

## **Leveraging Dynamic Export Capabilities for Competitive Advantage and Performance Consequences: Evidence from China**

**Abstract** As the business arena becomes more global and therefore dynamic, organizations must balance their capabilities with the demands and the conditions of the international marketplace. This leads firms to trade off the development of more capabilities with the identification of core capabilities which can best improve export competitiveness and performance. Based on the Dynamic Capabilities Approach (DCA), we develop a model of four export capabilities, namely adaptability, innovativeness, unpredictability, and task-flexibility, aimed at achieving competitive advantage in foreign markets and enhance export performance. Based on a survey of 213 Chinese exporting organizations, we find out that innovativeness, unpredictability and task-flexibility are positively related to competitive advantage, while adaptability is negatively related to it. Moreover, we uncovered that in the cases of adaptability, innovativeness and task-flexibility their impact on competitive advantage diminishes under higher levels of competitive intensity, however, for unpredictability this impact becomes negative. We also confirm the necessity of addressing competitive advantage separately from firms' performance.

*Keywords:* Competitive advantage; Adaptability, Innovativeness; Unpredictability, Task flexibility; Performance

## Introduction

The current international business environment is dynamic and unpredictable, and organizations that operate on the international scene have to be proactive in order to remain competitive and succeed. Consequently, research into competitive advantage (CA), and what drives it in foreign markets is drawing increasing attention (Sirmon et al., 2011). Dynamic capabilities are perceived as central contributors of CA, and are particularly relevant in international business (Teece, 2013) where firms are exposed to the effects of globalized competition and the success of firms is dependent on discovering opportunities, increasing innovation, and finding new ways to compete in international markets. Dynamic capabilities determine the firm's ability to integrate, build, and reconfigure internal and external resources and functional competencies to address turbulent and ever-changing business environments (Teece, 2007, 2012; Teece et al., 1997).

Exporting is by far the most common form of internationalization, and the study of export performance is one of the most researched topics within this area (Leonidou, Katsikeas 2010).

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This is even more so when it comes to firms from emerging markets who often struggle to adapt to the demanding conditions associated with the international arena (Wu and Voss, 2015). There

is existing evidence that capabilities are important to export performance (Griffith, Dimitrova

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2014, Lee et al., 2009). A large body of recent research refers to either the capabilities-export performance linkage (Kaleka, 2012; Lisboa, Skarmeeas, and Lages, 2011; Lu et al. 2010; Morgan, Vorhies, and Mason, 2009; Pezeshkan et al. 2016; Prange and Verdier, 2011), or the export capabilities-competitive advantage linkage (Li and Liu, 2014; Murray, Gao, and Kotabe, 2011; Weerawardena and Mavondo, 2011). Yet despite this large body of studies, research tends to focus on firm-level capabilities neglecting to evaluate the role played by export-related dynamic capabilities. In light of the relevancy of dynamic capabilities to international operations, such void calls for investigation. Our study focuses on four such capabilities: adaptability, innovativeness, unpredictability, and task-flexibility. These dynamic capabilities reflect specific organizational and strategic process through which export managers alter their firm's resource base (Eisenhardt and Martin, 2000) in seeking advantages and performance outcomes. All four capabilities represent the export function's ability to integrate and reconfigure resources in order to enhance CA, as will be discussed in the hypotheses section.

While much attention has been given to firms' capabilities within Dynamic Capabilities approach (DCA) research, very few attempts have been made to capture the full picture through

the integration of both firms' CA and performance in the same study. Therefore, this body of work still largely ignores the central role the CA plays in achieving enhanced performance. CA acts as an integrator of export capabilities, through which these capabilities are transformed into a significant value offering (Murray, Gao, and Kotabe, 2011). By ignoring CA as a potential mediator in the capabilities-export performance relationship, these studies distort our understanding of what drives firms' export performance (Piercy, Kaleka, and Katsikeas, 1999). This research gap is attributed in part to the disagreement exists in the literature regarding what constitutes CA. Albeit the substantial body of research aiming to address CA, there is no consensus on how it should be measured, often leading to the use of performance measurements to evaluate CA (Li and Liu, 2014) or to the use of the capabilities—performance linkage as the bases for researching dynamic capabilities' role while disregarding the function of CA (Sirmon et al. 2010). Yet CA is an inherent aspect to the importance of dynamic capabilities (e.g., Teece, 2013) therefore research needs to address its role in the DCA context. Furthermore, environmental influences on the relationship between these capabilities and firms' CA are considered crucial for better understanding the dynamic nature of the capabilities (Luo, 2000). It is even more essential to examine these influences in the context of Chinese exporters as (a) prior research is lacking in this international context and (b) we avoid the confounding effects from operationalizing advantage and performance in very similar ways. Indeed Asian companies have found it difficult to transfer domestic competitive advantages into international markets. For example, Marukawa (2009) found that Japanese MNEs holding domestic competitive and technological advantages could not translate that into advantage when entering international markets, such as in China. As such, we feel it is necessary and valuable to examine further the advantage—performance relationship.

This study contributes to international business research in a number of ways. First, we expand on dynamic capabilities research 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 endeavour addressing the potential effect export dynamic capabilities bear on firms' CA and performance (Prange and Verdier, 2011). By looking at this issue from the international angle, we harness the rapid changes embedded in it, therefore gaining most value from the use of the DCA (Tseng and Lee, 2010; Villar, Alegre, and Pla-Barber, 2014). We do not proclaim to focus on all relevant dynamic capabilities as there are many others that could be considered.

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However, these have been identified as pertinent for international businesses to harness in competitive environments (Teece, 2013) and are as yet untested as a set in international business research. Second, we address the competitive advantage–performance relationship by following Ambrosini and colleagues' (2009) statement that a clearer understanding of what impacts firms' competitive advantage is necessary. Therefore, we advance understanding on specific export dynamic capabilities and how these generate advantage and advance the work of Newbert (2008) in divorcing competitive advantage from performance as current understanding of competitive advantage is being confounded by researchers operationalizing advantage in performance terms (e.g., profitability).

From a managerial perspective, the results of the study can help managers prioritize and allocate resources appropriately to the development of different capabilities. It is especially relevant for Chinese exporters, which, on average have been involved in international trade for a shorter period in comparison to their Western counterparts (Mathews, 2002). Furthermore, firms from emerging markets often struggle to fit their strategy with their environment to gain advantage (Bhaumik, Driffield, and Zhou, 2016). Thus, Chinese firms require more detailed knowledge on how to further develop their internal strengths to be able to outplay competitors in the international market (Deng, 2009).

In the next section, we discuss the four export dynamic capabilities, competitive advantage and performance, and follow this with the development of a set of hypotheses establishing the relationships between them. We outline our methodology and proceed to test the hypotheses using an AMOS-based path analysis. We conclude by discussing findings, contribution, and further research avenues.

## **Literature Review**

The DCA is sourced from the Resource-Based View yet deviates from it by acknowledging environmental dynamism (Eisenhardt and Martin, 2000) as a central factor when it comes to planning a strategy. According to the DCA, the capabilities' patterns adjust to market dynamics, so while under more stable market conditions they are more robust and process-oriented, under more dynamic conditions they become more flexible and less predetermined (Eisenhardt and Martin, 2000). The capabilities – environment interplay is crucial for assessing the dynamics of the capabilities.

DCA addresses the potential impact of capabilities on firms' competitive advantage (CA) and performance. CA 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, Kaleka, and Katsikeas, 2004 p. 91); whereas 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 and Peteraf, 2003 p. 999). CA refers to the outcome of an organization developing attributes that allow it to outperform its competitors in a way that makes it difficult or impossible for competitors to imitate (Sun and Tse, 2009). Though, competitive advantage and firm performance are often used interchangeably (Newbert, 2008). Viewed as a means to an end, competitive advantage is often regarded as facilitated by superior value creation (Adner and Zemsky, 2006), therefore leading to enhanced performance (Grahovac and Miller, 2009). Yet, whether defined by a set of capabilities enabling firms to achieve better performance (López, 2005) or viewed as performance-contingent (Peteraf and Barney, 2003) competitive advantage is still poorly understood not least due to confounding effects from operationalizing competitive advantage in performance terms. Following the logic of Cockburn, Henderson, and Stern (2000), competitive advantage could result from an initial set of conditions (e.g., differentiation, innovation, clearer market positioning, superior product value etc.) that aided in delivering superior profitability in an export market. This can be eroded over time as competitors with poorer initial conditions implement strategic responses to catch-up fast—or level the playing field—to bring about convergence and so more level profits, or as new competitors enter the sphere with innovative products and so forth. In this case surely the basis for initial competitive advantage is what was eroded as competitors make strategic adjustments to raise their own profitability.

Barney, Wright and Ketchen (2001), pointed out that a better understanding of the capabilities leading to competitive advantage is needed. They claim that based on previous research, firms cannot achieve CA under a turbulent environment unless they utilize their capabilities in accordance with these conditions. Barney, Wright and Ketchen (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"... Drawing on this line of thought, capabilities cannot be viewed as equivalent and interchangeable, though

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clusters of capabilities might share similar (dynamic) characteristics which, together, may drive superior international business performance (Prange and Verdier, 2011).

Ambrosini and colleagues (2009) also emphasize the importance in 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 and although in terms of performance indicators such a misunderstanding might not immediately be noticed, it will eventually lead to a negative impact in the long run. International capabilities are developed through learning and the creation of unique international know-how (Villar, Alegre, and Pla-Barber, 2014; Yalcinkaya and Griffith, 2007). Both the learning process and the unique know-how created through it serve to form the principles of dynamic capabilities, which are embodied within the endeavour to adjust to the firm's environment while aiming to achieve better results (López, 2005). In a sense, they represent the firm's shock absorbers, enabling the firm's competitive advantage to adjust with every shift and change in the international trade environment (Wu and Voss, 2015). Previous research recognized several core aspects of dynamic capabilities such as cross-functional working (Eisenhardt and Martin, 2000; Felin et al. 2012), facilitation of new processes (Hult, Hurley, and Knight, 2004), response to external changes (Dibrell, Down, and Bell, 2007), and creation of unexpected tactics (Van den Bosch et al. 1999). These led to the identification of adaptability, innovation, unpredictability, and task-flexibility as export-related dynamic capabilities that international firms can rely on

Consequently, we address this issue by examining dynamic export capabilities in a study that also links them to international competitive advantage and export performance, and considers the moderating effect of competitive intensity in the foreign trade environment (Zou, Chen Ghauri, 2010).

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### **Hypotheses Development**

*Export adaptability* is the firm's ability to align with its foreign environment and is key firms' export performance (Morgan et al., 2003). Adaptability is defined as enabling firms to seize opportunities and reconfigure their resource-base to adapt quickly to competitor actions and external threats. Firms that are able to adapt to opportunities and threats are known to be more successful than their competitors (Dibrell, Down, and Bell, 2007). The macro-environment - that includes new market opportunities, competitor threats and changing customer needs -- can be

argued to be beyond the control of managers, who therefore need to be able to adapt to it quickly to ensure long-term competitive superiority (Lysus, Rogers, and Simms, 2011; Nemkova et al., 2015). The ability to react timely to environmental changes can help to outperform competitors and achieve competitive advantage as more adaptive companies can better capitalise on fast-moving market opportunities (Jayachandran, Hewett, and Kaufman, 2004; Sousa, Ruzo, and Losada, 2010). We therefore predict the following:

**Hypothesis 1a** Export adaptability is positively related to competitive advantage.

While export adaptability is notionally and intuitively a key capability for many organizations, its positive outcomes are, in actual fact, not guaranteed. For example, Griffith et al., (2014) find contingents in the process adaptation – export performance relationship. The export market orientation literature also finds strong support for competitive intensity moderating the export responsiveness-export performance relationship (Cui, Griffith, and Cavusgil, 2005). Some advocate for the growing necessity of adaptability under higher competitive intensity, drawing on similar findings regarding knowledge-based capabilities (Auh and Menguc, 2005) and marketing capabilities (Cadogan, Diamantopoulos, and Siguaw, 2002; Doyle and Wong, 1998). Others claim that in order to preserve certain levels of adaptability in the export market, firms must invest substantial resources and often this investment does not produce a sufficient return due to the dynamics associated with the export markets (Rose and Shoham, 2002). Following this line of thought, we propose the following.

**Hypothesis 1b** The relationship between export adaptability and competitive advantage is stronger when competitive intensity is lower.

*Export innovativeness* is defined as “openness to new ideas as an aspect of a firm’s culture” (Calantone, Cavusgil, and Zhao, 2002, p. 517). It reflects the capacity of the export firm to use new methods, techniques, and ideas in export processes in order to either built or reconfigure customers’ added value. It goes beyond simply being proficient at R&D. Indeed, Teece (2013) indicates that the latter is not sufficient for success unless innovation extends into reinventing the processes of the firm, consistent with the definition of dynamic capabilities. Innovation and

innovativeness are often used interchangeably, yet represent two different constructs (Garcia, 2002). Innovation is related to 'the successful implementation of creative ideas' (Amabile, Conti, Coon, Lazenby, and Herron, 1996 p. 1). Innovativeness is regarded as the capacity to introduce new processes, products, or ideas in the organization (Hult, Hurley, and Knight, 2004), hence it relates to the firms' willingness to engage in innovation. The present study investigates innovativeness capability as the facilitation of "newness" in organizational processes (Hult, Hurley, and Knight, 2004; Renko, Carsrud, and Brannback, 2009; Wang and Ahmed, 2004). In an export context, this refers to engaging new processes and mechanisms when dealing with export markets. Hult, Hurley, and Knight (2004) claim that innovativeness drives competitive advantage by enabling firms to cope better with the evolving environment. This relationship was tested in the information technologies field, while using the DCA framework. Process innovativeness interpreted through reconfiguring and leveraging competencies, showed a significant impact on competitive advantage (Pavlou and Sawy, 2004). In an export context, innovativeness is likely to be further necessitated due to the dynamic nature of the environment as a whole. Those exporters able to display new ways of thinking and operating are more likely to derive competitive advantages. In the words of Boso et al (2013, p.62), "from a resource-based perspective, innovativeness is valuable and idiosyncratic to firms, an intangible asset that may provide businesses with competitive advantage by virtue of being too costly for rival firms to replicate". We therefore expect the following.

**Hypothesis 2a** Export innovativeness is positively related to competitive advantage.

That said, the benefits of export innovativeness are also contingent rather than universal (Boso et al., 2013). As for the moderating relationship of competitive intensity, while some research states that such a relationship bears a positive influence on firms' performance, this finding is somewhat inconclusive, a fact which may be due to the overlap of innovation and innovativeness (Damanpour, 1991; Han, Kim, and Srivastava, 1998; Menguc and Auh, 2006). Santos-Vijande and Alvarez-Gonzalez (2007) find that while under stable environments, innovativeness will positively impact the firms' innovation capacity, under turbulent environment this impact diminishes. When the environment is stable, innovativeness challenges the traditional way of doing things and encourages deviation from the status quo (Sethi, Smith, and Park, 2001). This,



in turn, enables the firm to differentiate itself from competitors and stand out in the market (McNally, Cavusgil, and Calantone, 2010). Conversely, under conditions of unstable environment, the introduction of innovations to the market becomes more risky and often less rewarding (Calantone, Garcia, and Droge, 2003). Being associated with a trial-and-error process, innovativeness has a high potential to lead to a mistake when customer preferences are rapidly changing (Moorman and Miner, 1998). As market trends are less predictable in foreign markets, innovations that are less relevant will fail to outperform competitors in export markets. Thus we propose that:

**Hypothesis 2b** The relationship between export innovativeness and competitive advantage is stronger when competitive intensity is lower.

Van den Bosch et al. (1999) claim that a turbulent environment will facilitate a rapid development of capabilities, due to the ever increasing necessity to cope with the dynamic environment while preserving a competitive edge. Following this, our third capability, unpredictability, is associated with turbulent environment.

*Export unpredictability* revolves around surprise, creating the unexpected, and undertaking hard to foresee actions in international markets, through the reconfiguration of existing resources (Austin, Devin, and Sullivan, 2012) that enable international firms to shape new rules of engagement in competitive environments. Teece (2013) identifies such a dynamic capability as a key success ingredient in international business. While we address it at the export level, the issue of unpredictability was associated previously with the environment; in other words, unpredictability is usually treated as an uncontrollable characteristic of the environment. By contrast, the *organization's* unpredictability can be developed as a deliberate strategy, and therefore become a valuable capability (Austin, Devin, and Sullivan, 2012). In turn, if the decisions made by organizations were not anticipated by the competition, they are more likely to lead to competitive advantages (c.f. Miles et al., 1978). In support of this claim, Griffith and Harvey refer to international predictability as "...the ability to foretell exchange circumstances ex ante" (2001, p.600). As such, it leads to a strategic certainty which allows for a better forecasting and planning. Therefore, if predictability is needed for better planning and hence performance, when firms are being unpredictable, they are pulling the rug from underneath their

competitors. Based on this, we argue that firms that perform export unpredictably become more intimidating, therefore gaining an advantage in the foreign market place. Thus, such firms are relying on a capability to be unpredictable as part of their competitive advantage (Homburg, Workman, and Krohmer, 1999).

**Hypothesis 3a** Export unpredictability is positively related to competitive advantage.

In order for a firm to be unpredictable in its export markets, it needs to be considered as such in comparison with its export competitors (Austin, Devin, and Sullivan, 2012). Thus, export unpredictability capability is measured against the industry's stability, the more stable the industry's competitive intensity, the more effective this capability becomes. That is, unpredictability will provide better value when the industry within which the firm engaged in unpredictable moves, is less dynamic. Therefore, high levels of competitive intensity compromise the benefits of acting unpredictably. Hence:

**Hypothesis 3b** The relationship between export unpredictability and competitive advantage is stronger when competitive intensity is lower.

*Task-flexibility* is the fourth capability. It is defined as the extent to which organizational members will substitute for one another (Campion, Medsker, and Higgs, 1993). In an export context, it reflects cross-functional working and responsibilities by employees, such that export staff can inter-change and work cross-functionally on sales, marketing, service, customer support and so forth. This capability serves in maintaining stable, and productive working relationships due to bottom-up coordination between team members (Van Der Vegt et al., 2010), hence building on existing resources.

Task flexibility has an impact on different aspects of firms' effectiveness since it allows firms to overcome specific peaks, and to maintain a flow of internal processes (Van Der Vegt et al., 2010). Similarly, Jacobs and Washington (2003) claim that it is often viewed as embedded within employee development, and as such it exerts an impact on various organizational outcomes. The subject of task flexibility has received some attention (Li and Li, 2000), in regard with CA. Drawing on previous research, we can speculate that such a capability will improve the

firm's ability to cope with changes in its environment, thus enhance CA (Verdú-Jover, Gomez-Gras, and Lloréns-Montes, 2008). Additional evidence can be found in Byrd and Turner (2001) who found that IT personnel flexibility improves competitive advantage.

**Hypothesis 4a** Export task-flexibility is positively related to competitive advantage.

Volberda (1996) claims that flexibility must incorporate a certain level of stability for it to serve as a productive capability. In turbulent environments often characterizing foreign trade, flexibility can result in chaos - increasing costs, and harming the firms' decision-making. Similarly, Sanchez (2004) addresses flexibility of different organizational levels claiming that while operating (task) flexibility has a positive impact under stable conditions, when the environment becomes dynamic, operating flexibility cannot serve as a standalone process but needs to be accompanied by different aspects of resources and managerial flexibilities in order to provide the same positive impact. Hence, high levels of task flexibility, in stable environments, enable firms to use their employees more efficiently (Campion, Medsker, and Higgs, 1993; Gibson and Birkinshaw, 2004; Li and Li, 2000), but in unstable conditions the capability increases the cost of organizational management due to the constraints it imposes on the divisions' managers. Therefore:

**Hypothesis 4b** The relationship between export task flexibility and competitive advantage in export markets is stronger when competitive intensity is lower.

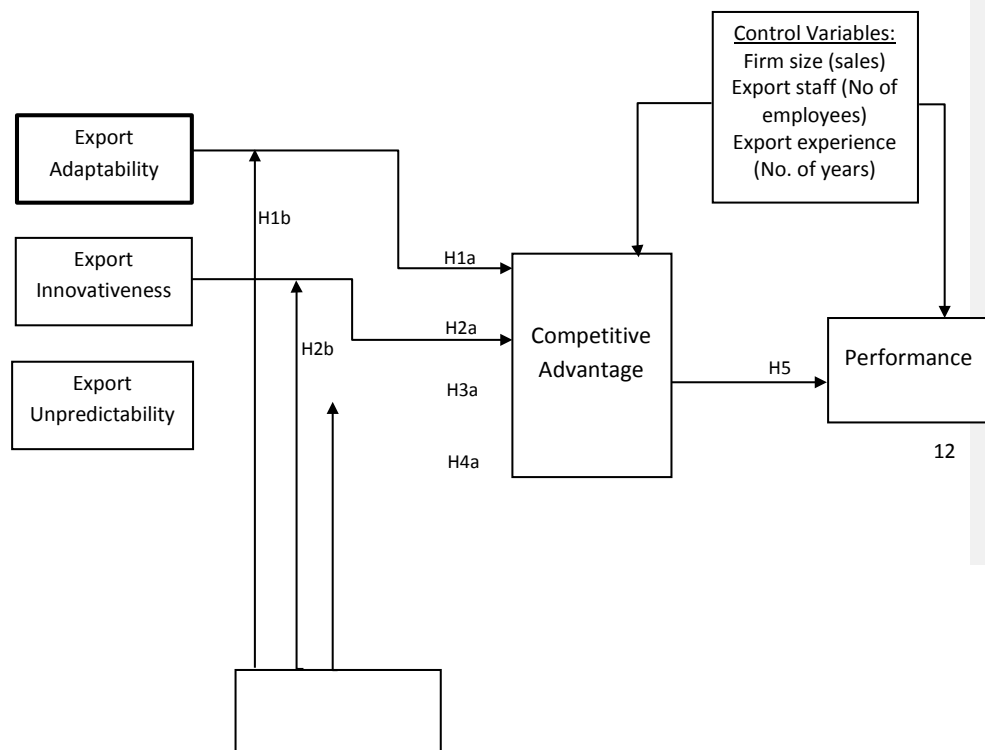
An examination of the literature regarding competitive advantage reveals that though the subject has received substantial attention, in most empirical studies it is not measured directly. Instead, performance indicators such as profit are used as proxies. Powell (2001) addresses the differences between a firm's performance, and competitive advantage, saying that the former is contingent on the latter. We follow Powell's (2001) statements and separate between competitive advantage, and performance. This separation can also facilitate a better understanding of how competitive advantage and performance interplay, and how this interaction enhances performance (Chadee and Kumar, 2001).

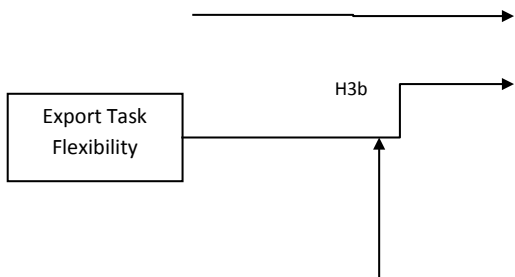
Kaleka (2011) asserts that the relationship between competitive advantages and performance in the export context has been insufficiently explained and much research in the marketing and strategy literatures tend toward speculation. Research into competitive advantage in exporting have found various positive [strategic, venture, product] performance effects (Kaleka, 2011; Leonidou, Paliwadana, and Theodosiou, 2011); competitive advantage as mediation mechanisms for translating export performance gains from market orientation and specific marketing capabilities (ordinary capabilities distinct from dynamic capabilities) (Murray, Gao, and Kotabe, 2011); and also some non-significant relationships, such as with export financial performance from export product competitive advantages (Leonidou, Paliwadana, and Theodosiou, 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 (e.g., Marukawa, 2009).

We depart from much of the literature on competitive advantage in exporting and conceptualize export performance in terms of customer-based dimensions of retention, satisfaction, and growth rather than in financial terms. Accordingly, it is suspected that developing competitive advantages will create positions for exporters to better satisfy customers relative to rivals. Indeed the dynamic capabilities examined here enable firms to sense and seize on export opportunities and reconfigure/transform resources to address export market needs. Thus, we suspect that export performance will rise as a result of developing competitive advantages:

**Hypothesis 5** Competitive advantage in export markets is positively related to export performance.

**Figure 1 – Research model**





### Methodology

China was chosen as the context for the study. Much DCA research is conducted in Western contexts. However, DCA principles may not be automatically transferred to emerging economies (Guillen, 2000) or China (Chan, 2005; Verbeke and Yuan, 2013). Thus, more work is required in these contexts to ascertain generalizability. In addition, most studies on the drivers of export performance tend to be conducted in developed countries. China, however, is the largest emerging economy and “it is essential for firms competing in the global market to understand the export behavior of Chinese firms” (Zou, Fang, and Zhao 2003, p. 32).

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A large-scale survey of Chinese export manufacturers was conducted to test the hypotheses presented above. The sample frame was formed based on a recommendation list provided by Ningbo Customs official, Weibo’s LinkedIn application, Baidu Tieba listings and from the FOB Business forum in China, which is the biggest foreign trade sector website in the country with 2,203,774 members. Ningbo has one of China’s busiest port facilities. Baidu Tieba is the Chinese counterpart of Google groups. Two ways of reaching the target respondents were used: offline and online. Offline respondents were chosen from the list provided by the Ningbo Customs and Weibo LinkedIn, while online respondents were taken from Baidu Tieba and FOB Business Forum. Respondents were offered a copy of the findings as incentive to take part in the survey. Responding companies came from all over China, with 80% of them from Shanghai and Zhejiang province, two of China’s most developed industrial regions.

Sampled companies cut across all corporate sizes in China from small (less than 50 employees) to large companies (over a 1000 employees). The majority of them (over 50%) export to over 10 countries in the world, though in line with the findings of previous research

90% of the companies have been exporting for less than 10 years and do not have a lot of export experience (e.g. Mathews, 2002).

Key informants were the principal export decision-makers within each firm. The suitability of each potential respondent was verified by two researchers prior the data collection. The exact job title was not specified in advance as different types of managers (e.g., export manager, marketing and sales director, managing director, etc.) are in charge of export duties depending on the structure and size of the firm. The use of a single informant was considered to be appropriate for the current study for a number of reasons. First, the use of a single informant is acceptable if the respondent is knowledgeable about the subject. The knowledgeability of each respondent was therefore verified using a bank of items. Second, it is often the case that one person in the export department is the key decision-maker for export matters. As a result, 'generating information from multiple informants on export marketing issues may lead to the generation of data from individuals who are not very knowledgeable about the firm's export operations, and thereby decrease the accuracy of the information provided' (Sousa, Martínez-López, and Coelho, 2008 p. 349). Third, it is not unusual for the export department to consist of only one person, or for a manager to combine his/her other responsibilities in a company (especially in SMEs) with export duties. In this context, the use of multiple respondents can create a bias.

The Dillman (2007) method was applied to gather responses by mail (phone prenotification, and four waves of follow-ups were conducted). As a result, 213 usable questionnaires, and 47 non-usable ones (questionnaires uncompleted) were received (of the total 270 questionnaires were received, 111 were from the offline method and 159 from the online method. A response rate of 79% was therefore achieved. The main reasons for non-response were identified including information confidentiality, and lack of time to complete the questionnaire. Nonresponse bias was tested by comparing early, and late respondents (Armstrong and Overton, 1977). No significant differences were found on sample characteristics.

Most of the measures were sourced from existing scales in marketing literature or where scales didn't exist (for unpredictability and task flexibility), terminology employed in conceptual definitions was used to develop pools of items. All measures were adapted for exporting. To measure innovativeness we used items from Kaleka (2012). Adaptability items were based on the measures proposed by Cadogan, Cui and Li (2003) which reflect the ability to adjust to

environmental conditions in a timely fashion. Competitive intensity was captured with four items based on Kaleka and Berthon (2006). Competitive advantage was measured with four items taken from Morgan, Kaleka, and Katsikeas (2004) and Kaleka (2002); items were related to cost, service and product competitive advantage. The items for export performance were adapted from Hultman, Robson, and Katsikeas (2009). These can be found in the Appendix 1. All items were 7-point Likert-type scales. We also included three control variables: firm size, number of export staff members, and export experience measured by the number of years in export. Analytical procedures included using exploratory factor analysis (principal axis factoring) followed by confirmatory factor analysis using AMOS to assess the psychometric properties of the scales used. This was followed by structural equation modelling also in AMOS. To test the moderating effect of competitive turbulence, interaction terms were created by multiplying turbulence with each of the capabilities in turn, and residual-centring the resulting variable in a bid to avoid multi-collinearity (see Appendix 1 for detailed items).

Prior to administering the survey we followed protocols by Spector and Brannick's (1995) for limiting common method variance (CMV). Attention was given prior to data analysis to potential CMV problems (Podsakoff et al., 2003). First, we used the Harman single-factor test, and found no common factor arising from the data. Second, we examined CMV through the marker variable technique (Lindell and Whitney, 2001; Malhotra, Kim, and Patil, 2006), using social desirability as a [theoretically unrelated] marker variable. Using this marker variable, we computed a CMV-adjusted covariance matrix between all the main study variables. In comparing the original CFA results to the CMV-adjusted CFA, we found no significant changes in factor loadings between the two CFAs, or any significant difference in model fit. While we cannot entirely rule out CMV effects, the analysis suggests this bias is not likely to explain relationships between the study constructs. Additionally, we conducted a second wave of data collection targeted at the performance variables. We managed to collect data from 81 firms included in the original data collection. A correlation analysis of the same performance variables between the original data and the second wave data, revealed a high correlation (.670,  $p < .001$ ), confirming consistency.

## **Results**

Table 1 reports the descriptive statistics, average variance extracted (AVE), composite reliability (CR), correlations, and square-rooted AVEs for each of the constructs. The Appendix shows the standardized loadings, and errors variance values for each item. These show that the scales used are both reliable and demonstrate good discriminant validity.

**Table 1 Descriptive Statistics and Correlation Matrix**

	CR	AVE	Mean	Sd	1	2	3	4	5	6	7
1. Export adaptability	0.88	0.63	4.75	0.96	0.85						
2. Export task flexibility	0.84	0.64	4.60	1.24	0.21**	0.80					
3. Export innovativeness	0.84	0.63	4.70	1.03	0.46**	0.29**	0.79				
4. Export unpredictability	0.83	0.72	4.73	0.98	0.55**	0.22**	0.55**	0.85			
5. Competitive turbulence	0.87	0.63	5.23	1.06	0.57**	0.58**	0.27**	0.40**	0.79		
6. Competitive advantage	0.95	0.84	4.95	0.87	0.37**	0.28**	0.30**	0.14*	0.36**	0.92	
7. Export Performance	0.90	-0.69	4.47	0.92	0.28**	0.50**	0.11	0.30*	0.38**	0.28**	0.83

Squared rooted AVEs on diagonal



Table 2 reports the fit indices for the CFA, as well as the restricted and the unrestricted models tested. The restricted model includes the direct effects of the set of capabilities, namely adaptability, innovativeness, unpredictability, and task flexibility, on competitive advantage and performance, controlling for company size, and number of export staff. The unrestricted model adds the moderating impact of competitive turbulence.

**Table 2 Fit Measures**

	$\chi^2$ (df)	$\chi^2$ /df	P	GFI	TLI	CFI	RMSEA
CFA	500.397 (254)	1.970	0.000	0.845	0.902	0.917	0.068
Restricted Model	39.00 (12)	3.25	0.766	0.999	1.051	1.000	0.000
Unrestricted Model	18.371 (10)	1.837	0.049	0.989	0.866	0.989	0.063

CFA – Confirmatory Factor Analysis of all measures

Restricted Model – Structural Model containing the independent, and control variables

Unrestricted Model – Structural Model containing independent, moderating, and control variables

GFI – Goodness of Fit Index

TLI – Tucker –Lewis coefficient Index

CFI – Comparative Fit Index

RMSEA – Root Mean Square Error of Approximation

We analysed the difference between the two models. Based on the model fit changes of  $\Delta\chi^2 = 23.685$  and  $\Delta df = 4$ , we found this difference to be significant at  $p < .01$ , therefore concluding that the unrestricted model is superior and should be relied upon for hypotheses testing. The results are presented in Table 3.

**Table 3 Structural Model Unrestricted Model Results**

Variable name	Competitive Advantage (t-value)	Performance (t-value)
<u>Independent variable</u>		
Export adaptability (H1a)	-0.179* (-2.329)	
Export innovativeness (H2a)	0.317** (3.926)	
Export unpredictability (H3a)	0.166* (2.202)	
Export task flexibility (H4a)	0.159* (2.462)	
Competitive advantage (H5)		0.157** (2.610)
<u>Moderating effects</u>		
Export adaptability X Competitive Intensity (H1b)	0.075 (0.975)	
Export innovativeness X Competitive Intensity (H2b)	-0.146 (-1.738)	
Export unpredictability X Competitive Intensity (H3b)	-0.284** (-3.945)	
Export task flexibility X Competitive Intensity (H4b)	0.089 (1.184)	
<u>Control variables</u>		
Firm size sales	0.034 (0.526)	0.016 (0.250)
Export staff	-0.076 (-1.126)	0.254** (4.044)
Export Experience	0.085 (1.348)	-0.009 (-0.142)

\* $p < 0.05$ ; \*\* $p < 0.01$ )

The analysis showed that the moderating impact of competitive intensity on export adaptability acted opposite to our expectation. Adaptability has a significant negative relationship with competitive advantage ( $\beta = -.179; p < .05$ ), contradicting H1a. We also found that competitive turbulence is not significant as a moderator ( $\beta = .075; p > .05$ ), therefore H1b is not supported. As for export innovativeness, the results showed a direct positive relationship between this capability, and competitive advantage ( $\beta = .317; p < .01$ ), supporting H2a. No moderation effect is found when competitive turbulence is considered ( $\beta = -.146; p > .05$ ). As such then, innovativeness appears to be positively related to advantage regardless of competitive conditions. Therefore, the results suggest lack of support for H2b.

Export unpredictability initially displays a significant positive influence on competitive advantage ( $\beta = .166; p < .05$ ), hence supporting H3a. Under competitive intensity, the moderation effect on this relationship becomes negative hence not supporting H3b ( $\beta = -.284; p < .01$ ). Regarding export task-flexibility, H4a is supported. Under stable conditions unpredictability shows a positive impact on competitive advantage ( $\beta = .159; p < .05$ ). Yet, as competitive turbulence increases, the relationship between task-flexibility, and competitive advantage becomes insignificant, therefore H4b was not supported ( $\beta = .089; p > .05$ ). Finally, competitive advantage returned a significant, and positive impact on performance ( $\beta = .157; p < .05$ ), supporting H5.

### **Additional Analysis**

Resource-based theory and dynamic capability literature would imply that capabilities have indirect effects on performance. More specifically, their effects on performance come from the creation of competitive advantages for the exporting firm. In this study we hypothesize that the identified dynamic capabilities create competitive advantages, and then competitive advantage enables superior market performance. To examine for indirect mediation effects we conduct additional analysis employing the Sobel test. Following the works of Ndofor, Sirmon, and He (2011) and Hughes et al. (2014), for full mediation the Sobel Z-statistic must exceed 1.96 for 5% significance (1.645 for 10% significance) and the corresponding effect ratio should exceed 0.8; partial mediation will be concluded if the effect ratio is less than 0.8. Results are presented in Table 5. The indirect effect through competitive advantage is statistically significant for all

dynamic capabilities. Full mediation is found for task flexibility while a partial mediation effect is found for export adaptability, export innovativeness, and export unpredictability.

**Table 4 - Mediation Analysis (Sobel Test)**

	a	SE <sub>a</sub>	b	SE <sub>b</sub>	Z	c	Effect Ratio
Adaptability→CA→Performance	-0.163	0.070	0.172	0.066	1.736†	0.051	0.550
Task flexibility→CA→Performance	0.112	0.046	0.172	0.066	1.779†	0.014	1.376
Innovativeness→CA→Performance	0.269	0.068	0.172	0.066	2.176*	-0.058	0.798
Unpredictability→CA→Performance	0.147	0.067	0.172	0.066	1.678†	0.319	0.079

a Unstandardized path coefficient from independent variable to the mediator variable.

SE<sub>a</sub> Standard error of the relationship between the independent variable and the mediator variable.

b Unstandardized path coefficient from the mediator variable to the dependent variable.

SE<sub>b</sub> Standard error of the relationship between the mediator variable and the dependent variable.

Z Sobel test statistic:  $Z = ab/\sqrt{(a^2SE_b^2) + (b^2SE_a^2)}$

c Unstandardized path coefficient from independent variable to the dependent variable.

Effect Ratio =  $ab/c$

\* Significant at 0.05 level (2-tailed).

† Significant at 0.10 level (2-tailed).

## Discussion and Conclusion

The purpose of present study is to test the extent to which the four export dynamic capabilities - adaptability, innovativeness, unpredictability and task flexibility impact firms' competitive advantage and how the latter leads to enhanced performance. Our findings support the core principle that firm's capabilities should be examined in the context of their relevancy to the firm's competitive advantage, following the rationale of structure-conduct-performance.

Before we dive into explaining our findings, we 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, and Morgan, 2010). Linking this to the mediation test's results, we substantiate the basic principle of the DCA, being the role of competitive advantage separately from firm's performance. Competitive advantage, by definition, is the combination of resources and capabilities. The fit between these components, and the firm's strengths as well as its environment, dictate the quality of its competitive advantage (Leonidou, Palihawadana, and Theodosiou, 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 four capabilities on competitive advantage, we reassure our initial positioning, treating competitive

advantage as standalone while acknowledging its role in enhancing firm's performance while maintaining strategic fit.

We start by acknowledging the relevance of the capabilities incorporated in the study in explaining firms' CA. All capabilities show a significant impact on the CA. However, while innovativeness, unpredictability and task-flexibility showed a positive impact, adaptability had a negative impact on CA. Moreover, in the cases of adaptability, innovativeness and task-flexibility their impact on CA diminishes under higher levels of competitive intensity, for unpredictability this impact becomes negative. We discuss below all the tested relationships in turn.

Previous research showed that adaptability implies positive connotations for competitive advantage given that as a capability this provides an ability to adapt to shifts in export markets. Adaptability relies on conforming with external changes while the three other capabilities tested – innovativeness, unpredictability, and task-flexibility, emphasized doing things differently. In the international environment where firms adapt to external changes on a routine base, adaptability may be considered as 'doing more of the same' (Leonidou, Katsikeas, and Samiee, 2002), hence instead of providing firms with a chance to stand out they blend in. Chinese export firms clearly cannot benefit from adaptability, regardless the level of competitive intensity.

Task flexibility is positively related to competitive advantage, regardless of competitive conditions. Task flexibility implies non-specialization in terms of workers (Van Der Vegt et al., 2010). This capability is resource-dependent, requiring the investment of substantial amounts of money and time in developing, training and building cross-specialism/task skills in managers, and personnel. In developing multi-skilled staff, firms clearly benefit in having competitive advantages above rivals. This may be due to their ability to more seamlessly distribute staff across the firm to areas that demand strengthening or, for example, to move more staff into marketing, and sales at key sales periods in the year. Regardless of competitive conditions, our results imply that investing in this capability is a must for managers in Chinese exporters.

Innovativeness was found to have a direct positive influence on competitive advantage, whereas the moderation relationship with competitive intensity was found to be insignificant. Similarly to adaptability and task flexibility, the focus on innovativeness is strategically important for Chinese firms. For a long time Chinese manufactures were mostly reliant on imitation capability (Zhou, 2006) rather than innovativeness. Thought this model seems to be

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sustainable as the managers realise that they need to come up with new ideas and to identify upcoming trends in export markets to stay competitive (Souchon et al., 2016).

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Unpredictability refers to decisions' auctioning, and tactics that can surprise rivals that are difficult to forecast, or are unexpected. It has a positive direct impact on delivering competitive advantage which implies that the exporters in question are able to formulate positions of advantage, and superiority in taking such actions, which by their very nature, could be quite different from one to the next (Austin, Devin, and Sullivan, 2012). The findings regarding the unpredictability suggest that this capability does have an effect in different competitive conditions. In more stable competitive environment unpredictability is positively related to the CA, however when the environment becomes more competitive the relationship becomes negative. For unpredictability, what appears beneficial on the surface in having a direct positive impact on advantage becomes very much undesirable when competitive turbulence is accounted for. Thus, we can see situations that show unpredictability to be very much a problematic capability to develop. Perhaps a combination of environmental unpredictability from excessive turbulence, and a capacity by the firm to itself be unpredictable is not conducive to success in export markets, or in establishing an identity with customers. These findings shed new light on the concept of strategic liabilities advanced by Arend (2004). In extending on Arend's (2004) work, strategic liabilities can be viewed as strategic capabilities that become strategic liabilities as contextual conditions surrounding the firm change. The dynamic capabilities literature puts emphasis on the longitudinal nature of capability development but with the proposed pay off of obtainable competitive advantages.

Similar to our expectation, competitive advantage showed a positive impact on firm performance, therefore mediating the impact of capabilities on performance. As such, there is little to recommend but for managers to pursue competitive advantages. However, for management and strategy scholars the means to competitive advantage through dynamic capabilities, and the types of capabilities that create/destroy competitive advantages need further investigation.

### **Managerial Implications**

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 conditions managers have to invest into task-flexibility and innovativeness to stay competitive. However, that's not the case for adaptability, and unpredictability. Adaptability might harm their efforts by disguising their unique value proposition hence jeopardizes their CA. Unpredictability becomes problematic for managers of Chinese exporting firms as they enter or compete in competitively turbulent competitive conditions. Our findings suggest scholars also need to be very careful in advising managers on their strategic priorities regarding unpredictability. 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. Put simply then, those exporters operating in very dynamic and changeable competitive conditions 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 (Covin, Slevin, and Schultz, 1997; Hughes, Hughes, and Morgan, 2010). Strengths in unpredictability render changes in export, business, or marketing strategy as undesirable if those changes mean deviating away from exploiting this capability. Managers could well choose then to adhere to the existing strategies that do exploit this capability (Covin, Slevin, and Schultz, 1997) but in doing so open up the potential for strategy failure (c.f. Hughes, Hughes, and Morgan, 2010). It follows, then, that monitoring strategy for strategic fit should be a priority for managers in pursuit of competitive advantages and higher performance.

From an export perspective, it would appear there are contexts in which adaptability, task-flexibility, innovativeness and unpredictability are not desirable capabilities to develop, and exploit. Persistent competitive dynamism may well be leading firms to develop each capability

either too late in the game, or in directions that do not suit their export markets, and customers. It could well be then that a market orientation could serve to rebalance this negative effect by focusing innovation efforts on delivering products, services, and innovations that customers value.

## **Conclusion**

In this study we elaborate on both the strategic and the international business streams implementations of the DCA, aiming at better understanding the relationships between a firm's export dynamic capabilities, namely adaptability, innovativeness, unpredictability, and task-flexibility, their impact on competitive advantage, and how competitive advantage impacts performance. Our findings support the core principle of DCA being that firm's capabilities should be examined in the context of their relevancy to the firm's competitive advantage, following the rationale of structure-conduct-performance, and in the context of the environment.

We acknowledge a number of limitations to this study, but also present avenues for future research avenues arising from these. First, because the present study was based on data collected from a wide variety of Chinese firms, differences in strategic orientations may have impacted the findings. Future research should look to examine drivers of export capabilities that are concerned with alternative strategic orientations, such as export market orientation (Cadogan, Diamantopoulos, and De Mortanges, 1999), learning orientation (Souchon, Sy-Changco, and Dewsnap, 2012), decision-making orientation (Nemkova, Souchon, and Hughes, 2012), and entrepreneurial orientation (Boso, Story, and Cadogan, 2013). Second, the competitiveness of Chinese companies can also be dependent on access to local resources. Thus the locational advantages can be further investigated as they can vary across different regions in the country. Third, the capabilities tested represent only a partial sample of possible capabilities. Future research should deepen our understanding of the DCA concept by exploring other capabilities, and their relationship with competitive advantage in turbulent environment while also seeking to understand which form the basis for becoming liabilities to firms such that managers can make better decisions on which capabilities to prioritize and develop. Fourth, we need to better understand the contingent conditions under which capabilities offer benefits to, or indeed damage, competitive advantage. We do not for instance consider internal firm-level contingencies that could strengthen capabilities, and their relationship to advantage. For



example, ownership structure, financial support, and turnover can be further discussed. Finally, the inter-relationships between the different capabilities are themselves of interest. For example, the table of correlations produced from the confirmatory factor analysis reveals that adaptability and task flexibility are strongly positively related to each other. Further research could examine whether similarly categorized capabilities interact with each other to create synergistic, and more positive, or negative, outcomes.

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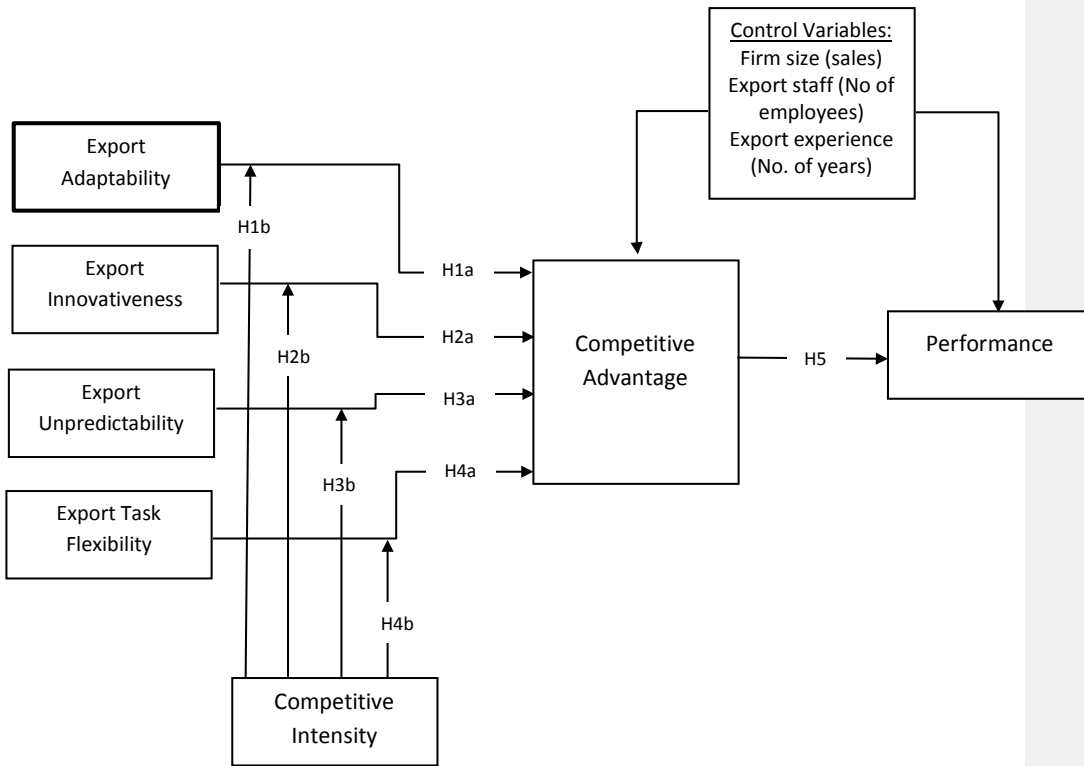
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Figure 1 – Research Model



**Appendix 1 Measurement Item Properties**

<b>Construct</b>	<b>Measurement Item</b>	<b>Standardized Factor Loading</b>
<b>Export adaptability</b>	If a major competitor were to launch an intensive campaign targeted at our foreign customers, we would adapt immediately	.78
	We are very quick to adapt to significant changes in our competitors price structures in foreign markets	.81
	We can easily adapt to competitive actions which threaten us in our export markets	.85
<b>Export innovativeness</b>	We are very able at using new methods and ideas in our export production process	.81
	We are very good at identifying trends and competitors' movements in export markets	.81
	We are very good at adopting innovative export marketing techniques	.74
<b>Export unpredictability</b>	Most of our export competitors find it very hard to predict what we are going to do next	.77
	We have been known to surprise our export competition with the unusualness of our products	.84
	One of our strengths is that we produce unexpected export ideas	.87
	Our export competitive actions are unforeseeable	.85
<b>Export task flexibility</b>	Export employees always work across different functions within the firm	.82
	All our export employees in this firm multitask, doing jobs in other departments e.g. service and support, marketing, sales, finance etc.)	.82
	All our export staff have multifunctional responsibilities across different departments	.87
<b>Competitive turbulence</b>	Competition in the majority of our export-market is cut-throat	.77
	Price competition is hallmark in our export-markets	.77
	We often hear of new export competitive moves	.79
	This export-market is competitive; price wars often occur	.79
<b>Competitive advantage</b>	Cost of sales	.64
	Product differentiation	.80
	New product introduction	.75
	Product line breadth/depth	.60
<b>Export Performance</b>	Export customer satisfaction	.77
	Retention of export customers	.82
	New referrals from existing export customers	.74
	Acquiring new export customers	.76