability and new product development capability are complex bundles of skills and accumulated knowledge that become embedded as innovation capabilities and enable firms to transform innovation into valuable outcomes in the export market (Amit & Schoemaker, 1993; Day, 1994).

Technological capability refers to a firm's ability, skills, knowledge, and routine to develop and apply technology to produce new products more effectively and efficiently than its competitors (Yalcinkaya et al., 2007). Firms with more, and more cutting edge, technological capability can be expected to have competitive advantage and perform better in more turbulent environments than firms with lesser levels of technological capabilities. Technological capability represents the firms' internal effort to create a stock of scientific and technical knowledge (Kyläheiko et al., 2011; Quintana-García & Benavides-Velasco, 2008) that leads to more efficient processes for developing and testing new products and ideas (Wu, Ma, et al., 2019). Export firms with superior technological capability are more innovative (Hortinha et al., 2011), and perform better (e.g., Coombs & Bierly III, 2006).

Technological capability directly concerns R&D activities, which facilitate the creation of new products. This capability is composed of monitoring technological advances, assimilating new technologies and formalizing the development process. Technological capabilities allow exporting firms to minimize R&D costs more quickly than its competitors' costs (Kafouros, Buckley, Sharp, & Wang, 2008) due to economies of scale (Kaleka, 2002). Consequently, a firm can charge a lower price for the same products or services.

New product development capability allows an exporting firm to foresee market opportunities for new export products, thereby quickly developing and launching competitive new products to meet customers' preferences (Murray et al., 2011; Tan & Sousa, 2015). New product development capability can support the intention to compete based on both cost efficiency and marketing differentiation (Grant, 2010). Companies that have new product development capability are able to develop competitive products and gain many advantages over their competitors: premium prices, valuable market information, leadership reputation with consumers, lower development costs, and accelerated learning (Cooper, 2001).

We also predict that differentiation advantage mediates the relationship between innovation capabilities and new export product performance. Differentiation advantage considered to be significant competitive weapons, especially in markets with dynamic environmental characteristics, such as export markets (Leitner & Güldenberg, 2010).

Firms with a more significant presence in global markets require more proactive and aggressive technological capabilities (Lefebvre, Lefebvre, & Bourgault, 1998; Mazzi & Foster-McGregor, 2021; Pettigrew, Woodman, & Cameron, 2001). Porter (1985) argues that firms can be unique due to a series of fundamental drivers, and these drivers are the underlying reason for creating/developing a unique activity. He states that firms can implement a differentiation strategy by focusing on technology development. Linked directly to the core R&D function, technological capability helps firms invent new technology, generate product innovation, and bring new products to the marketplace (Zhou & Wu, 2010). With superior technological capability, firms can secure more significant efficiency gains by pioneering process innovations and can achieve higher differentiation by innovating products in response to the changing market environment (Leonidou, Palihawadana, Aykol, & Christodoulides, 2022; Mazzi & Foster-McGregor, 2021). This strategy includes the intensity of interaction with customers, personal relationships with customers, customer satisfaction and loyalty. Therefore, with differentiation advantage, firms find the opportunity to act according to sophisticated customer needs at all stages of the product/service life cycle. In this regard, export firms that are better and faster than their competitors in satisfaction of customer needs are predicted to gain more advantages (Efrat et al., 2018).

Therefore, technological capability is critical for firms to create differentiation advantage and achieve superior performance.

New product development capability enables an exporting firm to design unique new products/services/brands, which are highly valued by customers but difficult for competitors to imitate, thereby enjoying a differentiation advantage and performance reward (Kaleka, 2002; Murray et al., 2011). In today's competitive marketplace, having the capability to introduce a new product or service is essential, with clear implications for a firm's international performance (Castellani & Fassio, 2019; Hoque, Nath, Ahammad, Tzokas, & Yip, 2022).

To sum up, technological capability and new product development capability are expected to have a positive impact on low-cost advantage and differentiation advantage, which in turn is an essential contributor to a firm's new export product performance. The extent to which both capabilities can ultimately improve new export product performance may count on how well they can drive low-cost advantages and differentiation advantage. In short, technological capability and new product development capability positively influence low-cost advantage and differentiation advantage.

*Hypothesis 1 Low-cost advantage mediates the effect of (a) technological capability, (b) new product development capability on new export product performance.*

*Hypothesis 2 differentiation advantage mediates the effect of (a) technological capability, (b) new product development capability on new export product performance.*

### 3.3.2 Moderating influence of Institutional Distance on the Relationship between Innovation Capabilities and Competitive Advantage

According to Scott (1995:33), institutions 'consist of cognitive, normative, and regulative structures and activities that provide stability and meaning to social behaviour' and can play an essential role in restricting and affecting the behaviour of an organisation. Collis and Montgomery (1995) note that unique capability that provides competitive advantages in one product market may not be useful in other markets. Similarly, Morgan and Hunt (1999) indicate that the comparative advantages offered by the crucial resources will be useless if the

firm fails to position these advantages competitively. Hence, while using competitive advantage as a platform to gain value brought by innovation capabilities, export firms need to consider the influence of the institution's environment.

When exporting to a foreign market that is not similar to the home market, the firms have to face pressures from local institutions. As institutions are 'transported by various carriers—cultures, structures, and routines', there are three main pillars of institutions. (1) Regulative institution: the rules and laws to ensure stability and order in society. (2) Normative institution: values, and norms are governing people's behavior. (3) Cognitive institution: the rules are constituting the nature of reality and the frames building up the meaning (Powell, 1991; Scott, 1995). Firms have to act in accordance with institutions in order to gain organisation legitimacy and survive in the competition(Brouthers & Hennart, 2007). Due to the characteristics of international business, firms have to face at least two institutional environments (home and market country), which make them face dual pressures for conformity.

The three pillars of institutions have different characteristics, respectively, and their routes to gain legitimacy are varied (Suchman, 1995). Regulative institutions lay stress on affecting the other party's behaviour through established rules, laws, and regulative institutions can be delivered through informal mechanisms or formal authorities like government (Scott, 1995). Organizations will be rewarded or punished according to their conformity to these rules. Normative institutions focus on using both values and norms to 'introduce a prescriptive, evaluative, and obligatory dimension into social life' (Scott, 1995, p. 37 ). Value is the preferred or desirable conceptions that fit the existing standards, while norms specify how things should be done (Scott, 1995). Following the model and standards can help firms meet the normative expectations in local environments (Suchman, 1995). The third pillar of institutions—cognitive institutions underlines the rules that 'constitute the nature of reality

and the frames through which meaning is made' (Scott, 1995, p. 40 ). Any organizations which seek to gain cognitive legitimacy must not overlook the "taken for granted" within a culture.

Unique institutional structures guide a firm's strategic activities and affect the nature and amount of innovation and competitive advantage that take place within a country's borders (Nelson, 1993). A basic premise of international business research is that firms are embedded in country-specific institutional arrangements in which they are based (Kostova et al., 2020). As an MNE continues to conduct business across-borders into distant foreign markets, it is faced with larger institutional distances (Zaheer et al., 2012). Such distances reflect the differences in regulative settings, societal beliefs, and norms of
doing business, between the home and host countries. With increasing differences in the regulative and normative contexts, costs of doing business abroad increase and are likely to outweigh the benefits that the MNE derives from its international operations. With increasing institutional distance between home and host countries, the competitive advantage of a firm gets negatively affected as the firm continues on its path of international expansion. The major sources of the negative moderating effect emanate from the following factors.

First, one of the main sources of competitive advantage, and thereby superior performance, of MNEs over domestic firms lies in their ability to enable firms to employ various technologies to develop new products (Wu, Lao, Wan, & Li, 2019) and to develop innovative products with global potential (Rubera et al., 2016). If the foreign markets are institutionally very distant, transferring technological and new product development capabilities to and from foreign firms becomes an arduous task (Kostova et al., 2020). This can have two implications for the firm: (1) The firm may decide to invest significant innovation capabilities in overcoming the challenges of transfer, or (2) the firm may decide not to integrate the particular foreign firm located in the very distant host country with the rest of the

organization. In the first situation, costs of operating in the foreign market will be very high and influence the competitive advantage, at least for some time. In the second situation, the firm will not be able to benefit from its foreign operation to its full potential. As such, even if competitive advantage does not decrease, it will not improve in any possible manner. On the other hand, a strong institutional context may reduce uncertainties involved with operating in a new and foreign location and enable a firm to quickly recover its initial investments. From the standpoint of a firm, the differences between the institutional contexts where it conducts or plans to conduct business are of key concern since dealing with the differences is what substantially accounts for overall competitive advantage and performance effects. Based on this line of argument, we include institutional distance as a moderating factor in the conceptual and empirical framework of innovation capabilities and competitive advantage.

Therefore, the distance between home and the target country's regulative/normative/cognitive institutions can affect the relation between firm's particular innovation capabilities and competitive advantage.

*Hypothesis 3: The influence of (a) technological capability; (b) new product development capability on cost advantage will be stronger when the institutional distance between home country and market country decreases.*

*Hypothesis 4: The influence of (a) technological capability; (b) new product development capability on differentiation advantage will be stronger when the institutional distance between home country and market country decreases.*

### 3.3.3 Competitive Advantage and New Export Product Performance

An examination of the literature reveal that competitive advantage is not measured directly in most empirical studies (Keskin et al., 2021). Instead, Tan and Sousa (2015) address that previous studies treated performance and competitive advantage constructs interchangeably. Kaleka and Morgan (2017) emphasize that the relationship between competitive advantages and performance in the export context has been insufficiently explained and much research in the marketing and strategy literatures tend toward speculation. Research into competitive

advantage in exporting have found various positive [strategic, venture, product] performance effects (Kaleka, 2011; Kaleka & Morgan, 2017); competitive advantage as mediation mechanisms for translating export performance gains from market orientation and specific marketing capabilities (Murray et al., 2011; Tan & Sousa, 2015); and also some non-significant relationships, such as with export financial performance from export product competitive advantages (Leonidou et al., 2011). Indeed, the relationship between advantage and performance is not so clear in exporting. Studies have found for instance that domestic competitive advantage does not necessarily translate into export markets (Keskin et al., 2021).

In this study competitive advantage acts as a mediator between capabilities and new export product performance. As mentioned in the study competitive advantage components are cost leadership advantage and differentiation advantage.

Competitive advantages, indicate that export firms will gain more in international markets based on either low cost advantage or differentiation advantage, have great significance for competing against foreign market forces, overcoming competitive pressures and being truly sustainable in the market (Kaleka, 2002; Kaleka & Morgan, 2017; Morgan et al., 2004). Cost advantages give pricing flexibility to export firms and provide the ability to offer better value to customers, thereby increasing firms' export sales and profitability (Day & Wensley, 1988), thus, new export product sales and profitability. Similarly, differentiation advantages can affect the financial and strategic outcomes of firms' new export product performance by influencing customers' purchasing behaviour through the higher value that the export initiative provides relative to competitors (Morgan et al., 2004). Export firms can increase their new export product performance by making their customers pay higher prices for their new products because of their product technology and inimitable products. Likewise, the differentiation created against competitors in service areas like merchandising, technical

service, after-sales service, and on-time and safe delivery can positively affect export performance (Cenamor, 2021). When a firm gains product advantages in the export market, it may gain customers' positive attitude and the ensuing repeat purchases, which increase their export performance. Therefore, we expect that the competitive advantages that export firms gain over their competitors in the export market can positively affect their new export product performance. Therefore, we hypothesize that:

*Hypothesis 5: Cost advantage and differentiation advantage are positively associated with new export product performance.*

*Figure 3. 1 Conceptual Model*

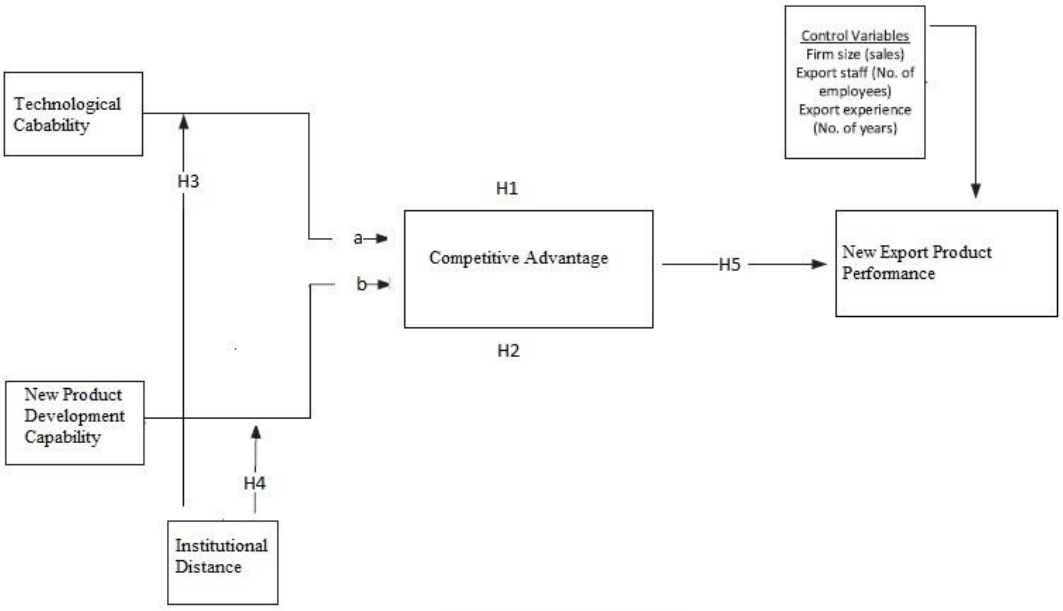



**Figure1: Conceptual Model**
H1 & H2: Mediating Effect

## 3.4 Chapter Summary

This chapter begins with a discussion of the key theories used in the literature to underpin the constructs. Then the theoretical underpinning used in this study to develop the conceptual model is presented. Accordingly, then the conceptual model used in the current study is

explained. Finally, the hypotheses were discussed in-detail which provided an explanation for the conceptual model. Insights were taken from the RBV and IT theory to define the key constructs used in the model. Furthermore, institutional distance is modelled as a moderator in the conceptual model and their respective relationships are discussed and justified. In addition, the model is controlled using firm size and international experience, which in the existing export performance literature suggests have a strong impact on the model. In the next chapter, the research methodology used to collect data for testing the above conceptual model is presented.

# Chapter Four: Research Methodology

## 4.1 Introduction

This chapter describes the methodology approach that is employed to collect data for the study. In order to test the model, achieve the research objectives and to verify the hypotheses relating to it as proposed in the previous chapter; it is important that a detailed research plan is outlined. Accordingly, this chapter is organised into five parts meant to address the research design issues. Initially, the most suitable paradigmatic approach within which to conduct this study is considered. The second section describes general data collection matters with a detailed explanation of the choice of research design for this study. The third part of the chapter provides justification for the chosen survey administration methods. Following this in the fourth part, a detailed explanation of pre-test design and process is provided. And in the fifth section reports on issues relating to the main survey study is presented. Finally, a summary is provided to conclude the chapter.

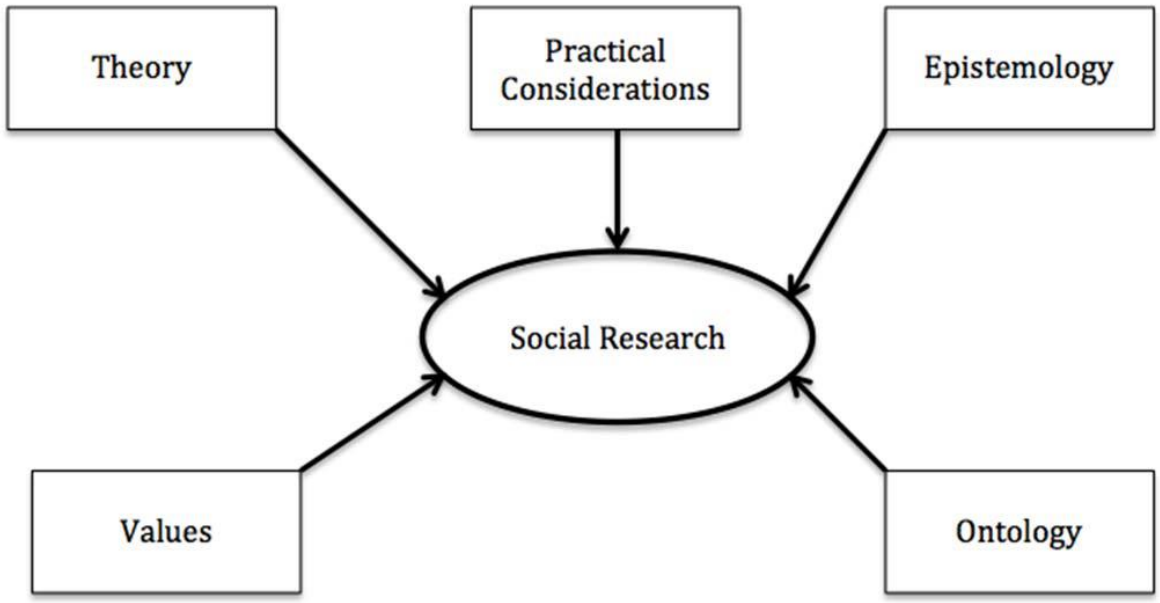
## 4.2 Influences on Social Research

In management research, research strategy is profoundly debated, primarily because of the differences on how social reality should be studied. This is mainly because one group of researchers believe that every individual involved in social science research plays a key role and the others believe that there is a single reality and reality follows a given set of laws which can be uniformed and is generalizable. Individual beliefs of the researcher play a key role in defining the research strategy but these beliefs alone do not influence how the research should be designed. Figure 4.1 summarises the various factors that influence research design in management.

Research paradigms that determine the ontology and epistemology of the research are two of the five factors that influence on how to conduct research. The principal orientation to

the role of theory in relation to research plays a key role as well. Selecting an appropriate research design is essential as different types of design seek different types of knowledge, and hence different methods of collecting data may better answer the questions posed by the research; hence leading to befitting practical applications.

*Figure 4. 1 Influences of the conduct of social research*




### 4.2.1 Summarizes the various factors that influence research design in management

In the following sections each factor that influences on the conduct of social research is discussed in detail.

#### *4.2.1.1 Research paradigms*

*"At its most abstract level, a research project is usually based on a hypothesis concerning the relationship among chosen concepts." (Losee & Worley, 1993, p. 103).* To test these relationships and to achieve the aim of the study, it is essential on the part of the researcher to consider the most appropriate paradigm within which to carry out the research. The definition of the word paradigm is "the generally accepted perspective of a particular

discipline at a given time" and a research paradigm is the set of beliefs or principles that shape and define the way the researcher perceives the world. It "represents a worldview that defines for its holder, the nature of the world, the individual's place in it, and the range of possible relationships to that world and its parts" (Guba & Lincoln, 1994, p. 107). The research paradigm determines the ontology and the epistemology of the research. Selecting the appropriate research paradigm is essential to successfully answering the research questions (Johnson, Buehring, Cassell, & Symon, 2006).

The nature of epistemological science ranges along a spectrum from positivism, under which research has historically followed a scientific methods approach, to interpretivism, where reality is interpreted subjectively and assumed to be a social construct. On the other hand ontology science ranges from objectivism that asserts that social phenomena and their meanings have an existence that is independent of social actors, to constructivism which, asserts that social phenomena and their meanings are continually being accomplished by social actors. In the next section, the two core elements of research paradigms will be examined for their suitability for the proposed research, and positivism and objectivism will be proposed as the most appropriate design for this research.

#### *4.2.1.2Epistemology*

The root definition of epistemology is the *"theory of science of the methods or ground of knowledge… it refers to the claims or assumptions made about the ways in which it is possible to gain knowledge of this reality, whatever it is understood to be; claims about what exists may be known" (Blaikie, 1993, p. 6). "The central issue is the question of whether the social world can and should be studied according to the same principles, procedures, and ethos as the natural sciences." (Bryman, 2004, p. 11)*. Based on this central issue there are three epistemological positions that emerge. *Positivism*, *Realism* and *Interpretivism*, positivism is a scientific approach to research, and affirms the importance of imitating natural

sciences. On the other hand, realism shares similar beliefs with positivist with one major difference, that, there is a scientific reality that is separate from our description of it. And interpretivism is gathering the subjective meaning of social action, as social science cannot be imitated as different people view the world differently.

The majority of research in marketing linked with innovation generally adopts a positivist approach. In doing so, most of the studies are quantitative based and use survey methodology. The data collected using surveys are formulated in such a way that suggests that firms are objective social entities, and these entities are organised according to predetermined

stable laws. Positivist researchers approach theory only to generate hypotheses

that can be tested, and that the knowledge is gained through gathering facts (Bryman, 2004). A positivist researcher has an existing objective that is based on the literature, and it is well structured, and the data is collected in a consistent manner and the researcher aims to avoid bias by remaining neutral and external to the research (Malhotra, Nunan, & Birks, 2017). The emphasis of this study is on testing the relationship between Technological Capabilities and New Product Development Capabilities and Competitive Advantage, and therefore the primary objective of this study is to measure this relation. Hence, the type of knowledge this study investigates is in positivist and deductive sphere.

#### *4.2.1.3 Ontology*

All researchers must start from a philosophical position that is either explicit or implicit. The two foundation elements that define the philosophical position in management research are: ontology and epistemology (Blaikie, 1993). Ontology is the *"science or study of being… it refers to the claims or assumptions that a particular approach to social inquiry makes about the nature of social reality" (Blaikie, 1993, p. 6)*. The ontological assumptions feed into how the research questions is formulated and how research is carried out. The

central point of ontology is the question whether social entities can and should be considered as objective entities or social constructions. These two positions are intermittently referred as *objectivism* and *constructionism.*

Objectivism implies that social phenomena are external facts and that are beyond our reach or influence, and various categories are independent or separate from actors (Bryman, 2004). On the other hand, constructionism implies that individuals/actors are continually accomplishing social phenomena. The underlying difference has a huge impact on the knowledge obtained from the data collected. When social entities are considered as objective entities then the key assumption here is that people learn and apply the rules and regulations, they follow standard procedures. When social entities are considered as social constructs then the key belief is that people are involved, and knowledge is viewed as indeterminate. It is believed that rules are far less extensive and less rigorously imposed. The majority of research in marketing linked with innovation generally adopts an objectivism ontological approach. In doing so, most of the studies are quantitative based and use survey methodology. The data collected using surveys are formulated in such a way that suggests that firms are objective social entities, which act on individuals.

## 4.3 Research Design

Research design is a detailed blueprint that guides a study towards the achievement of its goals (Bryman, 2004). The results of the study should resolve the hypotheses that provide evidence of validity, and at the same time, the process should be replicable by another independent researcher. Research designs have been classified according to five types: experimental, cross-sectional, longitudinal, case study, and comparative (Bryman, 2004; Kerlinger, 1973).

Experimental research design is the least employed in social science research (Bryman, 2004). The key purpose of using an experimental research design is to gain more knowledge

on experimental realism (Aronson & Carlsmith, 1968). The internal validity of using this design is very high but there are questions regarding the external validity and reliability of the results obtained. The chief reason for using experimental research design is that the results provide a better understanding of the phenomenon when it is compared (control group) to similar context rather than comparing the phenomenon to something else that is similar to it. In the current study the primary focus is to understand what the relationship between two capabilities and new export product performance mediated by competitive advantage is and not to test this relationship in comparison to controlled scenario.

A case study or comparative study design would not provide appropriate results for this research. This is primarily because, qualitative research design (that is, case study) is generally used to answer research questions that provide an explanation to as why there is a relationship between the constructs in the study. Quantitative research design (that is, cross-sectional and longitudinal) is generally used to answer research questions that provide an explanation of what the relationship between the constructs in the study is. Hence, qualitative research is mostly used to build theory and on the other hand, quantitative research is used to test the theory (Bryman, 2004). Churchill and Iacobucci (2005) notes that longitudinal and cross-sectional designs are the dominant forms of research designs used to examine relations between organisational variables in marketing research. Taking into consideration, the extra demand for expenditure in terms of cost and time in longitudinal designs means that it is practically impossible to implement it in academic research. Implementing longitudinal research design in doctoral studies is a less desirable option.

In addition, there are certain limitations in implementing a longitudinal research design. First, the lack of clear guidelines regarding when to conduct further wave(s) of data is one of the major problems. Two, often researchers who employ longitudinal design tend to collect large amounts of data with little apparent planning (Bryman, 2004). Third, the problem of attrition

has made longitudinal design less frequently implementable (Bryman, 2004; Rindfleisch, Malter, Ganesan, & Moorman, 2008). In addition, in the current study, the primary focus is to measure how export firms tend to sale the developed export products and not what is the long-term effect of implementing a new export product culture. Longitudinal studies are primarily used when researchers focus on answering questions such as how in long-term the relationship between the various constructs change. Finally, longitudinal design is more appropriate in comparison to cross-section design, when the sample size is not large and collecting data over a period may provide insightful results.

Taking the limitations of longitudinal design into consideration, a cross-sectional research design was chosen to examine the relationships reported in the previous chapter.

Bryman (2004) defines cross-sectional design as "*collecting data at a single point in time from more than one case in order to quantify the data collected with two or more variables, which are then examined to detect patterns of association"* (p. 41). Cross-sectional design is good for examining relationships between variables, but it is not easy to draw casual inferences.

Cross-sectional design makes use of research instruments such as self-completion questionnaires, or structured observation schedules that jeopardize internal validity, but replicability and external validity tend to be strong. But the issues of reliability and measurement validity is primarily matters of the scales used to measure the variables (Bryman, 2004). In contrast to longitudinal design, common method variance and casual inferences issues are not well dealt with in cross-sectional research design.

Rindfleisch et al. (2008) suggest that data collected using cross-sectional designs can have better common method bias and causal inference using multiple respondents, multiple data sources, or multiple periods.

Consistent with the above recommendations, a retrospective questionnaire was developed for this study, and multiple sources were used to collect data. However, there is a variety of arguments for and against the use of retrospective data. It is argued that it is hard for the respondents to speculate the previous strategies used in the firm because of respondents' faulty memory (Golden, 1992). Golden (1992) and Glick, Huber, Miller, Doty, and Sutcliffe (1990) argue that there are certain guidelines that researchers should follow to reduce the errors that emerge from using retrospective questionnaires. In line with these recommendations the first step taken was to collect information on behavioural accounts along with their beliefs and intentions (i.e., perception of new export product performance and institutional distance). Second, the questionnaire had no open-ended questions as respondents may selectively neglect some events. Third, organisational and industry contexts may influence the quality of the retrospective data collected and to avoid errors emerging from this, the questions asked the respondents to think about the strategies built in the last three years and not longer. This reduces the error occurring from the retrospective data collected. Fourth, Golden (1992) recommend that researchers should try to encourage the respondents to provide accurate information and be adequately motivated. Hence, the respondents were continuously reminded to provide honest answers and reassured that the answers provided by them would be in absolute confidence. This would, it was hoped, give them the confidence to be honest and provide accurate information. In addition, this study conducted rigorous reliability and validity assessments (see chapter six).

As indicated earlier, existing literature on innovation and export performance has largely followed cross-sectional research design for data collection (e.g. Chen, Sousa, et al., 2016; Cillo, Petruzzelli, Ardito, & Del Giudice, 2019; Ferreira et al., 2020). As such, cross-sectional designs can serve as a satisfactory alternative to longitudinal designs if they are well designed and implemented. In many respects, they are powerful tools for survey data

collection (Rindfleisch et al., 2008). According to De Vaus and de Vaus (2013), cross-sectional dataset is a useful means of evaluating and modifying theoretically derived *a priori* models. In this regard, the patterns of association between constructs of interest can be compared by evaluating the logic of the a priori theoretical arguments (Cadogan, Cui, & Li, 2003). As such, examining the associations of firm capabilities with new export product sales using cross-sectional data should help to provide invaluable additions to knowledge. Thus, a cross-sectional research design was adopted for the current study.

### 4.3.1 Sampling Frame Selection

The population of this study was exporting organizations located in the United Kingdom. Several criteria were used to select the sample for this study.

1. Personalize each email to suit each exporting organization.
2. The database will need to contain current and up to date information
3. in drawing on the work of Oviatt and McDougall (1994) this study selected exporting organizations with at least ten employees.
4. Export firms operate in high-tech manufacturing industry, producing technologically sophisticated products and services. Table 4.1 presents the list of high-tech industries provided by Organization of Economic Co-operation and Development (OECD, 1999).
5. Firms must be operating for, at least, the past three years.

Due to the length of the questionnaire and job roles of the respondents, it will be reasonable to expect that a response rate of about 20% could be achieved given a targeted sample size of 200 firms. Thus, to achieve a minimum of 200 useable responses for structural equation modelling, a minimum sample of 1000 exporting organizations was needed.

Several business directories and companies that provide company lists were available and could have been used for the study. Among these were Fame export lists, British Export directory from the institute of export, Dun & Bradstreet, Financial Times Business List, Kompass Register CD database, Kompass British Exports, and many others. However, the final choice was between Kompass Register CD database, Fame export lists and British export directory, all of which met the entire requirements listed above. However, for practical reasons, Fame export lists and British export directory were selected.

*Table 4. 1 List of High-Tech classification of manufacturing industries*

| High Technology | Medium- High Technology |
|---|---|
| Pharmaceutical | Electrical machinery and apparatus |
| Aircraft and spacecraft | Motor vehicles, trailers, and semi-trailers |
| Medical, precision, and optimal instruments | Chemicals excluding pharmaceuticals |
| Radio, television, and communication equipment | Railroad equipment and transport equipment |
| Office, accounting, and computing machinery | Machinery and equipment |

**(Source OECD, 1999)**

There were about 11,000 exporting organizations on the list, however only 1,400 firms were classified as active exporters. To supplement the list from the Fame database, another list was also sourced from the British export directory which provided an additional 300 export organizations. The two databases were subsequently combined. Further cleaning was undertaken resulting in 489 firms being removed due to wrong addresses, acquisition, and relocation (some relocated to continental Europe as a result of mergers). Thus, in combining the two lists, a total of 1,211 export firms were left and these were used for both the mail pre-test and main survey studies.

### 4.3.2 Data Collection Method

A cross-sectional research design was chosen to examine the relationships reported in the previous chapter. Bryman (2004) defines cross-sectional design as "*collecting data at a*

*single point in time from more than one case in order to quantify the data collected with two or more variables, which are then examined to detect patterns of association"* (p. 41). A cross-sectional design is good for examining relationships between variables.

Having described and chosen a cross-sectional research design, it is also imperative to choose a feasible data collection method. Several survey-based data collection methods are available including, face-to-face interviews, telephone interviews, online questionnaires, and mail questionnaires (Churchill & Iacobucci, 2006). In the following paragraphs, each survey administration method is evaluated, and the most appropriate method is chosen with consideration of its advantages and disadvantages and in relation to this study's research objectives.

Firstly, given the large number of exporting firms that will need to be contacted and given the number of questions that will have to be asked, face-to-face interview method will not be a preferred method for the current study because it will not be convenient in terms of cost and time. Moreover, this study requires collecting information from exporters located across the entire United Kingdom, it would be too costly to travel across UK and to contact the firms for face-to-face interviews (Churchill & Iacobucci, 2006). This is notwithstanding the fact that face-to-face interview method generally ensures high response rates (Bryman, 2004).

Secondly, a telephone interview will also not be chosen for this study because it will be an inconvenient and uncomfortable method given the sensitive nature of the data that is needed to be collected. For example, managers may have needed longer time to search for information on sales and profit figures, which practically could not be done over the phone. In addition, given the sensitivity of information that will be collected and the need to guarantee respondents complete confidentiality, it could make respondents feel uneasy to complete the questionnaires over the telephone. Given these limitations, it is, therefore, not

surprising to find that export researchers rarely use this method for the collection of survey data.

Thirdly, the other mode of collecting data is through self-completed questionnaire. Compared to structured interviews, self-completed questionnaires have many advantages, such as; it is cheaper and quicker to administer the questionnaires. The effects of the interviewer are absent, and it is convenient for the respondents as well. There are many disadvantages of using self-completed questionnaires, as there is a greater risk of missing data. In addition, the response rate tends to be lower plus it is hard to collect any additional data. Given the problems associated with the face-to-face interview, telephone interview, the self-competed questionnaire was chosen for the current study with the consideration of its advantages and disadvantages.

There are two main modes of administrating self-completed questionnaires. This form of collecting data can be administered using online surveys or postal questionnaires. The most prominent form of administrating data collection in organization literature is postal questionnaires (Bryman, 2004). The other way of administrating self-completed questionnaires is using online surveys. This method usually involves either mailing the questionnaire or sending a web link containing the questionnaire to the respondents (Dillman & Bowker, 2001). Compared to postal questionnaire, online questionnaires have many advantages, first, relative to postal surveys; the online questionnaire method is relatively cheap (Bryman, 2004; Dillman & Bowker, 2001). Second, with online questionnaires, one can be sure of whether the right person has answered the questionnaire. Third, using an online questionnaire, the respondent cannot read the whole questionnaire before answering the first question. Fourth, by using online questionnaire, one can be sure that questions have been answered in the correct order.

However, there are few drawbacks of using online survey method. First, a major drawback is lower response rate compared to the response rate using a mail survey method. Puleston (2011) state that response rate from online surveys has fallen by more than 50% in the last five years. Second, there are many firms with strict policies against accepting online surveys. Third, the question concerning the gathering of data in absolute confidence, as Puleston (2011) argue that some respondents may be concerned with the mishandling of data collected by the online survey software company. Puleston (2011) states that some of the respondents are concerned regarding the access of their contact details shared with the online survey companies. And finally, there are a high percentage of undelivered surveys. A study conducted by Roy and Berger (2005) on testing the response rate of online surveys, they found that more than one in five electronic surveys did not reach the recipient's mailbox.

Overall, given the problems associated with postal questionnaire methods, the online questionnaire method was chosen for the current study weighing the pros and cons of using this method. Despite these impediments, online survey technique is a useful data collection method and if it is well designed and administered it reduces the aforementioned drawbacks (Puleston, 2011; Roy & Berger, 2005). Several statistical and methodological procedures have been recommended to not only improve the quantity of data but also to improve the quality of data collected through online survey technique. Roy and Berger (2005) total design method was followed to improve the response rate. The emails were personalized and the link to the questionnaire was embedded in the body of the letter. A brief description of the study was included in the body to improve the response rate. A clear instruction and an attractive questionnaire layout, starting the questionnaire with more interesting questions and reserving sensitive personal information the end of questionnaire, and providing incentives for successful participation in the research are some other procedural measures that could increase response rate (Blair and Zinkhan 2002).

The drawbacks associated with non-response bias can be estimated through statistical procedures and appropriate adjustments can be made accordingly (Armstrong & Overton, 1977). Moreover, it can be argued that non-response error is not unique to online questionnaire method alone as it is acknowledged as a major problem in survey research in general (Churchill & Iacobucci, 2005; Rindfleisch et al., 2008). The low response rate and non-response bias issues are further discussed, it is important to state that in the current study a phone follow up was used and some questions were completed on the telephone when requested by a respondent.

### 4.3.3 Choice of Export Organizations

In chapter three, it was hypothesized that new export product performance could be determined by export capabilities. To test this hypothesis, the sampled organizations should show some variations with respect to their export activities. Accordingly, organizations with significant export operations were deemed suitable for the current study. This choice is consistent with prior studies on export performance (Efrat et al., 2018; Tan & Sousa, 2015). As a result, an effort was made in the current study to locate a sampling frame that contained a large number of active exporting organizations.

### 4.3.4 Choice of Respondents

The source of information for a study is important for the accuracy of the study results, without which, the results and conclusions drawn cannot be generalised to the intended population. As outlined in the objectives and the system of hypotheses of the current study, it is important that detailed information on the export operations of all organizations studied is provided. From this perspective, the most effective way to generate information on the export organizations is directly from key decision makers in the organizations. In the case of the current study, key decision-makers directly responsible for the firms' export operations will be most suitable informants. This is because these groups of informants are most likely to be

knowledgeable about the firm's export activities and therefore should be able to provide accurate information on the key constructs of interest to the current study.

Export studies researchers have used CEOs, presidents, export directors and export managers as key informants (Robertson & Chetty, 2000; Zahra & Garvis, 2000). It is argued that because of their extensive involvement in their firms' export operations, export managers are practical and reliable sources for generating data on export activities and export performance.

Consequently, in line with the existing literature, managers at senior management level of the exporting organizations will be chosen as key informants for the current study. In fact, previous export studies (Knight & Cavusgil, 2004; Knight & Kim, 2009) have shown confidence in the use of such managers.

## 4.4 Questionnaire Design

This section describes the questionnaire design process. As discussed in the previous section(s), the online survey design was selected as the process of collecting data for this study. There are three main objectives in designing a questionnaire.

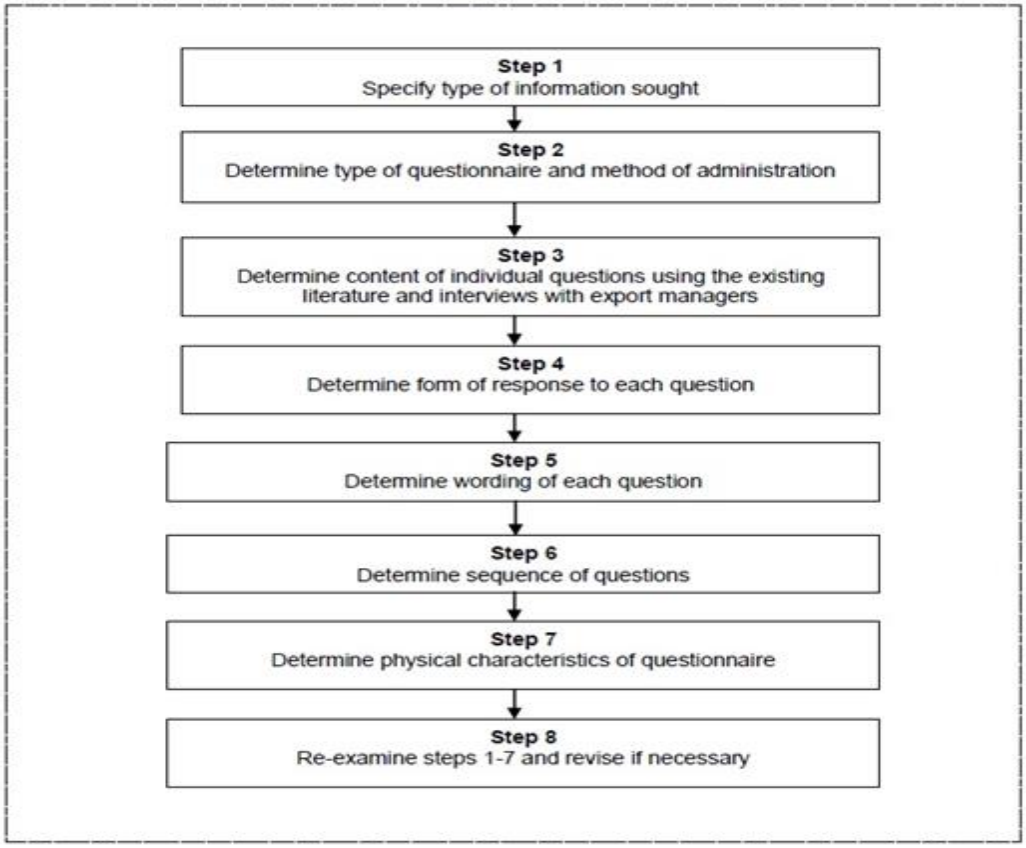
First, the most crucial objective is to collect accurate and relevant information, second, to maximize the proportion of respondents answering it (Kember & Leung, 2005), and third, to reduce any concerns regarding common method variance (Podsakoff & Organ, 1986). This section provides a detailed description of the questionnaire design process. As discussed in the previous section(s), the online survey design was selected as the process of collecting data for this study. There are three main objectives in designing a questionnaire.

First, the utmost important objective is to collect accurate and relevant information, second, to maximize the proportion of respondents answering it (Kember & Leung, 2005), and third, reduce any concerns regarding common method variance (Podsakoff & Organ, 1986). To achieve the above-mentioned objectives, Churchill and Iacobucci (2005) suggest a nine-step procedure. Figure 4.2 illustrates these steps, which are considered and implemented in this

study. The development of the questionnaire and the types of information sought in the questionnaire were reflective of the study's conceptualizations and hypotheses.

*Figure 4. 2 Questionnaire Development Procedure*

Figure 4.2 : Questionnaire Development Procedure




*Adapted from Churchill (1979)*

### 4.4.1 Questionnaire structure and Measures

In line with the objectives of the current study, the existing literature was studied to locate suitable scales to measure the key constructs of interest. The scale-search task began by looking at existing scales that measured the technological and new product development capabilities, competitive advantage, institutional distance, and new export product performance. Most of these were found in the literature, except of new export product performance measures, which were adapted to fit the definitions developed in chapters two and three. Validated scales from the literature were undertaken with respect to the other constructs of interest to the current study.

In the sections that follow, detailed information on the proposed measures of these constructs is presented.

*Table 4. 2 List of Information sought from respondents*

| |
|---|
| **Innovation Capabilities**<br>1. Technological capability<br>**2.** New product development capability |
| **Competitive Advantage**<br>1. Low-cost advantage<br>**2.** Differentiation Advantage |
| **New export product performance**<br>1. Perceived satisfaction with *sales* of the new export product(s) introduced in the last three years by the firm. |
| **Institutional distance**<br>1. Regulative<br>2. Normative<br>**3.** Cognitive |
| **Firm Profile Information**<br>1. Total Employee number<br>2. Business experience<br>3. International experience<br>4. Total annual turnover<br>5. Total number of employees<br>6. Export destinations<br>7. Industry characteristics<br>8. Size of export sales<br>**9.** Business type |

### 4.4.2 Innovation Capability

#### *4.4.2.1 Technological Capability*

In export markets, competitive advantage results from the firm's ability to develop new technologies more rapidly than its competitors and promoting the creation and dissemination of technological innovations (Guan and Ma, 2003). Technological capability represents the firms' effort to create a stock of scientific and technical knowledge that can be used to develop and improve products and processes (Kyläheiko et al., 2011; Quintana-García & Benavides-Velasco, 2008). Also, it is the ability to perform any relevant technical function or volume activity within the firm, including the ability to develop new products and processes, and to operate facilities effectively. The firm's R&D activity usually measures technological capability (e.g., Kyläheiko et al., 2011; Zahra, 1996). R&D activity is a resource-based investment and represents the most important intangible innovation expenditure (Roper &

Love, 2002). Indicators of a superior technological capability, such as extensive R&D projects, increase the firm's ability to adopt novel technologies and approaches when developing new technological assets (Yam, Lo, Tang, & Lau, 2011). Consequently, a firm can recognize opportunities and apply its long-term know-how to new products in time to achieve success in the export marketplace (Kyläheiko et al., 2011).

Chen, Wang, Huang, and Shen (2016) suggest that the variety of resources used in new product can be segregated into technological capability. Firms operate in new technological domains mainly to develop new products with high product advantages compared to other products available in the market. At times firms have to change the manufacturing processes, as these may not be efficient and effective. Some firms adapt to new technology as the needs/wants of the customers change; hence, they have to develop new products using new technology.

Technological capability is associated with the concept of absorptive capacity for innovation (Cohen & Levinthal, 1990; Zahra & George, 2002), which is a necessary condition for external learning that enables exporting firms to recognize, assimilate, and apply ideas and technology derived from their foreign contacts (Aw, Roberts, & Xu, 2008). In addition, absorptive capacity is a measure of internal learning that reveals an internal effort to develop technological knowledge (Quintana-García & Benavides-Velasco, 2008). Kim, Im, and Slater (2013) measure technological knowledge to assess the extent of a firm's use of new technology when developing new products.

In line with the above, technological capability can be measured by the firm's perception of technological knowledge and investment in long-span term R&D activity (Kyläheiko et al., 2011).

*Table 4. 3 Operationalization of Technological Capability*

| Constructs | Measure Items | Items Source |
|---|---|---|
| **Technological Capability 1 = "strongly disagree"; 7 = "Strongly agree"** | 1. Acquiring important technology information<br>2. Identifying new technology opportunities<br>3. Responding to technology changes<br>4. Mastering the state-of-art technologies<br>5. Investing heavily in certain R&D projects | Zhou and Wu (2010) |

#### *4.4.2.2 New product development capability*

In this study, new product development capability refers to the accumulated knowledge and skills which exporters use to create or innovate new products or significantly improved products in order to meet customer's needs quickly and successfully (Morgan et al., 2012; Murray et al., 2011; Tan & Sousa, 2015).

In line with RBV, the items denoting new product development capabilities used in this study were the outcome of a review of the pertinent exporting literature (Kaleka, 2012; Tan & Sousa, 2015; Zou et al., 2003). Therefore, new product development capability is measured by five items, which indicate firms' abilities to manage new product development processes and develop new products for the export market only.

New product development capability is measured as a firm's knowledge and skills in new product development and improvement of existing products. The scale used by Tan and Sousa (2015) was adapted for the current study to capture the new product development capability construct. The items were measured on a seven-point Likert scale.

*Table 4. 4 Operationalization of New Product Development Capability*

| Constructs | Measure Items | Items Source |
|---|---|---|
| **New product development capability 1 = "strongly disagree"; 7 = "strongly agree"** | 1. We are capable of developing of new export products for our export customers<br>2. We are capable of exploiting R&D investment for new export products development<br>3. We speedily develop and launch new products for export market only | Tan and Sousa (2015) |

| | |
|---|---|
| | 4. We are capable of improving/modifying of existing products to suit export market<br>5. We often adopt new methods/ideas in manufacturing process |

### 4.4.3 Competitive Advantage

Competitive advantage refers to the economic value that has been created from the exploitation of a firm's resource-capability combination (Newbert, 2008). Competitive advantage has low-cost and differentiation-related components, and the expectation for a company operating in competitive environments is that it excels in both advantages (Oliver, 1997; Schilke, 2014).

Accordingly, exporters should pursue low-cost advantage, and differentiation advantage in the international markets. It is suspected that developing competitive advantages will allow exporters to better satisfy customers relative to rivals.

In this study, competitive advantage was measured with items drawn from Kaleka (2012); Morgan et al. (2004) seven-point Likert scale items. Items were related to low-cost, and differentiation comparability advantage.

*Table 4. 5 Operationalization of Competitive Advantage*

| Constructs | Measure Items | Items Source |
|---|---|---|
| **Competitive Advantage**<br>**1 = "Much worse than our key competitors";**<br>**7 = "Much better than our key competitors"** | A. Low-Cost Advantage<br>1. Cost of raw materials<br>2. Production unit cost<br>3. Distribution cost<br>4. Cost of sales | Morgan et al. (2004); Kaleka (2002) |
| | B. Differentiation Advantage<br>1. Export Product differentiation<br>2. New Export product introduction<br>3. Export Product line breadth/depth<br>4. Brand awareness/identification<br>Product availability | Morgan et al. (2004); Kaleka (2002) |

### 4.4.4 New Export Product Performance

This study adapts the measure of export performance, to measure new export product performance, as the latter is a dimension of export performance that is less researched. The

literature suggests that objective or subjective measures could be used to assess export performance (e.g., Zou et al., 1998). However, Katsikeas et al. (2000) argue that although objective measures of export performance can be reliable indicators of performance, nonetheless, their operationalization can pose considerable problems. Such as the difficulty of distinguishing domestic and export business operations in reported data, concerns about the comparability of financial data (e.g., differences in internal accounting practices), the difficulty of obtaining objective data from small exporting ventures, and the problem of objective sources containing data that are not updated. Accordingly, Katsikeas et al. (2000, p. 505 ) recommend the use of subjective primary measures as this form of export performance assessment has been proven to be more valid in tapping "the long-term aspects of export performance…and in determining the mode of performance most likely to influence strategic managerial decision making and actions". Additionally, Woodcock, Beamish, and Makino (1994) suggest that it is appropriate to use subjective measures when: (a) informants are unable or unwilling to provide objective financial indicators; (b) major differences in financial reporting exist in the firms home and host countries; and (c) major differences in accounting practices across different countries hamper reconciliation of variations.

In using primary subjective measures of export performance, scholars recommend the adoption of a multi-item scale (Katsikeas et al., 2000; Matthyssens & Pauwels, 1996; Sousa, Martiez-Lopez, et al., 2008; Zou & Stan, 1998a). Accordingly, the new export product performance scale used in the current study is comprised of variables that captured manager's perceived satisfaction with (a) new export product market share, (b) the new export product sales volume, (c) new export product profitability. Past export studies have particularly found these subjective items to be reliable and valid measures of export performance (e.g., Cadogan, Diamantopoulos, & Siguaw, 2002; Kuivalainen, Sundqvist, & Servais, 2007; Racela, Chaikittisilpa, & Thoumrungroje, 2007). Thus, new export product performance was

measured by a three-item scale, asking respondents to indicate how satisfied they were with the performance of their new export product operations. All items used in the new export product performance scale were sourced from Cadogan et al. (2002), and were anchored at 1 = "very dissatisfied". 7 = "very satisfied".

Additional fact-based data (e.g., total annual turnover, export turnover, and annual pre-tax profit, number of employees and export destinations) were also collected from the firms' annual reports and websites. The additional performance data were subsequently compared with those provided by the export managers in the main study survey. No differences were found between the two sources of performance data. Accordingly, this study is confident that the subjective performance measures used here are acceptable measures of export performance (Kuivalainen et al., 2007; Racela et al., 2007).

*Table 4. 6 Operationalization of New Export Product Performance*

| Construct | Measurement | Item Source |
|---|---|---|
| **New export product performance**<br>**Measured as a value range for the past 3 years**<br>**Satisfaction of new export product performance**<br>**1= Extremely dissatisfied: 7= satisfied** | 1. New export product market share<br>2. New export product sales volume<br>3. New export product profitability | Katsikeas et al. (2016) |

### 4.4.5 Institutional Distance

Previous institutional distance studies have mainly drawn measurements from secondary data that focus on a general country level of normative-regulative-cognitive institutional differences (Beugelsdijk, Ambos, & Nell, 2018; Kostova et al., 2020; Scott, 1995). These measures have been criticized by researchers such as; Kirkman, Lowe, and Gibson (2017) and Maseland, Dow, and Steel (2018). For this study, we make use of composite constructs of institutional distance, as opposed to specific dimensions as the nature of our theoretical

argument has to do with distance in general (Beugelsdijk et al., 2018). This study integrated the subjective and objective measures. Previous studies have mainly drawn measurements from secondary data that focus on a general country level of regulative, normative, and cultural-cognitive institutional differences. However, as decisions are made by managers, their perceptions of the differences will be more objective (Cui & Jiang, 2012). Therefore, this study makes in measuring the three pillars of institution distance by using manager's perceptions. Managers will be mainly concerned with the regulative, normative, and cultural-cognitive institutions that they encounter in the export country.

To measure the regulative institutional environment for exporters, 5 items were taken from the World Economic Forum's (WEF, 2007) global competitiveness report. First as in (Luo & Zhao, 2013), the protection of intellectual property measures were provided. Exports are concerned with protecting intellectual property such as brands and trademarks. Second, we included three items from the government inefficiency measure: the burden of regulation, the efficiency of the legal framework, and the transparency of policymaking. Such governmental policies/actions can make it difficult for exporters to understand the regulative environment and, as a result, increase the risk and costs of doing business in a particular market. Third, we included an item from the Goods Market Efficiency portion of the database. This item included the effectiveness of any anti-monopoly policies. This factor highlights government attitudes toward exporters and the barriers such firms face in a particular market. All 5 items were loaded on one factor that we called regulative distance.

As in (Yiu & Makino, 2002), our normative institutional variable examines the ethnocentrism of the market. Exporters will have greater difficulty selling their products in markets with higher ethnocentrism since, in these markets, buyers tend to prefer domestic goods and services (Shimp & Sharma, 1987). This factor was computed by taking the difference between the UK and the target market in four items taken from the IMD World

Competitiveness Yearbook (IMD, 2007), which looks at the openness of the market. Items such as bureaucratic problems, government transparency, and so on relate to the norms of doing business in a country. For example, in some countries, it may be a desirable goal of businesses to be seen as a favorite of the government. To pursue this goal, giving gifts to government officials may be a legitimate means and not taboo. The same actions may be seen as bribery and be very undesirable in some other countries. The items under the normative dimension reflect the extent to which such practices are acceptable in the society. The four items were loaded onto one factor that we called normative distance.

Finally, for cognitive institutional distance, this study's items were derived from GLOBE, since it's measuring items are more related to practice and more concise (House, Hanges, Javidan, Dorfman, & Gupta, 2004). Respondents were asked to indicate their perceptions of the differences of nine aspects related to cultural-cognitive institutions between their home and the export country

*Table 4. 7 Operationalization of Institutional Distance*

| Construct | Measurement | Item Source |
|---|---|---|
| **Institutional Distance** | | |
| **Regulative institutions** | • Protection of intellectual property.<br>• Burden of regulation.<br>• Efficiency of legal framework.<br>• Transparency of policy making.<br>• Effectiveness of anti-monopoly policy. | (WEF, 2007) |
| **Normative institutions** | • Transparency of government policy is satisfactory.<br>• Bureaucracy hinders business activity. Bribing and corruption do exist.<br>• Ethical practices are implemented in companies<br>• Health, safety & environmental concerns are adequately addressed by management. | |
| **Cognitive institutions** | • Decisions are made in group discussions<br>• People are concerned about each other<br>• People are valued more for what they do than who they are | IMD (2007) |

| | | |
|---|---|---|
| | • Risk and uncertainties are well taken into consideration<br>• Planning for future is highly appreciated<br>• Rationality in behavior is emphasized rather than humanity<br>• There is no sex segregation<br>• Information is generally widely shared<br>• People are encouraged to be assertive, aggressive, and tough in social relationships | The GLOBE |

### 4.4.6 Control Variables

There were questions used to profile the export firms that were sampled in this study. In fact, one of the profile variables (i.e., firm size) was used as a control variable in the conceptual model in accordance with prior research. In line with previous research, export experience was measured by the number of markets to which the firm has exported (He, Brouthers, & Filatotchev, 2013). International experience was measured by the number of years the firm had exported (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009), Firm size was measured by a single item using the total employee number in the export firm (Brouthers & Xu, 2002). Firm size was included as a control variable in this study primarily because firm size can potentially influence new export product performance by affecting the number of products developed and the human resources available to develop products. Firm size is generally regarded as an indicator of resources (Calof, 1994). Larger firms are more likely to achieve higher export activities, because they have more resources to support strategies that could better meet local demand and compete favorably against rivals (Sousa & Bradley, 2009).

In addition, we control for firm age which is calculated by subtracting the year when the firm was registered from the year of the survey, and then this number is transformed logarithmically. Furthermore, research findings indicate that firm export experience has an impact on the levels of export performance achieved by firms (Cavusgil & Zou, 1994b; Morgan et al., 2004). Accordingly, firm export experience was included as a control variable

in the present research. Such variable was measured via the number of years the firm has been exporting (Morgan et al., 2004).

The number of countries to which the firm exports can be considered as an indicator of the level of diversity of the firm's export operations (Dhanaraj & Beamish, 2003). Accordingly, such an indicator was used in the current study in order to obtain a snapshot of the level of diversity of the firm's export operations.

## 4.5 Response form

Following the steps for designing a questionnaire (See figure 4.2), in the previous section(s) the information wanted to achieve of the aims of this study is listed. Based on the aim of this study and other factors, a computerized self-administrated questionnaire technique was chosen; and based on the existing literature; the content of each individual question is listed. The next four steps in designing a questionnaire are to decide the form of response and the physical characteristics of the questionnaire.

The next step was to decide the particular form of response. Churchill and Iacobucci (2002) suggest two response formats; these include open-ended answers and close-ended answers. In the questionnaire, there was limited number of open-ended questions. There are three main benefits of using closed-ended questions. It saves time for the respondents as completing the questionnaire is merely circling or ticking the boxes. Two, it assist the respondents as they as they do not have to think of the responses, and, three data analysis is made easier (Hague, 1993). Closed-ended questions are divided into the following types:

1. Multiple choice questions
2. Dichotomous questions
3. Scales

(Churchill, 1999; Malhotra, 1999)

Multiple-choice questions are preferred when there are many possible answers to a single question. As most of the questions in this study were to measure the behaviour of the

respondents, using multiple-choice questions seemed the least preferable option. On the other hand, Dichotomous type of questions is most preferred when questions have only two response alternatives (Churchill, 1999).

Most of the questions used in the questionnaire were scale type closed-ended questions. Scale type questions are commonly used in marketing literature. “Scales are questions which limit the choice of the respondents (Hague, 1993). (Malhotra, 1999) suggest that there is three commonly used itemized rating scales. These are:

1. Likert scale
2. Semantic differential scale
3. Staple scale

Likert scale is commonly used when the respondents indicate the degree to which they “agree” to “disagree” with statements. Semantic differential scale type is preferred when the end points are associated with bipolar labels (for example, never – all the time). On the other hand, Staple scale is a unipolar rating scale that consists of single adjective to describe the middle point of an even ranged of values. Most of the questions used in this study are Likert and semantic differential scale types. The primary reasons for using these types of closed ended questions are, one, as they are easy to construct, administer, and understand. Two, there is also continuity because of the use of the same scale responses.

## 4.6 Common Method Variance

Podsakoff, MacKenzie, Lee, and Podsakoff (2003) suggest that there is a raising concern regarding common method bias, since the dependent and independent variables were sourced from the same informant. This may create false internal consistency and may cause the results to be biased (Podsakoff et al., 2003; Rindfleisch et al., 2008). In order to reduce the raising concerns regarding common method bias, suggested steps were taken into consideration when the questionnaire was designed.

First, Podsakoff et al. (2003) suggest that there may be certain error(s) connected with the chosen scale format. Therefore, as it can be seen from the previous section, the questionnaire employed different format anchors, such as "*Very Dissatisfied"* and *"Very Satisfied"* to *"Much less than our key competitors"* and *"Much more than our key competitors"* (e.g. Lindell & Whitney, 2001; Podsakoff et al., 2003). In addition, many reverse-coded questions were asked which may reduce the errors rising from common method bias (e.g. Chang, Van Witteloostuijn, & Eden, 2010). Further test for common method variance (CMV) will be discussed in section 6.6.1 of Chapter 6.

## 4.7 Physical Characteristics

The physical characteristics of the questionnaire have a significant impact on the respondent's cooperation, response rate and also the validity of the response (Churchill, 1995). The overall design, wording of each question and the sequence of the questions play an imperative role as the researcher's ability to send longer and more sophisticated questionnaires is restricted while conducting an online survey as compared to traditional mail surveys (Roy & Berger, 2005). It was, therefore, important to ensure an online questionnaire was well designed and looked presentable.

There are no hard and fast rules when determining the exact wordings of the questions (Malhotra, 1999). It was made sure that the questions were kept simple and easily understood by the respondents. As the questionnaire was mainly developed from existing empirical studies it was believed the language was simple and the questions would yield reliable results. In addition, the sequence of the questions plays a vital role. Following the guidelines offered by Churchill (1999) and Malhotra (1999); the questions were arranged in logical sets. For example, the most easily answered questions were measured initially leading to more essential and difficult questions. The latter stages of the questionnaire contained more sensitive and confidential questions for example, new export product sales.

The length of the questionnaire can have an impact on the response rate (DeVellis, 2003).

The longer the questionnaire more likely it is that it may result in lower response rates. Not to mention, to undertake advanced statistical analyses researchers need the majority of the questionnaires returned fully complete. On the other hand, shorter questionnaires can yield more response rate but could reduce the reliability (DeVellis, 2003). Keeping this in mind, a 14 pages online questionnaire was prepared, opting for a higher reliability, and focusing on adequately capturing the constructs in the conceptual framework.

## 4.8 Pre-testing

### 4.8.1 Expert Judgment on the Questionnaire

An adequate pre-test is primarily conducted to evaluate the face validity and content validity of the study (Churchill, 1999; Malhotra, 1999). Face validity basically reflects the degree to which a scale's items represent a sample of the theoretical content (Hair, Anderson, Tathum, & Black, 2006). Assessing face validity plays an essential role in a study when the items in a questionnaire are borrowed from previous studies (Hair et al., 2006). Content validity refers to the degree to which a measure represents all facets of the theoretical construct (Nunnally & Bernstein, 1994). In addition, to assessing the face validity and content validity of the questionnaire, the pilot study was conducted to estimate the potential response rate of conducting an online survey.

This study followed exemplary prior studies to develop all measures used in this study (Covin & Slevin, 1989; Lumpkin & Dess, 2001; Miller & Friesen, 1982; Zou & Stan, 1998b). Nunnally and Bernstein (1994), suggest that the item pools for all constructs must be subjected to an expert review. In this study all measures of the constructs were subjected to a thorough review by (1) academics doing research in strategy, marketing and/or exporting, and (2) experts in questionnaire design and scaling. Specific areas of review by academic experts were the definition of the constructs and the extent to which the scale items tapped the construct's definition. The focus was on improving the wording and appearance of the questionnaire. The three principal research advisors (i.e., supervisors) in this study

continuously commented on the scale items until an agreement was reached on their face validity. These were then subject to external review, with many of the reviews taking place doctoral colloquia. The questionnaire was also given to an assistant lecturer who specializes in survey design for her comments on the final questionnaire.

### 4.8.2 Online Questionnaire Pre-tests by Experts

In this stage, in addition to the comments from academic experts and external reviewer on the questionnaire quality, the final questionnaire was further pre-tested with a selected number of export managers for further item refinement. Seven expert respondents were emailed the questionnaire as a web link and not as an attached file. Once the respondents finished the questionnaire, a telephone interview was held. As a result of this review, a few overlapping and confusing items were removed from the initial questionnaire (appendix A 4.2). Some items were also reworded upon the suggestion of the managers (Hardesty and Bearden 2004). It was advised by the respondents that few of the terms used were vague and needed proper definition.

Despite the above efforts to improve the questionnaire structure, a major issue that could hardly be resolved at this stage was the length of the questionnaire. Although all the interviewees at this stage of the study expressed interest in participating in the study, they were equally concerned about length of the questionnaire and how it could affect response rate. However, it was obvious that a further reduction in the length of the questionnaire might comprise the quality of data that was collected. Consequently, some adjustments were made on some of the instructions at the beginning of the sections to make them more concise.

### 4.8.3 Response Rate Enhancement

Since almost all managers who participated in the pre-test telephone interview expressed worry about the length of the questionnaire, it became necessary that some response enhancement activities were undertaken. In this instance, the literature was consulted for guidance (Churchill & Iacobucci, 2005; DeVellis, 2003). Two objectives guided this activity:

enhancement of questionnaire effectiveness and anticipation of any problems that might occur in the real setting.

First, each email sent to the responded was personalized, addressing the respondents by title, name and position occupied in the organization. Also, the questionnaire developed via Qualtrics had Durham University logo on the cover page.

The email invitation highlighted the importance of the respondents‟ answers to the validity of the research and for the ability of the researcher to earn his doctoral degree. Additionally, the email letter guaranteed complete confidentiality throughout the entire data collection and processing activities. Finally, respondents who returned their completed questionnaire were promised a summary of the research report, and an opportunity to participate in a prize draw. While a few respondents did not want to receive the research report, none declined to participate in the prize draw. Accordingly, all respondents who returned their questionnaire fully completed were included in the prize draw. While this practice is common in the literature, in many ways, it helped to increase respondents‟ interest in the study and thus boosted response rate.

Further to give the study a greater credibility, the office addresses, telephone numbers and email addresses of the thesis supervisors were provided, and respondents were directed to contact them in case they had any queries about the study. Indeed, a few respondents did contact the thesis supervisors on a range of issues such as confirmation of reliability of the doctoral student and the study. A copy of the pre-test email letter is available in Appendix A 4.3.

### 4.8.4 Pre-Test Response Analysis

The data was collected using Qualtrics, an online survey tool, which provides the raw data in excel, or CSV format (Comma Separated Values). CSV format is used in SPSS and AMOS. Hence, there are no human coding errors, that is, the error incurred if the variables have not

been recoded properly. The purpose of conducting a preliminary testing is to develop a fundamental understanding of the respondents and business unit that are studied. This is because the business units under observation are of different sizes, business experience and in different industries. The other purpose for conducting an initial analysis is to ensure that the data collected is of sufficient quality to produce reliable and valid results.

To implement the online pre-test, a randomly selected sample of 150 exporters were selected from the combined list.

After two weeks and one-reminder, 18 emails were returned undelivered due to wrong email address. 8 replied stating that it was against the firm policy to take part in the survey. An additional 6 replied indicating that they were no longer engaged in export operations.

In all, 90 eligible firms did not respond to the questionnaire although two waves of reminder notice were sent. In all, 28 useable responses were received, constituting approximately 23 per cent response rate (i.e., 28/ (150-18-8-6)), which was satisfactory for a lengthy questionnaire. The 23 per cent response rate was acceptable because if it were to be extended to the main survey study of 1,211 firms, it would mean that approximately 278 responses would be received, more than the minimum of 200 responses required.

*Table 4. 8 Response Pattern of Pre-Test Mail Survey*

| **Response Pattern** | **Subtotal** | **Total** |
|---|---|---|
| **Ineligible** | | **32** |
| • **Wrong Addresses** | 18 | |
| • **No longer engage in exporting** | 6 | |
| • **Against Firm Policy** | 8 | |
| **Eligible Exporters:** | | **118** |
| • **Nonresponse** | 90 | |
| • **Completed questionnaires** | 28 | |
| **Total Contacts** | | **150** |

### 4.8.5 Further Check on non-Responses

Despite the acceptable response rate, however, it was deemed necessary to explore key reasons for the large number of non-responses. To probe the reasons for the 90 non-responses, 15 non-responding firms were randomly selected for a follow-up study and contacted by telephone. Some of the firms could not be contacted due to inaccurate telephone details. For some exporting organizations with inaccurate contact details, the correct details were found on the organizations‟ website. The websites of these organizations were located using Applegate business directory and Google search engine where necessary. The managers contacted were asked a number of questions regarding their participation in the study. Results showed that 8 organizations expressed that they do not export new product, and five managers had refused to complete the questionnaire for reasons such as company policy, time constraints, no questionnaire received or had deleted the questionnaire.

The telephone calls did prove useful in the sense that it helped to determine potential difficulties in subsequent administration of the main online survey. It also helped to get some picture about the likely minimum response rate if the same administrative method were to be repeated in the main survey. The telephone interview process also helped to determine the potential number of ineligible firms that should be included in the database. Analysis of these calls and also from the questionnaire returns revealed areas that needed to be changed. For example, there were some cases where the individual managers to whom the questionnaire was addressed were no longer working in the export unit, and such it was necessary to readdress the questionnaire to a particular position in the firm such as “Export Director” rather than to a named individual as the names of the new managers were not available. Given the large number of returns with “we do no export new product” reason, all the firms on the database had to be pre-qualified before the main survey was conducted. In this regard, all the firms were contacted on the telephone to determine whether they were actually engaging in export operations and new export product and how much new export product

they derived annually. This activity brought the total sample to 1211 export organizations for the main survey study. At least, this final list could be described as active and committed exporting organizations (Samiee, Walters, & DuBois, 1993).

## 4.9 The main Survey

The design of the main survey was done with full acknowledgement of the efforts made at the pre-test stage of the study. Given the detailed revisions that were made to the questionnaire at the pre-test stage, only minor corrections needed to be made at the main survey stage. Thus, lessons learnt at the pre-test stage and insights gathered from colleagues and supervisors helped to greatly improve the questionnaire quality. In the sections that follow next, issues relating to final questionnaire revision, final sampling frame selection and sample administration, final response rate enhancement, and final response analysis are discussed.

### 4.9.1 Final Questionnaire Revision

Given that only minor modifications were required for the questionnaire after the pre-test survey was completed, a further attempt was made to revise the questionnaire. First, the questions were well spaced to aid easy reading. Second, the instruction for each section of the questionnaire was reworded and shortened to make them concise. For example, long instructions such as "of each statement; your perception of the level of difference between the UK and the...etc." Please put the numbers of your choice in the boxes provided at the end country your firm exported the new/significantly improved products to in the last three years" were shortened to "Please answer the following questions by ticking the answer that best indicates your perception of the level of difference between the UK and this market". These final questionnaire revision activities reduced the questionnaire length from 14 to 10 pages without having a detrimental effect on the readability.

### 4.9.2 Final Sample Frame Selection and Sample Administration

The sampling framework for the main survey was the same as for the pre-test survey. Spector (1992) argues that between 100 to 200 cases are needed in order to adequately evaluate the

reliability and validity of measures. Accordingly, a number of steps were taken to ensure that a minimum of 200 responses were received. In this regard, it was critical that responding firms were identified due to a high level of ineligibility and also to request their cooperation and commitment.

As a way of keeping responses high, all initially pre-qualified firms were emailed to seek their cooperation and commitment in the main survey study (see Appendix A 4.4 for a copy of the email letter). Some of the emails were returned undelivered, and as a result, these firms were contacted on the telephone (where these were available) to request their cooperation and commitment, and to also collect their correct email addresses.

### 4.9.3 Characteristics of Respondents to be contacted

The credibility of the source of information is pertinent to the validity of the study (DeVellis, 2003). This is because a questionable source can cast doubts over the integrity of the results of the study (Dillman, 2000). Thus, to test the study's theoretical model, a survey of randomly selected exporting organizations will be implemented. As this is an export study, it will be important that the respondent is a senior company executive who has considerable experience and knowledge about the strategic export decisions of the company. In all cases, the respondent will be a chief executive officer, managing director, export director, marketing director or export sales manager.

Moreover, the finance directors or accountants in the responding firms will also be contacted for information on the firm s' new export product performance as was recommended in the literature (Chang et al., 2010).

As indicated in table 4.9, each respondent was asked to indicate his/her employment role in the organization. Results show that the majority of respondents that completed the questionnaire were managers with senior management positions (1 = CEO/Director; 2 = senior manager, 3 = middle manager, 4=junior manager.).

*Table 4. 9 Characteristics of respondents*

| Variables | Minimum | Maximum | Mean |
|---|---|---|---|
| Position of respondents | 1 | 4 | - |
| Manager's experience (in years) | 1 | 45 | 16.28 |
| Knowledge of issues (Seven-point scale) | 2 | 7 | 6.40 |
| Accuracy of information (Seven-point Scale) | 2 | 7 | 6.50 |

### 4.9.4 Final Response Rate Enhancement

Having secured the agreement of the respondents to participate in the study, the final questionnaire was sent to the respondents whose firms qualified for participation in the study. Each email contained an email letter, and a link to the final questionnaire (see the final questionnaire in Appendix A 4.5). Additionally, each link included the contact telephone numbers of the thesis supervisors Dr. Xinming He, Dr. Karena Yan and Professor. Carlos Sousa, thus lending credibility to the research.

Like the pre-test survey, several steps were taken to maximize the response rate at this final stage of the study.

Additional steps were taken to improve the study's response rate (i.e., telephone pre-notification and follow-up email). First, all respondents who returned their questionnaires were guaranteed participation in a lottery with a chance to win a £200 voucher for a favorite charity. Additionally, each responding firm was promised a summary report of the research results. These incentives were to boost respondents‟ interests in the study (Dillman, 2000). Second, seven days after the first questionnaire mailing, a first round of reminder emails was sent to all non-respondents.

Fourteen days after the initial questionnaire mailing and seven days after the first reminder email, a second round of emails was implemented. In this instance, all non-responding firms were sent another questionnaire link with a reminder email reminding them of the need to

complete and return the questionnaire to the researcher. Telephone calls were also made to non-responding firms as part of additional efforts to enhance response rate.

### 4.9.5 Response Analysis

As was stated earlier (section 4.8.5), at the end of the online pre-testing there were 1211 export organizations left for study. This sample was subsequently included in a pre-notification study. By the end of the pre-notification study, the sample frame dropped from 1,211 to 915 exporting organizations: 296 respondents were removed from the sample frame because they no longer engaged in export operations, or they stated clearly that they have not exported a new product. Table 4.10 provides analysis of response pattern of the sample frame that was finally used for the main study.

*Table 4. 10 Response Pattern Analysis*

| **Sampling Issues** | **Subtotal** | **Total** |
|---|---|---|
| **Total Sample Frame** | | 1211 |
| ***Less Ineligibles:*** | | |
| **No Longer Exporting** | 251 | |
| ***Eligible Exporters:*** | | 960 |
| **Eligible Non-Responses** | 489 | |
| ***Total Usable Responses:*** | | |
| **First Email Wave** | | 187 |
| **Second Email Wave** | | 26 |
| **Further Reminder** | | 5 |
| ***Grand Total*** | | **218** |

Out of the total 915 exporters that were sent a questionnaire, 697 did not return their questionnaire despite their agreement to participate in the study. There were several reasons for non-response.

After approximately 12 weeks of questionnaire distribution, approximately 10 per cent (or 70 firms) of the 697 non-respondents were contacted on the telephone and email to ascertain their reason for not returning their questionnaires. Reasons for non-response are presented in table 4.11.

*Table 4. 11 Reasons for Non-Response*

| Reasons | Number of Firms |
|---|---|
| **Passed on to someone else and lost in the system** | 10 |
| **No time to fill in questionnaire/ Too long** | 23 |
| **Company policy not to fill questionnaire** | 11 |
| **No email received** | 3 |
| **Company do not export new product** | 12 |
| **Not interested** | 2 |
| **They do not trust online survey software (Qualtrics)** | 6 |
| **Did not believe in academic research** | 3 |
| **Total** | **70** |

In the end, 234 sets of completed questionnaires were returned. This included 218 useable and 16 poorly completed and non-useable responses. Of the latter, 13 managers returned the questionnaire with excessive missing data. Three responses were from managers who chose to not only refuse to participate in the study but also to argue that they did not believe in academic research.

Accordingly, the 915 eligible exporters and 218 useable responses were used to calculate the total response rate for the study.

The effective response rate achieved in this study was 24 per cent ([218/915]*100). This calculation was based on exporting organizations that were eligible, that agreed to participate in the main study at the pre-notification phase, and that were actually contacted, which is in line with other studies (e.g. Zahra & Garvis, 2000). Thus, the 24 per cent response rate achieved in this study was satisfactory. Thus, compared to the relevant literature, it can be said that this study did not suffer significantly from low response bias.

## 4.10 Survey Bias Assessment

### 4.10.1 Response Bias Assessment

Given the response rate of this study, it was imperative to check for the non-response bias. The first step in testing for nonresponse bias it is important to locate the early and late respondents. As the main survey was an online survey, all the emails were sent using various

tools such as Microsoft word and Microsoft outlook. Hence, all the questionnaires were delivered uniformly and the only way to locate the early and late respondents is by dividing the responses provided after the first emails compared to responses received after the second emails and first reminder. This means that early responses (187 responses) were compared with responses received after the second emails (26 responses) and further reminder (5 responses).

Early versus late responses were compared using the test specified by Armstrong and Overton, 1977. T-tests were performed for three groups on the key variables used for this study. The presumption is that "firms that respond less readily are more like no respondents" (Armstrong & Overton, 1977, p. 397). The results as shown indicate that the differences between the three groups of responses were not significant at five per cent significant level.

*Table 4. 12 Non-Response Bias Assessment*

| Variable | First Wave Mean (187) | Second Wave Mean (26) | Sig T-Test |
|---|---|---|---|
| **Technological Capability** | 5.04 | 4.94 | P=.64 |
| **New product development Capability** | 4.02 | 4.05 | P=.76 |
| **Cost Advantage** | 4.57 | 4.62 | P=.24 |
| **Differentiation Advantage** | 4.55 | 4.51 | P=.87 |
| **Regulative Institutional Distance** | 3.65 | 3.51 | P=61 |
| **Normative Institutional Distance** | 4.42 | 4.36 | P=.57 |
| **Cognitive Institutional Distance** | 4.52 | 4.40 | P=.45 |
| **New Export Product Performance** | 4.46 | 3.58 | P=.22 |

### 4.10.2 Common Method Bias Assessment

Responses on both the independent and dependent variables were sourced from the same informants in the main study, thus raising concerns regarding common method variance as false internal consistency might be present in the data (Podsakoff et al., 2003; Podsakoff & Organ, 1986; Rindfleisch et al., 2008). To ensure that this was not the case, the possible

threat of common method variance bias was assessed using several procedures, both ex ante and ex post (Podsakoff et al., 2003; Rindfleisch et al., 2008). Ex ante, the order of questions was mixed, different rating scales were used, breaks and reverse-coded items were included in the questionnaire, and respondents were assured of complete confidentiality of information they provided (Chang et al., 2010; Lindell & Whitney, 2001). Moreover, respondents were explicitly reminded that there were no right and wrong answers to the questions asked, and informant honesty and accuracy was clearly requested from all respondents (Podsakoff et al., 2003).

To safely reject any suspicions of CMV threats to the study results, further assessments were made. Harman (1976) single factor test was conducted, based on the concept that if a single factor can explain all the common variance shared by all the observed variables, then there is a potential CMV threat present. In order to conduct this test, all the items used to measure the various observed constructs are constrained to load on a single factor. If the data fits the single factor measurement model (also known as the constrained model) significantly better than the multifactor model, then the CMV threat is evident.

As it can be seen from the Table 4.13, the results indicate that the data fits the multifactor model significantly better than the constrained model. The result of the Harman's single-factor test was taken to suggest that CMV was not a problem.

Table 4. 13 Harman's Single-factor test

| | First Order Measurement Model | Single Factor Measurement Model |
|---|---|---|
| $\chi 2$ | 213.546 | 1245.80 |
| df | 170 | 202 |
| $\chi 2/df$ | 1.169 | 6.34 |
| RMSEA | .033 | .171 |
| GFI | .90 | .559 |
| NNFI | .972 | .377 |
| CFI | .97 | .37 |
| IFI | .97 | .31 |
| PCFI | .76 | .532 |

## 4.11 Chapter Summary

The five objectives that guided this chapter were: discuss the research design used for this study: justify the methodology that suited best for the research questions answered in this study; discuss the survey administration process; discuss the steps taken in conducting a pertest study and how the results from pre-test helped design a superior main survey; and explanation of the issues and challenges faced during the main survey.

In short, it was argued how cross-sectional research design suited well for this study and how it was the foremost design to answer the research questions. Rather than conducting mail survey or face-to-face interviews, this study chose an email/online survey administration process as it ensured faster response. In total, 915 exporters firms were contacted for this study and a total of 218 useable responses were received providing roughly a 24 per cent response rate. Marketing and non-marketing managers of 915 eligible exporting organizations operating in high-tech industries, including computers (hardware and software), electrical and electronics, medical devices, aerospace, automobile, and biotechnology, were identified. Finally, efforts were made to reduce non-response bias and comparison of early versus late respondents showed no concern for any effect of non-response bias on the results. In the next chapter, descriptive profile of the business unit that participated is provided and the measurement development strategy is outlined.

# Chapter Five: Descriptive Analysis and Scale Development Analysis

## 5.1 Introduction

The purpose of this chapter is twofold: to present a descriptive analysis of the sample; and to describe the scale development strategy that is be used to develop the scales that will be used for the hypothesis testing. While the descriptive analysis helps to provide a profile of the sample, the scale development strategy helps to set out the plans that the study will follow to describe response patterns relating to the measures that have been used in this study. As such, this latter part of the chapter helps to explain the assumptions underlying the planned multivariate technique (i.e., structural equation modelling) and analytical method (i.e., maximum likelihood) that will be used to identify and analyse patterns and characteristics of the variables whose relationships will be tested in this study. In the first place, an account of the sampled firm's profiles is provided in section 5.2. Next, a description of the scale development strategy adopted by the study to implement the scale development task is furnished in section 5.3.

## 5.2 Profile of the Firm

### 5.2.1 An Overview

The objective of this section is to provide an account of the general characteristics of the exporting organisations that provided information for the study. This account is important because it helps to develop a fundamental understanding of the subjects that were studied. Accordingly, this section should be understood as an opportunity to generate an early impression of the characteristics of the sample. This is because the export organisations under study vary in different dimensions including their sizes, scale of international operation, innovation, business experience and international experience. Moreover, the firms operated in different industries by offering diverse products and services and served different customer groups.

Additionally, a profile analysis of the sample reveals that the firms under study had different scopes of international operation in that many exported to diverse export destinations. Finally, the analysis in this section shows the characteristics of the key informants that provided the information on the export organisations under study. This is to ensure that the information collected is of acceptable quality to provide valid and reliable results.

#### *5.2.1.1 Industry Profiling*

Industry profile presents the distribution of firms/business unit in terms of the industries they operate in. From Table 5.1 it can be seen that almost 27 per cent of the respondents operate in the electrical and electronics industry and only 10 firms/business units out of 218 (adding up to almost 5 per cent) of the respondents fall under the chemicals industry.

All the respondents operate in the high-tech and manufacturing industries and this ensures that the data collected is valid and reliable.

*Table 5. 1* Industry Profiling

**Industry profiling**

| | Frequency | Percent |
|---|---|---|
| Automobile | 13 | 6.0 |
| Information Technology | 32 | 14.7 |
| Computer (Hardware and Software) | 45 | 20.6 |
| Chemicals | 10 | 4.6 |
| Electrical and Electronics | 58 | 26.6 |
| Biotechnology | 16 | 7.3 |
| Pharmaceutical | 12 | 5.5 |
| Mechanical | 30 | 13.8 |
| Other, Please specify | 2 | .9 |
| Total | 218 | 100.0 |

#### *5.2.1.2 Firm Size*

In the existing literature, firm size is examined by assessing two variables: number of fulltime employees and total annual revenue (Cooper & Kleinschmidt, 1985). In line with the existing literature, this study assesses firm size on total revenue generated (or sales turnover) and number of fulltime employees.

Table 5.2 presents the distribution of firm size in terms of full-time employees in the export business unit/firm in the UK. This distribution was positively skewed. The distribution covered a wide range from 10 to greater than 250 employees with a mean of 21 to 50 full-time employees. From table 5.2 it can be seen that more than half of the respondents were medium and large firms. In the first quartile (i.e., 35 per cent) of the export firms/business unit employed less than 100 employees, and 64 per cent employing greater than 100 employees.

*Table 5. 2 Firm Size (Number of full-time employees)*

**Full-time staff in the export firm/business unit in United Kingdom**

| | | Percent |
|---|---|---|
| Valid | 0 to 9 | 7.8 |
| | 10 to 19 | 5.5 |
| | 20 to 49 | 12.8 |
| | 50 to 99 | 9.6 |
| | 100 to 249 | 20.2 |
| | 250 and over | 44.0 |
| | Total | 100.0 |

The other variable most commonly used to analyse the firm size in the existing literature is the annual turnover. The distribution of the firm size in terms of the annual turnover (in million £) is positively skewed. Table 5.3 provides detailed information on the firm's average annual turnover over the last three years. The distribution covered over a wide range from an annual turnover of less than 10 million pounds to greater than billion pounds turnover. From Table 5.3 it can be seen that the first quartile of export firms had an average annual turnover of lesser than 20 million pounds, and 75 per cent had an average annual turnover of lesser than 250 million pounds.

*Table 5. 3 Firm size (Annual turnover)*

**Annual Turnover for the export business unit/firm in million £**

| | Frequency | Percent |
|---|---|---|
| .25 to 10 | 48 | 22.0 |
| 11 to 20 | 34 | 15.6 |
| 21 to 50 | 38 | 17.4 |
| 51 to 75 | 11 | 5.0 |
| 76 to 125 | 12 | 5.5 |
| 126 to 250 | 20 | 9.2 |
| 251 to 500 | 25 | 11.5 |
| 501 to 1000 | 17 | 7.8 |
| Greater than 1000 | 13 | 6.0 |
| Total | 218 | 100.0 |

### *5.2.1.3 Business Experience*

The sample contains a reasonably good distribution of exporting firms that were in business for a considerable number of years. As is reported in figure 5.4 the distribution covered a wide range the minimum number of years the firms have been in business was 10 years and the maximum was greater than 130 years. Almost 20 per cent of the firms had been in business for less than 25 years and slightly more than 80 per cent had less than 88 years business experience.

Regarding the firms‟ overseas experiences (in terms of number of years in export operation), this study found that average overseas experience was 41 years, but some firms had as little as 4 years international experience. However, there were some firms that reported as many as 265 years of international experience. Moreover, 25 per cent of the firms had less than 23 years international experience while 75 per cent reported that they had 55 years of international exposure.

*Table 5. 4 Business Experience*

**Total Number Years in Business**

| | Frequency | Percent |
|---|---|---|
| Less than 10 | 20 | 9.2 |
| 11-25 years | 38 | 17.4 |
| 26-40 years | 47 | 21.6 |
| 41-55 years | 42 | 19.3 |

| | | | |
|---|---|---|---|
| | 56-70 years | 33 | 15.1 |
| | 71-85 years | 16 | 7.3 |
| | More than 86 years | 22 | 10.1 |
| | Total | 218 | 100.0 |

### *5.2.1.4 Market and Country Distance*

Over 94 percent of the firms reported that they exported new/significantly improved products to the European Union (or EU) market, which means that the firms exported largely to culturally close markets. Note that the United Kingdom is part of the EU market. In addition to the EU market, 85 per cent of the firms reported that they also exported to Eastern Europe, 81.9 percent exported to North America and 57.3 percent served mainland China. Other Asian countries (other than Mainland China) were served by 74.6 per cent of the firms in the sample, while South and Central America were served by 65.5 per cent of the firms. Middle East, Australia/New Zealand, and Africa were served by 73.8 per cent, 83.3 per cent and 78.2 per cent of the firms, respectively. Moreover, 44.7 per cent of the firms also indicated that they served a worldwide market.

To further explore the scope of the firms‟ international activities, the study also asked respondents to provide information on the number of countries their firms exported to. The number of countries the firms exported to range from three to 150 countries. Overall, 25 per cent of the firms exported to fewer than 40 countries while 75 per cent exported to fewer than 91 countries. Average number of countries served by the firms was 60 countries.

*Table 5. 5 Main Export Destinations (New/Significantly improved product)*

**Main Export Destination**

| | | Percent |
|---|---|---|
| | EU | 94 |
| | Eastern Europe | 85 |
| | North America | 81.9 |
| | Mainland China | 57.3 |
| | Other Asia Countries | 74.6 |
| | South & Central America | 65.5 |
| | Middle East | 73.8 |
| | ANZ† | 83.3 |

| | |
|---|---|
| Africa | 78.2 |

† = Australia/New Zealand

### *5.2.1.5 Respondent's Status*

In addition to providing information on the firms that participated in this study, it is also important that a profile of the individual respondents is also discussed. As such, this section gives an account on the characteristics of the actual informants that represented the firms in the sample. Accessing the top management tier of any organisation is usually a challenging task for researchers due to their busy work schedules (Golden 1997). However, as can be seen from table 5.6, this study managed to access the most senior level managers in approximately more than half of the data used came from managers who occupied the most senior most positions (e.g., Chief Executive Officers, Owners, Managing Directors, Business Development Directors, Export Directors, and Marketing Directors) in their organisations. The lowest proportion of the responses came from those working in junior or functional management level roles. This group of informants accounted for approximately 6 per cent of the respondents that provided data for this study.

*Table 5. 6 Positions of Informants*

**Positions of Informants**

| | Frequency | Percent |
|---|---|---|
| Owner/CEO/Director | 89 | 40.8 |
| Senior manager | 83 | 38.1 |
| Middle manager | 33 | 15.1 |
| Junior manager | 11 | 5.0 |
| Other, (please specify) | 2 | .9 |
| Total | 218 | 100.0 |

#### *5.2.1.6 Section Summary*

This section of the chapter has provided information on the sample's profile. The analysis of the descriptive statistics revealed that most of the firms that participated in this study were small, medium, and large exporting organisations with extensive international experience. The firms exported to wide range of overseas markets and had several years of business and international experience. With respect to the individual respondents that answered the questions, most held senior management positions.

## 5.3 Measure Development Strategy

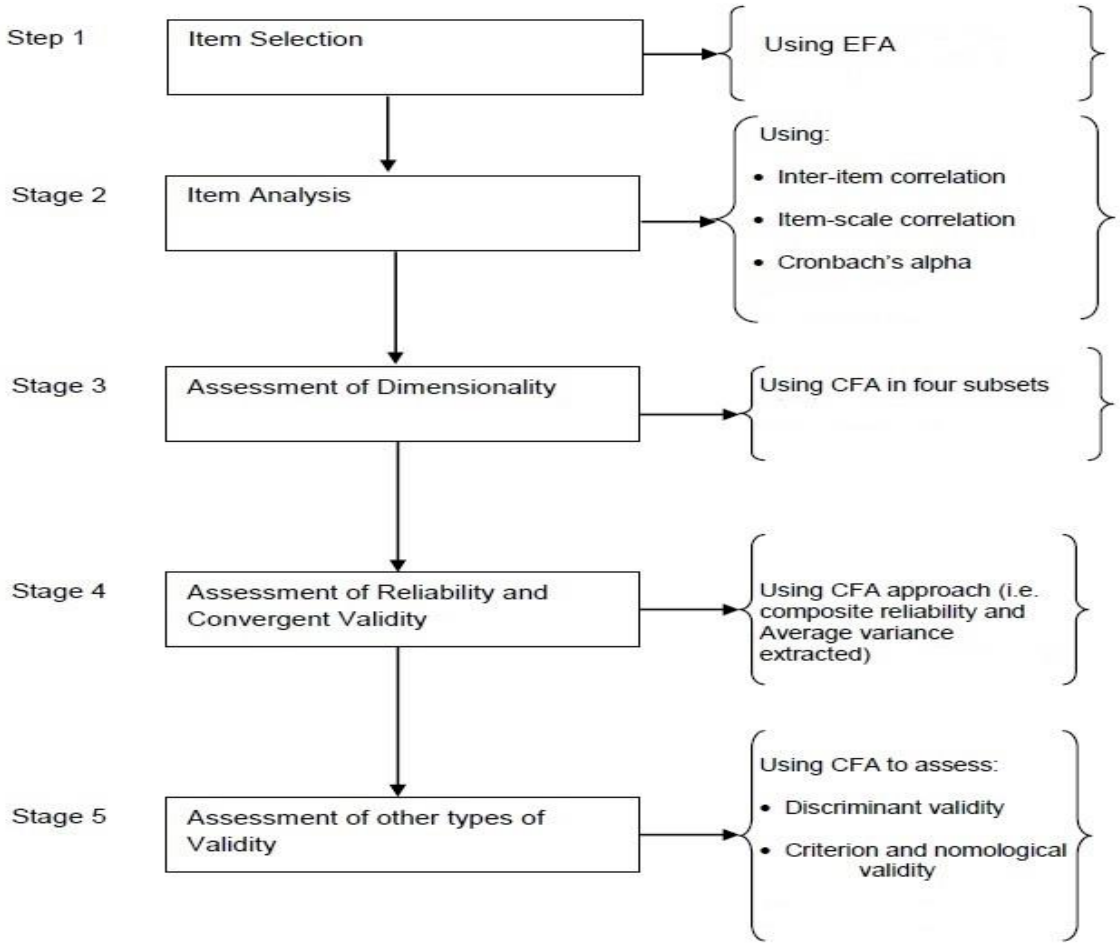
### 5.3.1 An overview

Obtaining valid measures is a fundamental task before any attempt to test hypothesised relationships. To this end, it is important that some rigorous statistical analyses are undertaken by way of assessing the viability and validity of the measures used in this study. The importance of this stage of the study is well illustrated by (Siguaw, Simpson, & Baker, 1998, p. 104): "[t]he purpose of this stage of analysis was to identify and eliminate poorly performing items for the reflective measures". Consequently, reliable and valid measures were developed for the purposes of hypothesis testing. As such, the chapter describes the recommended psychometric procedures that could be used in developing measures for this study following the guidelines from the measure development literature (e.g Anderson & Gerbing, 1988; Churchill, 1979; DeVellis, 2003; Nunnally & Bernstein, 1994). Specific analytical techniques that used in the assessment include exploratory factor analysis (henceforth EFA), item analysis (i.e. the analysis of inter-item correlations and item-scale correlations), and confirmatory factor analysis (henceforth CFA).

In this study, the measurement development procedure described in figure 5.1 is specifically followed to implement the measure development strategy. From figure 5.1, a five-stage procedure is proposed. The goal is to address the major issues of establishing unidimensionality, reliability and validity of the scales used in the study. As such, the

strategy can be thought to comprise of two broad aspects. Part 1 describes the item selection and analyses strategies with the aim of identifying poorly performing items in the scales. Part two describes the final measure development process with the view of finalising the scales and establishing their dimensionality, reliability and validity (Netemeyer, Bearden, & Sharma, 2003).

*Figure 5. 1 Measure Development Procedure to be followed*




### 5.3.2 Use of the subset

This study chooses to assess the dimensionality, reliability, and validity of all scales by using EFA and CFA. Accordingly, there is a need to establish that the minimum sample size to variable/parameter ratios meet the recommended criteria (Hair et al., 2006). It is recommended that the minimum sample size to variable ratio should be five-to-one (Hair et al., 2006; Tabachnick, Fidell, & Ullman, 2007). This restricts the number of scale items that

could be entered in to a single EFA and CFA. For example, to undertake EFA at the initial stage of scale purification the total number of variables was 41 which would mean a broad set of parameters would be estimated.

Similarly, in CFA the requirement is that the recommended minimum sample size to parameter ratio should be five-to-one (Hair et al., 2006; Tabachnick et al., 2007). Again, it was estimated that entering all 8 constructs and 41 indicators into a single CFA would mean that a huge number of parameters would have to be estimated. Moreover, it was possible that entering all indicators in to a single CFA could result in a poor model fit or even a non-converged solution (Sharma & Sharma, 1996). Accordingly, in following conventional practice (Baker & Sinkula, 1999; Cadogan, Cui, Morgan, & Story, 2006), and in order to avoid violating minimum sample size to parameter ratios, the scales were initially analyzed in sub-sets.

To execute the sub-scale analysis strategy, this study ensures that sets of variables that are maximally similar conceptually are analyzed together in subsets (Baker & Sinkula, 1999). Table 5.7 presents the subsets for the EFA and CFA, respectively. This study also takes notice of the view that EFA and CFA imposes different demands on sample size, and as such, fewer subsets will be used in EFA relative to CFA procedures where necessary (Hair et al., 2006).

*Table 5. 7 Planned Subsets in EFA and CFA*

| **Subsets** | **EFA subsets** | **Subsets** | **CFA subsets** |
|---|---|---|---|
| **1** | Two innovation capabilities Scale | **1** | Two innovation capabilities Scale |
| **2** | Three Institutional distance Scale | **2** | Three Institutional distance Scale |
| **3** | Two Competitive Advantage Scale<br>One New export product performance Scale | **3** | Two Competitive Advantage Scale<br>One New export product performance Scale |
| **4** | Full scale assessment:<br>□ Two innovation capabilities scales<br>□ Three Institutional distance scale<br>□ Two competitive advantages<br>□ One export new product scale | **4** | Full scale assessment:<br>□ Two innovation capabilities scales<br>□ Three Institutional distance scale<br>□ Two competitive advantages<br>□ One export new product scale |

### 5.3.3 Item Selection Using EFA

Clark and Watson (2016) have noted that the EFA procedure is the most appropriate analytical approach for initial item selection. Stewart (1981) explains that factor analysis is a multivariate statistical test that enables researchers to identify structure within a set of observed measures. Moreover, factor analysis makes it possible to determine the interrelationships among a set of variables in an effort to find a few set to define a construct (Hair et al., 2006). In other words, factor analysis enables researchers to establish dimensions within a data and thus serves as a data reduction and summarization technique. In this study, EFA procedure is adopted for the purposes of item selection.

As a data reduction technique, large sets of variables may be reduced to few underlying dimensions (Hair et al., 2006). These underlying dimensions are often referred to as "factors". In other words, a factor may consist of an interdependent set of related items. Kerlinger (1964) defines a factor as a construct or a hypothetical entity that is assumed to underlie a set of items. The related items load on factors in a manner that maximises the variance within the data explained by that factor. The unique factor that emerges from the data may subsequently represent a construct (Hair et al., 2006; Kerlinger, 1973).

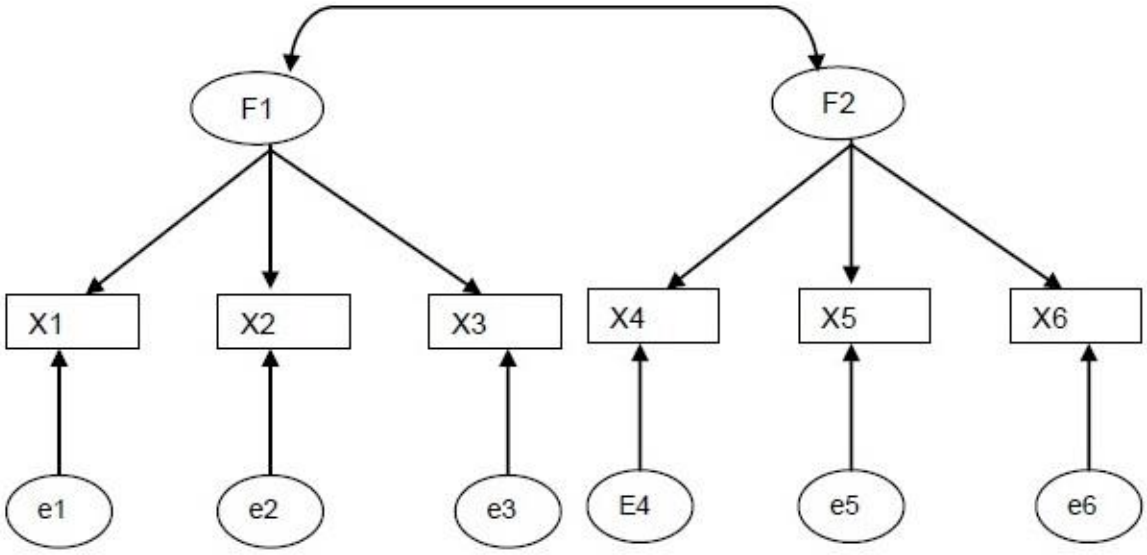
In a related observation, Cattell (1966) argues that factor analysis may be used to determine the kind of latent constructs that may be of importance within a set of variables. Additionally, it is often argued that factor analysis can be employed to examine underlying patterns and relationships that may exist between a large set of variables. Consequently, it can be considered as a process of condensing information into a smaller set without necessarily losing vital information (DeVellis, 2003).

For research purposes, two major factor analysis methods are often utilized, namely, principal component analysis and common factor analysis (Hair et al., 2006). Other methods that are quickly gaining acceptance within the research include maximum likelihood analysis and alpha analysis (Stewart, 1981). However, for the purposes of scale development, it is

recommended that common factor analysis using principal component with an Oblimin rotation as is provided in SPSS 24.0 is ideal. Accordingly, this study plans to use common factor analysis technique for the EFA.

In common factor analysis, the correlation between the observed items in a scale is assumed to be purely the outcome of a common underlying factor. Figure 5.2 presents the logic behind the reflective scale development process that is proposed for this study. The "Fi" is the common underlying latent construct, xi is the observed items and ei is the error term. In other words, xi is a function of Fi and ei. For Oblimin oblique rotation, the latent constructs are allowed to correlate (Hair et al. 2006). Given a sample size of 218, in this study factor loading of 0.4 is chosen as a critical value (Hair et al. 2006).

*Figure 5. 2 Reflective Scale Development Logic*




The reflective model in Figure 5.2 corresponds to the assumptions underlying domain sampling theory (Sharma 1996). A major assumption in the domain sampling model is that "all items, if they belong to the domain of the concept, have an equal amount of common

core" Churchill (1979, p. 68) . In other words, if all the items are sourced from a single construct, then it is logical to expect that responses to these items should correlate highly. A key requirement in reflective scale development is the need to establish that a set of items are unidimensional. A unidimensional set of items measure one and only one construct. Churchill explains that any item that is not drawn from an appropriate domain may introduce error and may thus be unreliable. In other words, if the correlation among a set of items cannot be accounted for by a single construct or latent factor as is shown in figure 5.2, then the set of items is not unidimensional (Netemeyer et al., 2003). In domain sampling theory, such items may not be summed up or averaged to form a single construct (DeVellis, 2003).

#### *5.3.3.1 Item Analysis*

Item analysis is undertaken with the goal of producing a tentative description of the scale for a later validation (DeVellis, 2003). This helps to establish that all items and scales exhibit high level of internal consistency and reliability. Thus, item analysis helps to assess the homogeneity of the items within a scale (DeVellis, 2003). Accordingly, it is important to show that items measuring the same construct demonstrate high level of inter-item correlations, item-scale correlation and reliability. To this end, each item and scale are analysed using Cronbach's alpha technique provided in SPSS 24.0. In the process, the coefficient alpha for each scale, inter-item correlation (i.e. each item with every other item) and item-scale correlation (i.e. each item with the sum of the remaining item) are calculated (Netemeyer et al., 2003; Spector, 1992). At this stage, items with low and negative correlations and those that contribute poorly to reliability are considered for elimination from the scales.

#### *5.3.3.2 Inter-Item Correlation*

The validity of a construct can be established by using inter-item correlation

(DeVellis, 2003). Scholars have argued that a strong inter-item correlation can be taken to mean that the items in question share a common cause, which in essence could also mean that the items are measuring the same thing (Clark & Watson, 1995). It is suggested that inter-item correlations in a range of 0.4 to 0.5 can be taken to mean a valid measure of a construct with a narrow focus. Moreover, some researchers may take correlations as low as 0.20 as evidence of valid measure of a construct (Robinson, Shaver, & Wrightsman, 1991). In the case of this study, inter-item correlation, item-scale correlation and alpha reliability are jointly evaluated in SPSS 24.0 as part of item analysis (Hair et al., 2006).

#### *5.3.3.3 Inter-Scale Correlation*

De Vaus (2002) has argued that item-scale correlation can be used to establish unidimensionality of scales in that items that do not correlate well with the rest of the items in the scale probably do not belong to the same scale. Although a full-scale dimensionality assessment will be conducted in CFA in a later stage of this study, it is nonetheless necessary to undertake an item-scale correlation assessment as a way of providing initial evidence of scale dimensionality. This is because the item-scale assessment (especially corrected item-total correlation) helps to examine the degree to which any one item is correlated with the scale itself. Accordingly, items with low item-scale correlations become candidates for deletion. Different recommendations exist regarding the thresholds for item deletion, however, items with item-scale correlation less than a critical value of 0.5 will be considered for deletion (Tabachnick et al., 2007).

#### *5.3.3.3 Scale Reliability Assessment*

Reliability assessment deals with the consistency of the repeated measures over time (Bagozzi & Foxall, 1996). Cronbach's alpha calculates the "ratio of the variance of the true score to the variance of the observed score" (Nunnally, 1978). The value of cronbach's alpha can be used to analyse the internal-consistency (Schmitt, 1996). Reliability values generally predict the dependability and stability of the scale used. The value of cronbach's alpha is

measured on a scale of 0 to 1. The greater the coefficient alpha value provides evidence of a good reliable scale. The coefficient value increases as the inter-correlations between the items increases.

There are different methods for assessing the reliability of a construct. Examples are the split-half reliability, test-retest reliability, and coefficient alpha reliability (seeDeVellis, 2003; Kerlinger, 1973; Nunnally & Bernstein, 1994 for detailed review of reliability types). However, it is a common practice among researchers to assess reliability by using Cronbach's alpha. Thus, Cronbach's alpha (or coefficient alpha) is used in this study to assess the reliability of the scales for several reasons. First, it is a widely used measure of reliability in marketing research (Covin & Slevin, 1989; Knight & Kim, 2009), and second, the computation aids partitioning of total variance in scale items into true and error scores (Nunnally & Bernstein, 1994). In the literature, it is widely believed that Cronbach's alpha indirectly provides evidence of unidimensionality (Nunnally, 1978). A general agreement in the literature (e.g., Kline, 2000) suggests that scales with a coefficient alpha of greater than 0.9 reflects excellent internal consistency. Values between 0.7 and 0.9 provide evidence of a good internal-consistency scale. Coefficient values between 0.6 and 0.7 are acceptable but may cause concerns but scales with coefficient values below 0.5 should be avoided. Nunnally and Bernstein (1994) argue that 0.7 should be set as a threshold criterion. However, Cortina (1993) argues that a scale with large number of items can artificially exaggerate the value of alpha. The general agreement is that a scale with a larger number of items provides a more dependable and accurate results. In this study, it is expected that the coefficient alpha values for all scales exceed the recommended 0.70 threshold. Further reliability assessment (using construct reliability) is undertaken in CFA.

### 5.3.4 Dimensionality Assessment using CFA

The purpose of the CFA model was to provide a final empirical validation of each item and scale used in this study. Ping (2004) argues that CFA provides the researcher with the tool to ensure that the constructs that comprise a theoretical framework are sufficiently validated (Netemeyer et al., 2003). In the context of this study, a CFA is an appropriate analytical technique to use to ensure that the reliability and validity of the constructs are well established (Gerbing & Anderson, 1988; Ping, 2004). Following on from these recommendations, all constructs used in this study are subjected to CFA for unidimensionality, reliability and validity evaluations.

Regarding dimensionality assessment, the CFA model offers this study the opportunity to assess all items not only by their relations to other items within the same scale, but also their relation with all other items in the measurement model (Hair et al., 2006). Although dimensionality has traditionally been assessed via inter-item correlations, item-scale correlation and even in EFA, however, Gerbing and Anderson (1988)have argued that these techniques do no account for external consistency, and as such they fail to discriminate between set of items that present distinct but correlated factors. Hence, the traditional approaches to assessing dimensionality do not adequately evaluate the unidimensionality of the scales (Gerbing & Anderson, 1988). Additionally, CFA offers "a stricter interpretation of unidimensionality than can be provided by more traditional method" (Gerbing & Anderson, 1988, p. 186). As a result, unidimensionality provided in CFA tend to produce different conclusions regarding the acceptability of the scales. According to Sharma (1996), CFA hypothesises *a priori* about the exact nature of the multiple-factor model. As such each factor in a CFA model is viewed as an antecedent to a mutually exclusive subset of the items making it possible to assess the dimensionality of the different factors.

In assessing CFA models, researchers often use different evaluative criteria.

Among these are examination of the significance of the parameter estimates and the variance captured by a set of items in a scale relative to measurement error (i.e. average variance extracted). Moreover, fit indices, standardised residuals and modification indices are often evaluated to determine the extent to which an implied model fits an empirical dataset. A discussion of the CFA procedures is provided in the following sections.

#### *5.3.4.1 Measurement Model Assessment*

In assessing the measurement model, this study relies on *Amos version 24.* Software packages, and in following accepted research practice, maximum likelihood estimation method is used. The maximum likelihood (ML) estimation is pretty robust in terms of reasonable violation of normality and is based on the assumption that data is metric (Chou & Bentler, 1995). As such the method allows for reliable parametric statistical results (Hair et al., 2006). Moreover, the ML method minimizes the fitness function of the CFA model by deriving parameter estimates that yield predicted covariance that are as close as possible to the observed values in a particular sample (Chou & Bentler, 1995).

The purpose of undertaking the measurement model assessment, therefore, is to determine the overall fit of the theoretical model to the data generated from the study. Several fit indices have been suggested in the psychometric literature, and a selected number of these have been used widely in the marketing research literature. In order to assess the fit of the study's measurement model, a number of recommended indices for assessing overall fit are proposed (Hoyle & Panter, 1995; Hu & Bentler, 1995). These include chi-square statistic (with associated degrees of freedom), goodness of fit index (GFI), non-normed fit index (NNFI), comparative fit index (CFI), incremental fit index (IFI), goodness of fit index (GFI) and root mean square error of approximation (RMSEA). These fit indices are further explained below.

A popular approach for assessing model fit is the use of chi-square (or $\chi 2$) and its associated degrees of freedom (Hoyle & Panter, 1995). The $\chi 2$ evaluation is popular among researchers because it provides a test of perfect fit in which the null hypothesis is that the model fits the

population data perfectly (Cudeck & Browne, 1983). In other words, $\chi 2$ provides test of the residual differences between theoretical model and sample covariance matrix, and the ideal thing is that the difference should approach zero (or non-significant value) for good fit to be established (Marsh, Balla, & McDonald, 1988). As such, a statistically significant chi-square may cause a rejection of the null hypothesis, implying that there is an imperfect model fit. The degrees of freedom (or *df*) determine the difference between the number of observations and the number of parameters the CFA model must estimate. It is ideal that a model is over-identified (Byrne, 1998). In this sense, a just-identified model is one with no degrees of freedom. An over-identified model is one with positive degrees of freedom. The $\chi 2$ compares whether the over-identified model provides a worse fit than if it was just identified (Hoyle & Panter, 1995).

Psychometricians have indicated that $\chi 2$ is overly sensitive to sample size and to deviations from the null model. Moreover, it can also be susceptible to model complexity to the extent that in large and complex models with many variables and large degrees of freedom, the observed $\chi 2$ would nearly always be statistically significant, even when there is a reasonably good fit to the data (Hair et al., 2006; Marsh & Hocevar, 1985). However, when $\chi 2$ values are reported, a recommended criterion is that $\chi 2/df$ should be less than 3.0 or 2.0 in more restrictive models (Bentler & Chou, 1987; Bollen, 1989; Premkumar & King, 1994).

#### *5.3.4.2 Model Fit Improvement*

In CFA model assessment, it is often the case that the implied model does not fit the observed data well on first estimation. As a result, it is recommended that some form of iteration is undertaken to remove poor items. Once this is done, it can be argued that one has strayed away from a purely confirmatory assessment (or a priori model testing) of the CFA model. However, (Anderson & Gerbing, 1988) argue that "Because initially specified measurement models almost invariably fail to provide acceptable fit, the necessary re-specification and re-estimation using the same data mean that the analysis is not exclusively confirmatory"

(Anderson & Gerbing, 1988, p. 412). Nonetheless, it is important to recognize that the ultimate goal of model re-specification is to achieve two things: improvement to achieve parsimony or improvement to model fit.

One way to accomplish the model improvement objective is to delete non-significant paths from the model (Pedhazur, 1982). Another way is to inspect model modification indices and the expected improvement that could be achieved if non-significant paths are deleted. Scholars advise that any modifications made must be substantively meaningful and theoretically justified (MacCallum, Roznowski, & Necowitz, 1992). Moreover, Sharma and Sharma (1996) argues that large residual matrices may provide hints on model misfit as large residual values suggest the model is unable to adequately explain the relationships posited in the model. Furthermore, Anderson and Gerbing (1988) recommend that observed items with large correlated errors should be considered for deletion.

Thus, to achieve satisfactory model fit, series of iterative procedures were undertaken following the guidelines provided by (Diamantopoulos, Siguaw, & Cadogan, 2000). In all cases, the re-specifications were undertaken while being mindful of the theoretical underpinning of the CFA model.

#### *5.3.4.3 Assessment of Construct Reliability (CR)*

Scholars have argued that alpha reliability assessment although useful (Nunnally & Bernstein, 1994) may lack the rigor that is needed to establish the reliability of scales (Gerbing & Anderson, 1988; Gerbing & Hamilton, 1996). This is because coefficient alpha assumes that scale items are perfectly correlated or without measurement error (Bollen, 1989) and as a result it is argued that coefficient alpha underestimates reliability (Ping 2004). As such, in using the results from the CFA, all scales are further assessed additional reliability index. In fact, Gerbing and Hamilton (1996, p. 190) argue that "[u]nidimensionality alone is not sufficient to ensure the usefulness of a scale… the reliability of the [scale] should be assessed after unidimensionality has been established". The literature suggests the assessment

of construct (or composite) reliability as a basic research practice (e.g Gerbing & Anderson, 1988). Netemeyer et al. (2003) assert that CR "is a measure of the internal consistency of items in a scale" (p. 153). Subsequently, in following conventions in the literature, CR is used to further assess scale reliability in this study. Due to the availability of plunin in *AMOS* statistical package, we will not need to calculate the composite reliability manually. It is recommended that a minimum of 0.60 should be achieved for CR to be satisfactorily established (Bagozzi & Yi, 1988; Fornell & Larcker, 1981). By establishing adequate CR for all scales, scholars agree that a researcher can claim that convergent validity is demonstrated (Fornell & Larcker, 1981).

#### *5.3.4.4 Assessment of Average Variance Extracted (AVE)*

Another internal consistency diagnostic is average variance extracted (AVE). According to Netemeyer et al. (2003, p. 153), an AVE "assesses the amount of variance captured by a set of items in a scale relative to measurement error". As such, to further demonstrate construct convergence, AVE was computed for all constructs included in the conceptual model (Bagozzi, Yi, & Phillips, 1991). Scholars such as Fornell and Larcker (1981) recommend that AVEs of 0.50 or above is adequate to demonstrate convergent validity. Netemeyer et al. (2003, p. 154) advocate those values near the 0.50 threshold (>0.45) are reasonable demonstration of convergence. Due to the availability of plugin in *AMOS* statistical package, we will not need to calculate the composite reliability manually.

#### *5.3.4.5 Assessment of Discriminant Validity*

Discriminant validity measures the degree to which uncorrelated variables are unrelated (Ping, 2004). Discriminant validity for a construct is measured using the correlation matrix and this was tested using EFA. There are more rigorous AVE tests that provide more accurate evidence regarding the discriminant validity of a construct. The two measures most commonly used to test the discriminant validity of a construct are Average Shared Variance

(ASV) and Maximum Shared Variance (MSV). The rule of thumb is, if the ASV and MSV of two factors is less than the square root of AVE

(average variance extracted) of the individual factors then, this indicates that there are no discriminant validity issues for the two factors (Ping, 2004).

#### *5.3.4.6 Assessment of Nomological Validity*

Nomological or criterion validity is defined as the degree to which predictions from a formal theoretical network consisting of the construct under study are confirmed (Netemeyer et al., 2003). It explains the extent to which theoretically related constructs are empirically confirmed to be related. It can be argued that criterion and nomological validity for the constructs could be evaluated through the presence of association between variables of interest.

Several procedures and guidelines for demonstrating nomological validity are provided in the literature (e.gBentler & Chou, 1987; Bollen, 1989). The most commonly used guideline/procedure followed by attitude researchers (that is, researchers who measure attitudes in their analysis, for example in marketing) is to test correlation between the various constructs in the model. In this study, drawing from this procedure and guideline, correlation analysis is undertaken for all the constructs included in the conceptual framework presented in figure 1 in chapter three. From figure 1, this study demonstrates that theoretical evidence points to the existence of association between these constructs. As explained in Section 5.3.3.2, a correlation value of 0.5 shows a strong correlation between the various constructs, but if the correlation value exceeds greater than 0.7 then this may indicate that these constructs measure a common cause (factor). This may be a concern for unidimensionality. From the existing literature it is evident that there is a relationship between the various factors used in the model (See chapters 2 and 3). In addition, correlation matrix analysis was conducted, and there is enough evidence provided to show there is no concern for any nomological validity. To further demonstrate nomological validity, additional statistical

analysis is conducted and is presented in the later sections of this chapter six and chapter seven.

## 5.4 Chapter Summary

This chapter has served two purposes: delineation of a descriptive profile of the sample; and a description of the scale development strategy that is used to develop the scales that will be used for formal hypothesis testing. The descriptive analysis helped to provide an account of the general characteristics of the respondents and their export organizations. With respect to the descriptive analysis the chapter specifically focus on sizes, export sales, business and international experiences, industry type, scale, and scope of international operation. This profile helped to development an initial impression about the characteristics of the firms that participated in this study. Having described the firms that participated in the study, it was necessary that a strategy is put forward regarding how the responses from the firms would be assessed. Thus, the scale development strategy helped to set out the statistical analyses that will be undertaken in chapter 6 to assess the viability and validity of the measures used in this study. Specific analyses that are proposed include item selection in EFA; item analysis using inter-item correlation, item-scale correlation, and alpha reliability. Additional reliability assessment using CR and AVE, and validity assessment focusing on convergent, discriminant and nomological validities are also proposed. In the chapter that follow next, results of the scale development strategy are presented.

# Chapter Six: Results of Measurement Model Assessment

## 6.1 Introduction

This chapter presents the results of the implementation of the measure development strategy outlined in chapter five. It specifically focuses on presenting the results of the development and purification of all items and scales used in this study. Two important procedures were followed: item selection and item analysis using EFA, and dimensionality and validity assessment using CFA (DeVellis, 2003). In the sections that follow next, accounts are given of the two measure development procedures starting with item selection using EFA.

## 6.2 Treatment of Missing Value

The objective of this section is to provide the initial data editing performed to determine if the data is accurate, and to check that the data is not missing any values for statistical analysis. Before any attempt was made to purify the measures used in this study, all reverse coded items were recoded accordingly. In addition, albeit the reasonable length of the questionnaire, some questions were left unanswered by respondents. As such, efforts were expended to identify missing values in the data although the rate of missing values per variable was low in the current study.

In general, missing observations pose a major challenge to researchers in the social science discipline (Hair et al., 2006). They may occur due to omission of answers by the respondents or due to errors in data entry (Hair et al., 2006), and most often they are promoted by factors that are beyond the control of researchers (Kline, 1998). However, Tabachnick et al. (2007) note that the most important thing for researchers to think about is how they can establish the pattern of missing data, why data is missing and how much is missing (see also Schafer and Graham 2002 for a review). In fact, Schafer and Graham (2002) recommend that researchers should examine whether data is missing intentionally or unintentionally. In the context of this study, it was estimated that missing data was caused primarily by inability and unwillingness

of respondents to respond to specific questions. Accordingly, it is argued that majority of the data in this study were missing unintentionally.

As mentioned, the data was collected using Qualtrics, an online survey tool and therefore there was no manual data entry conducted. Hence, the primary reason for any missing data was due to omission of answers by the respondents. A number of respondents started completing the questionnaire and did not finish it. Since data was collected online, it was easy to track the respondents who had given incomplete data. They were emailed again and asked to revisit their questionnaire. Yet there remained few incomplete questionnaires that remained to be dealt with.

To determine the amount of data that was missing in the current study, a missing value analysis (MVA) was undertaken using expectation maximization (EM) algorithm (available in SPSS 24.0) as recommended in the literature (Little, 1988; Little & Rubin, 1989; Little & Rubin Donald, 1987; Little, Schenker, Arminger, Clogg, & Sobel, 1995). The EM algorithm was preferred to other available imputation methods because it is readily available in the SPSS programme and more importantly, it has been shown that the EM algorithm introduces minimal bias in structural models when the rates of missingness are low (Olinsky, Chen, & Harlow, 2003). Following imputation using EM, the dataset contained 218 complete sets.

The first step in handling missing values it is essential to check what per cent of the data is missing. Missing value analysis (MVA) is conducted in two steps. First, to determine the amount of missing data, it is important to check for the overall missing data, and second, to check the total missing data for each variable (Little, 1988; Little & Rubin, 1989).

Results of MVA showed that the largest missing value was 4.2 per cent the new product sales as a percentage of total sales and 3.5 per cent total volume of new export products. For all other variables, the percentage of missing values was less than 1 per cent. Tabachnick et al. (2007)

Hair et al. (2006); (Tabachnick et al., 2007) suggest that 5 per cent or less values missing randomly in a large dataset pose less serious problem to the study validity. The two variables with the largest missing values (i.e. the new product sales as percentage of total sales and total volume of new export products) were not included in the conceptual model of this study although they provided vital information on the profiles of the firms that participated in the study. In summary, missing value did not pose any threat to the validity of the current study.

## 6.3 Measure Construction and Purification: Item Selection and Item Analysis

### 6.3.1 Item Selection Using EFA

As explained earlier in chapter five, exploratory factor analysis was used to select items that loaded on a factor so that preliminary scales could be provided for further validation. Given sample size restriction, a subset analysis was proposed (see section 5.3.2). As such, three subsets have been developed. For completeness and in order to show support for the robustness of the items used in this study, a full measurement model (involving all good items) was also planned. To implement the subset strategy in EFA, the first set contained the items measuring the two capabilities. It was reasonable to analyses these items together as they proximally similar conceptually (Vicente et al., 2015).

The second set comprised of items measuring the three institutional distance subscales. Again, prior research shows that these three subscales are conceptually similar (Beugelsdijk et al., 2018; Scott, 1995; Xu & Shenkar, 2002). The third set consisted of items measuring new export product performance and competitive advantage. Although it is argued that these export performance and competitive advantage constructs are conceptually distinct, some research show that they are related to some extent (e.g. Newbert, 2008). The fourth set contained all items that had loaded well (>0.4) on their respective factors in the subset analysis. In other words, items that did not perform well in terms of their loadings were not included in the full measurement analysis. In the sections that follow next, results for subsets analyses are provided.

The inter-item correlations were first analyzed to test the internal consistency of all scales. As stated in the previous section, a threshold of 0.4 was considered as a good measure of an item. Items measuring technological capability (ranging between 0.408 and 0.680), new product development capability (ranging between 0.423 and 0.570), cost advantage (ranging between 0.596 and 0.733), differentiation advantage ( ranging between .425 and .643), new export product sales (ranging between 0.547 and 0.638), regulative institutional distance (ranging between 0.560 and 0.722), cognitive-cultural institutional distance (ranging between 0.462 and 0.741), normative institutional distance (ranging between 0.533 and 0.789) showed strong and positive inter-item correlations with other items.

#### *6.3.1.1 Scales for Export Innovation capabilities (Technological Capabilities and New Product Development)*

This subsection contained items tapping the two capabilities of export innovation. Included in the subset were the technological capability, and new product development.

Few of the dissemination items were recoded before the analysis began as they were negatively worded in the original questionnaire. All 10 items comprising the two capabilities were, therefore, run in a single EFA. In running the EFA, Principal Component extraction method and Direct Oblimin rotation approach were employed; a solution of three factors was obtained. The cumulative variance extracted was 63.24 %. As stated in the previous section, factor loadings of above 0.5 were reported as a minimum requirement for a well-defined factor structure. None of the items were loaded poorly (less than 0.4) on their respective factors.

*Table 6. 1: Pattern Matrix of the Scale for Export Innovation Capabilities*

**Pattern Matrix[a]**

| | Component | |
|---|---|---|
| | 1 | 2 |
| TC1 | .863 | |
| TC2 | .866 | |
| TC3R | .830 | |
| TC4 | .758 | |

| | | |
|---|---|---|
| TC5 | .710 | |
| NPDC1 | | .695 |
| NPDC2R | | .787 |
| NPDC3 | | .749 |
| NPDC4R | | .861 |
| NPDC5R | | .772 |

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 5 iterations.

### *6.3.1.2 Scales of Institutional Distance*

The second subset that includes 19 items was analyzed and a solution of three factors was obtained. A total of 70% cumulative extracted variance was obtained. All items loaded well (greater than 0.5) on to their respective constructs, as expected. None of the items had cross loadings onto other factors.

*Table 6. 2 Pattern Matrix of the Scale for Institutional Distance*

**Pattern Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| RID1 | | .700 | |
| RID2 | | .880 | |
| RID3 | | .802 | |
| RID4 | | .682 | |
| RID5 | | .694 | |
| CID1 | .775 | | |
| CID2 | .741 | | |
| CID3 | .863 | | |
| CID4 | .716 | | |
| CID5 | .775 | | |
| CID6 | .832 | | |
| CID7 | .681 | | |
| CID8 | .728 | | |
| CID9 | .676 | | |
| NID1 | | | -.766 |
| NID2 | | | -.793 |
| NID3 | | | -.854 |

| | | | |
|---|---|---|---|
| NID4 | | | -.786 |
| NID5 | | | -.778 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 7 iterations.

### *6.3.1.3 Scales for Competitive advantage*

The scale items for new export product performance and the two dimensions of competitive advantage analyzed together in a single EFA. Three items for the new export product performance scale were measured by a total of 3 items, while competitive advantage were measured by a total of 9 items. While four items each tapped cost advantage, five items captured differentiation advantage. All 12 items were entered into a single EFA and results showed that a three-factor solution was returned. A total of 68.36% cumulative extracted variance was obtained. All the three items for the new export product performance scale loaded strongly on a single factor. All items loaded well (greater than 0.5) on to their respective constructs, as expected. However, one item measuring differentiation advantage (CADIFF1) was dropped because of poor loading (< 0.4). Having eliminated CADIFF1, a second EFA was run, and the results are reported in table 6.3. From table 6.3 two-factor solution representing the two dimensions of competitive advantage, cost advantage and product differentiation was obtained with a cumulative extracted variance of 70.123% per cent.

*Table 6. 3*: Pattern Matrix of the Scale for Competitive Advantage and New Export product Sales

**Pattern Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| NEPSSB1 | | .738 | |
| NEPDSB2 | | .871 | |
| NEPSSB3 | | .884 | |
| CACST1 | .776 | | |
| CACST2 | .922 | | |

| | | | |
|---|---|---|---|
| CACST3 | .901 | | |
| CACST4 | .849 | | |
| CADIFF1 | | | .488 |
| CADIFF2 | | | .772 |
| CADIFF3 | | | .728 |
| CADIFF4 | | | .879 |
| CADIFF5 | | | .731 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 7 iterations.

#### *6.3.1.4 Simultaneous Analysis of all Scales*

Having assessed the individual scales and having selected items that have loaded strongly on their respective factors, it is now time to evaluate the extent to which each item performed in relation to other items tapping other constructs. Thus, in this section an account is given on a simultaneous analysis of all items in a single EFA. In total, 41 items measuring eight constructs were analyzed simultaneously in EFA. Using principal component analysis and direct Oblimin rotation, a solution of nine factors was obtained with a total of 69.681% cumulative extracted variance. All items loaded well (greater than 0.5) on to their respective factors. Overall, result of the measurement model was a decent fit, with KMO measure of 0.901 and strong alpha coefficient value further demonstrating a good reliability of all the scales.

*Table 6. 4*: Pattern Matrix for the Full Measurement EFA Model

**Pattern Matrix[a]**

| | Component | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| TC1 | | | | -.832 | | | | |
| TC2 | | | | -.822 | | | | |
| TC3R | | | | -.785 | | | | |
| TC4 | | | | -.628 | | | | |
| TC5 | | | | -.728 | | | | |
| NPDC1 | | .655 | | | | | | |
| NPDC2R | | .760 | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NPDC3 | | .709 | | | | | |
| NPDC4R | | .827 | | | | | |
| NPDC5R | | .773 | | | | | |
| CACST1 | | | -.764 | | | | |
| CACST2 | | | -.895 | | | | |
| CACST3 | | | -.856 | | | | |
| CACST4 | | | -.812 | | | | |
| CADIFF2 | | | | | | .725 | |
| CADIFF3 | | | | | | .662 | |
| CADIFF4 | | | | | | .752 | |
| CADIFF5 | | | | | | .585 | |
| NEPSSB1 | | | | | | | -.641 |
| NEPDSB2 | | | | | | | -.818 |
| NEPSSB3 | | | | | | | -.820 |
| RID1 | | | | | -.647 | | |
| RID2 | | | | | -.827 | | |
| RID3 | | | | | -.751 | | |
| RID4 | | | | | -.649 | | |
| RID5 | .304 | | | | -.639 | | |
| CID1 | .751 | | | | | | |
| CID2 | .724 | | | | | | |
| CID3 | .811 | | | | | | |
| CID4 | .691 | | | | | | |
| CID5 | .747 | | | | | | |
| CID6 | .799 | | | | | | |
| CID7 | .673 | | | | | | |
| CID8 | .708 | | | | | | |
| CID9 | .655 | | | | | | |
| NID1 | | | | .756 | | | |
| NID2 | | | | .695 | | | |
| NID3 | | | | .787 | | | |
| NID4 | | | | .646 | | | |
| NID5 | | | | .633 | | | |

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 11 iterations.

**Note:**
TC = Technological Capability; NPDC= New Product Development Capability; CACST= Cost Advantage; CADIFF= Differentiation Advantage; NEPSSB=New Export Product Sales; RID= Regulative Institutional Distance; CID= Cognitive Institutional Distance; NID= Normative Institutional Distance.

## 6.4 Measure Construction and Purification: Dimensionality and Validity Assessment in CFA

### 6.4.1 An Overview

As was discussed earlier in section 5.3.4 (chapter 5), the issue of dimensionality is central to scale development, and a vigorous approach to assessing scale dimensionality is by using CFA (DeVellis, 2003). In addition to helping this study to assess scale dimensionality, CFA can also aid the study's efforts to further trim scale items (DeVellis, 2003; Netemeyer et al., 2003). Through CFA, further scale reliability can be evaluated in the form of composite reliability (CR) and average variance extracted (AVE). Furthermore, scale validities including convergent validity and discriminant validity can be assessed in CFA (Gerbing & Anderson, 1988; Ping, 2004). Thus, all scales that passed through EFA were Subsequently evaluated by means of CFA models.

Several model testing and estimation approaches are available to researchers. Among these are maximum likelihood (ML), generalized least square (GLS), partial least square (PLS) and asymptotic distribution free (ADF) methods. In the case of the current study, a decision was made to use ML method for model testing and estimation. Two important reasons informed this decision. First, Chou and Bentler (1995) suggest that both ML and GLS perform quite well in generating reliable statistical results. Second, it has been found that the ML method is quite robust under reasonable violation of normality (Chou & Bentler, 1995). This is notwithstanding the view that multivariate assumption that underpins the ML method is often violated in practice. In this study, no major violation of the normality assumption was anticipated, and as such the ML was used to estimate the CFA models and the structural equation models.

Again, as was proposed in earlier sections model specification involving variables (or indicators) capturing each construct (or factor) was done *a priori*. Thus, the conceptual linkage between the measurement items and their respective latent constructs were specified

beforehand. With respect to model assessment, a typical research practice is to examine chi-square ($\chi 2$) statistic and five other fit heuristics including RMSEA, NNFI, CFI, IFI and GFI (Byrne, 1998; Cudeck & Browne, 1983; Hoyle & Panter, 1995; Hu & Bentler, 1995). These fit indices are recommended in the literature as acceptable ways to evaluate the overall fit of measurement models (Byrne, 1998). Based on theoretical justification, model specification was undertaken to further remove poor items from the scales (Hair et al., 2006; MacCallum et al., 1992). Finally, scale reliability and validity were assessed as earlier proposed in sections 5.3.4.3 to 5.3.4.4 of chapter five.

### 6.4.2 Constructing the Measures

Using AMOS Version 24.0 and in following the measurement development plan in figure 5.6 (chapter five), all the multi-item scales that had passed the EFA evaluation were entered into CFA models for further analysis. As planned, ML estimation method was used, and each relationship was specified *a priori*. Three sub models plus one full measurement model was run. This was in recognition of the restrictions of sample size to parameter ratio. Thus, the sample size to parameter ratio of 5:1 was observed. As it was in the case of EFA, the first CFA subset comprised of the items measuring the two export innovation capabilities scales. The second set contained the items that captured the three institutional distance scales. The third set consisted of the two dimensions of competitive advantage and new export product performance scales.

Finally, a full measurement model was estimated with all items that performed well at subset analysis stage included. Thus, problematic items were removed from the individual scales before the full measurement model was estimated. In this process, the modification index for each item was examined and items with large standardized residuals were eliminated from their respective scales.

### 6.4.3 Subset Analysis Using CFA

The following sections focus on the subset analysis of the measures using CFA.

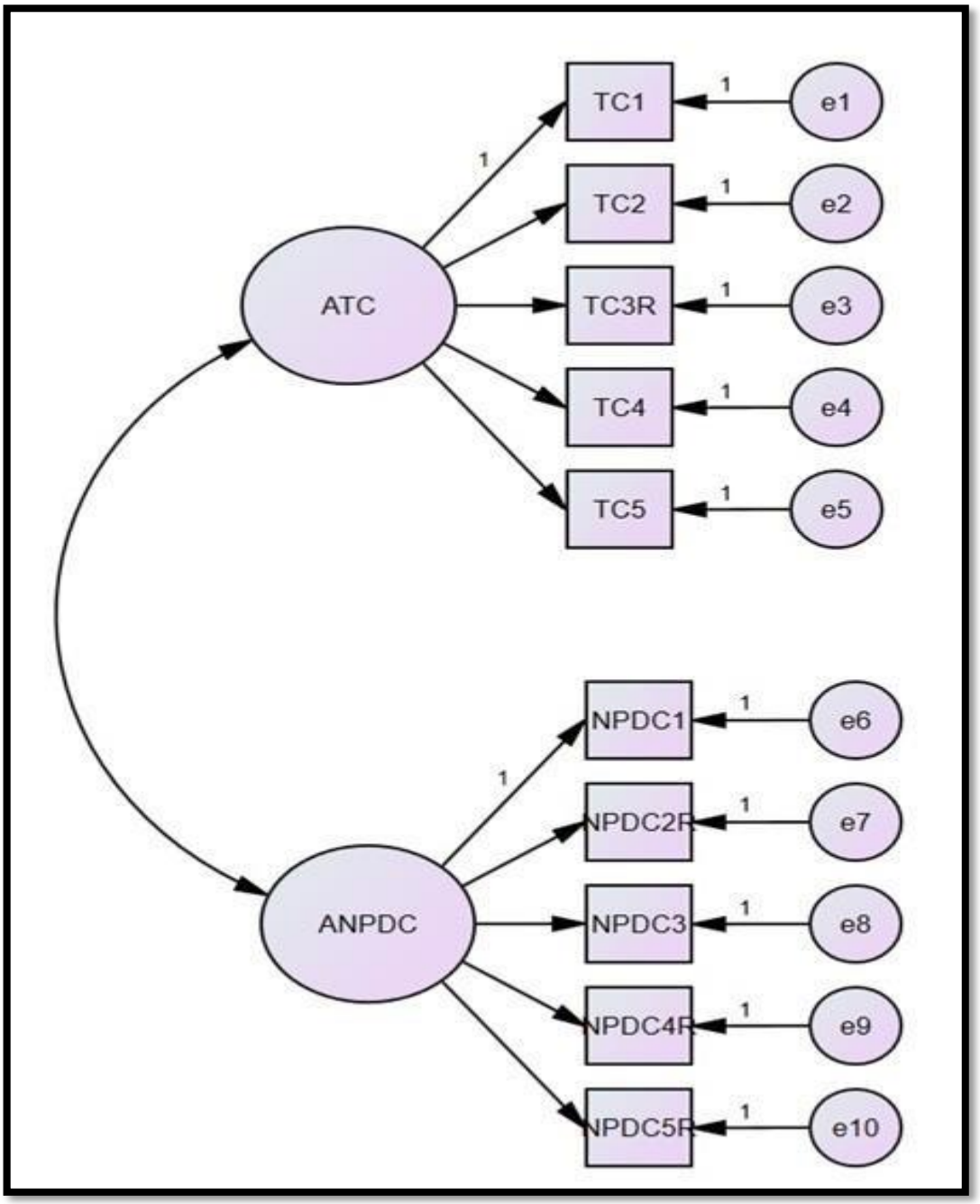
#### *6.4.3.1 CFA Model Set One: Scales for Export Innovation capabilities*

Similar to the EFA procedure, the three scales for export innovation capabilities were first analyzed.

The factor structure of the multi-factor CFA model for the two scales for export innovation capabilities was specified and is reproduced in figure 6.1.

The CFA model in figure 6.1 returned a converged solution with acceptable fit (i.e. $\chi 2$ = 62.294; *df* = 34; RMSEA = 0.062; NNFI = 0.912; CFI = 0.970; IFI = 0.970; PClose =0.197 and GFI = 0.944). Given the above statistics it was evident that the model achieved excellent fit with respect to absolute and comparative fit models.

*Figure 6. 1 The CFA Model for the Export Innovation Capabilities Scales*




**Note:**
ATC = Technological Capability; ANPDC= New Product Development Capability

*Table 6. 5 CFA Results for the Measurement Model of Export innovation Capabilities Scales*

| Items | Technological Capability | New Product Development Capability |
|---|---|---|
| TC1 | .792 (Fixed) | |
| TC2 | .845 (13.413) | |

| | | |
|---|---|---|
| TC3R | .802 (12.413) | |
| TC4 | .724 (11.003) | |
| TC5 | .613 (9.077) | |
| NPDC1 | | .674(Fixed) |
| NPDC2R | | .756(9.260) |
| NPDC3 | | .708(8.806) |
| NPDC4R | | .729(9.011) |
| NPDC5R | | .688(8.605) |
| AVE | 0.576 | 0.506 |
| CR | .871 | .836 |

#### *6.4.3.2 CFA Model Set Two: Scales for institutional Distance*

The second subset in the CFA analysis contained items for the three scales that measured ID. The items for the three scales were specified as indicators of their respective latent construct and subsequently analyzed in CFA measurement model (see figure 6.2). The fit indices suggest that an acceptable level of fit was achieved. Specifically, RMSEA was less than 0.08 and NNFI, IFI, CFI and GFI were all greater than 0.90 critical value. In addition, all the parameter estimates were statistically significant at a level of 0.05 or better. Furthermore, all the three scales achieved acceptable level of CR and AVE as can be seen in table 6.6. This statistical evidence collectively suggests that the three scales of ID achieved convergent validity and unidimensionality. Thus, the three scales were deemed to be suitable for hypotheses testing.

*Figure 6. 2 The CFA Model for the Institutional Distance Scales*

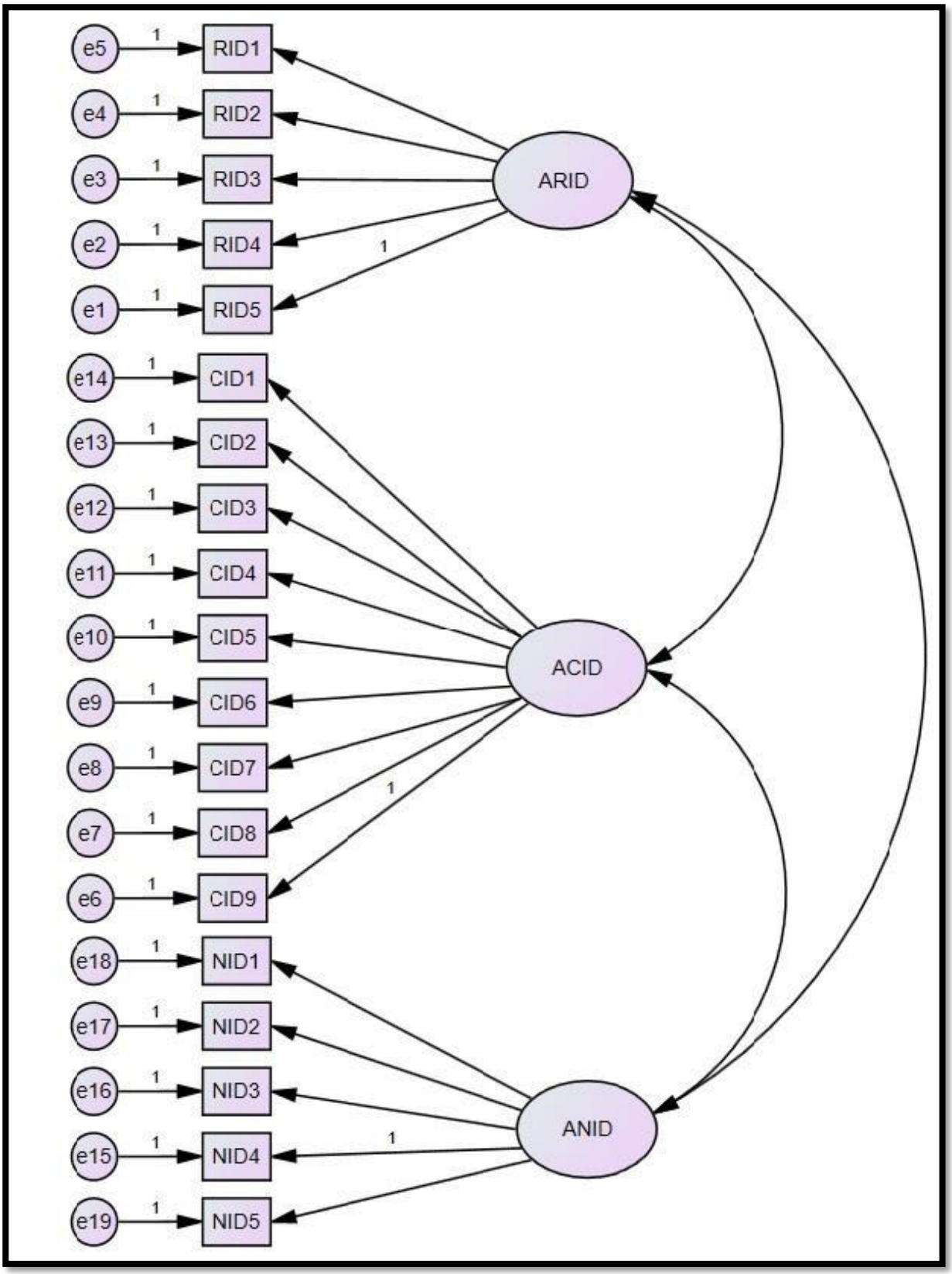

e5
e4
e3
e2
e1
RID1
RID2
RID3
RID4
RID5
ARID
e14
e13
e12
e11
e10
e9
e8
e7
e6
CID1
CID2
CID3
CID4
CID5
CID6
CID7
CID8
CID9
ACID
e18
e17
e16
e15
e19
NID1
NID2
NID3
NID4
NID5
ANID
1

*Table 6. 6 CFA Results for the Measurement Model of Export innovation Capabilities Scales*

| Items | Regulative Institutional Distance | Cognitive Institutional Distance | Normative Institutional Distance |
|---|---|---|---|
| RID1 | .701 (Fixed) | | |
| RID2 | .743 (12.211) | | |
| RID3 | .805 (13.665) | | |
| RID4 | .861 (15.032) | | |
| RID5 | .828 (Fixed) | | |
| CID1 | | .816(Fixed) | |
| CID2 | | .851(12.198) | |
| CID3 | | .786(11.240) | |
| CID4 | | .785(11.304) | |
| CID5 | | .687(9.843) | |
| CID6 | | .780(11.168) | |
| CID7 | | .782(11.271) | |
| CID8 | | .802(12.940) | |
| CID9 | | .717(Fixed) | |
| NID1 | | | .706(12.320) |
| NID2 | | | .763(14.147) |
| NID3 | | | .844(16.308) |
| NID4 | | | .891(Fixed) |
| NID5 | | | .868(17.421) |
| AVE | 0.639 | 0.617 | .670 |
| CR | .898 | .935 | .910 |

#### *6.4.3.3 CFA Model Set Three: Scales for Competitive Advantage and New Export Product Sales*

The two scales, each measuring competitive advantage and new export product sales, were analyzed together in a single measurement model. Unlike EFA where the two scales were initial analyzed separately, in this instance the two scales and their associated items were specified in a single measurement model while taking notice of their theoretical structure (see figure 6.3). The results showed that the model fitted the data very well (see table 6.7 for

details). Specifically, the RMSEA value of 0.055 and fit values for NNFI, CFI, IFI and GFI were greater than the critical value of 0.90.

*Figure 6. 3* The CFA Model for the Competitive Advantage and New Export Product Sales

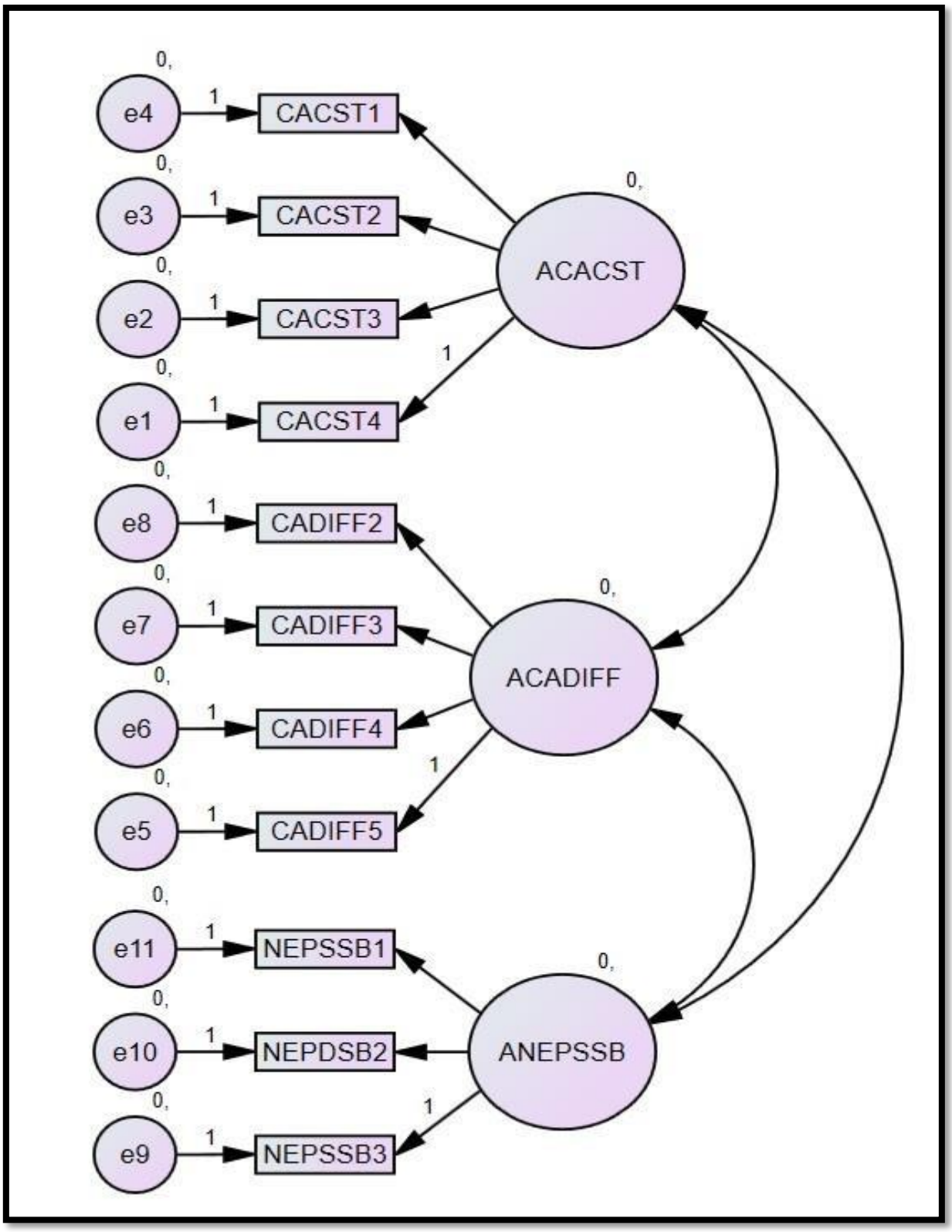


*Table 6. 7* CFA Results for the Measurement Model of the Competitive Advantage and New Export Product Scales

| **Items** | **Cost-Advantage** | **Differentiation Advantage** | **New Export Product Performance** |
|---|---|---|---|
| **CACST1** | .787 (12.684) | | |
| **CACST2** | .876 (14.516) | | |
| **CACST3** | .839 (13.779) | | |
| **CACST4** | .803 (Fixed) | | |
| **CADIFF2** | | .642(8.726) | |
| **CADIFF3** | | .639(8.681) | |
| **CADIFF4** | | .786(10.462) | |
| **CADIFF5** | | .753(Fixed) | |
| **NEPSSB1** | | | .733(10.114) |
| **NEPSSB2** | | | .771(10.494) |
| **NEPSSB3** | | | .800 (Fixed) |
| **AVE** | 0.684 | 0.502 | .590 |
| **CR** | .896 | .800 | .812 |
| **Fit Indices** | $\chi 2$ = 68.0; df = 41; *p-value* = 0.005; RMSEA = 0.055; NNFI = 0.944; IFI = 0.977; | | |

#### *6.4.3.4 CFA Model Set Four: Simultaneous Analysis of all Scales*

For completeness and to further establish the robustness and stability of the measures a full measurement model was estimated, in which case all the remaining items were simultaneously entered into a single CFA model. This practice is in line with previous research (e.g., Baker and Sinkula 1999; Cadogan et al. 2006). As a result, the final CFA model included all 8 scales tapping different constructs and sub constructs and 40 items.

*Table 6. 8 Results of CFA Model for the Simultaneous Analysis of all Scales*

| Constructs | Variables | Factor loadings (with t-values) | Standard Errors |
|---|---|---|---|
| Technological Capability | TC1 | .786(Fixed) | - |
| | TC2 | .838(13.013) | .067 |
| | TC3R | .804(12.425) | .081 |
| | TC4 | .741(11.291) | .076 |
| | TC5 | .605(8.936) | .099 |
| New Product Development Capability | NPDC1 | .677(Fixed) | - |

| | | | |
|---|---|---|---|
| | NPDC2R | .756(9.366) | .130 |
| | NPDC3 | .712(8.939) | .133 |
| | NPDC4R | .726(9.069) | .125 |
| | NPDC5R | .683(8.619) | .125 |
| Regulative Institutional Distance | RID1 | .743(Fixed) | - |
| | RID2 | .773(11.450) | .092 |
| | RID3 | .807(12.000) | .087 |
| | RID4 | .851(12.671) | .088 |
| | RID5 | .817(12.134) | .089 |
| Cognitive Institutional Distance | CID1 | .815(Fixed) | - |
| | CID2 | .848(14.549) | .073 |
| | CID3 | .808(13.685) | .076 |
| | CID4 | .787(13.803) | .070 |
| | CID5 | .687(11.782) | .076 |
| | CID6 | .762(13.210) | .067 |
| | CID7 | .783(13.963) | .076 |
| | CID8 | .811(13.797) | .073 |
| | CID9 | .727(11.996) | .075 |
| Normative Institutional Distance | NID1 | .734(Fixed) | - |
| | NID2 | .763(11.229) | .102 |
| | NID3 | .846(12.557) | .095 |
| | NID4 | .889(13.211) | .098 |
| | NID5 | .850(12.605) | .102 |
| Cost- Advantage | CACST1 | .786(Fixed) | - |
| | CACST2 | .875(14.030) | .093 |
| | CACST3 | .841(13.403) | .096 |
| | CACST4 | .803(12.676) | .096 |
| Differentiation Advantage | CADIFF2 | .646(Fixed) | - |
| | CADIFF3 | .644(7.841) | .133 |
| | CADIFF4 | .778(8.995) | .137 |
| | CADIFF5 | .753(8.812) | .132 |
| New Export Product Performance | NEPSSB1 | .750(Fixed) | - |
| | NEPSSB2 | .762(10.298) | .088 |
| | NEPSSB3 | .790(10.577) | .097 |

| | |
|---|---|
| Fit Indices | $\chi 2$ = 1115.171; df = 712; *p-value* = 0.000; RMSEA = 0.051; NNFI=.822 IFI = 0.927; |

Given the large number of items (N = 40) and the relatively small sample size (N =218), one might expect that the full measurement model would produce unreliable parameter estimates and poor model fit. This was, however, not the case in this study. As can be seen in table 6.8, the model did return proper solution and all factor loadings were positive and significant at 0.05 level or better. Moreover, the fit indices obtained were surprisingly good. Specifically, although the $\chi 2$ of 1115.171 (*df* = 712; *p* =0.000) was significant at five per cent level, however, all other fit indices met their recommended cut-off limits. The only exception is GFI = 0.801; however, scholars generally agree that this index often decreases when the number of items included in a model increases (Anderson & Gerbing, 1988; Ping, 2004). Finally, the standard errors for the items were reasonably low. Consequently, the result for the full measurement model is taken to provide support for the robustness of the measurement items used. As such, this study relies on the parameters from the full measurement model for further analysis.

## 6.5 Creating Measurement Index

### 6.5.1 Export Innovation Capabilities

For the purposes of subsequent measurement model evaluation and hypotheses testing, a single export innovation capabilities score was created in the following ways. In constructing the export innovation capabilities measure, established guidelines in the psychometric literature were followed to create composite scores for each export innovation capabilities component (Churchill, 1979; Ping, 2004). That is, average scores for each of the items that measured each factor was computed to generate single indicant measures for technological capability (TC), and new product development capability (NPDC).This was used in the

assessment of the structural relationship between the two capabilities and new export product performance (see figure 7.1in chapter seven).

### 6.5.2 Institutional Distance

The CFA model of ID views the construct as formative, comprising of three first order correlated factors (i.e. Regulative institutional distance, Cognitive institutional distance and Normative institutional distance). In fact, the ID construct was included in the conceptual model as a moderator variable as was reported in figure 3.1 in chapter three. Hence, it was necessary to create a composite measure of the each ID construct (Cadogan et al., 2006). To create the three ID score, this study first averaged across the five regulative institutional distance observed items, to create a single item measure (RID). Likewise, a single score for cognitive institutional distance (CID) was created by averaging the scale's nine items and a single score for normative institutional distance (NID) was created by averaging the scale's five indicators.

### 6.5.3 New Export Product Performance

The new export product performance scale consists of three indicators: managers' satisfaction with the firms' new export product market share, new export product performance volume, new export product profitability. The new export product performance construct was eventually modelled as a first-order latent construct with three indicators. The first-order latent construct (with the three indicators) was subsequently used in the hypotheses analysis as the main dependent variable (see figure 7.1 in chapter seven).

### 6.5.4 Competitive Advantage

Competitive Advantage comprising of two first order correlated factors (i.e. low cost advantage and differentiation advantages). In fact, the CA construct was included in the conceptual model as a mediator variable as was reported in figure 3.1 in chapter three. Accordingly, each of the four items that captured cost advantages (CACST), and

differentiation advantages (CADIFF) construct were averaged. These two dimensions were later used to test the mediator effect in the conceptual framework.

### 6.5.5 Other Measures

In addition to the nine major constructs discussed above, firm size was also included in the conceptual model as a control variable. In fact, firm size was measured by a single item using total number of employees as a proxy. The use of number of employees as a measure of firm size is consistent with prior export research in the area

## 6.6 Validity of Measures

Anderson and Gerbing (1988) suggest that CFA procedures can be used to assess aspects of validity. Specifically, measure validity can be assessed using techniques such as AVE and CR. This study has demonstrated that all scales achieved satisfactory AVE and CR in CFA. Accordingly, it can be said that the AVE and CR values have helped to establish reliability of the scales. In addition, it can be argued that convergent validity of the scales were also established since all items loaded significantly on their posited latent constructs without any evidence of cross loadings and correlated errors. Furthermore, all scales appeared to have coefficient alpha greater than 0.7, which also implies good convergent validity (Grewal, Cote, & Baumgartner, 2004; Ping, 2004). In the two sections that follow, all scales used in the previous CFA models are assessed for discriminant validity and nomological validity.

### 6.6.1 Discriminant Validity Assessment

Discriminant validity was assessed to demonstrate that each construct was distinct and captured a phenomenon that other constructs did not (Fornell & Larcker, 1981; Peter, 1981). To demonstrate discriminant validity, it can be seen in table 6.10, none of the 95 per cent confidence intervals of the individual elements of the latent factor correlation matrix contained a value of 1.0 (Anderson & Gerbing, 1988).

To statistically address the high correlations and to further demonstrate discriminant validity, the AVE for each construct was compared with the square of the correlation estimates (i.e.

the shared variances) between each pair of constructs (Hair et al., 2006). Following the rule of thumb from the literature (Anderson & Gerbing, 1988; Ping, 2004), it can be argued that discriminant validity for each construct was achieved because the AVE estimate for each construct was greater than the squared correlation estimate for each pair of construct.

*Table 6. 9 Summary Statistics, Correlation Matrix and Discriminant Validity of the Constructs*

| | CR | AVE | MSV | MaxR(H) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ATC** | 0.871 | 0.576 | 0.353 | 0.884 | **0.759** | | | | | | | |
| **ANPDC** | 0.836 | 0.506 | 0.264 | 0.839 | 0.489 | **0.711** | | | | | | |
| **ACACST** | 0.896 | 0.684 | 0.428 | 0.901 | 0.419 | 0.327 | **0.827** | | | | | |
| **ACADIFF** | 0.800 | 0.502 | 0.428 | 0.811 | 0.488 | 0.435 | 0.654 | **0.708** | | | | |
| **ARID** | 0.898 | 0.639 | 0.613 | 0.902 | 0.183 | 0.124 | 0.154 | 0.147 | **0.799** | | | |
| **ACID** | 0.935 | 0.617 | 0.613 | 0.938 | 0.106 | 0.514 | 0.192 | 0.139 | 0.783 | **0.786** | | |
| **ANID** | 0.910 | 0.670 | 0.602 | 0.920 | 0.107 | 0.044 | 0.176 | 0.176 | 0.776 | 0.776 | **0.819** | |
| **ANEPSSB** | 0.812 | 0.590 | 0.372 | 0.813 | 0.594 | 0.786 | 0.529 | 0.610 | 0.153 | 0.153 | 0.061 | **0.768** |

**Note:**
TC = Technological Capability; NPDC= New Product Development Capability; CACST= Cost Advantage; CADIFF= Differentiation Advantage; NEPSSB=New Export Product Sales; RID= Regulative Institutional Distance; CID= Cognitive Institutional Distance; NID= Normative Institutional Distance. CR= Composite Reliability; AVE=Average Variance Extracted; MSV= Maximum Shared Variance.

### 6.6.2 Nomological Validity Assessment

It was earlier stated that criterion related or nomological validity of the measures would be established by drawing on key relationships of interest to this study. Nomological validity relates to the ability of a new measure to perform as expected in a network of known causal relations. Confidence in a measure cannot be ascertained if it does not behave in an acceptable manner in relation to other accepted constructs. As such, an assessment of nomological validity would help this study to demonstrate the extent to which theoretically related constructs are empirically confirmed to be related. In the case of export innovation capabilities, a relevant demonstration of nomological validity would be the extent to which the construct and its sub-dimensions are related to firm performance. The conceptual framework of this study, as was presented in figure 3.1 of chapter three, posits that there is a theoretical association between the export innovation capabilities (and its components) and

new export product performance. In addition, previous studies demonstrate that the innovation capabilities is associated with environment institutions (Yi et al., 2013). Although nomological validity is often assessed by ways of a correlation or regression analysis, however, these techniques do not allow for formal testing of the nomological net (or theory). Moreover, they do not incorporate measurement errors for the latent constructs of the nomological net (Steenkamp & Van Trijp, 1991). On the contrary, structural equation modelling with latent variables technique allows for measurement error and it does perform formal test of the nomological net. For these two reasons, this study uses structural equation modelling technique to assess nomological validity of the constructs. The nomological validity assessment of the constructs was based on empirical evidence from prior studies as was stated in preceding paragraph and theoretical arguments provided by theorists. Consequently, a three-factor export innovation capabilities model, two competitive advantages model and the three- factor institutional distance model were subjected to a final empirical assessment to assess their nomological validity. For export innovation capabilities, the theoretical model in figure 6.5 was used to assess its nomological validity.

## 6.7 Descriptive Analysis of the Individual Scales

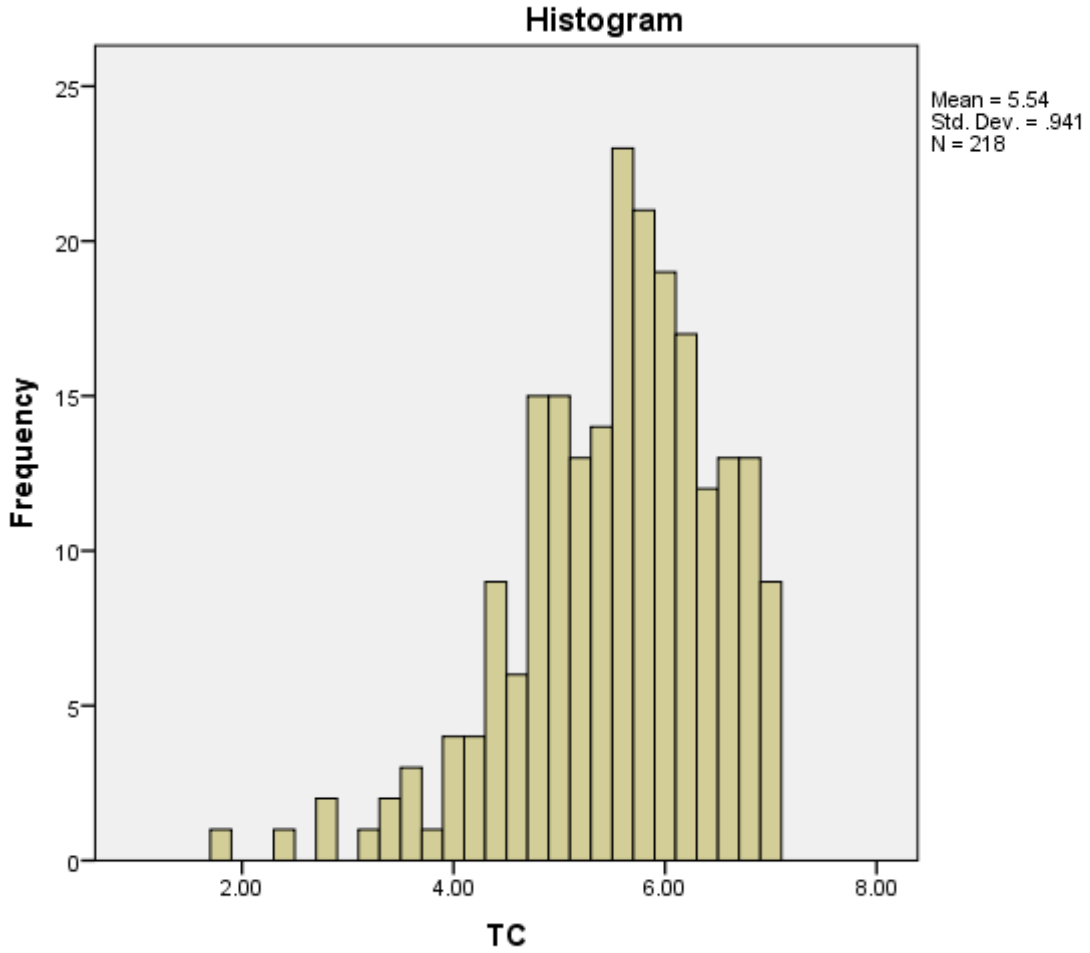
Finally, a descriptive analysis of each scale was performed. This analysis was undertaken in order to be sure that each scale was truly ready for hypotheses testing. In this context, each descriptive analysis was undertaken to test the assumption that the observed distribution of the measures differed significantly from normal distribution. The Kogomorov-Smirnoff (KS) test was therefore used and a non-significant KS result would mean that the distribution approximated to normality (Hair et al., 2006). However, Sharma and Sharma (1996) has argued that the KS test can be extremely sensitive to any small deviation from normality. As such, it is recommended that the Z-values of the skewness and kurtosis of the scale should be computed (Sharma & Sharma, 1996). Normal distribution of the scales can be inferred if their Z-values are less than the critical value of 1.96 for an alpha level of 0.05. Moreover, some

scholars have proposed that the structural equation modelling technique with maximum likelihood approach can produce robust model testing results if there is no evidence of extreme skewness and kurtosis of the data (Hair et al., 2006; Hoyle & Panter, 1995; Sharma & Sharma, 1996). However, West et al (1995) suggest that skewness of above three and kurtosis greater than 21 are extreme departures from normality. Following on from the above discussions and recommendations, the scores for each scale was subjected to descriptive analysis focusing on KS, Skewness and Kurtosis analyses. Results of the descriptive analyses are presented in figures 6.6 to 6.15. Results revealed that none of the scale scores deviated significantly from normality. Hence, the scales can be used in hypotheses testing.

### 6.7.1 Technological Capability

Figure 6.4 presents the histogram for the final technological capability scale, which did not show any incidence of missing value. The scale's mean value was 5.54, with a standard deviation of .941. The response ranged from a minimum of 1 to a maximum of 7. As can be seen from figure 6.4, the distribution was slightly skewed to the right but appeared normally distributed. However, a KS test returned a significant result suggesting that further insights were needed to further evaluate the normality of the scale. A further analysis showed that the variable returned skewness and kurtosis values of -0.858 and 1.153 respectively. The Z-score for kurtosis was 0.328, which therefore provide support for the view that the variable was normally distributed (Sharma 1996). As such, the scale was retained in its present form.

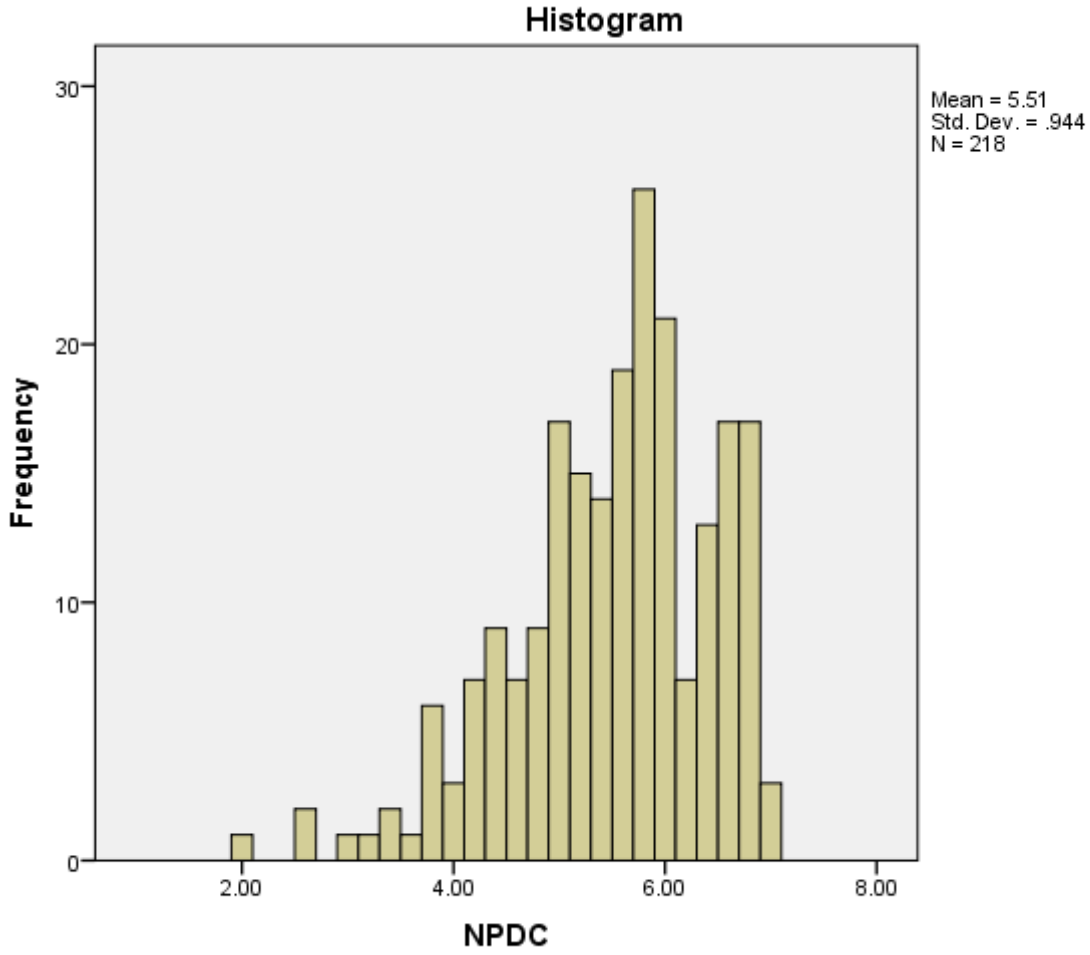
*Figure 6. 4 Test for Normal distribution of Technological Capability*




### 6.7.2 New Product Development Capability

Figure 6.5 reproduces the histogram for the final new product development scale, which shows no case of missing value. The mean value for the scale was 5.51 and its standard deviation was 0.944. The response ranged from a minimum of 2 to a maximum of 7. As can be seen from figure 6.5 the scale was negatively skewed but not dramatically to be of any serious concern. However, a KS test was performed, and a non-significant result was returned, which was taken to mean that the scale was fairly normally distributed. As a result, the new product development capability scale was taken to display sufficient robustness and as such it was deemed to be suitable for model testing.

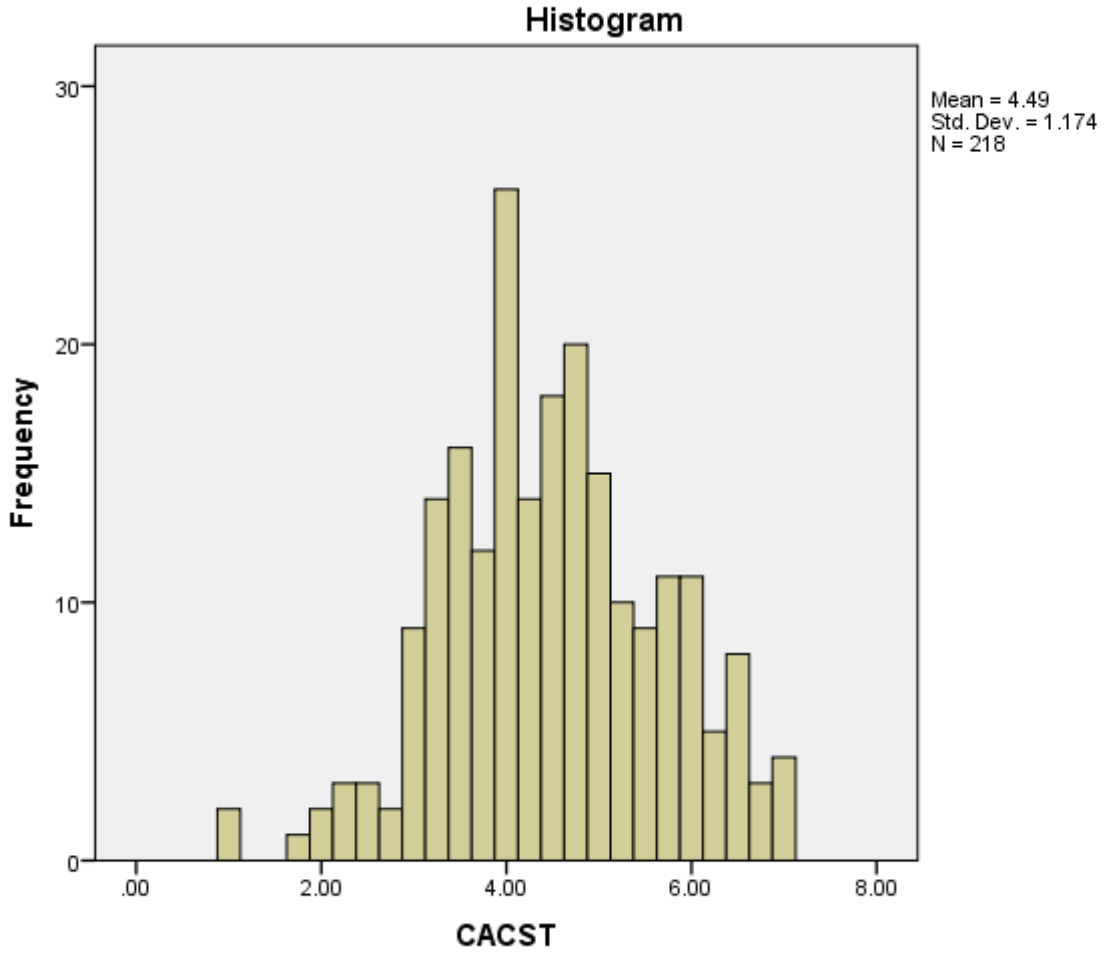
*Figure 6. 5 Test for Normal distribution of New Product Development Capability*




### 6.7.3 Low-cost Advantage

Figure 6.6 displays the frequency distribution of the low- cost advantage scale, and no missing value was observed for this scale. The mean value of 4.49, while the standard deviation was 1.174. The minimum and maximum were 1 and 7 respectively. A KS test was performed and it returned a non-significant result suggesting no significant deviation from normality. As a result, the low- cost advantage measure displays sufficient robustness and as such it was deemed to be ready for model testing.

*Figure 6. 6 Test for Normal distribution of Low-Cost Advantage*

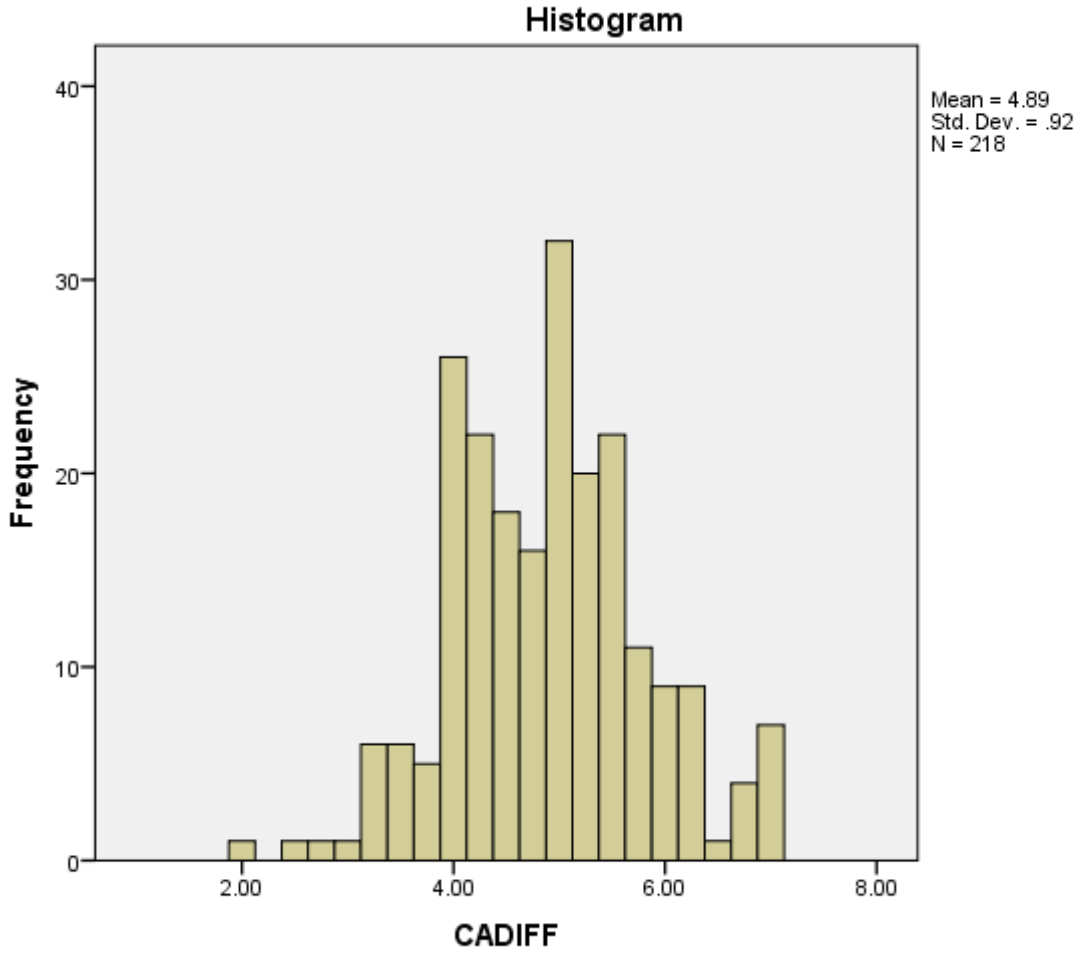



### 6.7.4 Differentiation Advantage

Figure 6.7 displays the frequency distribution of the differentiation advantage scale, and no missing value was observed for this scale. The mean value of 4.89, while the standard deviation was 0.92. The minimum and maximum were 2 and 7 respectively. The result of KS test was performed. However, it returned a non-significant result suggesting no significant deviation from normality.

As a result, the differentiation advantage measure is argued to display sufficient robustness and as such it was deemed to be ready for hypotheses testing.

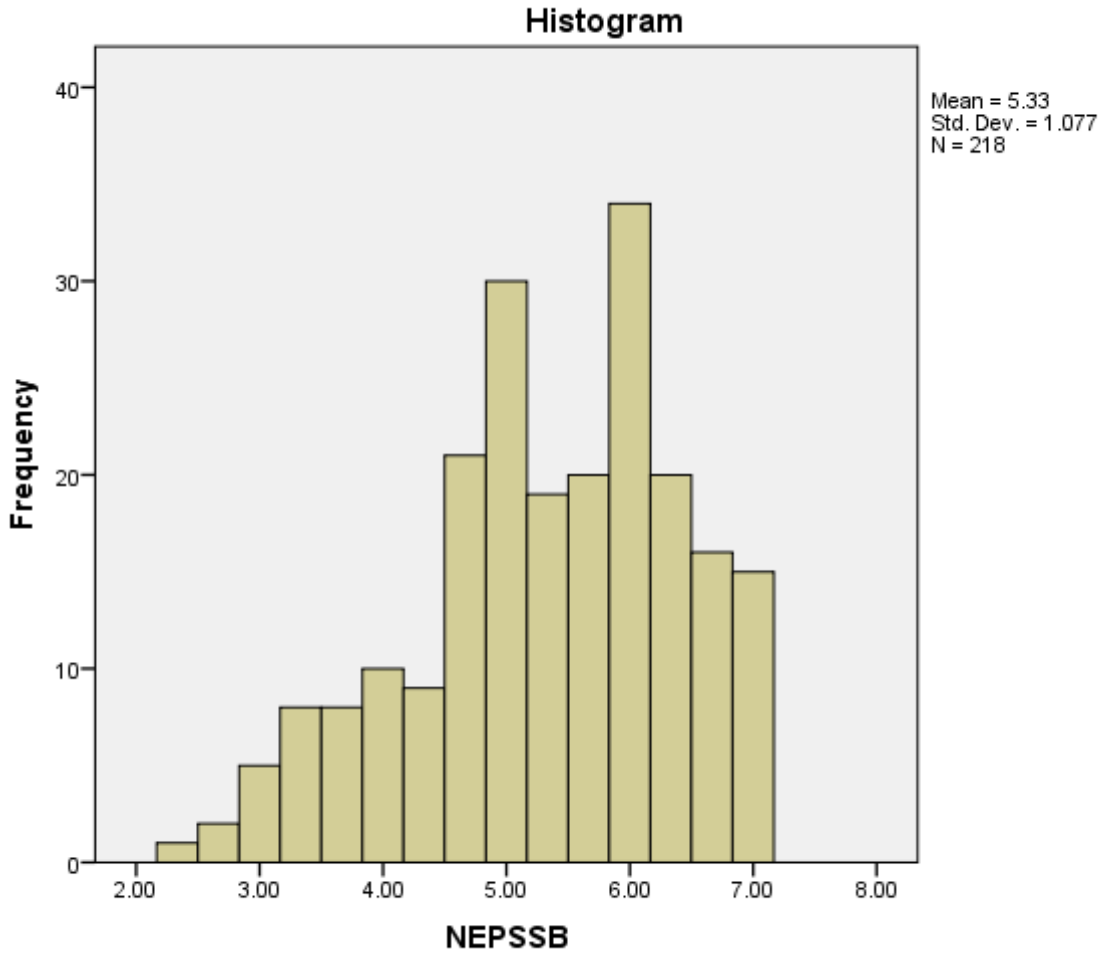
*Figure 6. 7 Test for Normal distribution of Differentiation Advantage*




### 6.7.5 New Export Product Sales

The new export product sales scale consists of three items: satisfaction with new export product market share, new export product sales volume, new export product profitability. Procedures followed to create a single scale for the three items were presented in chapter 5. Figure 6.8 presents the frequency distribution of the final scale of export performance. Observed values ranged from 2 to 7 with a mean of 5.33 (standard deviation =1.017) and a non-significant KS result. This means that the scale was suitable for use in model testing.

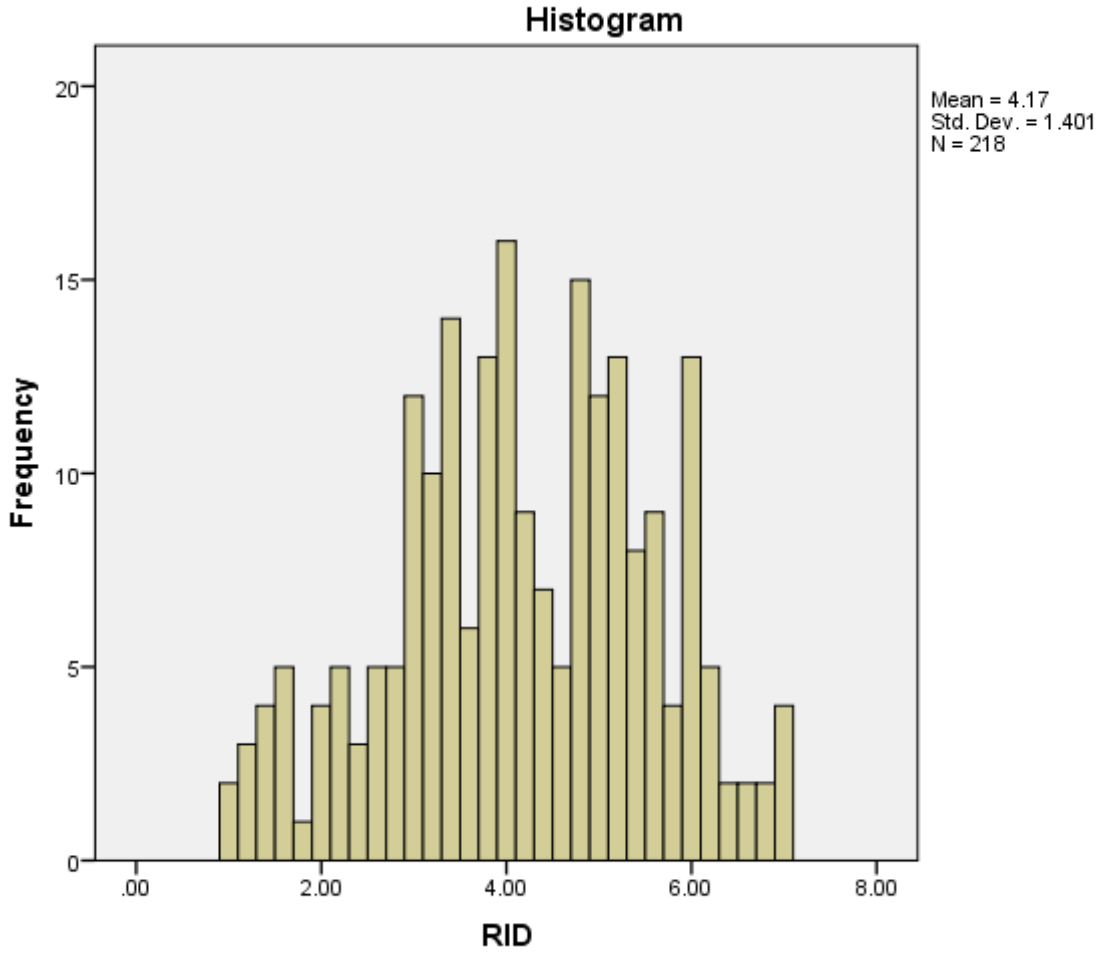
*Figure 6. 8 Test for Normal distribution of New Export Product Performance*




### 6.7.6 Regulative Institutional Distance

Figure 6.9 reproduces the frequency distribution of the regulative institutional distance scale; no missing value was observed for this scale. The mean value was 4.9 while the standard deviation was 1.401. The minimum and maximum were 1 and 7 respectively. A KS test was performed, and it returned a non-significant result suggesting no significant deviation from normality. As a result, the regulative institutional distance scale was taken to display sufficient robustness and as such it was deemed to be suitable for model testing.

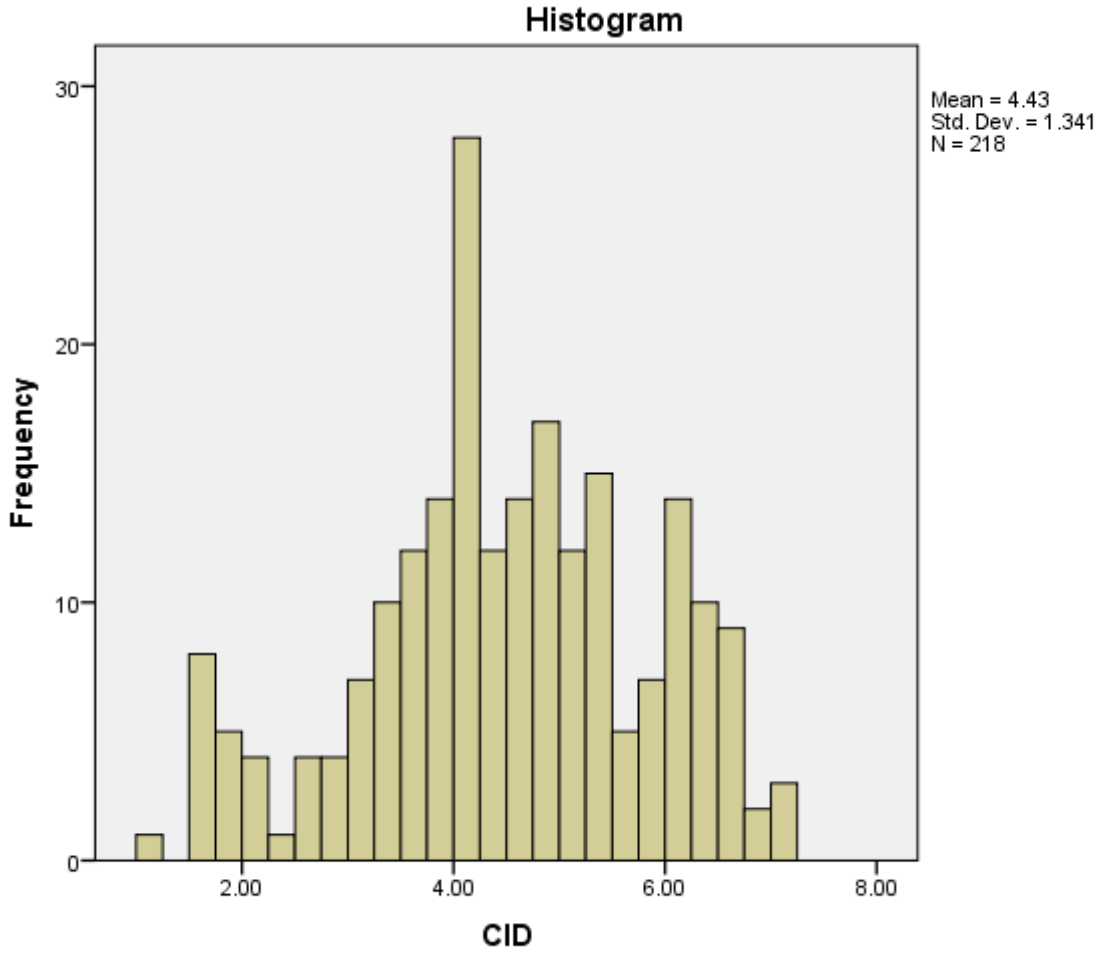
*Figure 6. 9 Test for Normal distribution of Regulative Institutional Distance*




### 6.7.7 Cognitive Institutional Distance

Figure 6.10 reproduces the frequency distribution of the cognitive institutional distance scale, no missing value was observed for this scale. The mean value was 4.43 while the standard deviation was 1.341. The minimum and maximum were 1 and 7 respectively. A KS test was performed and it returned a no significant result suggesting no significant deviation from normality. As a result, the cognitive institutional distance scale was taken to display sufficient robustness and as such it was deemed to be suitable for model testing.

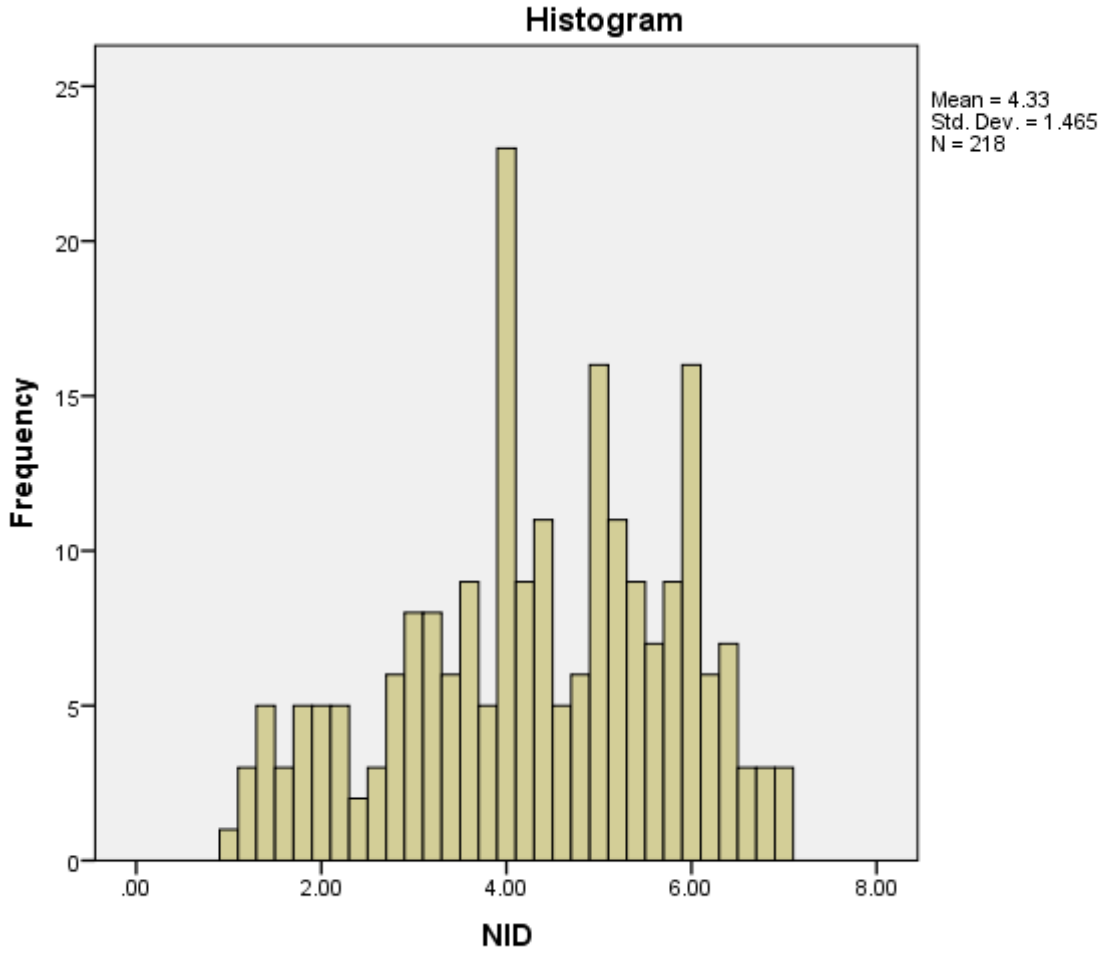
*Figure 6. 10 Test for Normal distribution of Cognitive Institutional Distance*




### 6.6.8 Normative Institutional Distance

Figure 6.11 reproduces the frequency distribution of the normative institutional distance scale, and like other ID scale, no missing value was observed for this scale. The mean value was 4.43 while the standard deviation was 1.341. The minimum and maximum were 1 and 7 respectively. A KS test was performed, and it returned a non-significant result suggesting no significant deviation from normality. As a result, the normative institutional distance scale was taken to display sufficient robustness and as such it was deemed to be suitable for model testing.

*Figure 6. 11 Test for Normal distribution of Normative Institutional Distance*




## 6.8 Chapter Summary

The purpose of this chapter was to construct and purify measures used in this study including developing the developed three export innovation capabilities scales, and new export product sales, competitive advantage, and institutional distance scales. In following recommended measure development procedures, all measurement items and scales were assessed for their reliability and validity. Specifically, unidimensionality, internally consistency, and construct validity of the scales were established using EFA and CFA procedures. Measures were also assessed for their discriminant validity and no problems were noted. In addition, the nomological validity of the all measures was assessed and results showed nomological validity was adequately established for the measures. Finally, frequency distribution of the scales was examined, and results showed no major concerns. As such, the scales were taken to be suitable for formal model testing, which follows next in chapter seven.

# Chapter Seven: Hypothesis Testing Procedures and Study Results

## 7.1 Introduction

In the previous chapter, the results of the assessment of the measures used in this study were provided. In the current chapter the conceptual model presented in Chapter 3 is tested. This is followed by an assessment of the hypotheses in the structural model. To test the conceptual model, Structural Equation Modelling (SEM) technique was chosen. SEM is a preferred statistical technique used by researchers for testing multiple relationships at a time (Hair et al., 2006). SEM is an extension of factor analysis (see Chapters 5 and 6). This chapter is divided in to three sections. First, SEM technique is discussed in detail with a discussion on how to test mediating and moderating hypotheses in SEM is presented. Then second, the results of the hypotheses are presented and third, presentation and discussion of the results as obtained from the structural models are discussed in relation to the respective hypotheses. Finally, a summary of the results is presented to conclude the chapter.

## 7.2 Structural Equation Modelling for Hypotheses Testing

This study chose to adopt the structural equation modelling (or SEM) approach to analyse the relationships among the constructs in the conceptual model for a number of reasons. First, it is true that traditional multivariate modelling techniques such as linear regression, ANOVA, Poisson regression, logistic regression, proportional hazard modelling offer useful insights for examining direct relationships between sets of variables in an empirical research (Hair et al., 2006). Relationships between various variables may look more complex and more "weblike" than traditional multivariate analysis techniques might suggest (Tabachnick et al., 2007). In many situations, it is necessary that researchers model webs of relationships simultaneously as it is the case in the current research (Anderson & Gerbing, 1988). Consequently, it is recommended that researchers should rely on SEM techniques because it "provide[s] researchers with a comprehensive means for assessing and modifying theoretical

models"(Anderson & Gerbing, 1988, p. 411). In this sense, SEM models offer the opportunity for theory development and test, which suit the agenda for the current research.

In assessing hypothesised models in SEM, it is often suggested that the hypothesis testing procedures should focus on determining whether the overall web of relationships adequately describes a given dataset. As such, attention is given to examining the fit of a hypothesised model to an observed model. Hence, this study shifts its perspective from one that focuses on testing specific variable outcomes to one that looks at a more holistic picture. More specifically, the study focuses on the fit of the structural model to the data and the significance of the path coefficients and their associated t-values (Hair et al., 2006).

As was discussed in chapters five and six, the Maximum likelihood estimation method and the AMOS version 24.0 programme are used to assess the structural model. The maximum likelihood method has several desirable statistical properties that make it a better choice in this context compared to alternative estimation approaches (Brown, Churchill, & Peter, 1993; Chou & Bentler, 1995). For example, the maximum likelihood approach enables the study to "obtain estimates of all the parameters in a model simultaneously from the observed correlation (or covariance) matrix" (Anderson & Gerbing, 1982, p. 453). Moreover, it is an acceptable estimation approach often used by innovation researchers (Wang, Lu, & Chen, 2008) and export researchers (Knight & Kim, 2009; Morgan et al., 2004). It was stated in chapter six that the measurement scores for all variables used in the current research were tested for departure from normality and it was concluded that the data was suitable for model testing. It was specifically concluded that the nature of the data means that ML method provided by AMOS 24.0 software could be used. Before proceeding any further, it is important to first explain a number of statistical assumptions that underpin the SEM technique.

### 7.2.1 Major Assumptions Underpinning the SEM Technique

The literature suggests that five major assumptions underlie the SEM technique, and these assumptions need to be satisfied if any valid conclusions were to be drawn from structural

equation analyses (Anderson & Gerbing, 1988; Hair et al., 2006; Tabachnick et al., 2007). These assumptions include normality, continuity, linearity, Homoscedasticity and independence of observations. It is argued that a significant violation of these assumptions may undermine the validity of any conclusions that are drawn from the study results (Hair et al., 2006).

Normal and linear distribution are often assumed for variables in multivariate analysis. As a result, a non-normal and a non-linear data can seriously undermine any statistical inference (Hair et al., 2006). Two kinds of normality are common: univariate and multivariate normality (Kline, 1998). Univariate normality concerns the distribution of a single variable. According to Hair et al. (2006), a sample can suffer from two kinds of non-normal distributions, i.e. skewness and kurtosis. A skewed distribution can be either positive or negative. A positive skewed distribution has scores concentrating below the mean, whereas negatively skewed distribution often has scores concentrating above the mean. Kurtosis refers to the proportion of score that congregate in the middle of a distribution. Thus, a distribution can be leptokurtic if too many scores are concentrated at the tails and too few at the middle. The opposite is platykurtic, and it is a situation where too many scores are concentrated at middle than at the tails. Each of these non-normality situations can undermine statistical inferences, and it is recommended that such non-normalities should be corrected (Churchill, 1995). However, many controversies exist regarding the transformation of non-normal scores. It was concluded in chapter six that the descriptive statistics (mean and standard deviations), patterns, and histogram distributions for all constructs were within an acceptable range; hence there was no need for data transformation.

In the case of multivariate normality, linearity and Homoscedasticity are two important tests that have to be examined (Kline, 1998). Accordingly, this study analysed the data characteristics through the inspection of bivariate scatterplots. An inspection of the bivariate scatterplots between a selected number of variables showed no serious violation of linearity and homoscedasticity rules. Details of the bivariate scatterplots for a selected number of variables

are provided in Appendix C 7.1. Fortunately, Chou and Bentler (1995) argue that, in general, SEM approaches are relatively robust with regard to modest departures from normal distribution (e.g. Hoyle & Panter, 1995). The SEM technique also assumes that the observed data is continuous. Given that general rating scales (in some cases Likert scales) were used to collect information on the constructs for this study, it is reasonable to assume that a continuous variable underlies each measurement scale. Again, it is reasonable to make linearity assumption in this study and given that there is no evidence to suggest otherwise, the hypothesised relationships are examined under linearity assumption. In relation to the moderator variables in the study, the study relies on multiplicative terms (Ping, 2004). Finally, the assumption of independence was believed to have been established given the adoption of a mail survey method for data collection. This method ensured that all the participating exporting organisations answered only one questionnaire without any possible communication among the respondents. Additionally, it was the case in this study that a random sample was drawn from the sampling frame, and as such the assumption of random sampling of respondents was believed to have been carefully addressed.

### 7.2.2 Other Issues Addressed

In addition to addressing the SEM assumptions above, there are some other analytical issues that have potential implications for inferences that could be drawn from the study's results. These include issues relating to multicollinearity, test power, influential observations and common method variance (CMV). These issues are addressed next.

#### *7.2.2.1 Multicollinearity*

Multicollinearity is defined as high correlations among the independent (exogenous) constructs (Kline, Braun, & Wüthrich, 1988). Multicollinearity is a major cause for concern as this may result in highly unstable results and difficulty in interpreting the impact of individual exogenous constructs on the endogenous variable(s) (Hair et al., 2006). The issue of multicollinearity is a major concern particularly for marketing researchers (Grewal et al., 2004). They argue that 31

studies out of 42 published between 1999 and 2000 in marketing journals faced potential multicollinearity problems. Grewal et al. (2004) also argue that Type II errors reach unacceptable levels when multicollinearity is high. In the existing literature, there are several tests put forward to deal with the problem of multicollinearity (e.g Bollen, 1989; Grewal et al., 2004; Hair et al., 2006).

To test for any multicollinearity issues, in this study, the correlation matrix containing all the bivariate correlations was examined. The rule of thumb when testing for multicollinearity using the correlation matrix is, if the bivariate correlation between any two variables is greater than 0.80 then this model may face issues from multicollinearity (Grewal et al., 2004; Hair et al., 2006). In addition, McGuinness and Little (1981) argue that in addition to examining the correlation matrix, testing for Average Variance Extracted (AVE) and discriminant validity may also provide evidence of any issues pertaining to multicollinearity. The results of the AVE test and discriminant validity test presented in Chapter 6 indicate that multicollinearity does not pose any potential problem to the results in the current study. Multicollinearity between moderator variables was tested and the results are presented in the next section.

#### *7.2.2.2 Completely random missing data*

The basic assumption of SEM techniques is that of missing data. Kaplan (2008) argue that randomly missing data may not cause any concerns but on the other hand, if there is a systematic method to missing data then this may be a cause of problem. Missing Value Analysis (MVA) was conducted in Chapter 6 (see Section 6.2) and the results reveal no cause of concern.

#### *7.2.2.3 Large sample size*

The size of the sample plays a key role in testing of a structural model using SEM technique. The primary reason is the impact of the sample size on the 'power of statistical inference' (Diamantopoulos et al., 2000; Hair et al., 2006). This statistical power refers to the probability of rejecting the null hypothesis when it should be rejected (Hair et al., 2006). *"The probability of failing to reject a null hypothesis when it is actually false"* is due to **Type II error** (Hair et

al., 2006, p. 10). One of the three key factors that have an impact on the statistical power is sample size. As sample size increases, the statistical power also increases (Diamantopoulos et al., 2000). However, in SEM there is a risk of obtaining too much power. Therefore, a sample size of 200 is recommended for achieving good levels of statistical power. Although, when considering the right sample size for testing a particular model, a number of factors (such as, number of parameters, variable loadings and error terms to be estimated) should be taken into consideration as well. Considering the complexity of the structural model that needs to be tested in this study, the sample size of 218 cases for this study is just enough to estimate the structural model.

In addition, to the above-mentioned steps taken to satisfy the assumptions of SEM, steps were taken to reduce or remove any potential threats from outliers (see Chapter 4) and Common Method Variance (CMV) (see Chapter 6). These steps and procedures provide enough evidence that the major assumptions that are associated with SEM are dealt with and valid conclusions from the structural model can be drawn.

## 7.3 Testing of Hypothesis using SEM

In order to test the hypotheses depicted in the conceptual model (Chapter 3) AMOS V.24 statistical package was used. As mentioned in chapters 5 and 6, maximum likelihood (ML) technique was employed. Each path ($\gamma$) was assessed using the standardized estimates and the associated t-values/ C.R. (critical ratio). To reject the null hypotheses there are two criteria that should be tested, that is, the path coefficients (standardized estimates) should be statistically significant and should be in the predicted direction (that is, positive or negative) (Hair et al., 2006). All the hypothesized relationships are one-directional, the critical t-values of 1.645 were used for $\alpha = 0.05$ (one-tailed t-test). Hypotheses 3 argues that the three pillars of institutional distance negatively moderate the relationship between

innovation capabilities and competitive advantage. Cognitive institutional distance does not moderate the relationship between technological capability (new product development capability) and cost advantage.

All constructs in the structural model were measured using disaggregation in which all the original items measuring the various constructs were used. The constructs with a single item indicator used in the structural model were; firm size (Total number of staff); Export Experience (how many market does the company export to); and international experience (how long has the company been exporting) were used to control the study. In this section the following three topic will be covered: 1) Testing of single item indicators; 2) Testing of mediators in SEM; and 3) Testing of moderators in SEM.

1. Testing of single item indicators: As mentioned earlier, traditionally using single item indicators in SEM is frowned upon but in recent years (Hayduk & Littvay, 2012) there is a growing trend for structural models with single item indicators. The primary reasons for not using single item indicators in SEM are: 1) Since single item indicators like other constructs do not have variance, this may lead to some empirical problems as the measurement reliability cannot be measured and even if it was possible, it would be low Fuchs and Diamantopoulos (2009); and 2) Aaker and Bagozzi (1979) argue that use of single item indicators in a structural model may lead to biased conclusions. To overcome this problem, Brown (2006) argues that if the error variance of the single item is constrained then there should be no empirical problems. In addition, MacKenzie (2001) argues that by partially constraining the random error, there is a control over the variance extracted from other sources and hence the variance extracted is largely from the underlying concept itself. The error variance for the single item indicator is calculated using the formula below:

$$\text{Error Variance} = [(1-\alpha) \times \delta 2]$$

Where,

α is the composite reliability of each construct

δ is the standard deviation and δ2 is the variance of the construct

In the case of single item indicators (for example, Firm size), it is not possible to measure its reliability and hence while calculating the error variance of the single item indicator the composite reliability (CR) is assumed to be 0.600.

The single item indicators used in this model are firm size, export experience and international experience. The error variance is tabulated in Table 7.1.

*Table 7. 1 Single Item constructs*

| **Constructs** | **Composite Reliability (α)** | **Standard Deviation (δ)** | **Variance (δ2)** | **Variance (calculated) [(1-α) x δ2]** |
|---|---|---|---|---|
| **Firm Size** | .600 | 1.62 | 2.65 | 1.06 |
| **Export experience** | .600 | .781 | .610 | 2.44 |
| **International experience** | 0.600 | 1.24 | .763 | 3.05 |

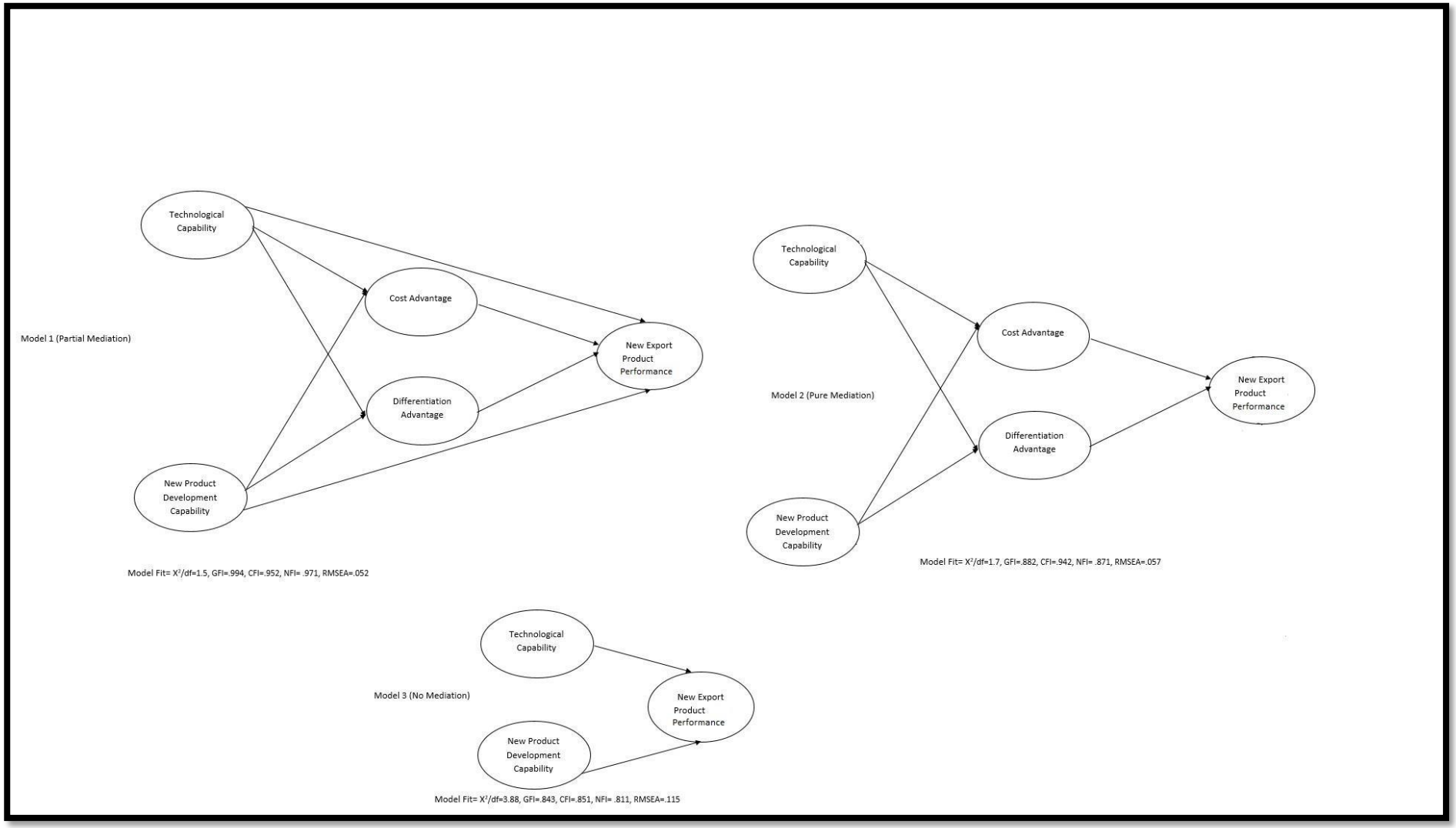
*Testing of mediators in SEM*: The use of mediators in the marketing literature is ever-growing (Bagozzi, Gopinath, & Nyer, 1999), and the use of mediators in a structural model requires further testing. In a mediational hypothesis, the relationship between the independent and dependent variables is decomposed into two causal paths (Alwin & Hauser, 1975).To test the mediation hypothesis, the direct and indirect relationship was tested and both the hypothesis (that is, the direct and mediation) were significant and this fulfills the criteria for mediation. Testing the mediation in structural equation modeling is far simpler than testing the mediation effect in regression analysis (Bollen & Pearl, 2013). When testing the mediation effect, SEM provides an ease of interpretation due to the array of model fit information it provides. There are three possible mediation effects.

Model 1 is called the "*pure mediation*" that, is there is no direct relationship between the independent and dependent variables. Therefore, in this model the direct relationship is set to 0. Model 2 presents "*partial mediation*" where, the direct and indirect (that is, mediation hypotheses) are measured. Model 3 represent "*no mediation*" where one of the two hypothesized in-direct relationships or both the hypothesized relationship is set to 0. The next step is to test the model fit and measure. From figure 7.1 it is clearly evident that there is a partial mediation between innovation capabilities and new export product performance which is mediated by competitive advantage having the best model fit. In addition, of the dependent variables, when comparing the different models, the highest is partial mediation (Model 2). Therefore, it is evident that there is partial mediation between innovation capabilities and new export product performance which is mediated by competitive advantage. In addition, developing a main effect was useful for testing the use of moderators in SEM (which is covered in the next section).

*Testing of moderators in SEM*: Testing of moderation hypothesis using any multivariate analysis is an important topic as there are few statistical issues associated with the interaction terms (Little, Bovaird, & Widaman, 2006). When testing for the moderation hypothesis, it is generally modelled using the multiplicative term between the independent variable and the moderator variable (Aiken, West, & Reno, 1991). The statistical concern with using multiplicative terms is of high multicollinearity and hence this may lead to structural bias (Little et al., 2006). Therefore, to overcome this issue, (Aiken et al., 1991) argue that using a multiplicative term between mean-centered independent variable and moderator variable would eradicate the issue of multicollinearity. Later several scholars (Kromrey & Foster-Johnson, 1998) argued that using a multiplicative term between mean-centered independent and moderator variables does not differ and hence the issue of multicollinearity still prevails. To overcome this problem, Ping (1995) and Little et al. (2006) recommended

the following procedures which were followed to model moderators in this study. The procedure proposed by Ping (1995) involves two steps. The first step of this process is to estimate the main effect model (that is, including only the independent, dependent and mediator variables and the moderators are set to 0). Then construct the full structural model (which includes the moderating variables and the product terms as well). The primary reason for testing the main effect model and the moderator effect model (or the full model) is to test for any significant improvements in X2/df test (Ping, 1995). The chi-square of the fully constrained model (that is, the interaction terms were set to zero) was compared with the unconstrained model (that is, the interaction terms were let to freely estimate).

*Figure 7. 1 Testing of Mediator*



The results of the mediation test (see previous section) indicate that there is a partial mediation between innovation capabilities (technological and new product development capability) and new export product performance which is mediated by competitive advantage (cost and differentiation advantage). The next step is to measure the effect size of this mediation relationship. The effect size of the mediation effect indicates to what extent or to what degree is this relationship (the direct hypothesis, i.e., in this study, the relationship between innovation capabilities and new export product performance) transmitted through the mediated mechanism. In recent years, scholars (MacKinnon, Fairchild, & Fritz, 2007; Mathieu & Taylor, 2006; Raykov & Marcoulides, 2008) have discussed many effect sizes with potential application in mediation analysis.

The most popular effect size measure is the Mathieu and Taylor (2006) measure which indicates whether there is partial, complete, or perfect mediation (the results discussed in the previous section). Though this measure provides significant insights into the mediation model, it does not provide a statistical measure that provides more practical importance. In the existing literature, Preacher and Kelley (2011) suggest that researchers should be careful when choosing the most appropriate effect size measure to indicate the strength of the mediation model. They recommend three metric/criteria that one could use in order to choose the most appropriate effect size measure, and these are as follows:

1. The most important criterion is whether the effect size measure is easily interpretable? Many measures for example, the ratio measures of relative magnitude of the strength of the direct and indirect relationship put forth by Alwin and Hauser (1975) and MacKinnon (1994) can be misleading and may not provide practical insights. This may be because these ratios do not take the variance explained or the covariance between the independent, dependent, and mediating variables and only focus on the path coefficient ($\gamma$).

2. The second most important criterion is whether the confidence interval can be calculated for the effect size measure? Many measures, for example the indices of explained variance put forth by MacKinnon and Luecken (2008), and Lindenberger and Pötter (1998) can be misleading as argued by  who suggest that researchers assume the amount of variance to be explained is 100 per cent. Hence, this may lead to false confidence interval levels.

3. The final criterion is whether the effect size measure is independent of the sample size? Most of the effect size measures in the existing literature are independent of the sample size.

Therefore, in this study, taking the advantages and limitations into consideration,

Preacher and Kelley (2011) kappa squared (k2) was chosen to measure the effect size for mediation analysis. k2 is interpreted as "the proportion of the maximum possible indirect effect that could have occurred, had the constituent effect been as large as the design and data permitted" (Preacher and Kelley, 2011, p. 106). This implies if k2 = 0 then there is no mediation and if k2 = 1 then this indicates that the mediating effect is as large as it possibly could have been. The value of $K^2$ cannot be negative and is between 0 and 1. k2 depends on the covariance between the mediating, dependent and independent variables, the variance of the three variables and the path coefficients of the mediating effects. k2 was calculated using the website (http://stats.myresearchsurvey.com/kappasquared/ ). The results indicate that the $K^2$ calculated for the mediation analysis in this study is within the 95 % confidence interval. This indicates that the mediation level is at medium as the confidence interval is less than 0.25. This result indicates that there is a medium mediating of competitive advantage (cost and differentiation advantage) between innovation capabilities (technological capability and new product development capability) and new export product performance.

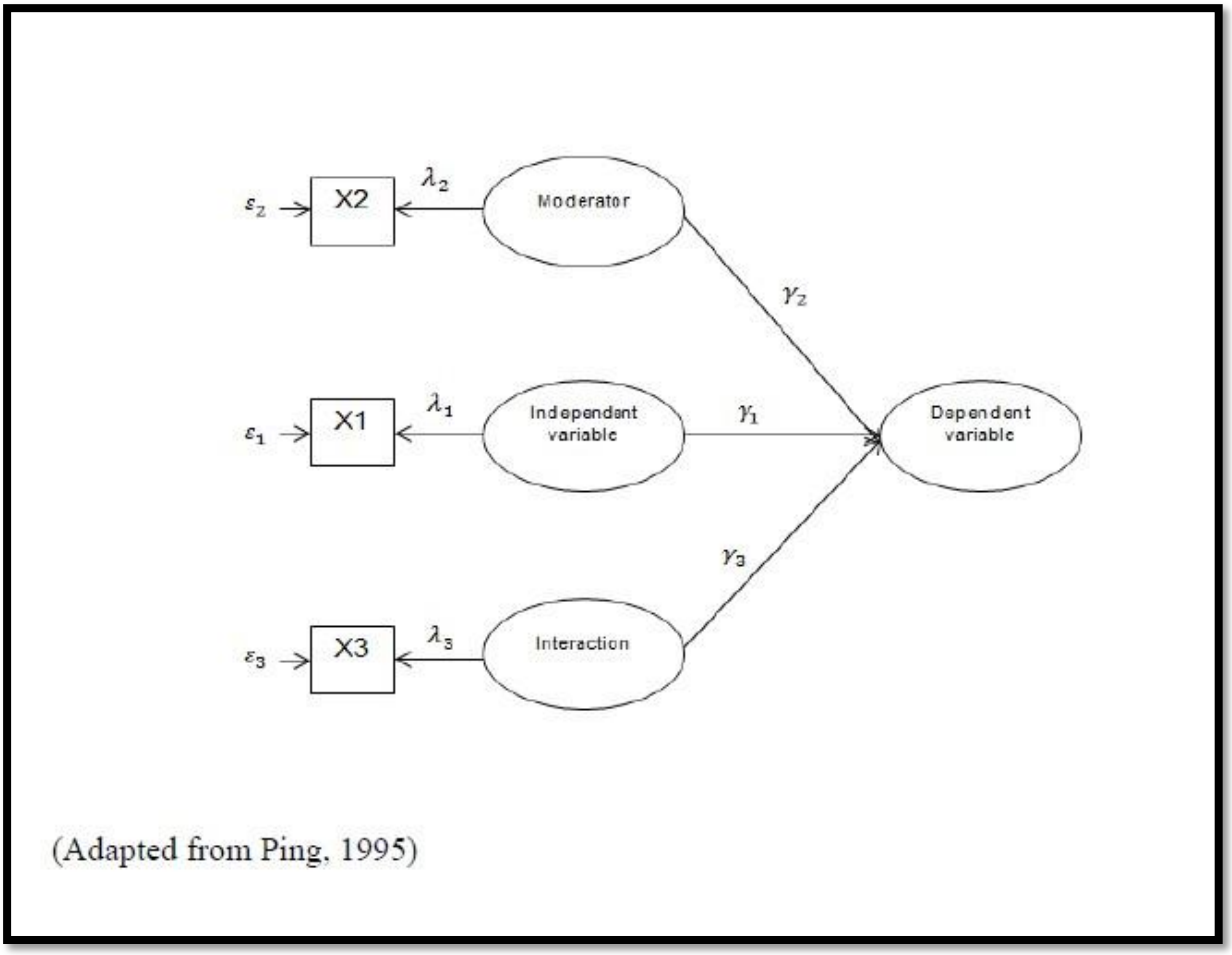
To test the interaction term hypothesis, the first step involved calculating the factor loading and the error variance for the interaction terms used in this model (that is, TCxRID, TCxCID, TCxNID, NPDCxRID, NPDCxCID, and NPDCxNID). To calculate the factor loading and error variance of the interaction terms, it was necessary to create single item measures for all terms involved (that is TC, NPDC, RID, CID, NID). Then it was important to calculate the error variance for all the single item measures (see table 7.2).

*Table 7. 2 Calculate the error variance for the single-item constructs*

| **Constructs** | **Composite Reliability (α)** | **Standard Deviation (δ)** | **Variance ($\delta^2$)** | **Error Variance [(1-α) x δ2]** |
|---|---|---|---|---|
| **Technological Capability** | .859 | .942 | .887 | .125 |
| **New product development capability** | .836 | .953 | .908 | .148 |
| **Cost Advantage** | .894 | 1.117 | 1.247 | .132 |
| **Differentiation advantage** | .796 | .911 | .829 | .169 |
| **Regulative institutional distance** | .898 | 1.400 | 1.96 | .199 |
| **Cognitive institutional distance** | .935 | 1.335 | 1.782 | .116 |
| **Normative institutional distance** | .909 | 1.464 | 2.14 | .195 |

The next step was to calculate the factor loading and error variance of the interaction term. The interaction term used in the model was a single-item measure, which was calculated by multiplying the aggregate independent variable and aggregate moderator variable. Then this interaction term was residual-centered (Ping, 1995). To calculate the error variance and the factor loading of the interaction terms, Figure 7.2 illustrates the interaction model.

*Figure 7. 2 Calculating the error variance and factor loading of the interaction term*




The formula used to calculate the factor loading of the interaction term was:

Factor Loading = (Summated factor loading of independent variable) x

(Summated factor loading of dependent variable)

$$\lambda_3 = \lambda_1 * \lambda_2$$

(Source: Ping, 1995)

, and the formula to calculate the error variance of the interaction term is as follows:

$$\theta_3 = \lambda_1^2 * \theta_2 + \lambda_2^2 * \theta_1 + \theta_1 * \theta_2$$

Error variance of the interaction term = [(*Independent variable loading)* $^2$ * moderator error variance] + *(independent variable error variance)] + [(moderator error variance) $^2$ (independent variable error variance)]

The error variance and the factor loading of the three interaction terms were calculated using the above equations.

*Figure 7. 3 Factor loading and error variance of the interaction terms*

| Interaction Term | Factor Loading | Error variance |
|---|---|---|
| **TCxRID** | .83 | .192 |
| **TCxCID** | .84 | .512 |
| **TCxNID** | .81 | .257 |
| **NPDCxRID** | .68 | .401 |
| **NPDCxCID** | .79 | .457 |
| **NPDCxNID** | .77 | .411 |

The next step involved in testing the moderating effect is to test the moderation effect by comparing the chi-square values of the fully constrained v/s the unconstrained model. To test the moderation effect, first, the complete structural model was estimated with the interaction terms fixed at 0 and all other effects were let to estimate freely. In the second step, the structural model was estimated with all parameters tested freely. To test the moderation effect, the reduction in chi-square value from the fully constrained to the unconstrained model was checked. If the model did not fit the data well in the case of the unconstrained model, then this clearly indicates that the use of the moderator terms in the model is inappropriate.

*Figure 7. 4 Model fit comparison between fully constrained and unconstrained*

| Model | $X^2$/df | P | CFI | GFI | NNFI | RMSEA |
|---|---|---|---|---|---|---|
| **Fully Constrained** | 1.47 | 0 | .93 | .97 | .96 | .045 |
| **Unconstrained** | 1.04 | .033 | .98 | .99 | .99 | .030 |

In estimating the moderator effect model, two models were specified: one constrained and the other unconstrained. The underlying logic backing the constrained model is that the path estimates for the main effects hold true across different levels of the moderator variables. In the unconstrained model, no such assumption was made and as such the paths were estimated across different levels of the moderators. In other words, the moderator structural models

were run in two steps while looking for significant improvements in $\chi 2$ and degrees of freedom (Ping 1995).

In the unconstrained model, all the main effect and the moderator effect variables were included in a single model and all were freely estimated. Their fit indexes and loadings were then noted. Secondly, the moderator effect variables were fixed at zero, and again their fit indices and loadings were recorded. The two models (i.e., unconstrained versus constrained models) were subsequently compared for evidence of model improvement. In the next section, the results of the hypotheses testing are presented.

## 7.4 Results of Hypotheses testing

The path coefficients and the t-values for all the hypotheses (including the control variable relationships) are presented in Table7.7. Most of the hypothesized relationships are statistically significant. The results of testing hypothesis H1 and H2 are supported: Innovation capabilities are positively related with competitive advantage and competitive advantage are positively related with new export product performance. As mentioned in Chapter 3, the study focused on two dimension of innovation capabilities. The first is technological capability that is, focusing on the making effective use of technological knowledge to create new technologies and to develop new products in response to the changing economic environment. The second is new product development capability, that is, the ability to organize, exploit, and integrate its product innovation efforts in order to meet export customers' needs quickly and successfully. In this section the results of all the hypotheses will be discussed in-detail.

### 7.4.1 Hypotheses 1,2

H1a-H2a and H1b-H2b predict that the relationship between innovation capabilities and new export product performance is mediated by low-cost advantage and differentiation advantage,

respectively. To test the indirect effects in a multiple mediator model, we used AMOS 24 to execute bootstrapping estimates. Many scholars prefer bootstrapping because it's features. Thus, the bootstrapping method has been highly recommended (Cheung & Lau, 2008; Ledermann, Macho, & Kenny, 2011; Preacher & Hayes, 2008; Williams & MacKinnon, 2008). First, it allows us to estimate an indirect effect, and its bias-corrected confidence interval, which is hard to be obtained by the known causal step approach (see Preacher and Hayes, 2008). Also, bootstrapping is generally superior to other estimation methods such as the product-of-coefficient approach in terms of statistical power and type one error rates (Preacher & Hayes, 2008; Williams & MacKinnon, 2008). This is especially the case when the assumption of multivariate normal distribution is violated (Briggs, 2006). Therefore, the bootstrapping approach is likely to produce a more precise estimate of indirect effects. Tests of the models in this study were performed using 2000 bootstrapped samples, and we report asymmetric percentile bootstrap 95 percent confidence intervals (CIs).

Table 7.5 presents the standardized coefficient estimate, and the significance level of total, direct, and indirect effects for each hypothesized relationship in table 7.9. The fit statistics indicate a satisfactory fit to the data (Kline, 2010): $\chi 2/df=1.47$, ( $p<0.01$); GFI=0.97; CFI=0.93, NFI=0.96; and RMSEA=0.045.

H1a predicts that low-cost advantage mediates the relationship between technological capability and new export product performance. The results in Table 7.5 show that the indirect effect of low-cost advantage is significant for new export product performance ($B=0.022$, $p<0.01$). Therefore, H1a is supported. Furthermore, as predicted by H2a, differentiation advantage significantly mediates the effect of technological capability on new export product performance ($B=0.013$, $p<0.01$).

The indirect effect of new product development capability on new export product performance via low-cost advantage is not significant (B=0.007, p>0.10), thereby H1b is contrary to expectation and not supported. While, H2b, proposing that differentiation advantage mediates the relationship between new product development capability and new export product performance, is supported (B=0.016, p<0.01).

*Figure 7. 5 Model estimation and results: direct, indirect, and total effects, between specific indirect effects (via competitive advantage) of innovation capabilities on new export product performance*

| **Total effects** | **Unstandardized Estimate B** | **Standardized Estimate β** |
|---|---|---|
| **Technological Capability →New export product performance** | 0.076*** | 0.075*** |
| **New product development capability→ New export product performance** | 0.123** | 0.129** |
| **Direct effect** | | |
| **Technological Capability →low-cost advantage** | 0.164*** | 0.132*** |
| **Technological Capability →differentiation advantage** | 0.162*** | 0.115*** |
| **Technological Capability→ New export product Performance** | 0.101* | 0.072* |
| **New product development Capability →low cost advantage** | 0.554 | 0.558 |
| **New product development Capability →differentiation advantage** | 0.134*** | 0.122*** |
| **New product development Capability→ New export product performance** | 0.071** | 0.070** |
| **Specific indirect effects (hypotheses tests results)** | | B |
| **H1a** | Technological Capability →low cost advantage → new export product performance (Sig) | 0.022*** |
| **H2a** | Technological Capability →differentiation advantage → new export product performance (Sig) | 0.015*** |
| **H1b** | New product development Capability →low cost advantage → new export product performance (ns) | 0.008 |

| | | |
|---|---|---|
| **H2b** | New product development Capability →differentiation advantage → new export product performance (Sig) | 0.0015*** |
| | Control Variable<br>Firm Size→new export product performance 0.034 0.049<br>Export experience →new export product performance 0.085 0.090<br><br>International Experience →new export product performance 0.030 0.021 | |

### 7.4.2 Results of the moderator variables

Table 5.16 depicts the results of the institutional distance moderating effect structural model test. These results are based on the unconstrained model as it provided better fit to the data.

*Figure 7. 6 Standardized Path Coefficients and T-values of the ID Moderating Effect Model*

| Hypotheses | Relationships | Standardized parameters | T-Value[a] | Comment |
|---|---|---|---|---|
| **H3a** | TCxRIDàCACST | -.288 | -2.67** | Supported |
| | TCxCIDà CACST | -.024 | -.234 | Not supported |
| | TCxNIDà CACST | -.222 | -1.99* | Supported |
| **H4b** | NPDCxRIDà CACST | -.245 | -2.13* | Supported |
| | NPDCxCIDà CACST | -.091 | -.840 | Not supported |
| | NPDCxNIDà CACST | -.354 | -3.03** | Supported |
| **H3b** | TCxRIDàCADIFF | .222 | 2.11* | Not supported |
| | TCxCIDà CADIFF | .012 | .199 | Not supported |
| | TCxNIDà CADIFF | -.209 | -2.32* | Supported |
| **H4b** | NPDCxRIDà CADIFF | -.285 | -2.59** | Supported |
| | NPDCxCIDà CADIFF | .051 | .445 | Not supported |
| | NPDCxNIDà CADIFF | -.243 | -1.98* | Supported |

**a= Significance of Correlations: *** p < 0.001 ** p < 0.010 * p < 0.050**
**† p < 0.100**
**TC=Technological Capability; NPDC=New product development Capability; RID= Regulative Institutional distance; CID=Cognitive institutional distance; NID= Normative institutional distance; CACST= Cost Advantage; CADIFF= Differentiation Advantage**

The h3a hypothesis states that institutional distance between home country and market country moderates the relationship between innovation capabilities and competitive advantage.

The study argues in H3 that (a) technological capability would be more beneficial to cost advantage when institutional distance between the home country and the market country decrease. This argument was supported by the data for regulative and normative institutional distance, but not cognitive institutional distance. Hence, it was concluded that when there is cognitive institutional distance, technological capability has no impact on cost advantage. On the other hand, when there is regulative and normative institutional distance there is a substantial impact on cost advantage. And the influence of (b) new product development capability on cost advantage will be stronger when the institutional distance between home country and market country decrease. The study postulates that the relationship between new product development and cost advantage would become stronger in when the institutional distance is low. This research hypothesis was supported by the data for regulative and normative institutional distance.

H4 the influence of (a) technological capability; (b) new product development capability on differentiation advantage will be stronger when institutional distance between home country and market country decrease.

Regarding the impact of the institutional distance on technological capability – differentiation advantage relationship, no moderator effects were observed for cognitive institutional distance, negative moderator effect for normative institutional distance and positive moderator effects for regulative institutional distance.

This is surprising as it would be expected that technological know-how would be more useful in low institution distance in order to be attuned to customer needs and preferences when it comes to differentiating the product, and so not to be pre-empted by competitors.

The differentiation advantage consequence of new product development capability received support for this hypothesis for regulative and normative institutional distance. This means

that regulative and normative institutional distance are ideal for firms to use new product development capability to differentiate their new export products from competitors.

*Figure 7. 7 Table Hypothesized Relationship*

| Hypothesis | Relationships | Standardized Coefficient | |
|---|---|---|---|
| **H1a** | Technological Capability →low cost advantage → new export product performance (Sig) | 0.022*** | Supported |
| **H1b** | Technological Capability →differentiation advantage → new export product performance (Sig) | 0.015*** | Supported |
| **H2a** | New product development Capability →low cost advantage → new export product performance (ns) | 0.008 | Not supported |
| **H2b** | New product development Capability →differentiation advantage → new export product performance (Sig) | 0.0015*** | Supported |
| **H3a** | TCxRID→CACST | -.288** | Supported |
| | TCxCID→CACST | -.024 | Not supported |
| | TCxNID→ CACST | -.222* | Supported |
| **H4a** | NPDCxRID→ CACST | -.245* | Supported |
| | NPDCxCID→ CACST | -.091 | Not supported |
| | NPDCxNID→ CACST | -.354** | Supported |
| **H3b** | TCxRID→CADIFF | .222* | Not supported |
| | TCxCID→ CADIFF | .012 | Not supported |
| | TCxNID→ CADIFF | -.209* | Supported |
| **H4b** | NPDCxRID→ CADIFF | -.285* | Supported |
| | NPDCxCID→ CADIFF | .051 | Not supported |
| | NPDCxNID→ CADIFF | -.243* | Supported |
| **a= Significance of Correlations: *** p < 0.001 ** p < 0.010 * p < 0.050 † p < 0.100 TC=Technological Capability; NPDC=New product development Capability; RID= Regulative Institutional distance; CID=Cognitive institutional distance;** | | | |

## 7.5 Chapter Summary

The chapter present the results of the descriptive analysis conducted which helps to provide general characteristics of the respondents and their firms. In addition, the results of the exploratory factor analysis (EFA) are presented and the results of the Confirmatory Factor Analysis (CFA) are outlined. Also, the overall fit of the model was tested and in addition, the internal consistency of all the constructs in the measurement model was tested. Specifically, unidimensionality, convergent validity, discriminate validity, reliability and nomological validity were assessed. The overall measurement model results were suitable for formal structural model testing.

Furthermore, in this chapter, the reasons why Structural Equation Modelling (SEM) was chosen and the underlying assumptions of SEM are discussed. Then the steps taken to check for these assumptions are presented. After this, a brief discussion of how hypotheses are tested (that is, mediators and moderators) using SEM is presented. Following that, the results of the final structural model are discussed, and the results of the hypotheses is discussed in detail. The results clearly indicate that competitive advantage (low cost advantage and differentiation advantage) mediate the relationship between technological capability and new export product performance, but this is not the case in all new product development capability scenarios.

# Chapter Eight: Discussion and Conclusion

## 8.1 Introduction

The purpose of this chapter is to conclude the entire research by discussing major findings from the study, draw implications for theory development, and reflect on lessons for managers and export policymaking. Thus, this chapter is organised as follows. First, key findings from the study are discussed along with the review of the study objectives, contributions from the study and implications for theory. Second, an account is given on export managerial and policy lessons from the study. Third, limitations of the study are discussed and directions for future research agenda are provided. Finally, a conclusion is drawn from the study.

## 8.2 Discussion of the key results and theoretical implications

Predicting export success remains an important issue at the heart of export research, export management and policy making. This is because of the primary role of exporting to the growth and survival of many firms. Despite the high risks often associated with exporting activity (Leonidou, 1995; Piercy et al., 1998) exporting still remains one of the most important business operations today. Overseas markets offer opportunities for growth, as firms are able to expand their product range and market coverage simultaneously. For some firms, competing in export markets is important for profitability and survival (Wu, Lao, et al., 2019).

However, for firms to remain competitive, they must constantly introduce new product, this is specially the case for firms to remain competitive in international market, where benefits from the introduction of innovations are quickly eroded by the fast imitation of foreign competitors (Castellani & Fassio, 2019). Prior research has stressed the importance of export firms' dependence on their domestic markets' products for their export (Atuahene-Gima, 1995) . However, many firms are able to carve a market internationally and achieve competitiveness by innovating new products which are only for export offer.

Unsurprisingly, a litany of literature has exerted efforts into explaining the causes of export success of domestic product (e.g Balabanis & Katsikea, 2003; Cavusgil & Zou, 1994b; Leonidou et al., 2002). These causes can be internal and external to the exporting firm. Among the internal factors studied are export marketing strategy, firm characteristics, capabilities and orientations(Chen, Sousa, et al., 2016; Sousa, Martinez-Lopez, et al., 2008). In terms of the external forces, institutional condition, country environment, firm reputation, turbulence and competitive intensity of export market environments and other macro politico-legal, economic, socio-cultural and technological factors have also been studied (Chen, Sousa, et al., 2016; Sousa, Martinez-Lopez, et al., 2008). However, focusing on the internal forces that influence new for export only product success, has been one important variable that has escaped the attention of researchers. Hence, this research is not only a novel attempt to introduce for export only new product success to the study of export performance dimension, it also considers the internal capabilities that leads to the success of new for export only products.

Significantly, this study has sought to integrate several bodies of literature, including innovation, export performance, international business and strategic management, to explain the association between innovation capabilities, competitive advantage and export new product sales. The theoretical relationship between the influence of firm capabilities and international success has largely been underpinned by the resource based theory of the firm (Barney et al., 2001). To the best knowledge of the researcher, this is the first study that explicitly draws on the resource-based theory to examine the association of the mediation influence of competitive advantage between innovation capabilities and export new product success. Specifically, insights were gained regarding the gain that exporting firms could achieve from their possession of cost and differentiation advantage.

In addition, this study also adds to the institutional theory within the export research by examining key institutional distance in the innovation capabilities- export new product sales network. The three pillars of institutional distance studied in this research (i.e. Regulative, cognitive and normative institutional distance) examine the influence of these pillars in the association between innovation capabilities and competitive advantage.

The following sections highlight key findings and implications from the study.

### 8.2.1 The Association of innovation capabilities- competitive advantage- export new product sales

Firms export seeking for growth opportunities despite the highly competitive environment. However, firms that expand their activities abroad face increased competition and must therefore adopt innovation activity in order to reduce any pressures faced from competitors both local and international (Cavusgil & Knight, 2015). In addition, for firms to export and to excel in their innovation, they have to meet the requirements of certain institutional environment. Innovation capabilities captures a firm's ability in creating innovative ideas to produce new products and/or to improve a firm's processes in order to facilitate business results (Taherparvar, Esmaeilpour, & Dostar, 2014) This research focuses on the role of innovation capabilities and competitive advantage to explain the firm's export new product sales.

Before the explanation of the findings, ones should address the issue of competitive advantage. This will enable a better understanding of the results. Competitive advantage is based on bundles of capabilities facilitating firms' performance. Being as such, it requires careful strategic planning, and adjustments to changing conditions to maintain strategic fit and ensure the most appropriate strategy (Hughes, Hughes, & Morgan, 2010). Linking this to the mediation test's results, we substantiate the basic principle of the RBV, being the role of competitive advantage separately from firm's performance. Competitive advantage, by definition, is the positional advantage (over competitors) derived from the exploitation of

resources and capabilities. The fit between the capabilities, and the firm's strengths as well as its environment, dictate the quality of its competitive advantage (Leonidou et al., 2011). Therefore, competitive advantage has a significant role in creating the right balance between the different components while striving for a strategic fit. By confirming either partial or full mediation in the impact of the innovation capabilities on competitive advantage, we reassure our initial positioning, treating competitive advantage as standalone while acknowledging its role in enhancing the performance while maintaining strategic fit.

We start by acknowledging the relevance of the capabilities incorporated in the study in explaining firms' competitive advantage. Both capabilities (technological and new product development capability) show a positive significant impact on competitive advantage (cost and differentiation advantage).

First, the study revealed the important mediating role of competitive advantage in the relationship between innovation capabilities (technological capability and new product development capability) and export new product sales. Specifically, we found that two types of competitive advantage (i.e. low-cost advantage and differentiation advantage) positively mediate the effect of innovation capabilities (technological capability and new product development capability) on new export product sales. This result suggests that an exporting firm needs to develop professional skills and knowledge in designing and developing new export products, responding to market changes with know how knowledge and ability to develop new export product. This defines the level of innovation capabilities to meet customers' needs, and therefore, set the foundation for an exporter's new export product sales. In addition, when developing innovation capabilities, managers should keep the competition in mind. That is, they need to develop innovation capacities that could bring them positional competitive advantages, because the latter are also important direct antecedents of export success (Day & Wensley, 1988; Newbert, 2007; Vicente et al., 2015).

In this way, the potential of innovation capabilities to achieve superior new export product sales can be fully realized.

Second, we found that the partial mediation model provides a better fit, indicating that innovation capability capabilities contribute to export new product sales both directly and indirectly by the mediating effect of competitive advantage. The results also indicate that there is no significant difference in terms of the effect sizes of direct effects and indirect effects of innovation capabilities on new export product sales. Given the first suggestion mentioned above, the current finding has further implications. It suggests that exporting managers should neither consider gaining competitive advantages as the only path by which innovation capabilities could lead to export new product sales, nor hold that innovation capabilities could be fully translated into export new product sales without obtaining positional competitive advantages. Instead, a more appropriate attitude is to develop a high level of innovation capabilities which simultaneously and equally emphasize their direct translation into export new product sales and indirect transfer to superior export new product sales via obtaining competitive advantages first. As a result, exporters could enjoy both directly converting innovation capabilities into export new product sales and indirectly translating innovation capabilities into superior export new product sales via the bridging role of competitive advantages. Finally, our results suggest that low-cost advantage and differentiation advantage are equally important in terms of translating innovation capabilities into superior export new product sales. This was demonstrated by the non-significant difference between the mediating effect sizes of low-cost advantage and those of differentiation advantage on the innovation capability-export new product sales relationship. That is, the efforts to control the cost (for low-cost advantage) and those to differentiate exporters' offerings (for differentiation advantage) should be equally appreciated, because there is no essential difference in terms of the ability to achieve superior export new product

sales. In this case, developing innovation capabilities to obtain a combination of differentiation and low cost may be necessary for firms to enjoy the maximum export new product success. Nonetheless, if exporters have limited resources, it may be advisable that they focus on the development of only one competitive advantage (either low-cost advantage or differentiation advantage), because this contributes to "value-focused thinking" for the development of single competitive advantage. Therefore, can more easily lead to superior export new product sales rather than simultaneously focusing on developing both competitive advantages. The decision of which type of competitive advantage the firm should focus on depends on the resources and skills available within the exporting firm (Day & Wensley, 1988). Similarly, one can build capabilities to generate certain kinds of competitive advantage.

### 8.2.2 Moderating effect of institutional distance

Institutional distance (Chao & Kumar, 2010; Trąpczyński & Gorynia, 2017; Xu & Shenkar, 2002) are much-researched concepts in IB(Kostova et al., 2020). However, they are rarely studied to a lesser extent in relation to dynamic capabilities(Efrat et al., 2018). In this study, we examine the moderating role in the relationships between innovation capabilities and competitive advantage and find an interesting paradoxical role. These findings support the notion that the influence of specific innovation capability on performance outcomes cannot be decoupled from contexts in which such capabilities are applied, and that institutional distance can exert a paradoxical influence on the relationships between innovation capabilities and competitive advantage.

Our study indicates that applying institutional theory and the RBV perspective jointly yields a more precise and interesting explanation of new export product success. Better explanations can be made via a deeper understanding of institutions and capabilities' interplay (Kafouros & Aliyev, 2016; Krammer et al., 2018). Further, Wilden, Devinney, and Dowling (2016) suggest that DCs literature would benefit from configuration theories. These theories focus on understanding of the designs and combinations of system elements (in the focal context this could mean DC processes, as well as individuals, organizations, and available resources and capabilities in an institutional environment) and how they, as configurations, lead to outcomes such as performance (Wilden et al., 2016).

## 8.3 Methodological Implications

Overall, the findings of the study provide substantial support for our conceptual framework. Specifically, the results demonstrate that innovation capabilities are powerful tools that can directly lead to new export product sales and indirectly achieve superior new export product sales via the creation of positional competitive advantage (including low-cost advantage and differentiation advantage). This suggests a general confirmation of RBV theory. Based on this, several theoretical implications can be identified for future research directions.

First, more empirical effort should be allocated to the study of innovation capabilities. Although the important role of innovation capabilities in driving superior performance has been acknowledged for a long time (e.g. Day, 1994), only recently have studies on this topic begun to emerge.

This study has introduced a novel approach to the study of competitive advantage and new export product sales. Unlike prior export performance literature, new export product sales construct has been measured as a satisfaction of new export product sales, in other words

export new products that were either completely new or significantly altered versions and were launched in the past three years. The methodological implications that can be drawn from the results of this study indicate that new export product sales operationalized as a single-order factor may hinder the growth of the existing knowledge.

## 8.4 Practical Contributions

The key findings of the main model provide a substantial support for our conceptual framework. Specifically, the results demonstrate that technological capabilities and new product development capabilities are powerful tools that can directly lead to new export product performance and indirectly achieve superior new export product performance via the creation of positional competitive advantage (Including low-cost advantage and differentiation advantage). Beyond what has been stressed thus far, we advise managers acting under constant resource-constrained conditions that the present study provides some insights into the core dynamic capabilities. Therefore, it is aiming to help the decision-makers to distribute the company's resources more wisely.

Our results show that the regardless competitive environments, managers have to invest into technological capabilities and new product development capabilities to stay competitive. Firms could end up in situations where significant amounts of time and resources have been poured into developing a capability base that is ultimately filled with strategic liabilities if they are inconsistent with the contextual conditions that enable them to succeed. Those exporters operating in very dynamic and changeable competitive conditions, as a result, are better served turning to other capabilities for advantage rather than spend resources on unpredictability. What are initially desirable capabilities in forming a basis for competitive advantage soon become strategic liabilities under these conditions (Arend, 2004). This becomes an important issue of balance for managers between desires to manipulate and exploit their existing capability-base with the need to maintain competitive advantage in turbulent times perhaps by moving away from those existing capabilities. These results shed

new light on the adherence problem that managers face (Hughes, Martin, Morgan, & Robson, 2010).

Furthermore, the study's empirical findings help clarify a key contingency that influences the efficacy of innovation capabilities. They point to striking differences in the capabilities-competitive advantage relationship between settings characterized by different degrees of institutional distance. Because institutional distance has a negative impact on the competitive advantage of firms, decreasing this effect may be crucial for the exporting success of companies.

## 8.5 Lessons for Export Policy Makers

Several implications for both corporate and public policymakers, especially from advanced Western economies like the United Kingdom, can be derived from the study's conclusions. First, there is a pressing need to improve the competitiveness of exporters abroad, especially in view of the fact that competition in global markets is ever increasing. This study suggests that one way to achieve this global competitiveness is for exporters to build their competitive edge using their innovation capabilities. For example, the nature of contemporary global marketplace demands that exporters develop competitive advantage in the production and distribution of new export product. To this end, exporters need to develop their innovation capabilities by investing in modern technology and skills to achieve such advantages. An important implication for policy makers is that investment is needed in key areas of the economy, especially areas that support high technology and related industries, and creativity and innovation skills development. Educational programmes are also needed to develop young people capable of performing modern innovation activities, as exporters need graduates with requisite skills to manage in modern globalized economy.

Furthermore, given the rising competition from Chinese and other emerging economy exporters, the competition positions currently held by British exporters is going to come under severe challenge. Accordingly, this study suggests that exporters from developed countries such as the United Kingdom should specialize more in serving specific niches in overseas markets that are not under immediate threat from emerging and developing economy competitors. More specifically, the study proposes that corporate policy makers should be more proactive in formulating export market niche strategies and focused on process innovation, as developing and emerging economy exporters are now more efficient in the use of traditional production methods.

## 8.6 Limitations and Future Research Directions

### 8.6.1 Methodological Issues

Although firm new product performance outcomes of innovation capabilities have been studied in several other contexts, this study represents a fresh attempt to further extend the scope of export performance research. As such, the export context-specific development of new product measures, the analysis of the innovation capabilities dimensions on export new product sales mediating by competitive advantage, and the exploration of the moderating effects of institutional distance have added both theoretical and empirical insights to the existing literature on export performance. However, it is important that the conceptual model is replicated in different samples before any generalization is made. Indeed, the sample used in this study consists of active small, medium and large exporting firms located in the United Kingdom, an advanced western economy. Samples from other advanced economies (e.g. Japan) would be needed for further replication and refinement.

Furthermore, future studies are encouraged to examine how the innovation capabilities dimensions affect new export product sales in other contexts such as emerging and developing economy markets (e.g. China). Studies in these emerging and developing market

economies will provide useful insights of the nature of firm in other national market contexts. These markets may well be different in that they are largely export driven, with structural and institutional challenges that may influence how the innovation capabilities are implemented in export new product operations. Many firms in such export driven economies rely heavily on export markets for survival and as such their implementation of the innovation capabilities may differ from practices in western advanced economies. Additionally, a cross-national study of the relationships tested in the current study would provide additional insights to the extant literature.

This study acknowledges the limitations of its reliance on single informants for information on both the dependent and the independent variables. Reliance on single informants clearly raise concerns regarding common method variance (CMV), despite the researcher's efforts to control for its influence on the study results (Podsakoff et al. 2003). Although additional performance data was collected from finance managers as part of these efforts to minimize CMV, one way to further control for the influence of CMV is to collect performance data from multiple informants (Chandler and Lyon 2001; Chang, van Witteloostuijn and Eden 2010). Future studies might incorporate this into their research. Future research might glean information on the new export product sales from finance directors or accountants and lower-level employees of the same companies for data on the firm's innovation capabilities variables. In that way researchers can control for social desirability bias. Another option is to collect export new product sales data from secondary sources (e.g. annual reports, industry association databases, or commercial databases) provided such sources are reliable and up to date (Chang, van Witteloostuijn and Eden 2010; Katsikeas, Leonidou and Morgan 2000).

## 8.7 Conclusion

To conclude, this study provides useful insights and expands current knowledge of

Innovation capabilities and export success. This research also makes key contribution to practice and unpacks the concept of new export product sales and examines innovation capabilities and competitive advantage effects The empirical evidence broadens our understanding regarding how innovation capabilities tend to develop new export products with competitive advantage. The results also shed light on the importance of differentiating between the various attributes of competitive advantage.

The results also indicate that firms operating in high-tech industries may have to focus on implementing new technology or new product development to develop new export products.

If the firms do not focus on entering new markets or develop new export products using technological and new product development capabilities, then there no relationship between competitive advantage and innovation capabilities.

Finally, this study acknowledges its limitations and provides guidance for future research. The impact of innovation capabilities on competitive advantage and new export product sales has opened a new research window and hopefully the results of this study will guide and encourage future researchers to explore this relationship in different research settings.

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# Appendences

## Appendix A 4.1 Constructs Measurement

| Item codes | Item Descriptions and Anchors |
|---|---|
| | **Technological Capability**<br>**(1 = strongly disagree; 7 = strongly agree)** |
| **TC1** | We master the state-of-art technologies |
| **TC2** | We respond to technology changes |
| **TC3** | We do **not** identify new technology opportunity |
| **TC4** | We acquire important technology information |
| **TC5** | We have invested heavily in certain R&D projects |
| | **New Product Development Capabilities**<br>**(1 = Not all; 7 = to an extreme extent)** |
| **NPDC1** | We are capable of developing new and/or significantly improved export products for our export customers |
| **NPDC2** | We are **incapable** of exploit R&D investment for new and/or significantly improved export products development |
| **NPDC3** | We speedily develop and launch new and/or significantly improved products for export market |
| **NPDC4** | We are **incapable** of significantly improving/modifying of existing products |
| **NPDC5** | We do **not** often make adoption of new methods/ideas in manufacturing process |

| Item codes | Item Descriptions and Anchors |
|---|---|
| ID_MI1 | On average over that past three years, what is the most important country -In terms of largest sales- that your firm exports to |
| ID_MI2 | On average over that past three years, what is the most important country- In terms of largest sales of new/significantly improved products- that your firm exports to? |
| | ***regulative distance*** **(1= Totally different; 7= Totally the same)** |
| RID1 | Protection of intellectual property |
| RID12 | Burden of administrative regulation |
| RID13 | Efficiency of legal and regulatory existed system |
| RID14 | Transparency of policy making |
| RID15 | Anti-monopoly policy |
| | ***Cultural- Cognitive Distance*** **(1= Totally different; 7= Totally the same)** |
| CID1 | Decisions are made in group discussions |
| CID2 | People are concerned about each other |
| CID3 | People are valued more for what they do than who they are |
| CID4 | Risk and uncertainties are well taken into consideration |
| CID5 | Planning for future is highly appreciated |
| CID6 | Rationality in behaviour is emphasized rather than humanity |
| CID7 | There is no sex segregation |
| CID8 | Information is generally widely shared |
| CID9 | People are encouraged to be assertive, aggressive, and tough in social relationships |
| | ***Normative Distance*** **(1= Totally different; 7= Totally the same)** |
| NID1 | The level of adaptability of government policy to changes in the economy |
| NID2 | Transparency of government policy |
| NID3 | The existence of bribing and corruption. |
| NID4 | Implementation of ethical practices |
| NID5 | Addressing health, safety & environmental concerns |

| Item codes | Codes | Item Descriptions and Anchors |
|---|---|---|
| | | **Competitive Advantage**<br>**(1= Much worse than; 7= Much better than)** |
| | | **Low-Cost Advantage** |
| **CACST1** | 1.4.1 | our cost of raw materials for our export operations are |
| **CACST2** | 1.4.2 | our production unit cost for our export operations are |
| **CACST3** | 1.4.3 | our distribution cost for our export operations are |
| **CACST4** | 1.4.4 | our cost of sales for our export operations are |
| | | **Differentiation Advantage** |
| **CADIFF1** | 1.4.5 | our new export product introduction in our export markets are |
| **CADIFF2** | 1.4.6 | our export product differentiation for our export operations are |
| **CADIFF3** | 1.4.7 | our export product line breadth/depth for our export operations are |
| **CADIFF4** | 1.4.8 | our brand awareness for our export operations are |
| **CADIFF5** | 1.4.9 | our identification product availability for our export operations are |

| Item codes | Codes | Item Descriptions and Anchors |
|---|---|---|
| | | **New Export Product performance** |
| **NEPSOB1** | 4.7.2 | In the last three years, what is your firm's total volume of new products for export market only? |
| **NEPSOB2** | 2.2 | Over the past three years, please state your firm's new export product sales as a percentage of your export sales (%)? |
| | | **Satisfaction of New Export Product performance**<br>**(1=Extremely dissatisfied: 7=Extremely satisfied)** |
| **NEPSSB1** | 2.3.1 | New export product market share |
| **NEPSSB2** | 2.3.2 | New export product sales volume |
| **NEPSSB3** | 2.3.4 | New export product profitability |
| | | |

## Appendix A 4.2: Questionnaire used in Pre-test

# New Export Product Performance

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Start of Block: Cover Letter

Q32 **A STUDY ON EXPORT PERFORMANCE OF NEW PRODUCTS DESIGNED SPECIFICALLY FOR OTHER MARKETS**

_____

***Thank you for agreeing to participate in our research project in the area of export marketing. By completing the survey, you are providing invaluable insights that are critical for the accuracy and success of this research project.***

Please do take care to answer the questions as fully and accurately as you can. Please indicate how things really are rather than how you wish they were.

You may respond in complete candour; all your answers will remain **absolutely confidential.**

Thank you very much for your help

Israa Daoud
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Durham University
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(+44) 7470 49 6260

End of Block: Cover Letter

Start of Block: SECTION 5: ABOUT YOURSELF

SECTION 1: ABOUT YOUR EXPORT OPERATIONS

**1.** To what extent do you agree or disagree that the following statements apply to the situation in your company? **(Please circle the number that best represent your opinion)**

| | | *Strongly Disagree* | *Disagree* | *Somewhat Disagree* | *Neither Agree Nor Disagree* | *Somewhat Agree* | *Agree* | *Strongly Agree* |
|---|---|---|---|---|---|---|---|---|
| 1.1.1 | We master the state-of-art technologies | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.1.2 | We respond to technology changes | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.1.3 | We do not identify new technology opportunity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.1.4 | We acquire important technology information | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.1.5 | We have invested heavily in certain R&D projects | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**1.2** To what extent do the following statements apply to the situation in your company? **(Please circle the number that best represent your opinion)**

**1.3** To what extent do the following statements apply to the situation in your company? **(please select the number that best represents your opinion)**

| *Not at all* | *To a very small extent* | *To a small extent* | *To a moderate extent* | *To a considerable extent* | *To a great Extent* | *To an extreme extent* |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | |
|---|---|---|
| 1.3.1 | Our company has produced new or significantly improved export products for our target markets during the past three years | |
| 1.3.2 | Industry experts would **not** say that we are prolific when it comes to introducing new or significantly improved export products in our export markets | |
| 1.3.3 | Our new or significantly improved product offerings are different from export market competitors' offerings | |
| 1.3.4 | Top managers in our company do **not** encourage the development of innovative export marketing strategies | |

1.4 Please rate the following statements in relation to your key export market competitors.

| *Much worse than* | *Worse than* | *Somewhat worse than* | *The Same* | *Somewhat better than* | *Better than* | *Much better than* |
|---|---|---|---|---|---|---|

**Over the last three years**, relative to our main export competitors,

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1.4.1 | our **cost of raw materials** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.2 | our **production unit cost** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.3 | our **distribution cost** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.4 | our export **cost of sales** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.5 | our **new** export **product introduction** in our export markets are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.6 | our export **product differentiation** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.7 | our **product line breadth/depth** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.8 | our **brand awareness** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1.4.9 | our **identification product availability** for our export operations are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

SECTION 2: ABOUT YOUR COMPANY'S NEW EXPORT PRODUCT PERFORMANCE IN IT'S MOST IMPORTANT MARKET OVER THE LAST THREE YEARS

***Note:***

- ***NEW EXPORT PRODUCT PERFORMANCE IS THE PERFROMANCE OF NEW OR/AND SIGNIFICANTLY IMPROVED PRODUCT(S) CREATED FOR EXPORT ONLY.***
- ***MOST IMPORTANT EXPORT MARKET IN TERMS OF THE LARGEST/MOST SALES***

2.1 Over the past three years, please state your firm's export sales as a percentage of your firm's total sales (%)?

2.2 Over the past three years, please state your firm's new export product sales as a percentage of your export sales (%)?

**2.3** Over the past three years, how satisfied have you been with the new export product performance of your company along the following dimensions? (**Please circle the number that best represents your opinion)**

| 1. | | *Extremely dissatisfied* | *Moderately dissatisfied* | *Slightly dissatisfied* | *Neutral* | *Slightly satisfied* | *Moderately Satisfied* | *Extremely satisfied* |
|---|---|---|---|---|---|---|---|---|
| 2.3.1 | New export product market share | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2.3.2 | New export product sales volume | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2.3.3 | New export product profitability | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

SECTION 3: ABOUT YOU COMPANY´S EXPORT EXTERNAL ENVIROMENT

3.1 On average over that past three years, what is the most important country -In terms of largest sales- that your firm exports to?

3.2 On average over that past three years, what is the most important country- In terms of largest sales of new/significantly improved products- that your firm exports to?

| ***( country your firm exported the most new/significantly improved products to in the last three years)*** |
|---|
| |

**3.3** Please answer the following questions by circling the number that best indicates your perception of the level of difference between the UK and this market **(Please refer to question 3.2 above).**

| | | *Totally different* | *Moderately different* | *Slightly different* | *Neutral* | *Slightly the same* | *Moderately the same* | *Totally the same* |
|---|---|---|---|---|---|---|---|---|
| 3.3.1 | Protection of intellectual property | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.2 | Burden of administrative regulation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.3 | Efficiency of legal and regulatory existed system | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.4 | Transparency of policy making | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.5 | Anti-monopoly policy | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.6 | Decisions are made in group discussions | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3.3.7 | People are concerned about each other | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.8 | People are valued more for what they do than who they are | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.9 | Risk and uncertainties are well taken into consideration | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.10 | Planning for future is highly appreciated | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.11 | Rationality in behaviour is emphasized rather than humanity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.12 | There is no sex segregation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.13 | Information is generally widely shared | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.14 | People are encouraged to be assertive, aggressive, and tough in social relationships | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.15 | The level of adaptability of government policy to changes in the economy | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3.3.16 | Transparency of government policy | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SECTION 4: ABOUT **Please complete this considering your operations only.** | 3.3.17 | The existence of bribing and corruption. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 3.3.18 | Implementation of ethical practices | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | 3.3.19 | Addressing health, safety & environmental concerns | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

YOUR COMPANY **section by UK-based**

4.1 Which industry does your company operates in?

- ☐ Automobile
- ☐ IT
- ☐ Computer
- ☐ Chemicals
- ☐ Electrical and Electronics
- ☐ Biotechnology
- ☐ Pharmaceutical
- ☐ Mechanical

Others. Please specify

☐

4.2 Approximately how long has your company been in business? **(Please enter a number, not a text**)

[ ] Years **OR** Since [ ]

4.3 Approximately how long has your company been exporting? (**Please enter a number, not a text**)

[ ] Years **OR** Since [ ]

4.4 On average, what has been the total SALES turnover of your company over the past three years? **(In pound Sterling**)

Note Please include both your firm's domestic and export operations.

£----------

4.5 Approximately what percentage of your annual total SALES turnover is derived from exports **(%)?**

----------%--------

4.6 Approximately what percentage of your company's new export product sales is generated by

Physical goods …….. [ % ]

Services…… [ % ]

**Total=100%**

- **NOTE:** ***NEW EXPORT PRODUCT PERFROMANCE IS THE PERROMANCE OF NEW OR/AND SIGNIFICANTLY IMPROVED PRODUCT(S) CREATED FOR EXPORT ONLY.***

4.7 **Please answer the following questions by completing the boxes provided**

4.7.1 Approximately how many markets does your company export to? (**Please enter a number, not a text.)** [ ]

4.7.2 In the last three years, what is your firm's total volume of new products for export market only? (**In Pound Sterling**)

£ [ ]

***NEW EXPORT PRODUCT PERFROMANCE IS THE PERFORMANCE OF NEW OR/AND SIGNIFICANTLY IMPROVED PRODUCT(S) CREATED FOR EXPORT ONLY.***

4.7.3 Over the past three years, please state your firm's new product sales as a percentage of your total sales_____?

4.7.4 How many full-time staff does your company employ (**Only consider those on your UK**

4.7.5 On average, what percentage of your firm's turnover was invested in internal R&D, over the last three years?

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0% to <2% | 2% to <4% | 4% to <6% | 6% to <8% | 8% to <10% | 10% to <12% | 12% to <16% | 16% to <20% | >20% |

SECTION 5: ABOUT YOURSELF

**The next set of questions seeks to learn a little bit about you.**

5.1 What is your job title?

5.2 What would you consider to be your employment role **(please circle the most appropriate answer)?**

5.2.1 Owner/CEO/Director
5.2.2 Senior manager
5.2.3 Middle manager
5.2.4 Junior manager
5.2.5 Other, (please specify)…

5.3 **What is the highest level of school you have completed or the highest degree you have received?**

| Less than high school degree | High school degree or equivalent | Some college but no degree | Associate degree | Bachelor degree | Master degree | Professional degree | Doctorate |
|---|---|---|---|---|---|---|---|
| ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |

5.4 Please indicate your agreement with the following statements**. (Please circle the number that best represents your opinion)**

| | **Strongly** | | **Neutral** | | | **Strongly** | **Disagree** | **Agree** |
|---|---|---|---|---|---|---|---|---|
| 5.4.1 Questionnaire deals with issues I am very knowledgeable about | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| 5.4.2 My answer to the questions in the questionnaire are very accurate | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

This concludes the questionnaire.

**Thank you very much for your time and valuable contribution to this study.**

To receive a free copy of the final report from this study, please enter your email address below (please use block letters):

……@.....

# Appendix A 4.3: Email invitation used in Pre-test

Dear (name of the person),

I am currently a PhD student at Durham University Business School and I am doing my doctoral research in the area of export marketing. I am interested in understanding factors that may facilitate or inhibit new export product success among British exporters. I therefore need to contact export decision makers in UK exporting companies as part of my research. I obtained your business address from the British Exporters database (via the Institute of Export homepage).

To assist me with my study, I write to ask for your participation in my research. It is expected that it will take you about 20 minutes or less to complete this questionnaire. I am well aware that this request represents a demand on your already busy schedules, but your participation could really make the difference between success and failure of the study, and of course my PhD as well.

To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser).

Survey Link:
https://durhambs.az1.qualtrics.com/jfe/form/SV_8p0YgCxF3pAk0kJ

As an appreciation for your participation in this study, you are guaranteed a summary report on benchmarking factors that may influence export success, which will be sent to you at the end of the study. All participants will be entered into a draw and you could win a **£200** cash prize in your name for your favorite charity. Please rest assured that any information you provide at any time during this study will be treated **confidentially**, and no details whatsoever will be passed on to any third-party.

Your assistance with this study would be very much appreciated. Should you have any queries, please do not hesitate to contact me on the contact details provided or any of my doctoral supervisors: Dr. Xinming He, Lead of the Marketing and International Business (MIB) Research Centre, and Director of MSc Marketing at Durham University Business School (Tel: +44 (0) 191 33 49424; email: xinming.he@durham.ac.uk); Dr. Karena Yan, **Associate Professor in Marketing in the** Business School( Tel+44 (0) 191 33 45383: Email: ji.yan@durham.ac.uk); and Prof. Carlos Sousa, Professor of Marketing and Business Strategy at Molde University College (Tel +47 711 95 745: Email: Carlos.Sousa@himolde.no)

Thank you in advance for your help

Israa Daoud

Yours sincerely,

Israa Daoud

Doctoral Candidate

# Appendix A 4.4: First Email invitation [Main Mail Survey]

Dear (name of the person),

I am a doctoral researcher at Durham University and I am undertaking research in the area of export marketing.

As part of my research, I need to contact export decision-makers in companies in the UK. Your company is one of the few companies that meet our criteria. I obtained your business email address from ORBIS Database (Bill Bryson Library at Durham University).

To assist me in my research, I am inviting managers of British exporting companies like yourself to participate. I would be very grateful if you, or your export sales/marketing manager/director, could complete a questionnaire on export practices. This should take you up to 20 minutes to complete. I am well aware that this request represents a demand on your already busy schedules, but your participation could really make the difference between success and failure of this study, and my PhD. Therefore, your co-operation is greatly appreciated. You are able to take a break from the questionnaire (e.g., if you don't have time to complete all the questions in one go) by closing the browser. You can return whenever it is convenient for you. When returning to the survey after taking a break (i.e., after closing the survey window) you will need to re-click the survey link and continue. After re-clicking the survey link, you will able to resume the survey from the last page you completed.

To enter the survey please click on the link below to go to the survey website (or copy and paste the survey link into your Internet browser).

Survey Link:
https://durhambs.az1.qualtrics.com/jfe/form/SV_8p0YgCxF3pAk0kJ

Please rest assured that any information you provide will be treated confidentially and for academic purposes only. I do need to ask some background information, but you cannot be identified from this, as only general findings from the survey will be reported. As a way of expressing my appreciation for assisting me in my research, I guarantee you a complimentary report containing a summary of this study. In addition, all completed questionnaires entitle the respondent to be entered into a prize draw, which is the chance to win a voucher for your favourite charity, redeemable in a choice of hotels across several locations UK wide.

Your assistance with this study would be very much appreciated. Should you have any queries, please do not hesitate to contact me on the contact details provided or any of my doctoral supervisors: Dr. Xinming He, Lead of the Marketing and International Business (MIB) Research Centre, and Director of MSc Marketing at Durham University Business School (Tel: +44 (0) 191 33 49424; email: xinming.he@durham.ac.uk); Dr. Karena Yan, **Associate Professor in Marketing in the** Business School( Tel+44 (0) 191 33 45383: Email: ji.yan@durham.ac.uk); and Prof. Carlos Sousa, Professor of Marketing and Business Strategy at Molde University College (Tel +47 711 95 745: Email: Carlos.Sousa@himolde.no)

Thank you in advance for your help

Israa Daoud

Yours sincerely,

Israa Daoud

Doctoral Candidate

# Reminder email:

Dear (name of the person),

I hope that you have received the link to my online questionnaire during the past week.
If you have not yet had a chance to complete the questionnaire (and I am well aware that this does place a strain on your busy schedule), I would like to take this opportunity to emphasize that I am still very keen to obtain your response, since your participation could really make a difference between the success and the failure of this project and of my PhD as well. I confirm that all replies are **strictly confidential**.

If you have any problem accessing the questionnaire, or have any questions regarding the study, please do not hesitate to contact me.
I look forward to your response.

Please follow the link to the online survey: https://durhambs.az1.qualtrics.com/jfe/form/SV_8p0YgCxF3pAk0kJ

Thank you in advance for your co-operation in this research.

Yours sincerely,

Israa Daoud

Doctoral Student
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07470496260

## Appendix A 4.5: Final Questionnaire

# A STUDY ON EXPORT PERFORMANCE OF NEW PRODUCTS DESIGNED SPECIFICALLY FOR OTHER MARKETS

---

***Thank you for agreeing to participate in our research project in the area of export marketing. By completing the survey, you are providing invaluable insights that are critical for the accuracy and success of this research project.***

The purpose of this study is to collect information on the actions of British exporters in terms of new product for export market only and to identify common practices and outcomes. Please do take care to answer the questions as fully and accurately as you can. Please indicate how things really are rather than how you wish they were.

**You may respond in complete candour; all your answers will remain absolutely confidential.**

**GUIDELINES FOR COMPLETING THE QUESTIONNAIRE**

- This questionnaire should be answered by an individual who has a good overview of the new product for export market within the company/business unit. If you feel you are not the right person to respond to the questionnaire, we would be grateful if you could pass it to the colleague you consider might be more appropriate to answer the questions.

- All the questions refer to the business unit/company that you work, unless stated otherwise

Thank you very much for your help

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Start of Block: SECTION 5: ABOUT YOURSELF

Q5.1 SECTION: ABOUT YOURSELF

The next set of questions seek to learn a little bit about you.

What is your job title?

_____

Q5.2 What would you consider to be your employment role ?

- ○ Owner/CEO/Director (1)
- ○ Senior manager (2)
- ○ Middle manager (3)
- ○ Junior manager (4)
- ○ Non-Managerial position (5)
- ○ IT Manager/Director/Consultant (8)
- ○ Other, please specify (9) _____

*Skip To: End of Block If What would you consider to be your employment role ? = Non-Managerial position*

*Skip To: End of Block If What would you consider to be your employment role ? = IT Manager/Director/Consultant*

Q5.3 What is the highest level of school you have completed or the highest degree you have received?

- ○ Less than high school degree (1)
- ○ High school degree or equivalent (2)
- ○ Some college but no degree (3)
- ○ Associate degree (4)
- ○ Bachelor degree (5)
- ○ Master degree (6)
- ○ Professional degree (7)
- ○ Doctorate (8)

Q5.4 Is your firm a UK-Based exporting firm?

- ○ Yes (1)
- ○ No (4)

*Skip To: End of Block If Is your firm a UK-Based exporting firm? = No*

Q5.5 what kind of exporting activities is your firm into?

- ○ Product Only (1)
- ○ Service Only (2)
- ○ Product and Service (4)

*Skip To: End of Block If What kind of exporting activities is your firm into? = Service Only*

**End of Block: SECTION 5: ABOUT YOURSELF**

**Start of Block: SECTION 1:- ABOUT YOUR EXPORT OPERATIONS**

Q1.1 SECTION 1:- ABOUT YOUR EXPORT OPERATIONS

To what extent do you agree or disagree that the following statements apply to the situation in your company?

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|---|---|---|---|---|---|---|---|
| 1.1.1 We master the state-of-art technologies (Q1.1_1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.1.2 We respond to technology changes (Q1.1_2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.1.3 We **DO NOT** identify new technology changes (Q1.1_3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.1.4 We acquire important technology information (Q1.1_4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.1.5 We have invested heavily in certain R&D projects (Q1.1_5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q1.2 To what extent do the following statements apply to the situation in your company?

| | Not at all (1) | To a very small extent (2) | To a small extent (3) | To a moderate extent (4) | To a considerable extent (5) | To a great extent (6) | To an extreme extent (7) |
|---|---|---|---|---|---|---|---|
| 1.2.1 We are capable of developing of new and/or significantly improved export products for our export customers? (Q1.2_1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.2.2 We are **INCAPABLE** of exploit R&D investment for new and/or significantly improved export products development? (Q1.2_2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.2.3 We speedily develop and launch new and/or significantly improved export products for export? (Q1.2_3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.2.4 We are **INCAPABLE** of significantly improving/modifying of existing products. (Q1.2_4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.2.5 We **DO NOT** often make adoption of new methods/ideas in manufacturing process? (Q1.2_5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

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Q1.4 Please rate the following statements in relation to your **key export market competitors.**

**Over the last three years**, relative to our main export competitors,

| | Much worse than (1) | Worse than (2) | Somewhat worse than (3) | About the same (4) | Somewhat better than (5) | Better than (6) | Much better than (7) |
|---|---|---|---|---|---|---|---|
| 1.4.1 our cost of raw materials for our export operations are? (Q1.4_1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.2 our production unit cost for our export operations are? (Q1.4_2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.3 our distribution cost for our export operations are? (Q1.4_3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.4 our cost of sales for our export operations are? (Q1.4_4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.5 our new export product introduction in our export markets are? (Q1.4_5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.4.6 our export product differentiation for our export operations are? (Q1.4_6) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.7 our product line breadth/depth for our export operations are? (Q1.4_7) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.8 our brand awareness for our export operations are? (Q1.4_8) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 1.4.9 our brand identification product availability for our export operations are? (Q1.4_9) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

End of Block: CA

Start of Block: SECTION 2:- ABOUT YOUR COMPANY'S NEW EXPORT PRODUCT IN THE MOST IMPORTANT MARKET

Q2.1 SECTION 2:- ABOUT YOUR COMPANY'S NEW EXPORT PRODUCT IN THE MOST IMPORTANT MARKET

Over the past three years, please state your firm’s export sales as a percentage of your firm’s total sales (%) ?

_____ % (1)

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Q2.2 Over the past three years, please state your firm’s new export product sales as a percentage of your export sales (%)?

NOTE: New export product performance is the performance of new or/and significantly improved product(s) created for export only

_____ % (1)

---

Q2.3 Over the past three years, how satisfied have you been with the new export product performance of your company along the following dimensions?

NOTE: New export product performance is the performance of new or/and significantly improved product(s) created for export only

| | Extremely dissatisfied (1) | Moderately dissatisfied (2) | Slightly dissatisfied (3) | Neither satisfied nor dissatisfied (4) | Slightly satisfied (5) | Moderately satisfied (6) | Extremely satisfied (7) |
|---|---|---|---|---|---|---|---|
| 2.3.1 New export product market share (8) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 2.3.2 New export product sales volume (9) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 2.3.3 New export product Profitability (10) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

End of Block: SECTION 2:- ABOUT YOUR COMPANY'S NEW EXPORT PRODUCT IN THE MOST IMPORTANT MARKET

Start of Block: SECTION 3:-ABOUT YOUR COMPANY´S EXPORT EXTERNAL ENVIROMENT

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Q3.1 SECTION 3:-ABOUT YOUR COMPANY´S EXPORT EXTERNAL ENVIROMENT

3.1 On average over the past three years, what is the most important country-In terms of largest/most sales - that your firm export to?

NOTE: **Most important country (EXPOER MARKET) in terms of the largest/most sales in the last three years.**

▼ Afghanistan (1) ... Zimbabwe (1357)

Q3.2

3.2 On average over the past three years, what is the most important country- In terms of largest sales of new/significantly improved products- that your firm export to?

NOTE:

**Most important country (EXPOER MARKET) in terms of the largest/most sales of <u>new/significantly improved products</u> in the last three years.**

▼ Afghanistan (1) ... Zimbabwe (1357)

Q3.3 Please answer the following questions by choosing the answer that best indicates your perception of the level of differences between the UK and this market (Please refer to question 3.2 above) ?

| | Extremely different (1) | Moderately different (2) | Slightly different (3) | Neutral (4) | Slightly the same (5) | Moderately the same (6) | Extremely the same (7) |
|---|---|---|---|---|---|---|---|
| 3.3.1 Protection of intellectual property (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.2 Burden of administrative regulation (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.3 Efficiency of legal framework (3) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.4 Transparency of policy making (4) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.5 Effectiveness of anti-monopoly policy (5) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.6 Decisions are made in group discussions (6) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.7 People are concerned about each other (7) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.3.8 People are valued more for what they do than who they are (8) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.9 Risk and uncertainties are well taken into consideration (9) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.1.10 Planning for future is highly appreciated (10) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.1.11 Rationality in behaviour is emphasized rather than humanity (11) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.12 There is no sex segregation (12) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.13 Information is generally widely shared (13) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.3.14 People are encouraged to be assertive, aggressive, and tough in social relationships (14) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.15 The level of adaptability of government policy to changes in the economy (15) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.16 The existence of bribing and corruption. (16) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.17 Transparency of government policy (17) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.18 Implementation of ethical practices (18) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| 3.3.19 Addressing health, safety & environmental concerns (19) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

End of Block: SECTION 3:-ABOUT YOUR COMPANY´S EXPORT EXTERNAL ENVIROMENT

Start of Block: SECTION 4:- ABOUT YOUR COMPANY

Q4.1 SECTION 4:- ABOUT YOUR COMPANY

Please complete this section by considering your UK-based operations only. Which industry does your company operates in?

- ○ Automobile (1)
- ○ IT (2)
- ○ Computer (3)
- ○ Chemicals (4)
- ○ Electrical and Electronics (5)
- ○ Biotechnology (6)
- ○ Pharmaceutical (7)
- ○ Mechanical (8)
- ○ Other, Please specify (9) _____

Q4.2 Approximately how long has your company been in business? (Please enter a number, not a text).

- In years (1) _____
- Or, since (2) _____

Q4.3 Approximately how long has your company been exporting? (Please enter a number, not a text).

- In years (1) _____
- Or, since (2) _____

Q4.4 On average, what has been the total SALES turnover of your company over the past three years? Note: Please include both your firm's domestic and export operations.

_____ in Pound Sterling (£) (1)

Q4.5 Approximately what percentage of your annual SALES turnover is derived from exports (%)?

_____ % (11)

Q4.6 Approximately what percentage of your company's new export product sales is generated by (total 100%)

Physical goods : _____ (1)
Services : _____ (2)
Total : _____

---

Q4.7.1 Please answer the following questions by completing the boxes provided
Approximately how many markets does your company export to? (Please enter a number, not a text).

_____

---

Q4.7.2 In the last three years, what is your firm's total volume of new products for export market only? NOTE:
New products for export market only = New or/and significantly improved product(s) created for **export only.**

_____ In Pound Sterling (£) (5)

---

Q4.7.3 Over the past three years, please state your firm's new product sales as a percentage of your total sales (%)?

_____ % (1)

Q4.7.4 How many full-time staff does your company employ (Only consider those on your UK payroll)?

_____

Q4.7.5 On average, what percentage of your firm's turnover invested in internal R&D, over the last three years?

- 0% to (1)
- 2% to (2)
- 4% to (3)
- 6% to (4)
- 8% to (5)
- 10% to (6)
- 12% to (7)
- 16% to (8)
- >20% (9)

End of Block: SECTION 4:- ABOUT YOUR COMPANY

Start of Block: DV

Q5.4.1 This concludes the questionnaire. Thank you very much for your time and valuable contribution to this study.

Q5.4 Please indicate your agreement with the following statements.

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|---|---|---|---|---|---|---|---|
| Questionnaire deals with issues I am very knowledgeable about (1) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My answer to the questions in the questionnaire are very accurate (2) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Q5.4.2 Would you like to receive a free copy of the report containing the major findings of this study

- ○ No, thanks. (1)
- ○ Yes, please send it to the following email address (4) _____

End of Block: DV