The Role of Supply Chain Resource Orchestration and Supply Chain Knowledge in Improving Product Launch Performance in Emerging Markets

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DEDICATION

This dissertation is dedicated to my wife and daughter.

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ABSTRACT

As mature markets become more saturated, managers increasingly recognize the value of emerging markets as the next horizon for future growth opportunities. Launching products into these markets is extremely risky, as they are characterized by weak supply chain institutional environments -- i.e. lack of physical supply chain infrastructure and scarcity of supply chain market intermediaries. Literature points to the need to acquire country specific resources and knowledge in order to improve performance in these countries. However, improvement in product launch performance may lie with a firm's ability to orchestrate its acquired supply chain resources (i.e. create and leverage supply chain capabilities to generate customer value). Further, performance of a product launch may also depend on what type of supply chain knowledge (customer or supply knowledge) is accumulated about the market. In this dissertation, these ideas are examined by collecting data from industry professionals who have been involved in a product launch in an emerging market.

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INTRODUCTION

Dissertation Overview

The purpose of this dissertation is to determine the extent to which supply chain knowledge and supply chain resource orchestration improve product launch performance in emerging market countries. To this end, Essay 1 focuses on supply chain knowledge and its relationship to product launch performance. Supply chain knowledge (SCK) is defined as the "knowledge within a firm about its supply chain partners and processes" (Wowak, Craighead, Ketchen, & Hult, 2013, p. 845). SCK enables firms to develop supply chain capabilities to effectively meet the needs of dynamic environmental changes (Wowak et al., 2013) and improve performance. The link between SCK and performance operates on the principles of the knowledge-based view (KBV) (Grant, 1996), which suggests that knowledge is the most important resource that a firm can possess. Valuable knowledge is difficult for the competition to imitate and apply to improve performance (Barney, 1991) and thus has the potential to provide a firm with a sustained competitive advantage (Wowak et al., 2013). Supply knowledge can be divided into upstream (supplier, logistics) and downstream (customer) components (Wowak et al., 2013). The upstream component of SCK is *supply knowledge*, defined as the knowledge of the firm regarding the effective management of the flow and storage of goods, services, and related information in the host country; including knowledge of local suppliers', distributors', and logistics service providers' processes and capabilities in an emerging market country (adapted from Doll, Hong, & Nahm, 2010; Christensen, Germain, & Birou, 2005; CSCMP, 2016). The downstream component of SCK is *customer knowledge*, defined as the knowledge of the firm regarding customer needs and future value-to-customer creation opportunities in an emerging market country (adapted from Doll et al., 2010).

In Essay 1 of this dissertation, a survey is used to empirically test the impact of customer and supply knowledge on product launch performance in emerging market countries. Further, Essay 1 examines the extent to which each type of knowledge mediates the relationship between market presence and product launch performance. The findings suggest that market presence, supply knowledge, and customer knowledge are all positively associated with product launch performance. The results also show that supply knowledge *fully* mediates the relationship between market presence and product launch performance. Finally, the data indicate that when controlling for supply knowledge, the relationship between customer knowledge and product launch performance is no longer significant.

Essay 2 focuses on supply chain resource orchestration and its relationship to product launch performance. Supply chain resource orchestration involves managing the supply chain resource acquisition, supply chain resource bundling, and supply chain leveraging processes to create customer value and improve firm performance (adapted from Sirmon, Hitt, Ireland, & Gilbert, 2011). The concept of supply chain resource orchestration is derived from the resource management framework (Sirmon, Hitt, & Ireland, 2007) and resource orchestration theory (Sirmon et al., 2011). The resource management framework focuses on the "actions of managers" to form and deploy resource-based capabilities. Resource orchestration theory (Sirmon et al., 2011) extends resource-based theory (Barney, 1991) by including elements of resource management to answer questions regarding *how* a firm uses its strategic resource endowment to improve performance. The resource management framework (Sirmon et al., 2007) involves three sequential processes (structuring, bundling, and leveraging) through which a firm creates customer value, competitive advantage, and improves performance. Structuring involves "acquiring, accumulating, and divesting resources to form the firm's resource portfolio" (Sirmon et al., 2011, p. 1392).

Bundling refers to "integrating resources to form capabilities" (Sirmon et al., 2011, p. 1392). Leveraging "involves a sequence of processes to exploit the firm's capabilities and take advantage of specific market opportunities" (Sirmon et al., 2011, p. 1392). Likewise, supply chain resource orchestration focuses on the sequential resource management processes of supply chain resource acquisition, supply chain resource bundling, and supply chain leveraging. Supply chain resource orchestration brings the main ideas of resource orchestration theory closer to observable phenomena and thus constitutes a middle range theory (Merton, 1949) specific to the supply chain management domain (Mentzer, Stank, & Esper, 2008). Essay 2 of this dissertation tests the tenets of resource orchestration in the supply chain domain by validating scales to measure the components of supply chain resource orchestration and examining relationships among its focal constructs and product launch performance in emerging market countries.

Using primary data collected from a survey, a theoretical model of supply chain resource orchestration is validated in the context of a product launch into an emerging market country. The data provide evidence that supply chain resource acquisition, supply chain resource bundling, and supply chain leveraging are indeed separate and distinct managerial processes. Further, the findings support the central tenets and predictions of resource orchestration theory. The results also suggest that supply chain resource orchestration improves product launch performance and supply chain bundling / leveraging mediate the relationship between supply chain resource acquisition and product launch performance.

In the next section, a brief review of relevant product launch literature is presented including existing gaps in extant research. This is followed by a discussion regarding the supply chain institutional environment in emerging market countries and how using supply chain resource orchestration and SCK can lead to differential product launch performance.

A Review of Product Launch Literature

Prior to reviewing the literature, it was important to first understand the concept of a *product launch* to narrow the scope of relevant studies. A product launch is defined as the introduction of the product into the market (Zhao, Libaers, & Song, 2015). For the purposes of this dissertation, the product launch concept is defined as the introduction of *new* or *existing* products into a new country market. Research suggests that the act of launching a product into the marketplace is the most risky and costly part of the new product management process (Langerak, Hultink, & Robben, 2004) and is therefore worthy of study. This dissertation strictly focuses on activities related to product launches in emerging market countries and does not concern product development activities. Supply chain research offers a substantial body of knowledge concerning product innovation and development (e.g. Calantone, Droge, & Vickery, 2002; Pauraj, Chin, & Flynn, 2006; Peterson, Hanfield, & Ragatz 2005; Schiele, 2010; Pavlou & El Sawy, 2011; Potter & Lawson, 2013; Tracey & Neuhaus, 2013; Yan & Dooly, 2013; Mazzola, Bruccoleri, & Perrone, 2015) providing well-founded information regarding supply chain management's role in the new product development process. However, only five studies were found that focused on the role of supply chain management in supporting *product launch* activities, even when considering studies in developed markets (Di Benedetto, 1999; Song, Song, & Di Benedetto, 2011; Calantone & Di Benedetto, 2012; Schoenherr & Swink, 2015; Zhao et al., 2015). Thus, a gap in supply chain research exists within the topic of launching new or existing products into emerging market countries. Therefore, this literature review is focused on product launch activities where much is left undiscovered from a supply chain management perspective.

A review of the product launch literature uncovered significant gaps in understanding how supply chain resources and capabilities impact performance of product launches. Product launch

research has mainly focused on four categories to explain differential product launch performance in firms: 1) collaboration and social networks (e.g. Harvey & Griffith, 2007; Talay, Seggie, & Cavusgil, 2009; Talke & Hultink, 2010a; Roberts & Candi, 2014) ; 2) country contextual factors (e.g. Dwyer, Mesak, & Hsu, 2005); 3) firm orientation, tactics, and strategies (e.g. Langerak et al., 2004; Talke & Hultink, 2010b; Fu, Richards, Hughes, & Jones, 2010; Calantone & Di Benedetto, 2012); and 4) resource management (e.g. Song et al., 2011; Zhao et al., 2015; Schoenherr & Swink, 2015). Each category provides insight into how a firm can successfully navigate a product launch. Though the combined knowledge of this research is valuable from both a practical and theoretical perspective, it lacks direction regarding how to effectively manage product launch operational activities related to supply chain management.

Operational product launch activities include: 1) marketing activities (selling effort, advertising, promotion, pricing, planning, sales force training, timing of product launch, competitive positioning, customer requirements); and 2) distribution activities (service, on-time delivery, quick response, inventory management, management of the distribution channel, manufacturing) (Di Benedetto, 1999). Much of the extant product launch literature is dedicated to investigating the impact of marketing activities on product launch performance. In fact, out of all articles reviewed, only four studies centered on testing the effects of distribution activities and capabilities on product launch performance (Langerak et al., 2004; Song et al., 2011; Schoenherr & Swink, 2015; Calantone & Di Benedetto, 2012). This is astonishing because effective distribution activities are key to improving product launch performance (Di Benedetto, 1999). This dissertation helps fill a gap in the research by examining product launch success through the lens of supply chain management activities. More specifically, this dissertation examines the impact of possessing SCK and orchestrating supply chain resources on product launch performance.

A synopsis of extant product launch literature and related gaps in the research are provided in the next section of the dissertation.

Collaboration and Social Networks

Firm alliances, collaboration, and the leveraging of social networks help to facilitate successful product launches. One issue that affects the successful launch of a new innovation (product) is the existence of innovation diffusion barriers. Diffusion barriers create resistance to a new innovation's dissemination in the marketplace (Talke & Hultink, 2010a). Diffusion barriers have a negative impact on the market potential of new innovations which effects the sales potential of the product (Rogers, 1995). There are several ways in which diffusion barriers can be "lowered" allowing for the free-flow of new products throughout the competitive market. For example, Talke and Hultink (2010a) identified several "launch tactics" that a firm can deploy to improve product launch performance. These tactics involve firm activities geared towards lowering diffusion barriers related to customers, suppliers / dealers, competitors, parties in the firm environment, and internal barriers. The authors found that communication, cooperation, and relationship management with various external stakeholders improve product launch performance by lowering diffusion barriers. Further, the authors found that intra-firm communication and employee motivation helped to improve sales, competitive advantage, market share, and customer satisfaction. Each of these tactics focuses on leveraging social ties and communication capabilities to harness cooperative attitudes to improve performance. However, *none* of the launch tactics mentioned in this research address the effects of *distribution strategies* on product launch performance.

The positive influence of inter/intra firm communication and collaboration on product launch success has been established (Talke & Hultink, 2010a). Nevertheless, knowing that

communication and collaboration improve performance provides managers and researchers with only one piece of the puzzle. To fully utilize the value of collaboration, a firm must understand how to properly manage collaborative ventures related to product launches. A collaborative venture exists when alliance partners exchange valuable managerial skills and resources across firm lines (Mohr & Spekman, 1994). Key resources shared in a collaborative venture include marketing resources (Talay et al., 2009), technological intensity (Ramaswamy, 2001; Guillen, 2003; Talay et al., 2009), and a firm's collective asset base (Talay et al., 2009). These "shared" resources act to improve product launch performance (Talay et al., 2009). Further, resources that are complementary among alliance partners increase the likelihood of product launch success (Hill & Hellriegel, 1994; Dyer & Singh, 1998; Talay et al., 2009).

The implications of this research are that if a firm can identify appropriate collaborative partners by examining the combined resource base and find inter-firm complementarity among the resources, then it can improve future product launch performance. To perform these activities, one could argue that adequate SCK (knowledge about customers and suppliers) (Wowak et al. 2013) is needed to facilitate the inter-firm resource identification and analysis processes. Though SCK may be crucial for this process, existing product launch literature does examine its potential to facilitate the venture-building process.

Yet, the product launch literature provides a glimpse into how SCK could be accumulated and used. For example, Roberts and Candi (2014) examined the use of social network sites for improving new product development processes, customer collaboration for new product development, and the efficacy of product launch activities. Social network sites are "virtual platforms on which people can synchronously or asynchronously create, share, modify, or react to various forms of electronic content" (Roberts & Candi 2014, p. 106). Social network sites facilitate

a firm's interactions with customers and can be a valuable source of customer data (Hanna, Rohm, & Crittenden, 2011). In their study, Roberts and Candi (2014) found that using social network sites to facilitate the product launch activities provided the most positive effects on product launch performance. Because executing supply chain management activities is a large part of the product launch effort (Di Benedetto, 1999), there may be a connection between the gathering of SCK (Wowak et al., 2013) from social network sites and product launch performance.

Firm Orientation, Tactics, and Strategies

Corporate mind-set and a firm's orientation can have an impact on the selection and development of product launch strategies as well as subsequent product launch performance. A firm's mind-set influences its strategic decisions, which then affect the efficacy of product launch objectives, target segmentation, and positioning of the product (Talke & Hultink, 2010b). Corporate mind-set can be segmented into several "postures", or ways in which a firm interacts with its rivals and markets, and how it collects, interprets, and disseminates information (Talke & Hultink, 2010b). For example, an aggressive posture describes how offensive or defensive its reactions are to market threats and opportunities (Covin & Covin, 1990; Talke & Hultink, 2010b), while a firm's risk-taking posture involves the extent to which a firm moves into new markets and focuses on technological improvement strategies (Talke & Hultink, 2010b). Combining both aggressive and risk-taking postures improves product launch performance to a greater extent than focusing on only one posture in isolation (Talke & Hultink, 2010b). Each posture complements and compensates for the weaknesses of the other. A risk-taking posture leads to adequate product positioning and market segmentation, but is weak on building well-founded product launch objectives. An aggressive posture, while weak on generating adequate product positioning and

market segmentation, has a strong effect on generated substantiated product launch objectives (Talke & Hultink, 2010b).

Having a strong market orientation also affects subsequent product launch performance. Market orientation is a business culture that "(1) places the highest priority on the profitable creation and maintenance of superior value for customers while considering the interest of other stakeholders; and (2) provides norms for behaviors regarding the organizational generation of, dissemination of, and responsiveness to market information" (Langerak et al., 2004, p. 80). A strong market orientation improves the proficiency of product launch tactics, which then influence subsequent product launch performance (Langerak et al., 2004). Most of these product launch tactics involve marketing processes, such as market testing (test physical product attributes and launch tactics) and launch strategy (market segmenting, targeting, and product positioning) (Langerak, et al., 2004). One related tactic, however, involves the product launch itself and includes distribution, pricing, and promotion. Though product launch tactic research acknowledges that distribution plays a role in a successful product launch, it pays very little attention to supply chain management processes.

One area of product launch literature that provides some evidence of the value of supply chain management in improving product launch performance relates to the selection of a launch strategy. A firm chooses a product launch strategy prior to introducing the product to the market. This strategy is influenced by a firm's market orientation, and informs and guides subsequent operational goals and decisions (Calantone & Di Benedetto, 2012). Selection of a product launch strategy has an impact product launch performance (Calantone & Di Benedetto, 2012). One such product launch strategy is the "lean strategy", which focuses on inventory minimization and implementation of flexible manufacturing techniques (Calantone & Di Benedetto, 2012). Both

responsive and proactive marketing orientations are associated with a lean product launch strategy which improves product launch performance (Calantone & Di Benedetto, 2012). A lean product launch strategy is characterized by effectual inventory and manufacturing management, both of which are within the operational domain of supply chain management (Mentzer et al., 2008). This small section of product launch research supports the notion that effective supply chain management is important to improving product launch performance. Thus, increasing theoretical and practical understanding of how managers can configure and implement supply chain resources and capabilities has substantial value to product launch literature.

Based on the above literature, having the "correct" firm orientation and mind-set has a positive effect on product launch performance by enabling a firm to select and gain support for the appropriate product launch strategies and tactics. The posture of the firm lays the groundwork for what follows strategy making activities. However, research into firm orientation and its relationship with product launch performance does not provide significant insight into how supply chain resources, such as SCK, can be managed to support the chosen product launch strategy. Further, current product launch research does not provide much direction regarding how a firm creates and implements supply chain capabilities to facilitate successful enactment of product launch tactics.

Resource Management

Product launch literature has examined the role that a firm's resources play in improving product launch performance. Marketing and technical resources are two types of resources that facilitate product differentiation which then leads to product launch performance (Zhao et al., 2015). Having adequate technical resources is crucial for developing new products and enacting the product launch (Zhao et al., 2015). Technical resources include resources and managerial skills

needed to support R&D, engineering, product prototyping / testing, and manufacturing (Zhao et al., 2015). Marketing resources "encompass assets and competencies in the areas of advertising / promotion, sales force, market research, and distribution" (Zhao et al., 2015, p. 444). Of these, technical resources enable product differentiation which improves product launch performance (Zhao et al., 2015). Technical resources represent the know-how embodied in managerial skills used to manage new product development and subsequent manufacturing processes. Manufacturing is a product launch *distribution activity* (Di Benedetto, 1999), and is important to the distribution of the product to customers, creation of customer value, and improvement of product launch performance.

A tenuous link has been established between effective manufacturing and product launch performance. However, manufacturing represents a small portion of supply chain management activities undertaken during a product launch (Di Benedetto, 1999). Further, the positive impact of manufacturing resources on product launch performance (Zhao et al., 2015) does not incorporate logistics, supplier management, and management of the flow of materials, information, and cash (Mentzer et al., 2008). Thus, research regarding the effects of technical resources on product launch performance does not explain the impact of orchestrating a firm's supply chain resources on improving product launch performance.

Perhaps one of the most closely related lines of product launch research related to managing supply chain resources involves examining the value of using *supplier resources* and *expertise* to improve product launch performance. Supplier involvement allows a firm to access external resources and pursue manufacturing strategies that would otherwise be unavailable to the firm. Suppliers improve product launch performance through their involvement in designing manufacturing plans, co-producing production and product launch schedules, and supporting start-

up of full-scale production for the new product (Song et al., 2011). To aid supplier involvement, firms invest in supplier-specific assets and resources (e.g. product capabilities, specialized tools, adaptation of technological standards, etc.) (Stump & Heide,1996; Song et al., 2011). Supplier-specific investment leads to higher supplier involvement, product innovativeness, and subsequent product launch performance (Song et al., 2011). Investing in supplier-specific resources enhances the capabilities of a firm's supply chain and improves product launch performance by giving the firm access to the supplier's complementary resources through collaborative interactions (Dyer & Singh, 1998). However, this research is confined to upstream suppliers and does not investigate the downstream portion of the supply chain. Expanding product launch research to include downstream supply chain activities (i.e. logistics management) should provide further insight into how a firm can orchestrate its supply chain resources to improve product launch performance.

Though many gaps in product launch research remain, scholars are beginning the process of examining the role of supply chain management in improving product launch performance. For example, Schoenherr and Swink (2015) studied the role of supply chain intelligence and adaptability in product launch success. The authors found that the integration of supply chain intelligence from competitors, customers, and suppliers improves a firm's ability to adapt its supply chain capabilities to the competitive environment and improve product launch performance. This study is an important step forward as it explores the value of adapting supply chain resources (supply chain intelligence, SCK) garnered from all areas of the supply chain (suppliers, competitors, and customers). This research is a starting point for uncovering how the management of both upstream and downstream supply chain resources and capabilities can improve product launch performance.

Country Contextual Factors

The weakest area of product launch research involves examining the impact of country-level factors on performance. Research has looked at the effects of cultural distance between the home country (the firm's main headquarters) and host country (the country in which the product launch is taking place) on performance (Hofstede, 2001; Dwyer et al., 2005). Cultural dimensions of a host country have a substantial effect on product launches across national borders. The cultural dimensions of uncertainty avoidance, individualism, masculinity, and power distance all influence international product launch performance and the diffusion of new innovations (Dwyer et al., 2005). The focus of extant product launch research on institutional distance and national cultures helps with a firm's strategy making. It informs managers on how to make the most advantageous strategic decisions to support a successful product launch given the difference between home and host country contexts. However, it does not provide much guidance regarding how a firm can best manage and deploy its supply chain resources and capabilities to effectively *enact* and *implement* the product launch strategy. This leaves a significant gap in the theoretical and practical understanding of how firms "link" product launch strategy to product launch performance through effective supply chain management.

Another area of international product launch research is concerned with understanding the effects of tactical product launch decisions on product launch performance in various country contexts. For example, Lee, Lin, Wong, and Calantone (2011) examined, compared, and contrasted the role of tactical product launch decisions between product launch projects in the United States and Taiwan. The authors found that global product launch activities must be customized to fit a country's local culture to improve product launch performance. The authors defined product launch strategies as consisting of the marketing mix (decisions regarding discount / promotion

pricing, functional advertising, product education, and product anticipation creation pre-announcement strategy) (Lee et al., 2011). Promotional discounts were found to lead to higher product launch performance in the U.S., but had negative effects on product launch performance in Taiwan. These findings indicated that the country-level context has an influence on the effectiveness of a firm's product launch strategies. Clearly, a firm must align its product launch strategies and tactics with a country's collective culture to maximize product launch performance. However, this research does not provide information regarding what type of knowledge a firm should use to determine how to align its supply chain capabilities to fit the institutional and operational environment. Furthermore, this research does not provide detailed information regarding how managers execute supply chain strategies in various country contexts.

Another gap literature concerns product launches into emerging market countries. Of the articles reviewed for this dissertation, only two focused on emerging market countries (Lee et al., 2011; Zhao et al., 2015) while there were many that examined product launches in advanced markets (e.g. Micheal, Rochford, & Wotruba, 2003; Langerak et al., 2004; Dwyer et al., 2005; Talay et al., 2009; Luan & Sudhir, 2010; Lee et al., 2011; Calantone & Di Benedetto, 2012; Frattini, Dell'Era, & Rangone, 2013; Beuk, Malter, Spanjol, & Cocco, 2014; Schoenherr and Swink, 2015). As argued above, country context impacts the relationship between product launch strategy and performance (Dwyer et al., 2005; Lee et al., 2010). This highlights the need for more product launch research in emerging market countries.

In summary, the current body of product launch research contains significant gaps with regards to how firms execute supply chain activities to improve product launch performance. Further, extant product launch research has primarily focused on product launches in advanced market countries and a handful of developing nations limiting the generalizability of findings,

conclusions, and practical prescriptions. Product launch research has also identified that customer knowledge is a crucial resource for improving product advantage, efficacy of product launch tactics, and product launch performance. However, it pays scant attention to the role of knowledge associated with the execution of distribution activities (i.e. supply knowledge), which is an important component of SCK. Last, product launch research does not examine the process of obtaining and leveraging supply chain resources and capabilities to improve product launch performance.

A goal of this dissertation is to gain a better understanding of how customer and supply knowledge affect product launch performance. Another goal of this dissertation is to measure the effects of supply chain resource orchestration on product launch performance. A third goal of this dissertation is to examine how SCK and resource orchestration affect product launch performance in emerging market countries, which are characterized by challenging supply chain institutional environments.

The next section provides information on the supply chain institutional environment in emerging market countries and gives a brief explanation of how SCK and supply chain resource orchestration can be used to improve product launch performance. To facilitate this discussion, the concept of supply chain institutional environment is introduced.

Supply Chain Institutional Environment and Product Launches in Emerging Markets

Emerging market countries are characterized by "institutional voids" (Khanna & Palepu, 2010) where institutional entities that support market transactions between buyer and seller are weak and fail to fulfill their role (Mair & Marti, 2009). Institutional voids constitute a lack of "reliable sources of market information and an uncertain regulatory environment" and are "sources of market failure, and they make foreign and domestic consumers, employers, and investors

reluctant to do business in emerging markets" (Khanna & Palepu 2010, p. 16). Institutional voids impact firm performance by increasing market and transaction costs (Leff, 1978; Khanna & Palepu, 2000) and impeding market development (Geertz, 1963; Woodruff, 1999). Thus, because of the existence of institutional voids, enacting a product launch in an emerging market country is a risky and potentially very costly prospect.

Institutional voids in emerging market countries stem from weak soft and hard infrastructures. Soft infrastructure includes "advertising agencies and media outlets that facilitate corporate communication, market research and logistics consultants, and credit rating agencies that collect consumer credit information to assist credit card companies" (Khanna & Palepu, 2010, p. 23). Market intermediaries are the individual firms and entities that make up the soft infrastructure (Hens, 2012). Firms use market intermediaries to perform marketing, distribution, and information gathering activities so that they can focus on core activities (Khanna & Palepu, 1997). Thus, having competent market intermediaries is crucial to the effective and efficient functioning of supply chain processes. Hard infrastructure is the physical network within a country, including roads, bridges, ports, etc., that is used for the movement and storage of goods (Khanna & Palepu, 2010). Physical country infrastructure is used by firms to efficiently and effectively manage supply chain operations and plays an important role in customer value generation. Using the definitions and ideas above, the concept of *supply chain institutional environment* is defined as the extent to which supply chain related market intermediaries and infrastructure needed to efficiently move goods and connect buyers and sellers are present in the country (adapted from World Bank, 2016).

Because of the presence of weak supply chain institutional environments in emerging market countries, firms cannot rely on standardized capabilities that were developed in their home

country (Hens, 2012). The uniqueness of the emerging market context introduces dynamic distribution problems which hampers product launch efforts. To improve product launch performance in an emerging market country, a firm must identify which supply chain capabilities are needed to navigate weaknesses in the supply chain institutional environment and then determine how those capabilities can be created and deployed to generate customer value. In Essay 1, the accumulation of country market-specific SCK is examined as an important mechanism through which this process takes place. Essay 2 examines how the process of supply chain resource orchestration relates to product launch performance.

The next two chapters of this dissertation include Essay 1 and Essay 2. Each essay represents a self-contained study including introduction, theoretical background, methodology, and discussion of the findings. The two essays are then followed by a brief concluding section that combines the findings from each study and lays out an agenda for future research.

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CHAPTER I - ESSAY 1 - OVERCOMING SUPPLY CHAIN INSTITUTIONAL ENVORNMENT CHALLENGES: USING SUPPLY CHAIN KNOWLEDGE TO IMPROVE PRODUCT LAUNCH PERFORMANCE IN EMERGING MARKETS

Abstract

As mature markets become more saturated, managers increasingly recognize the value of emerging markets as the next horizon for future growth opportunities. Launching products into these markets is extremely risky, as they are characterized by weak institutional environments including lack of physical infrastructure, scarcity of market intermediaries, and poor transactional governance mechanisms, which reduces the likelihood product launch success. Literature points to the use of country specific knowledge to limit the negative impacts of weak institutional environments. In Essay 1, data collected from a survey of business professionals is used to examine the relationship between market presence and the accumulation of market-specific supply chain knowledge (customer and supply knowledge). Also, the effects of customer and supply knowledge on product launch performance and indirect effects of market presence on product launch performance through customer and supply knowledge are tested. The results suggest that market presence is positively associated with both types of supply chain knowledge, and that both customer and supply knowledge are positively associated with product launch performance. The results also suggest that supply knowledge fully mediates the relationship between market presence and product launch performance. Last, the data indicate that when controlling for supply knowledge, the direct effect of customer knowledge on product launch performance is no longer significant.

*NOTE: No publication statement is included. This article has not been published nor will it be prior to the final version of my ETD.

Introduction

Managers recognize the value of entering foreign markets to pursue new opportunities for revenue growth. Consequently, many strategic and international management scholars have examined the foreign market entry phenomenon (Jensen & Szulanski, 2004; Johnson & Tellis, 2008; Meyer, Wright, & Pruthi, 2009; Lu, Zhou, Bruton, & Li, 2010; Bamiatzi, Bozos, Cavusgil,

& Hult, 2015). These studies have focused on understanding strategic decisions regarding mode of foreign market entry (e.g. greenfield, acquisition, joint venture, etc.) (Johnson & Tellis, 2008; Meyer et al., 2009), and how market conditions, such as institutional environment, customer demand, and competitive landscapes, influence those decisions (Madhok, 1997; Meyer et al., 2009). Researchers have also focused on the interactions between the timing of entry and market conditions to predict performance outcomes (Isobe, Makino, & Montgomery, 2000).

Research suggests that a large part of successfully entering a market and establishing growing a market presence resides in the efficacious launch of a firm's products into that market. Scholars have examined the product launch phenomenon mostly in mature markets (Pauwels, Silva-Risso, Srinivasan, & Hanssens, 2004; Luan & Sudhir, 2010; Talke & Hultink, 2010; Song, Song, & Di Benedetto, 2011). Many have looked at product launches from the strategic positioning perspective regarding marketing-mix, a firm's position within an ego-network, customer adoption barriers, stakeholder diffusion barriers, technological complementarity of alliance partners, and collaborative ventures (Talay, Seggie, & Cavusgil, 2009; Luan & Sudhir, 2010; Talke & Hultink, 2010; Fang, Lee, Palmatier, & Han, 2016). However, very few scholars have examined the role of operational execution, and more specifically, supply chain management, in product launch success. As a result, little is known about how managers use their supply chain resources to facilitate successful product launches. This gap in research is significant because managers view supply chain management as a crucial source of value creation and competitive advantage (Ketchen & Hult, 2007; Ketchen, Wowak, & Craighead, 2014).

A related subtopic that needs additional research concerns launching products into emerging markets (Lu et al. 2010). Increasing theoretical and practical understanding of this topic is crucial because global economic conditions are coalescing to increase the value of entering

emerging markets (Gielens & Dekimpe, 2007). Economic globalization has broken down trade barriers connecting geographically disbursed countries into integrated supply chains (Khanna & Palepu, 2010). This trend is changing the international competitive landscape. Economically mature markets are becoming more saturated, driven by the increasing rate of internationally-based competitor market entry (Rayappa, Tigges, Ghimire, & Mallik, 2015). The manifestation of growing global competition has become a reality for firms based in economically mature regions leading them to seek new opportunities in less-developed markets. For these firms, launching products into emergent regions of the world represents a tantalizing opportunity for revenue growth (Khanna & Palepu, 2010). For example, in the first half of 2009, the FTSE International Emerging Markets Index increased by 41.1 percent while the FTSE All World Developed Markets index only increased by 7.2 percent during the same period (Khanna & Palepu, 2010).

Managers recognize the importance of successfully launching products into emerging market countries, and the need to understand the linkages between environmental factors, resource configurations, operational processes, and effective implementation of their firm's product launch strategy. Yet, the presence of weak institutional environments in emerging markets, i.e. lack of hard (roads, bridges, ports, etc.) and soft (contract enforcement, logistics service providers, qualified suppliers) infrastructure (Khanna & Palepu, 2010), induces uncertainty (Sandberg, 2014), decreases the efficiency of local markets (Leff, 1978), and decreases the likelihood of a successful product launch (Johnson & Tellis, 2008). What is not known, is how supply chain resources can be leveraged to facilitate success of product launches in these challenging environments.

One such potential resource is supply chain knowledge (Wowak, Craighead, Ketchen, & Hult, 2013). Supply chain knowledge is a strategic resource which can be used to develop new

capabilities and adapt to changing environments (Jensen & Szulanski, 2004; Fugate, Stank, & Mentzer, 2009; Lu et al., 2010; Wowak et al., 2013). Although the value of supply chain knowledge has been demonstrated (Wowak et al., 2013), it has not yet been examined in the context of product launches into emerging markets. Supply chain knowledge can be divided into two components; knowledge regarding what the customer wants and requires (Christensen, Germain, & Birou, 2005; Doll, Hong, & Nahm, 2010) and knowledge about how to best supply the customer (Doll et al., 2010; Christensen et al., 2005; Fugate et al., 2009). Launching products into emerging markets poses unique operational problems, as these environments tend to be much more idiosyncratic (Madhok, 1997) and perforated with weak institutional environments (i.e. a lack of institutions that facilitate the functioning of markets (Khanna & Palepu, 2010). Firms must be able to quickly adapt to the environment by creating and deploying new context-specific customer solutions and supply chain capabilities. Customer and supply knowledge are the key to developing the appropriate supply chain capabilities and customer solutions to navigate the country's institutional environment, enhance customer satisfaction, and improve product launch performance.

Supply chain knowledge is gained tacitly through experience (Penrose, 1959; Barney, 1991; Fletcher & Harris, 2012). Accordingly, the amount of presence a firm has in a market, i.e. market presence, should be an antecedent to how much supply chain knowledge the firm has accumulated about that market. Market presence is the extent to which a firm has established its competitive presence within a specific market (adapted from Upson, Ketchen, Connelly, & Ranft, 2012). Further, though the possession of valuable customer and supply knowledge is strategically beneficial (Barney, 1991; Grant, 1996; Wowak et al., 2013), it must be implemented, or leveraged, for it to generate customer value and thus improve product launch performance (Sirmon, Hitt, &

Ireland, 2007; Sirmon, Hitt, Ireland, & Gilbert, 2011). Because emerging markets are beset with weak institutional environments (Mair & Marti, 2009), leveraging a firm's knowledge-based capabilities can be very difficult. Consequently, improvements in the supply chain institutional environment (i.e. the extent to which supply chain related market intermediaries and infrastructure needed to move goods and connect buyers and sellers efficiently and effectively are present in the country (adapted from World Bank, 2016) enhance the performance yield of a firm's knowledge-based capabilities. Thus, having a strong supply chain institutional environment amplifies the performance effects of both customer and supply knowledge. The main objective of this study is to answer the following research question: *Can customer and supply knowledge, stemming from market presence, help navigate the institutional challenges associated with emerging market countries to improve product launch performance?*

The purpose of this study is to test the hypothesis that a firm possessing market-specific customer and supply knowledge will be able to adapt its supply chain capabilities to the environment and improve its product launch performance. Further, the role of country market presence is examined as an antecedent to the accumulation of market-specific customer and supply knowledge. The mediating role of customer and supply knowledge in the market presence -- product launch performance relationship is then examined. Last, the prediction that improvements in the supply chain institutional environment positively moderate the relationship between both types of knowledge and product launch performance is tested.

The results suggest that market presence is positively associated with the accumulation of both customer and supply knowledge, and is also positively associated with product launch performance. The results also suggest that supply knowledge *fully* mediates the relationship between market presence and product launch performance. However, the data indicate that, though

it does have a positive effect on product launch performance, customer knowledge does not mediate the market presence -- product launch performance relationship. Last, the results suggest that the supply chain institutional environment does not moderate the relationship between either type of knowledge and product launch performance.

These findings make two main contributions. First, the findings suggest that supply knowledge is perhaps more crucial than customer knowledge to the success of a product launch in an emerging market. Though having customer knowledge improves performance, it has a much weaker effect than supply knowledge. Moreover, when controlling for supply knowledge, the direct effect of customer knowledge on product launch performance is no longer significant. This finding was further confirmed by the significant indirect effect of market presence on product launch performance through supply knowledge. The findings also suggest that supply knowledge fully mediates this indirect relationship, which provides evidence that the accumulation of supply knowledge links market presence with product launch performance. A second contribution of this research is that it provides evidence of the knowledge-generating value of having a market presence prior to enacting a product launch. A firm accumulates supply and customer knowledge by having a market presence in the country and this knowledge is then leveraged to improve the performance of future product launches.

The next section introduces the concept of the institutional environment in emerging markets, the role of foreign market knowledge, and the value of supply chain knowledge. The rest of Essay 1 is dedicated to the development of theoretical hypotheses, a discussion on data collection, testing the hypotheses using hierarchical regression, and discussion and conclusion sections which outline the contributions of this research and a future research agenda.

Background

Emerging Markets and the Institutional Environment

Emerging markets are plagued by weak institutional environments, characterized by lack of hard and soft infrastructure, or "institutional voids" (Khanna & Palepu, 2010). The presence of institutional voids reduces the effectiveness and efficiency of market transactions and presents challenges to firm operations (Khanna & Palepu, 2010). Market transactions are supported by the existence of soft infrastructure, which includes "advertising agencies and media outlets that facilitate corporate communication, market research and logistics consultants, and credit rating agencies that collect consumer credit information to assist credit card companies" (Khanna & Palepu, 2010, p. 23). Service providers that constitute this "soft infrastructure", i.e. market intermediaries, are the "economic entities that insert themselves between a potential buyer and seller to bring these actors together and reduce transaction costs" (Khanna & Palepu, 2010, p. 54). Market intermediaries facilitate the efficient functioning of markets. Lack of market intermediaries induces higher market entry costs, as companies must develop internal capabilities to fill service gaps to support delivery of goods and services to local customers. Hard infrastructure is comprised of a country's physical infrastructure, including roads and bridges, which are essential for the low-cost movement and storage of goods (Khanna & Palepu, 2010).

Despite the challenges associated with emerging market countries, many organizations are succeeding in these markets. For example, L'Oreal introduced its Excellence Crème product to India in the mid-1990's and marketed it as a luxury product. The product was a success and helped L'Oreal India's operations attain profitability beginning in 2004 (Khanna & Palepu, 2010). Even though most of India's population is considered to be poor, L'Oreal was still successful at launching a "luxury" product targeted at the growing middle class. Though there are examples of

product launch successes in emerging market countries we still know little about what sets successful launches apart from those that fail. Perhaps there is a common thread, or theoretical mechanism, running through successful product launch efforts which can be discerned and used to explain and predict differential performance. For instance, a firm's market-specific upstream and downstream supply chain knowledge may be a key to predicting performance outcomes of product launches into emerging markets. The next section introduces the concept of market knowledge followed by a discussion on the value of market-specific supply chain knowledge in emerging markets.

Foreign Market Knowledge

A firm's foreign market knowledge can be categorized using the following three dimensions: 1) knowledge specificity – general market knowledge to specific market knowledge; 2) knowledge breadth – broad market knowledge to narrow market knowledge; and 3) knowledge depth – shallow market knowledge to deep market knowledge. Market knowledge specificity relates to a firm's knowledge which is customized to the requirements of specific contexts where it is maximally effective (Luca & Atuahene-Gima, 2007). The more specific a firm's market knowledge is, the higher its understanding of market-specific idiosyncrasies and underlying interdependencies. Market knowledge breadth is the "firms' understanding of a wide range of diverse customer and competitor types and factors that describe them" (Luca & Atuahene-Gima, 2007, p. 97). Market knowledge breadth involves understanding of diverse potential customer segments and competitors. Market knowledge depth is the "level of sophistication and complexity of a firm's knowledge of its customers and competitors" (Luca & Atuahene-Gima, 2007, p. 98). Market knowledge depth allows a firm to understand the interdependencies of customers' needs, behaviors, and preferences as well as competitor's products and strategies (Luca & Atuahene-

Gima, 2007). Each of these knowledge dimensions offer varying implications for usefulness and purpose in managing supply chains in different contexts. Due to the operational and environmental idiosyncrasies of emerging market countries, market-specific knowledge is likely to be more valuable than more general internationalization knowledge.

Internationalization knowledge is the "aggregated international experience of the firm gained by undertaking international business, such as supplying foreign customers, adapting products to the needs and wants of foreign customers, marketing and sales abroad, and adapting the organization to the needs and wants of foreign customers" (Sandberg, 2014, p. 24). Internationalization knowledge is relatively general, broad, and deep. Firms obtain operational momentum by harnessing internationalization knowledge gained through their aggregated foreign market entry experiences. If applied, internationalization knowledge can result in standardized processes, through which new firm capabilities are created and deployed. Internationalization knowledge is broad, general, and non-specific, and is therefore applicable to business operations in various country markets (Sandberg, 2014). Internationalization knowledge can be used to enhance foreign market entry capabilities if it is embedded into the activities and routines of the firm (Hohenthal, Johanson, & Johanson, 2003). A firm that successfully integrates its internationalization knowledge with other resources develops an advantage in identifying and executing business opportunities over competitors (Sandberg, 2014). Internationalization process theory suggests that as a firm gains more experience with the foreign market entry and product launches, it becomes more comfortable with the process and commits an increasing amount of resources to each new project (Forsgren, 2002). The mechanism in internationalization process theory that facilitates performance is the reduction of uncertainty through experience. As a firm

gains internationalization knowledge through experience, uncertainty is reduced, leading to higher levels of resource commitment to support foreign market entry, and performance improvements.

Because it is process-based and not country market-based, it may be difficult to convert internationalization knowledge into customer solutions and supply chain activities which meet the needs of a specific country market context. Internationalization knowledge suffers from lack of specificity making it difficult to operationalize in specific country markets, especially if those markets are characterized by institutional voids (Mair, Marti, & Ventresca, 2012) and liability of foreignness (Hilmersson & Jansson, 2012). Internationalization knowledge is aggregated based on a firm's overall experience of entering foreign markets (Sandberg, 2014) and is therefore firm specific, but not country market specific (Eriksson, Johanson, Majkgard, & Sharma,1997). Thus, it lacks utility to inform firms on how to gear customer solutions and supply chain operations to a particular emerging market country context.

On the other hand, *market-specific* upstream and downstream supply chain knowledge allows a firm to create marketing and supply chain capabilities that match idiosyncratic conditions in a certain country. With this specific knowledge, a firm can "tune" its marketing strategies and supply chain operations to provide customers with what they "want" and enhance performance in emerging markets characterized by heterogenous institutional conditions. The focus of this study is on *market-specific* supply chain knowledge. Because of its specificity, this type of knowledge provides more utility than general internationalization knowledge in explaining differential performance in countries with distinctive institutional environments.

The Value of Supply Chain Knowledge in Emerging Markets

Knowledge in a firm about its supply chain partner's processes, capabilities, needs, and strategic goals is crucial to unlocking the potential of a firm's supply chain, creating customer

value, and improving firm performance (Wowak et al. 2013). This type of knowledge is referred to as supply chain knowledge (SCK) (Wowak et al. 2013) and consists of knowledge of a firm's customers and suppliers (Christensen et al., 2005; Doll et al., 2010). Effects of SCK on performance operate on the principles of the knowledge-based view (KBV)—a theoretical framework proposed by Grant (1996), which suggests that knowledge is the most strategically important asset that a firm can possess and is a forerunner to competitive advantage and firm success.

Knowledge comes in two forms—tacit and explicit (Nonaka & von Krogh, 2009). Explicit knowledge comes from a "rationalization of information about facts captured in discrete forms and codified in formula, designs, and reports" (Kahn, 2009, p. 77). Tacit knowledge is "knowledge that is unarticulated and tied to the senses, movement, and skills, physical experiences, intuition, or implicit rules of thumb" (Nonaka & von Krogh, 2009, p. 635). Tacit knowledge is revealed through its application and represents "knowing how" to perform some activity. Explicit knowledge is revealed via standardized forms of communication and is associated with knowing about facts (Kahn, 2009). While there is value in possessing explicit knowledge, it can be easily decoded and transferred (Kahn, 2009) and absorbed into organizational routines by the competition. This limits its long-term competitive value (Barney, 1991). Conversely, tacit knowledge is more valuable than explicit knowledge because it cannot be easily duplicated, translated into explicit information, and absorbed by into organizational routines by competitors (Barney, 1991). Thus, tacit knowledge has greater potential for instilling long-term competitive advantage and performance.

Tacit knowledge is gained through experience, relationships, and construction of individual mental models (Johnson-Laird, 1983; Hamel, 1991; Badaracco, 1991; Zack, 1999; Mascitelli,

2000; Anand, Ward, & Tatikonda, 2010), and is something that is learned over time as a firm builds its capabilities to match its competitive environment. Because tacit knowledge is acquired through experience over time through complex interactive processes, it is more competitively advantageous than explicit knowledge (Penrose, 1959; Barney, 1991; Fletcher & Harris, 2012). The most valuable form of SCK is therefore tacit in nature, and manifests through a firm's continued interaction with its suppliers, customers, and the environment in a country market of interest. Consequently, a firm's history and presence in a country market is crucial to building market-specific tacit SCK, which then allows it to effectively facilitate and manage its operations in that country.

Hypothesis Development

The Influence of Market Presence Knowledge and Product Launch Performance

For the purposes of this study, SCK is operationalized as two distinct constructs—customer knowledge and supply knowledge. There is precedence in extant literature for the separation of SCK into its upstream and downstream components (Christensen et al., 2005; Doll et al., 2010; Wowak et al., 2013). One benefit of this separation is that the relative value, effects, and nomological behavior of each knowledge type can be parsed out and isolated. *Customer knowledge* relates to a firm's knowledge of its customers' personal situation (Sandberg, 2014), their future needs and desires for the organization's goods and services (Day, 1994), and their behavior (Luca & Atuahene-Gima, 2007). Combining supplier and logistics knowledge concepts from literature, this study introduces the concept of *supply knowledge* to cover the breadth of supply chain operations in an emerging market. Supply knowledge is knowledge of the firm regarding the effective management of the flow and storage of goods, services, and related information in the host country, including knowledge of local suppliers', distributors', and logistics service providers'

processes and capabilities (Christensen et al., 2005; Fugate et al., 2009; Doll et al., 2010). The concept of supply knowledge differs from how SCK has been described in extant literature by adding the logistics knowledge component (Fugate et al., 2009; Wowak et al. 2013). Logistics is a crucial element in managing flow of materials and information throughout the supply chain enabling a firm to service its customers and create value for stakeholders (Mentzer, Min, & Bobbitt 2004). Therefore, it is important that logistics knowledge be included in the concept of supply knowledge.

Market-specific tacit SCK is gained through direct experience in a country market (Penrose, 1959; Fletcher & Harris, 2012). Emerging market experience is garnered through a competitive presence, or market presence, in a developing country. *Market presence* is the extent to which a firm has established its competitive presence within a specific emerging market country (adapted from Upson, Ketchen, Connelly, & Ranft, 2012). The concept of market presence is not new, but has been modified to fit the theoretical context of this study. The genesis of the market presence concept comes from Upson et al.'s (2012) work on strategic footholds. A strategic foothold is defined as "a small position that a firm intentionally establishes within a market which it does not yet compete" (Upson et al., 2012, p. 93). A misnomer of this definition is that, despite the language, a firm does compete in foothold markets although in a limited capacity. Having a strategic foothold means that a firm commands a "very modest amount of market share" (Upson et al., 2012, p. 94), which by definition requires that the firm has at some point experienced competitive gains in that market. Even at the lowest level of market presence (i.e. a strategic foothold) the firm is still competing in the emerging market country and gaining experience and expertise through that competition. Market presence is a broader concept that also captures the upper end of competitive occupation in an emerging market country. The extent of a firm's market

presence should influence the "amount" of knowledge a firm captures by way of more abundant experiential interactions with customers, suppliers, distributors, and the institutional environment.

Market presence expands the concept of strategic footholds by capturing a firm's competitive range within a marketplace from low to high. A firm's competitive range in a developing country is appraised by including items which measure its *competitive presence* and *market share* as well as *distinctive product and service offerings* in an emerging market country prior to a product launch. The extension of this concept helps with theorizing as it allows for testing the influence of market presence on performance beyond the threshold of a strategic foothold.

Firms with a greater market presence in an emerging market country prior to launching a product will naturally have more knowledge of that country through direct experience and more-established relationships with supply chain partners. In accordance with the tenets of KBV (Grant, 1996), firms should gain both customer and supply knowledge through involvement and interaction within supply chain partners and the environment in the country. The greater a firm's competitive presence in an emerging market country, the more established its relationships are with customers, distributors, and suppliers. These relationships act as conduits for knowledge acquisition. Therefore, it is expected that a firm with a greater market presence in an emerging market country will have developed higher levels of customer and supply knowledge through its direct experience in the marketplace.

Market presence should also have a direct effect on product launch performance. A more established competitor will have more dominant access to customer, supplier, and logistics service provider resources in the emerging market country. Relational rents, or relational returns, are possible when alliance partners combine, exchange, or invest in idiosyncratic assets (resources) (Dyer & Singh, 1998). A firm "leverages" the resources of its alliance partners to increase

effectiveness of governance mechanisms and take advantage of complementary assets. In the case of a product launch into an emerging market, firms with a higher market presence should be able to use its more established supply chain partner relationships to take advantage of supply chain partners' capabilities in the country to distribute the product efficiently and effective. This limits the need to develop internal supply chain resources and capabilities that fit the country's unique environment, which reduces the cost of product introduction (Khanna & Palepu, 2010). Thus, larger market presence in an emerging market prior to product introduction should have a positive direct effect on product launch performance.

> **H1:** Market presence is positively associated with a) customer knowledge; b) supply knowledge; and c) product launch performance.

The Influence of Knowledge on Product Launch Performance

Operating a supply chain in an emerging country market is challenging for firms as they must cope with an environment which may be markedly different from their home country. Firms launching products into developing countries are at a disadvantage as they often face the liability of foreignness, where "unfamiliarity with and lack of roots in a local environment" (Zaheer, 1995, p. 343) causes uncertainty. Both theory and practice suggest that companies should follow a measured method of internationalization to minimize risks and cope with this uncertainty (Garcia-Canal & Guillen, 2008). From a supply chain perspective, a firm's existing logistics and supply management processes geared towards its home market may not be transferrable to the emerging market country's competitive and operational context. This presents a challenge for firms, which must develop new supply chain capabilities to be successful. This task becomes even more difficult when a company is uncertain of the interdependencies and causal links that lead to supply chain performance, which are difficult to uncover in emerging market countries. Launching products into emerging market countries presents additional challenges because of weak institutional

environments (Khanna & Palepu, 2010). In emerging market countries, having market-specific customer and supply knowledge may be essential for the development of new processes and capabilities that fit the institutional environment and ensure product launch performance.

Customer knowledge is a firm's knowledge of the customers' wants, needs, and requirements in an emerging market country. Having superior customer knowledge enhances the firm's capability of meeting customer requirements and expectations (Doll et al., 2010) in that country. Supply knowledge involves having a deep understanding of sourcing and distribution processes in the emerging market country, which translates into tacit "know-how" and allows for the effective management of local supply chain operations to increase profitability, generate a high volume of business, and achieve rapid growth (Schoenherr, Griffith, & Chandra, 2014). Supplier knowledge provides a firm with information it can use to improve product quality and inbound delivery performance (Christensen et al., 2005). Logistics knowledge is valuable in emerging market countries as it allows firms to respond to environmental changes and develop solutions quickly (Fugate et al., 2009; Schoenherr & Swink, 2015) to confront unique challenges. Firms with superior logistics knowledge understand how the business environment impacts logistics processes and can carry out suitable adaptations (Fugate et al., 2009) to fit the developing country's environment and improve product launch performance.

Differences between a firm's home market and host country contexts typically reduce the appropriateness and applicability of a firm's existing organizational routines (Madhock, 1997). In such cases, adaptation of capabilities and practices is necessary for survival in the market (Jensen & Szulanski, 2004). The goal of this adaptation is to ensure that capabilities work and are valued within local cultural (Hofstede, 1991; Jensen & Szulanski, 2004) and market (Jensen & Szulanski, 2004) frameworks. If fit between organizational practices and the emerging market country's

environment is not achieved, then the likelihood product launch failure increases (Sorge, 1991). Having market-specific customer and supply knowledge should enable a firm to tailor its marketing and supply chain practices and capabilities to fit the emerging market country's competitive and operational environment. Thus, it is hypothesized that possession of market-specific customer and supply knowledge has a positive influence on product launch performance in emerging market countries.

H2: Customer knowledge is positively associated with product launch financial performance.

H3: Supply knowledge is positively associated with product launch financial performance.

The Mediating Effects of Customer and Supply Knowledge

Market presence in an emerging market country should afford a firm unambiguous and actionable intelligence regarding local customers' wants and needs. This intelligence allows the firm to concentrate on creating product and service features that the customers most value (Doll et al., 2010). This helps the firm to concentrate and direct its marketing strategy to maximize customer value, meet customer expectations, and consequently increase customer satisfaction (Davis-Sramek, Mentzer, & Stank, 2008). Thus, market presence provides the opportunity to gain customer knowledge in an emerging market. The customer knowledge should then enhance the performance of a product launch by ensuring product and service attributes meet customer requirements and expectations. It is therefore expected that customer knowledge will mediate the relationship between market presence and product launch performance.

H4: Customer knowledge mediates the relationship between market presence and product launch financial performance.

Market presence in an emerging market country provides a firm with a conduit for learning how to best manage supply chain operations within that market. Once acquired, market-specific supply knowledge can be used to develop supply chain capabilities that adhere to the competitive

environment, which is especially crucial in emerging market countries (Khanna & Palepu, 2010). Supply knowledge gives the firm insight into local operational idiosyncrasies, how country-level factors affect specific supply chain activities, and offers visibility of causal links which can be exploited to develop innovative sourcing and distribution solutions. Supply knowledge enhances a firm's ability to identify, mobilize, and employ local resources, and develop operational solutions which fit the developing country's competitive and operational environment. Therefore, it is hypothesized that supply knowledge will mediate the relationship between market presence and product launch performance.

H5: Supply knowledge mediates the relationship between market presence and product launch financial performance.

The Moderating Effects of Supply Chain Institutional Environment

Market-specific customer and supply knowledge allow a firm to tailor products and services to best meet customers' needs (Doll et al., 2010) as well as develop supply chain capabilities to appropriately fulfill customer demand (Wowak et al., 2013; Schoenherr and Swink, 2015) in an emerging market country. Superior supply knowledge gives a firm the wherewithal to adapt supply chain processes to meet the requirements of the country's operating environment, while enhanced customer knowledge provides crucial information to the firm about how to most effectively meet customer expectations. Having experienced-based customer and supply knowledge generates a competitive and operational advantage (Barney, 1991; Grant, 1996), which then leads to higher levels of product launch performance. However, because emerging markets are characterized by weak *supply chain institutional environments* (SCIE) (Khanna & Palepu, 2010), it is difficult for firms to fully leverage their knowledge-based capabilities in the marketplace. Not being able to leverage these capabilities in the marketplace reduces the

performance benefits of having superior customer and supply knowledge (Sirmon et al., 2007, 2011).

The SCIE is the extent to which supply chain related market intermediaries and infrastructure needed to efficiently and effectively move goods and connect buyers and sellers are present in a country (adapted from World Bank, 2016). The SCIE is a measure of the effectiveness of a country's supply chain infrastructure (bridges, warehouses, and telecommunications, etc. necessary to facilitate the movement and storage of goods) and supply chain market intermediaries (competent suppliers and logistics service providers to support efficient sourcing and distribution) (Khanna & Palepu, 2010). Each weakness in the SCIE negatively affects a firm's ability to leverage its knowledge-based capabilities, and acts to increase transaction costs (Isobe et al., 2000) and reduce serviceability of customers due to institutional conditions that are beyond the firm's control. Though a firm may develop supply chain and marketing capabilities from its supply and demand knowledge, it must still leverage (i.e. mobilize, coordinate, and utilize) those capabilities in the marketplace in order to generate customer value (Sirmon et al., 2007, 2011) and improve product launch performance.

The effectiveness of a country's supply chain infrastructure concerns the availability of transport and telecommunications as well as the quality of telecommunications and transportation network structures (Bhatnagar, Jayaram, & Phua, 2003). Many emerging markets lack the logistics and telecommunications infrastructure necessary for effective supply chain management (Narayan, Rao, & Sudhir, 2016). The absence of supply chain infrastructure increases uncertainty regarding if a firm can fully coordinate, mobilize, and utilize its full range of supply chain capabilities to fulfill customer demand. Consequently, a lack of supply chain intermediaries affects a firm's ability to fully utilize its knowledge generated capabilities.

Supply chain market intermediaries provide services which facilitate effective and efficient sourcing and distribution transactions in the host country (Khanna & Palepu, 2010). Such services include air freight services, sea freight services, land transport services, supply sourcing, and information technology (Bhatnagar et al., 2003). In emerging market countries, using market intermediaries is often preferable to building internal capabilities, because it reduces perceived risks (Cavusgil, Ghauri, & Agarwal, 2002) by acting as conduits through which firms can access local resources and expertise. Countries with low SCIE suffer from an absence of high quality supply chain market intermediaries (Khanna & Palepu, 2010). Even though a firm may have superior knowledge of its customers, the supplier network, and how logistics processes work in the country, it may still be reliant on supply chain market intermediaries for product distribution. If SCIE is low, in-country market intermediaries may not be able to provide effective services. In this case, the firm would not be able to fully leverage its customer and supply knowledge to improve product launch performance. Conversely, in a country with high SCIE, high quality infrastructure and supply chain market intermediaries are available (Khanna & Palepu, 2010; World Bank, 2016), making effective leveraging of a firm's customer and supply knowledge to generate customer value much less difficult. Therefore, it is hypothesized that SCIE positively moderates the relationship customer knowledge and product launch performance, as well as the relationship between supply knowledge and product launch performance.

H6: Supply chain institutional environment positively moderates the relationship between a) customer knowledge and product launch financial performance; and b) supply knowledge and product launch financial performance.

Methodology

In this research, a survey is used to collect data from business professionals who have been involved in a product launch into an emerging market. Survey measures were developed using

established scales where appropriate. New measures and scales were developed using a combination of literature sources, discussions with both industry professionals and leading academics, and two pre-tests with practitioners. The process of scale refinement followed the prescribed steps of Dillman (1978) to ensure validity and readability of the survey instrument. Construct definitions, measurement items, and associated sources are provided in **Table 10** (All tables and figures are located in the appendix).

The sampling frame for this study included marketing, supply chain, and new product management professionals who have been involved in a product launch into an emerging market. The unit of analysis was the project. To ensure appropriateness and accuracy of the responses, only product launch projects occurring within the last 7-years were considered. Complete demographic characteristics of the respondents are provided in **Table 1**.

Data Collection

Data were collected from firms involved in a launching a product in an emerging market. The survey instrument was distributed online to the targeted respondents by a panel data service company. The panel data service pre-screened candidates to meet the specific criteria for this study. Invitations to participate in the study were sent via email by the panel data company on behalf of the researchers (Lindgreen, Swaen, & Johnston, 2009; Tang & Rai, 2012; Schoenherr & Swink, 2015). A series of strict qualification questions and quality checks were used to ensure high levels of credibility and reliability of the responses (Schoenherr & Swink, 2015). Quality checks included; 1) two attention checks; 2) three straight-lining checks; 3) three reverse scale checks; 4) qualitative checks; and 5) controls to identify speeders. Further, the data were examined to identify multiple responses by the same participant leading to the rejection of several records. In total, 1,500 respondents passed the initial qualification questions. Out of those that qualified, only 250

respondents successfully passed the quality checks leading to an incidence rate of 17%. Another 90 records were eliminated from the dataset due to >7-year retrospection and product launches in non-emerging markets. This yielded a total sample of 160 usable responses—an acceptance rate of 11%.

To test for nonresponse bias, early (first 50) and late (last 50) respondents were compared to determine any differences in key constructs of the study (Armstrong & Overton, 1977; Schoenherr & Swink, 2015). Independent sample *t* tests revealed significant differences in the means for some of the constructs. Further analysis was conducted to determine the reason for the differences. It was discovered that the last 50 respondents conducted product launches in country markets with lower quality logistics infrastructure as measured by the logistics performance index (LPI) (World Bank, 2016) than the first 50. Following this discovery, additional analysis was performed controlling for the differences in the LPI. It was found that, when controlling for differences in LPI, mean differences for the key factors were no longer significant. The panel data company did not provide detailed information of respondents' firms or their contact information. As a result, it was not possible to further evaluate representativeness and nonresponse bias (Schoenherr & Swink, 2015).

Measurement Model

Structural equation modeling (SEM) was used to analyze the data using AMOS 24. In accordance with Anderson and Gerbing's (1988) method, a two-step SEM approach was utilized to determine the most appropriate measurement model and construct the structural model for hypothesis testing. In the first step, a confirmatory factory analysis (CFA) was performed to determine dimensionality and validity of the constructs. Estimates of the standardized regression weights and critical ratios (CR) were used to determine unidimensional and validity. When

constructing the measurement model, all items that did not significantly load or indicated poor loading (i.e. < .60) on its corresponding construct were removed. All items in the final measurement model exhibited a CR higher than 1.96 and standardized regression weights greater than .60 for the each of the latent variables which suggests convergent validity (Anderson, 1987; Gerbing & Anderson, 1988; Mentzer, Flint, & Kent, 1999). Once convergent validity was established for each scale by the CFA, the reliability for each scale was measured using both the Cronbach's alpha and average variance extracted (AVE). Both the alpha and AVE values were well within the accepted range. **Table 2** provides the final measurement items for the constructs with loadings, alpha, and AVE values. A full list of all constructs and measurement items used in this study is provided in **Table 10**.

Discriminant validity was tested using the nested model approach (Anderson & Gerbing, 1988), which compares the original model to a series of models where the covariance between each pair of latent constructs is constrained to one. If the constrained models exhibit worse fit than the original model, then discriminant validity among the constructs is supported (Bagozzi & Phillips, 1982; Bagozzi & Yi, 1988). The results of the nested model analysis are provided in **Table 4**. These results indicated that the measurement model maintained a significantly greater fit to the data than each of the subsequent constrained models, demonstrating discriminant validity of all constructs. To add further support to the nested model test, the AVE values were compared to the intercorrelations among the constructs. The AVE value was found to be higher than all intercorrelations among the constructs (see **Table 2** and **Table 3**).

Common method variance was assessed using Harman's single-factor test (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The Harman's single-factor test suggests that common method variance is an issue if either one of two conditions is present; 1) a

single factor emerges from a factor analysis test; or 2) a single factor accounts for the majority of covariance among measurement items (Nyaga, Whipple, & Lynch, 2010). To measure the common method variance, measurement items for all theoretical constructs in the study were added to a principle component factor analysis. The unrotated solution revealed that the first factor accounted for 42% of the total variance. This value suggests that common method variance is not an issue.

The fit indices for the final measurement model indicated good fit to the data with χ^2 = 359.656 (*df* = 303, $p < .014$); χ^2/df (CMIN/*df*) = 1.187; Bollen-Stine Bootstrap ($p = .582$); CFI = .978; NNFI = .974; RMSEA = .034. In the second step of the data analysis, the structural relationships between the theoretical constructs were specified in the model to test the hypothetical relationships. The next section provides a summary of the results.

Hypothesis Tests

Hierarchical regression analysis was used to test the hypothesized relationships. Prior to testing the hypothesis, variance inflation factors (VIF) were calculated for each regression coefficient. The VIF values all fell significantly under the threshold of 10 (Hair et al. 2006) ranging from 1.142 to 2.689. When VIF values are below the threshold of 10, multicollinearity is not considered to be a significant issue. To further control for multicollinearity, model variables were mean centered prior to the conducting the moderated hierarchical regression analysis. To limit confounding effects, the following control variables were applied to all regression models: 1) industry; 2) firm sales; 3) company age; 4) firm international product launch experience; 5) environmental uncertainty; and 6) competitive intensity.

Table 5 and **Table 6** contain the results for the regression analysis of direct effects for market presence on customer knowledge, market knowledge, and product launch financial

performance. In support of H1a, there is a significant positive relationship between market presence and customer knowledge (β = .528; p < .000). Further, in support of H1b, there is a significant positive relationship between market presence and supply knowledge (β = .568; p < .000). Last, in support of H1c, there is a significant positive relationship between market presence and product launch financial performance (β = .323; p < .000).

Next, the results for the regression analysis of the direct effects of customer knowledge and supply knowledge indicated support for hypothesis H3 and mixed support for hypothesis H2. Regarding H2, there is a significant relationship between customer knowledge and product launch financial performance (β = .367; p < .000). However, when supply knowledge is included in the model, this relationship is no longer significant (β = .024; p = .800). Yet, supply knowledge exhibited a significant positive relationship with product launch performance even when controlling for the effects of customer knowledge (β = .526; p < .000) providing strong support for H4.

After determining the significance of the direct effects, the significance of the mediated indirect relationships were tested. To test for significance of indirect effects, bootstrapping using the bias corrected method with 1,000 samples was utilized. The results indicated a non-significant indirect effect of market presence on product launch financial performance (p = .931; CI = -.204, .156) finding no support for H4. This result is not surprising given the non-significant relationship between customer knowledge and product launch financial performance when controlling for supply knowledge. Conversely, the results indicated a significant indirect relationship between market presence and product launch financial performance through supply knowledge (p < .000; CI = .364, .872) providing support for H5.

The hypothesized interaction effects suggested in H6a and H6b were tested using a full hierarchical moderated regression model (see **Table 9**). In the full model, the interaction effects of supply chain institutional environment with customer knowledge ($\beta = 0.020$; $p = .827$) and supply knowledge ($\beta = 0.028$; $p = .752$) were both found to be non-significant. These results indicated a lack of support for both H6a and H6b.

Given the proposed conceptual model and the associated relationships, the next step was to determine if supply knowledge is a full or partial mediator of the relationship between market presence and product launch financial performance. Baron and Kenny's (1986) procedure for determining full mediation was employed. First, the relationship between market presence (independent variable) and product launch financial performance (dependent variable) was found to be significant ($\beta = .323$; $p < .000$). Second, the relationship between market presence and supply knowledge (mediator) was found to be significant ($\beta = .568$; $p < .000$) as well as the relationship between supply knowledge and product launch financial performance ($\beta = .526$; $p < .000$). Last, when both market presence and supply knowledge are included as predictors, the relationship between market presence and product launch financial performance is no longer significant ($\beta = .034$; $p = .697$) Thus, the evidence suggests that supply knowledge fully mediates the relationship between market presence and product launch financial performance.

Discussion and Conclusion

The purpose of this study was to determine if having a greater competitive presence in an emerging market country affords a firm with greater market-specific supply chain knowledge, i.e. customer and supply knowledge. Another purpose was to determine if customer and supply knowledge were two mechanisms through which firms could improve product launch performance in emerging market countries. Further, this study tested the assertion that the supply chain

institutional environment would impact a firm's ability to "leverage" knowledge-based capabilities in the marketplace.

The findings indicate that supply knowledge mediates the relationship between market presence and product launch performance, but that customer knowledge does not. The study did not find any significant interactions between the supply chain institutional environment and either form of supply chain knowledge. These findings contribute to the current body of research in two distinct ways. First, the findings confirm that having a competitive presence in an emerging market country prior a product launch allows a firm to accumulate valuable supply knowledge. Market presence is positively associated with higher levels of market-specific supply knowledge in emerging market countries, and this knowledge positively influences product launch performance. These findings have implications for strategic footholds literature (Upson et al., 2012) by lending some credence to the thought that the value of strategic footholds in country markets moves beyond pure competitive dynamics or access to physical assets. A strategic foothold may act as a conduit through which a firm "builds" supply knowledge about an emerging market country, which is then used as a competitive asset for improving product launch performance and subsequent competitive moves. Second, this research provides some evidence of the relative value of supply versus customer knowledge in emerging market countries. The findings indicate that supply knowledge has a larger effect than customer knowledge on product launch performance in emerging market countries. One reason for this difference may be related to the environmental uncertainty inherent in emerging markets. That is, the main obstacle to a successful product launch in an emerging market country may not be customer adoption. The primary challenge to launching a product in an emerging market country may be related to a firm's inability to effectively and efficiently deliver the product to the customer.

Future research should examine additional mechanisms, or mediators, beyond knowledge which could have an impact on product launch performance in emerging market countries. Further, there may be value in testing the theoretical relationships in this study in different contexts such as more mature markets. For example, in more advanced economies, customer knowledge may be of more importance than supply knowledge due to higher levels of competition.

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Appendix

Figures

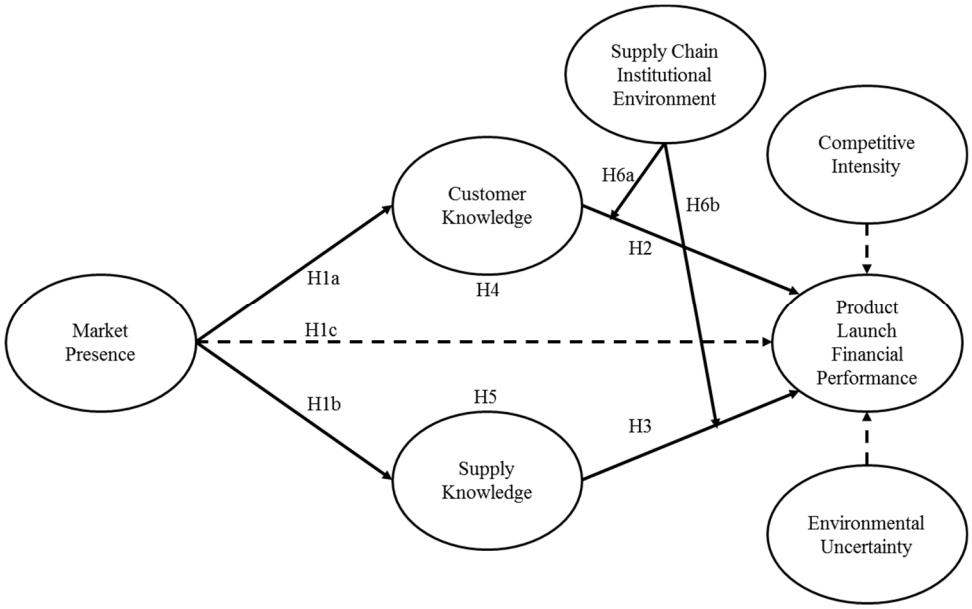


Figure 1: Essay 1 - Conceptual Model

Tables

Table 1: Essay 1 - Respondent Demographics

Project Country	Percentage	Project Country	Percentage
China	15.00%	Vietnam	1.25%
Mexico	14.38%	South Africa	1.25%
India	10.63%	Malaysia	1.25%
Brazil	5.63%	Hungary	1.25%
Argentina	4.38%	Cameroon	0.63%
United Arab Emirates	3.75%	Sri Lanka	0.63%
Thailand	3.13%	Belarus	0.63%
Belize	3.13%	Mongolia	0.63%
Russia	2.50%	Bangladesh	0.63%
Colombia	2.50%	Armenia	0.63%
Costa Rica	1.88%	Venezuela	0.63%
Turkey	1.88%	Bosnia and Herzegovina	0.63%
Nigeria	1.88%	Equatorial Guinea	0.63%
Philippines	1.88%	Oman	0.63%
Jamaica	1.88%	Ethiopia	0.63%
The Bahamas	1.25%	Botswana	0.63%
St. Lucia	1.25%	Cambodia	0.63%
Dominican Republic	1.25%	Ecuador	0.63%
Panama	1.25%	Chile	0.63%
Croatia	1.25%	Egypt	0.63%
Georgia	1.25%	Barbados	0.63%
Morocco	1.25%	Samoa	0.63%
		Serbia	0.63%
Industry	**Percentage**	**Firm Role**	**Percentage**
Consumer Products	30.00%	Supply Chain Project Management	33.13%
Industrial Products	28.75%	Manufacturing / Operations	18.13%
Electronics	20.63%	Sales / Marketing	17.50%
Food	13.13%	Logistics / Distribution	14.38%
Medical	7.50%	New Product Development	12.50%
		Purchasing	2.50%
		Other - Please Describe	1.88%

Table 2: Essay 1 - Final Construct Measurement Items

Construct	Loading	S.E.	C.R.	AVE	α
Market Presence				0.81	0.88
involvement in the project country as compared to other competitors in that same market	0.81	0.1	11.96		
competitive presence in the project country as compared to other competitors in that same market	0.847	0.1	12.75		
distinct customer service offerings in the project country as compared to other competitors in that same market	0.73	0.09	10.29		
market share in the project country as compared to other competitors in that same market	0.858	0.1	13.03		
Customer Knowledge				0.82	0.89
we had well-developed knowledge about the customers' expected product quality levels	0.738	0.08	10.51		
we had well-developed knowledge about which product/service features were most valued by the customers	0.875	0.07	13.57		
we had well-developed knowledge about the customers' requirements	0.836	0.08	12.63		
we had well-developed knowledge about what customers wanted	0.825	0.07	12.38		
Supply Knowledge				0.76	0.91
we had well-developed knowledge about where to locally source materials for use in production and/or product distribution	0.744	0.09	10.72		
we had well-developed knowledge about local suppliers' process capabilities	0.792	0.08	11.72		
we had well-developed knowledge about local suppliers' capabilities to meet cost targets	0.782	0.08	11.48		
we had well-developed knowledge about local suppliers' capabilities to meet quality requirements	0.734	0.09	10.51		
we had well-developed knowledge about how to most effectively manage the customer order fulfillment process in the project country	0.71	0.08	10.03		
we had well-developed knowledge about which transportation modes were the most effective for transporting raw materials and/or finished goods in the project country	0.724	0.07	10.3		
we had well-developed knowledge about the most effective way to use the local distribution network in the project country	0.778	0.08	11.43		
we had well-developed knowledge about which distributors were the most effective at delivering finished goods to customers in the project country	0.784	0.08	11.57		
Supply Chain Institutional Environment				0.78	0.82

Table 2: Continued

Construct	Loading	S.E.	C.R.	AVE	α
Quality of logistics related infrastructure in the project country (e.g. roads, bridges, ports, airports, etc.)	0.718	0.11	9.792		
Competence and quality of logistics service providers in the project country	0.861	0.09	12.54		
Competence and quality of suppliers in the project country	0.767	0.09	10.72		
Environmental Uncertainty				0.73	0.69
It was difficult to forecast sales for the product during the product launch	0.671	0.16	5.716		
It was difficult to determine the competitive advantage of the product during the product launch	0.793	0.18	6.128		
Competitive Intensity				0.86	0.84
Competition in the product market was cut-throat	0.771	0.13	8.688		
There were many promotion wars in the product market	0.935	0.13	10.07		
Product Launch Financial Performance				0.85	0.91
Market share relative to objective	0.809	0.07	12.09		
Sales growth rate relative to objective	0.888	0.07	14.02		
Profit relative to objective	0.866	0.09	13.46		
Total sales of product relative to objective	0.848	0.08	13.02		

Table 3: Essay 1 - Construct Correlations

	MPRES	SK	CK	SCIE	EU	CI	PLFP
Market Presence (MPRES)	1						
Supply Knowledge (SK)	0.422	1					
Customer Knowledge (CK)	0.485	0.746	1				
Supply Chain Institutional Environment (SCIE)	0.524	0.613	0.487	1			
Environmental Uncertainty (EU)	-0.104	-0.201	-0.259	-0.105	1		
Competitive Intensity (CI)	0.251	0.161	0.004	0.271	0.323	1	
Product Launch Financial Performance (PLFP)	0.594	0.635	0.427	0.657	-0.149	0.136	1

Table 4: Essay 1 - Discriminant Validity Pairwise Model Comparisons

Model	DF Δ	χ2 Δ	*p*	χ2	DF	CFI	NNFI
Measurement Model				359.656	303	0.978	0.974
SK=CK	6	157.468	.000	517.124	309	0.919	0.908
SK=SCIE	6	126.65	.000	486.305	309	0.931	0.921
SK=EU	6	63.241	.000	422.897	309	0.955	0.949
SK=CI	6	141.881	.000	501.537	309	0.925	0.915
SK=MPRES	6	308.587	.000	668.243	309	0.86	0.841
SK=PLFP	6	291.347	.000	651.003	309	0.866	0.848
CK=SCIE	6	175.469	.000	535.125	309	0.912	0.9
CK=EU	6	59.131	.000	418.786	309	0.957	0.951
CK=CI	6	146.756	.000	506.412	309	0.923	0.912
CK=MPRES	6	294.76	.000	654.416	309	0.865	0.847
CK=PLFP	6	351.314	.000	710.969	309	0.843	0.822
EU=CI	6	56.74	.000	416.396	309	0.958	0.952
EU=MPRES	6	68.578	.000	428.233	309	0.953	0.947
EU=SCIE	6	67.977	.000	427.633	309	0.954	0.947
EU=PLFP	6	66.295	.000	425.95	309	0.954	0.948
CI=MPRES	6	133.428	.000	493.084	309	0.928	0.918
CI=SCIE	6	130.245	.000	489.901	309	0.929	0.92
CI=PLFP	6	141.727	.000	501.382	309	0.925	0.915
MPRES=SCIE	6	153.264	.000	512.919	309	0.92	0.909
MPRES=PLFP	6	233.806	.000	593.462	309	0.889	0.874
SCIE=PLFP	6	107.333	.000	466.988	309	0.938	0.93

SK - Supply Knowledge; CK - Customer Knowledge; SCIE - Supply Chain Institutional Environment;
EU - Environmental Uncertainty; CI - Competitive Intensity; MPRES - Market Presence
PLFP - Product Launch Financial Performance

Table 5: Essay 1 - Regression Results for Customer Knowledge, Supply Knowledge, and Product Launch Financial Performance

	Customer Knowledge		Supply Knowledge		Product Launch Financial Performance	
Variable	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**
Controls						
Industry Group 1	0.525*	3.986	0.393*	3.199	0.163	1.104
Industry Group 2	0.461*	3.786	0.440*	3.872	0.223	1.638
Industry Group 3	0.228*	2.114	0.199	1.975	0.079	0.650
Industry Group 4	0.415*	3.169	0.331	2.714	0.162	1.107
Sales Group 1	-0.106	-0.793	-0.186*	-1.494	-0.2673	-1.790
Sales Group 2	-0.180	-1.358	-0.047	-0.380	-0.0792	-0.534
Company Age Group 1	0.134	1.482	0.085	1.013	0.124	1.227
Company Age Group 2	0.148	1.692	0.103	1.261	0.113	1.157
Launch Experience Group 1	-0.116	-0.867	-0.061	-0.488	-0.107	-0.717
Launch Experience Group 2	-0.095	-0.737	-0.141	-1.167	-0.176	-1.212
Environmental Uncertainty	-0.180*	-2.424	-0.128	-1.845	-0.102	-1.224
Competitive Intensity	0.048	0.648	0.124	1.808	0.131	1.593
Main Effects						
Market Presence	0.528*	7.719	0.568*	8.910	0.323*	4.306
R2	0.376		0.457		0.217	
Adj R2	0.320		0.409		0.148	

* p <.05; coefficients are standardized

Table 6: Essay 1 - Hierarchical Regression Results for Product Launch Financial Performance

	Control Model		Main Effects Model 1		Main Effects Model 2		Main Effects Model 3		Full Model	
Variables	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**
Controls										
Industry Group 1	0.101	0.648	-0.056	-0.374	-0.060	-0.440	-0.092	-0.729	-0.082	-0.626
Industry Group 2	0.171	1.189	0.032	0.236	-0.022	-0.173	-0.073	-0.622	-0.063	-0.523
Industry Group 3	0.077	0.598	-0.006	-0.051	-0.032	-0.286	-0.067	-0.655	-0.058	-0.548
Industry Group 4	0.139	0.896	0.000	0.002	-0.023	-0.171	-0.104	-0.823	-0.087	-0.664
Sales Group 1	-0.263	-1.666	-0.227	-1.536	-0.167	-1.230	-0.101	-0.803	-0.096	-0.746
Sales Group 2	-0.035	-0.222	0.005	0.035	-0.048	-0.355	-0.006	-0.052	0.000	0.000
Company Age Group 1	0.062	0.590	0.050	0.501	0.073	0.801	0.021	0.250	0.022	0.253
Company Age Group 2	0.107	1.040	0.057	0.583	0.055	0.622	-0.001	-0.007	-0.002	-0.022
Launch Experience Group 1	-0.065	-0.410	-0.047	-0.320	-0.070	-0.520	-0.043	-0.348	-0.041	-0.328
Launch Experience Group 2	-0.183	-1.191	-0.144	-1.001	-0.100	-0.759	-0.118	-0.973	-0.115	-0.932
Environmental Uncertainty	-0.149	-1.702	-0.055	-0.655	-0.033	-0.428	-0.018	-0.249	-0.010	-0.137
Competitive Intensity	0.141	1.620	0.118	1.446	0.065	0.870	-0.005	-0.076	-0.010	-0.142
Main Effects										

Table 6: Continued

	Control Model		Main Effects Model 1		Main Effects Model 2		Main Effects Model 3		Full Model	
Variables	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**	**B**	**t-value**
Customer Knowledge (CK)			0.367*	4.760	0.024	0.254	-0.020	-0.221	-0.011	-0.113
Supply Knowledge (SK)					0.526*	5.404	0.375*	3.953	0.377*	3.727
Supply Chain Institutional Environment (SCIE)							0.387*	5.037	0.382*	4.862
Interaction Effects										
CK x SCIE									0.020	0.219
SK x SCIE									0.028	0.317
R2	0.118		0.236		0.365		0.460		0.461	
Adj R2	0.046		0.169		0.303		0.403		0.397	
Δ R2			0.119		0.128		0.095		0.002	

*p <.05; coefficients are standardized

Table 7: Essay 1 - Hypothesis Results for Direct Effects

Hypothesis	B	*p*-value	Finding
H1a: Market presence is positively associated with customer knowledge	0.528	.000	Supported
H1b: Market presence is positively associated with supply knowledge	0.568	.000	Supported
H1c: Market presence is positively associated with product launch financial performance	0.323	.000	Supported
H2: Customer knowledge is positively associated with product launch financial performance	0.367	.000	Mixed Support
H3: Supply knowledge is positively associated with product launch financial performance	0.526	.000	Supported

coefficients are standardized

Table 8: Essay 1 - Hypothesis Results for Indirect Effects

Hypothesis	Sobel *p*-value	Bootstrap CI Indirect Effects		Finding
H4: Customer knowledge mediates the relationship between market presence and product launch financial performance	.931	-.204	.156	Not Supported
H5: Supply knowledge mediates the relationship between market presence and product launch financial performance	.000	.364	.872	Supported

bootstrapping CI calculated using bias corrected method with 1,000 samples at the 95% confidence level; coefficients are standardized

Table 9: Essay 1 - Hypothesis Results for Moderated Effects

Hypothesis	B	*p*-value	Finding
H6a: Supply chain institutional environment positively moderates the relationship between customer knowledge and product launch financial performance	0.020	0.827	Not Supported
H6b: Supply chain institutional environment positively moderates the relationship between supply knowledge and product launch financial performance	0.028	0.752	Not Supported

coefficients are standardized

Table 10: Essay 1 - Constructs and Survey Items

Construct	Definition	Source	Item Removed
Market Presence	The extent to which a firm has established its competitive presence within a specific emerging market country.	adapted from Upson et al., 2012	
Prior to the product launch, how extensive was your company's/division's _____?			
involvement in the project country as compared to other competitors in that same market		new	
competitive presence in the project country as compared to other competitors in that same market		new	
distinct product offerings in the project country as compared to other competitors in that same market		new	X
distinct customer service offerings in the project country as compared to other competitors in that same market		new	
market share in the project country as compared to other competitors in that same market		new	
Supply Chain Institutional Environment	The extent to which supply chain related market intermediaries and infrastructure needed to efficiently move goods and connect buyers and sellers efficiently and effectively are present in the country.	adapted from World Bank, 2016	
For the project country that you previously selected, please rate each of the following statements related to the overall effectiveness of the country's supply chain infrastructure and supply chain services based on your experiences.			
1- Very Low; 7 - Very High			
Efficiency of customs clearance processes in the project country		new	
Frequency with which shipments reach consignee within scheduled or expected time in the project country		new	
Quality of logistics related infrastructure in the project country (e.g. roads, bridges, ports, airports, etc.)		new	
Availability of systems and providers to easily track and trace consignments in the project country		new	

Table 10: Continued

Construct	Definition	Source	Item Removed
Ease of arranging competitively priced shipments in the project country		new	
Competence and quality of logistics service providers in the project country		new	
Competence and quality of suppliers in the project country		new	
Competence and quality of distributors in the project country		new	
Customer Knowledge	The knowledge of the firm regarding customer needs and future value-to-customer creation opportunities in the emerging market country.	adapted from Doll et al., 2010	
Prior to the product launch, _____. *1- Strongly Disagree; 7 - Strongly Agree*			
we had well-developed knowledge about the customers' personal situation		adapted from Sandberg, 2015	X
we had well-developed knowledge about the customers' expected product quality levels		adapted from Christensen et al., 2005	
we had well-developed knowledge about which product/service features were most valued by the customers		adapted from Doll et al., 2010	
we had well-developed knowledge about the customers' requirements		adapted from Doll et al., 2010	
we had well-developed knowledge about what customers wanted		adapted from Doll et al., 2010	
Supply Knowledge	The knowledge of the firm regarding the effective management of the flow and storage of goods, services, and related information in the host country including knowledge of local suppliers', distributors', and logistics service providers' processes and capabilities in an emerging market country.	adapted from Doll et al., 2010; Christensen et al., 2005	
Prior to the product launch, _____. *1- Strongly Disagree; 7 - Strongly Agree*			
we had well-developed knowledge about which logistics resources were the most suitable for fulfilling and delivering customer orders in the project country		new	X

Table 10: Continued

Construct	Definition	Source	Item Removed
we had well-developed knowledge about which transportation modes were the most effective for transporting raw materials and/or finished goods in the project country		new	
we had well-developed knowledge about the most effective way to use the local distribution network in the project country		new	
we had well-developed knowledge about which logistics service providers were the most effective at transporting and storing raw materials and/or finished goods in the project country		new	X
we had well-developed knowledge about which customs brokers were the most effective at importing raw materials and/or finished goods into the project country		new	X
we had well-developed knowledge about which distributors were the most effective at delivering finished goods to customers in the project country		new	
we had well-developed knowledge about how to most effectively import raw materials and/or finished goods in the project country		new	X
we had well-developed knowledge about how to most effectively manage inventory levels of raw materials and/or finished goods in the project country		new	X
we had well-developed knowledge about how to most effectively manage the customer order fulfillment process in the project country		new	
we had well-developed knowledge about where to locally source materials for use in production and/or product distribution		new	
we had well-developed knowledge about local suppliers' process capabilities		adapted from Doll et al., 2010	
we had well-developed knowledge about local suppliers' capabilities to meet cost targets		adapted from Doll et al., 2010	
we had well-developed knowledge about local suppliers' capabilities to meet quality requirements		adapted from Doll et al., 2010	

Table 10: Continued

Construct	Definition	Source	Item Removed
we had well-developed knowledge about alternative suppliers in the project country regarding their product quality levels		adapted from Christensen, et al., 2005	X
Environmental Uncertainty	The extent to which it is difficult to predict product demand, competitive moves, and changes in trade policies within a country.	adapted from Lu et al., 2010	
Please indicate the extent to which agree or disagree with the following statements.			
1- Strongly Disagree; 7 - Strongly Agree			
It was difficult to forecast sales for the product during the product launch		adapted from Lu et al., 2010	
The product was greatly influenced by changes in trade policies during the product launch		adapted from Lu et al., 2010	X
It was difficult to determine the competitive advantage of the product during the product launch		adapted from Lu et al., 2010	
Competitive Intensity	The degree to which rivals in the target product launch marketplace are able and willing to respond to the actions of the firm's product launch venture.	adapted from Morgan et al., 2004	
Please indicate the extent to which you agree or disagree with the statements below concerning competitive intensity in the project country during the product launch.			
1- Strongly Disagree; 7 - Strongly Agree			
Competition in the product market was cut-throat		Morgan et al., 2004	
There were many promotion wars in the product market		Morgan et al., 2004	
Anything that one competitor could offer others could easily match		Morgan et al., 2004	X
One heard of a new competitive move almost every day		Morgan et al., 2004	X
Product Launch Financial Performance	The extent to which the product launch met the firm's financial performance objectives.	adapted from Schoenherr & Swink, 2015	

Table 10: Continued

Construct	Definition	Source	Item Removed
Please indicate below the extent to which the product launch achieved the following outcomes relative to your company's/division's objectives during the first 12-months of the product launch.			
1 - Much Lower; 7 - Much Higher			
Market share relative to objective		Schoenherr & Swink, 2015	
Sales growth rate relative to objective		Schoenherr & Swink, 2015	
Profit relative to objective		Schoenherr & Swink, 2015	
Total sales of product relative to objective		Schoenherr & Swink, 2015	
Return on investment relative to objective		Schoenherr & Swink, 2015	X

CHAPTER II - ESSAY 2 - THE ROLE OF SUPPLY CHAIN RESOURCE ORCHESTRATION IN IMPROVING PRODUCT LAUNCH PERFORMANCE IN EMERGING MARKETS

Abstract

Although launching products into foreign markets is among a firm's most critical strategic activities, prior research has neglected to examine this topic from a supply chain perspective. Specifically, extant research does not offer much empirical evidence regarding the influence of effective supply chain resource orchestration on international product launch performance. This essay fills this gap by investigating whether a firm's ability to orchestrate its supply chain resources (i.e. structure appropriate resource configurations, bundle resources into new supply chain capabilities, and leverage supply chain capabilities to create customer value) influences both product launch operational and financial performance in emerging market countries. Using resource orchestration theory, this study tests the mediating effects of supply chain resource bundling and supply chain leveraging on product launch success. In accordance with resource orchestration theory, it is hypothesized that a firm's ability to bundle its supply chain resources into distinctive capabilities mediates the relationship between supply chain resource acquisition and supply chain leveraging. This study also suggests that supply chain leveraging mediates the relationship between supply chain bundling and product launch performance. The results provide evidence for both the direct and indirect effects of these relationships thereby supporting the predictions of resource orchestration theory.

*NOTE: No publication statement is included. This article has not been published nor will it be prior to the final version of my ETD.

Introduction

Internationalization of firms into new geographic markets is one of the greatest trends of the last 20 years. Firms are entering and launching products into foreign markets at an increasing rate to taking advantage of new opportunities in less saturated competitive landscapes. In 2015 alone, US companies spent an estimated $345B on foreign direct investment (FDI) to support

internationalization efforts (World Bank, 2016). Taking this a step further, even greater future opportunities lie in launching products into emerging market countries. Emerging market countries represent a population of 6-billion people (Lagarde, 2015) and exhibit a much higher growth rate than found in more mature markets. For example, in 2009 the international market growth index for emerging market countries increased by 41.1 percent as compared to an increase of 7.2 percent for all advanced market countries (Khanna & Palepu, 2010). Yet, despite the apparent potential of emerging market countries, little research has been conducted on how firms can successfully create and leverage supply chain capabilities to support a successful product launch in these markets.

The gap in research is considerable because literature points to effective supply chain management as a crucial contributor to competitive advantage and firm performance (Ketchen, Wowak, & Craighead, 2014). Yet, supply chain management has not been the focus of research efforts to explain why some firms succeed and others fail when launching products into emerging market countries. Furthermore, the research gap is surprising as the application of supply chain capabilities to effectively deliver product and meet customer demand may be a fundamental pre-condition to realizing market success during a product launch project. In other words, supply chain capabilities may be a primary driver of product launch success over other types of firm capabilities. Through management of its supply chain, a firm may be able to enact and improve processes to adapt its capabilities to the competitive and operational environment of an emerging market country. Adapting and leveraging supply chain capabilities may strengthen a firm's ability to deliver goods and services to local customers, generate customer value, and improve product launch performance (Sirmon, Hitt, & Ireland, 2007; Sirmon, Hitt, Ireland, & Gilbert, 2011; Schoenherr & Swink, 2015). The ability to adapt supply chain capabilities to fit the local environment is especially crucial in emerging market countries which are fraught with poor

institutional resources. Lack of adequate institutional resources hinders the application of traditional supply chain operations and reduces market efficiency (Khana & Paleup, 2010). Consequently, success of a product launch into an emerging market country may depend upon a firm's ability to adapt its supply chain capabilities to fit the local environment and fully leverage its new capabilities to create customer value (Sirmon et al., 2007, 2011). This study contributes to existing product launch, supply chain management, and emerging market country research by examining the role of supply chain resource orchestration in improving product launch performance in developing countries.

This study uses resource orchestration theory to examine the relationship between a firm's ability to orchestrate its supply chain resources and product launch performance in emerging market countries. Resource orchestration theory is an extension of resource based theory (Barney, 1991; Sirmon et al., 2011) and suggests that a firm realizes the potential of its strategic resource endowment only if it uses those resources to create / improves firm capabilities that match the competitive environment and the adequately leverages those capabilities to generate customer value (Sirmon et al., 2011). Using resource orchestration theory to extend resource-based theoretical frameworks (Barney, 1991; Sirmon et al., 2007, 2011) expands existing knowledge about supply chain phenomena in emerging market countries by examining managerial actions which convert strategic supply chain resources into customer value. Resource-based research in supply chain management literature suggests that ownership of rare, inimitable, and valuable supply chain resources is a large contributor to firm performance (Chen, Paulraj, & Lado, 2004; Luca & Atuahene-Gima, 2007; Modi & Mabert, 2007; Lawson, Cousins, Handfield, & Petersen, 2009; Daugherty, Chen, & Ferrin, 2011; Wowak, Craighead, Ketchen, & Hult, 2013; Esper & Crook, 2014; Hofer, Hofer, &Waller, 2014; Gligor, 2014; Schoenherr & Swink, 2015). Effective

supply chain management relies on the possession of valuable supply chain resources to facilitate performance (Mentzer, Min, & Bobbitt, 2004). Resource orchestration theory takes the existing supply chain theorizing a step further by accounting for the influence of a firm's resource management processes -- structuring (management of a firm's resource portfolio), bundling (combining of firm resources to construct or alter capabilities), and leveraging (the application of a firm's capabilities to create value for customers and wealth for owners. (Sirmon et al., 2007, 2011). Though the value of possessing strategic supply chain resources has been established, extant research has scarcely addressed how supply chain managers combine and assimilate those resources to generate capabilities and then leverage those capabilities in the marketplace to create customer value. Consequently, this study contributes to existing research by examining the role of supply chain resource orchestration in the context launching a new or existing product into an emerging market by answering the following question: *Does supply chain resource orchestration (i.e. supply chain resource bundling and supply chain leveraging) mediate the relationship between the acquisition of valuable supply chain resources and product launch performance in emerging market countries?*

The following section provides the theoretical background for resource orchestration theory and the emerging market country context. This is then followed by the conceptual model and hypothesis development. Third, the methodology section provides details on how supply chain resource orchestration is measured and the results of the hypothesis tests. Last, this essay concludes with a discussion section that highlights the contributions of this research and opportunities for future research.

Background

Resource Orchestration Theory

Extant research suggests that possession of rare, valuable, and inimitable resources improves business outcomes (Crook, Ketchen, Combs, & Todd, 2008). More specifically, research has shown that ownership of rare and valuable supply chain resources improves supply chain performance (Lawson et al., 2009; Zacharia, Nix, & Lusch, 2009; Chen, Tian, Ellinger, & Daugherty, 2010; Ellinger, Natarajarathinam, Adams, Gray, Hofman, & O'Marah, 2011). In this vein, researchers have applied resource-based theories to examine the effects of possessing valuable supply chain resources such as supply chain partner insight (Zacharia et al., 2009), human capital (Chen et al. 2010), and SCM competency (Ellinger et al. 2011). Recently, scholars have argued that mere possession of valuable strategic resources is not enough to guarantee customer value generation and superior firm performance (Sirmon & Hitt, 2009; Sirmon et al., 2011; Liu, Wei, Ke, Wei, & Hua, 2016). In fact, Hansen, Perry, and Reese (2004, p. 1280) suggest that "what a firm does with its resources is at least as important as which resources it possesses."

Resource orchestration theory addresses this gap in knowledge by accounting for the impact of managerial actions on customer value creation and firm performance (Sirmon et al., 2007, 2011). Resource orchestration theory is an extension of resource based theory (Barney, 1991; Sirmon et al., 2011) and suggests that a firm realizes the full potential of its strategic resource endowment when its resources are effectively converted into firm capabilities and those capabilities are adequately leveraged in the marketplace to create customer value (Sirmon et al., 2007, 2011). Resource orchestration theorizing can be expanded by looking specifically at the resource management processes (structuring, bundling, and leveraging) in the supply chain domain (i.e. supply chain resource orchestration) to develop informative and actionable middle range

theory (Merton, 1949). This research takes the first step in developing and testing a middle range theory of supply chain resource orchestration in the context of product launches into emerging markets.

Supply Chain Resource Orchestration and Product Launches into Emerging Markets

Extant research on foreign markets has mainly focused on the implications of entry mode (Meyer, Wright, & Pruthi, 2009), competitive climate (Meyer et al., 2009), and the effects of the institutional environment (Jensen & Szulanski, 2004; Meyer et al., 2009). Less attention has been given to issues concerned with execution of supply chain processes to support product launches into emerging market countries. Additional research in this area is needed because a product launch into an emerging market country is seen as a risky venture (Khanna & Palepu, 2010) and effective supply chain management is considered to be critical to improving performance (Mentzer et al., 2004; Min, Mentzer, & Ladd, 2007; Lanier, Wempe, & Zacharia, 2010; Fugate, Mentzer, & Stank, 2010; Daugherty et al. 2011; Springinklee & Wallenberg, 2012; Leuschner, Rogers, & Charvet, 2013). Research suggests that supply chain capabilities are essential for effective development and subsequent launch of new products (Schoenherr & Swink, 2015). New product launch success hinges on a firm's ability to adapt its supply chain capabilities appropriately to meet the needs of specific projects (Schoenherr & Swink, 2015). Supply chain adaptability is a dynamic capability used to reconfigure supply chain capabilities quickly and effectively. A dynamic capability is one that "enhances a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Schoenherr & Swink, 2015, p. 909). With *adaptive supply chain capabilities*, a firm can quickly identify new sources of supply, adapt to new product requirements, and solve emerging problems (Schoenherr & Swink, 2015) including those related to the competitive and operating environments.

Supply chain adaptability is one personification of *supply chain resource orchestration* and closely relates to the idea of *supply chain resource bundling* (i.e. a firm's ability to combine and assimilate its supply chain resources to construct or alter supply chain capabilities (adapted from Sirmon et al., 2007, 2011). However, the concept of supply chain adaptability does not account for the process of leveraging a firm's capabilities to create customer value (Sirmon et al., 2007, 2011). Thus, this study introduces the concept of *supply chain resource leveraging*. Supply chain resource leveraging is a firm's ability to fully utilize or exploit its supply chain capabilities to create superior value for customers and wealth for owners (adapted from Sirmon et al., 2007, 2011). This study moves beyond the conceptualization of supply chain adaptability by including the managerial process of supply chain leveraging to explain differential performance of product launches into emerging market countries.

Supply chain resource orchestration is a set of firm processes that affect the successful launch of products into challenging environments embodied in emerging market countries. Firms have embedded routines and capabilities which may not fit the country's market context (Madhok, 1997) or institutional environment. Differences between a firm's home market and host country contexts typically reduce the appropriateness and applicability of a firm's existing routines (Madhock, 1997). Due to weak institutional environments, operating in emerging market countries amplifies this problem. In such cases, adaptation of supply chain practices may be necessary for survival (Jensen & Szulanski, 2004). The goal of adaptation is to ensure that capabilities work and are valued within local cultural (Hofestede, 1991; Jensen & Szulanski, 2004) and market (Jensen & Szulanski, 2004) frameworks. If fit between organizational practices and local market conditions is not achieved, then the likelihood of market failure increases (Sorge, 1991).

Product launches into emerging market countries are difficult and may require adaptation and leveraging of new supply chain capabilities to be successful (Hens, 2012). Emerging markets are fraught with high transaction costs (Leff, 1978; Khana and Phalepu 2000; Mair & Marti, 2009) and weak institution environments -- i.e. institutional voids (Leff 1978; Khanna & Palepu, 2010; Hens, 2012). Institutional voids are weaknesses in a country's regulatory institutions, infrastructure, and market intermediaries (Khanna & Palepu, 1997, 2010; Hens 2012). Institutional voids affect the efficient functioning of markets (Leff, 1978) and slow market growth. Consequently, institutional voids should also impact a firm's *product launch* performance by increasing transaction costs (Leff, 1978; Khanna & Palepu, 2000; Mair & Marti, 2009) and forcing firms to assume a wider range of activities, such as market research and distribution (Hens, 2012).

Developing and leveraging internal supply chain capabilities in emerging market countries is especially challenging due to poor supply chain infrastructure (Khanna & Palepu, 2010). The existence of voids in transportation and technological infrastructure make monitoring of organizational "efforts" expensive and difficult (Webb, Kistruck, Ireland, & Ketchen, 2010; Kistruck, Sutter, Lount, & Smith, 2013) and increase uncertainty in distribution performance during a product launch. To improve product launch performance in emerging market countries, firms may need create and leverage new supply chain capabilities that fit the institutional environment without the help of logistics service providers or suppliers (Khanna & Palepu, 2010).

In an emerging market country context, *all* supply chain resource orchestration activities are likely to be very crucial to product launch success. Accordingly, for a firm to be successful when launching a product into an emerging market country, it must establish tailored supply chain practices to solve sourcing and distribution problems, establish relationships with competent logistics service providers and suppliers, adapt supply chain capabilities to region-specific

customer requirements, and solve problems related to leveraging supply chain capabilities to overcome a weak institutional environment. Supply chain resource orchestration is perhaps the mechanism by which to perform these crucial activities and improve product launch performance.

Including all management processes involved in supply chain resource orchestration is important for understanding how managerial actions can influence a firm's ability to adapt and deploy its supply chain capabilities in extreme environments to improve product launch performance. Examining the process of supply chain resource orchestration in emerging market countries allows for testing of resource orchestration's central theoretical tenets in a context where the value of the bundling and leveraging processes should be maximized. The extreme institutional context of emerging market countries constitutes a boundary condition for supply chain resource orchestration and by extension resource orchestration theory. Testing hypotheses in the emerging market country context offers a data point for future studies to determine limits of supply chain resource orchestration's theoretical linkages.

The next section builds on these ideas by developing hypotheses in order to test supply chain resource orchestration's effect on product launch performance in emerging market countries.

Hypothesis Development

The Effect of Supply Chain Resource Orchestration on Product Launch Performance

Supply chain resource orchestration is a set of managerial processes geared toward acquiring supply chain resources, bundling supply chain resources to generate supply chain capabilities, and leveraging supply chain capabilities to create customer value (adapted from Sirmon et al., 2007, 2011). Supply chain resource bundling is a sub-process of supply chain resource orchestration, and refers to a firm's ability to combine and assimilate its supply chain resources to construct or alter supply chain capabilities (adapted from Sirmon et al., 2007, 2011).

To be successful at building new supply chain capabilities, a firm must be able to first identify and acquire appropriate supply chain resources (Sirmon et al., 2007, 2011). If inappropriate supply chain resources are acquired, then the resulting resource portfolio will not be conducive to logical combinations of supply chain resources to build appropriate supply chain capabilities. Further, a firm must possess appropriate complementary resources to implement its supply chain resource endowment (Dierickx & Cool, 1989). In this vein, complementary resources are needed to support assimilation of supply chain resources into new value-added supply chain capabilities. A firm's ability to identify which primary supply chain resources are most effective in a given operational environment, and which complementary resources are needed assimilate those resources, constitutes its *supply chain resource acquisition* ability. Having supply chain resource acquisition ability enhances a firm's aptitude for effectively bundling its supply chain resources and creating new supply chain capabilities.

Supply chain capabilities constitute the *potential* ability of a firm to provide customer value through logistics service, logistics quality, and low cost distribution (Mentzer et al., 2004). Developing supply chain capabilities requires combining and integrating supply chain resources in unique and different ways to conform to the demands of the competitive environment (Sirmon et al., 2007, 2011). However, to develop supply chain capabilities, the company must first obtain the appropriate resources such as plants, equipment, managerial skills, and supply chain relationships (Mentzer et al., 2004; Sirmon et al., 2007, 2011). Acquiring these supply chain resources provides a stock of strategic assets that the company can mold into the appropriate supply chain capabilities. Thus, it is hypothesized that supply chain resource acquisition is an antecedent to supply chain resource bundling and is positively associated with the firm's ability to generate new supply chain capabilities.

H1: Supply chain resource acquisition is positively associated with supply chain resource bundling.

Supply chain leveraging is the process by which a firm uses its supply chain capabilities to create customer value (adapted from Sirmon et al., 2007). Supply chain leveraging involves the application of a firm's capabilities and resources to create value for customers and other stakeholders (adapted from Sirmon et al., 2007, 2011). Like the argument above concerning supply chain resource bundling and supply chain capability creation, supply chain leveraging is only effective if there are resources which can be leveraged. For supply chain leveraging to come to fruition, the firm must first acquire resources that make supply chain leveraging possible. This logic is congruent with Dierickx and Cool's (1989) argument that complementary resources are necessary to implement and derive value from strategic resources purchased in strategic factor markets. Thus, it is expected that supply chain resource acquisition is positively associated with supply chain leveraging.

H2: Supply chain resource acquisition is positively associated with supply chain leveraging.

Supply chain bundling refers to the combining of firm resources to generate supply chain capabilities (adapted from Sirmon et al., 2007, 2011). The process of resource bundling involves making incremental improvements to existing capabilities, extending current capabilities, and creating new capabilities (Sirmon et al., 2007, 2011) to fit the competitive environment. The final product of the supply chain resource bundling process is the creation of a supply chain capabilities (e.g. information sharing ability (Mentzer et al., 2004)). Supply chain leveraging is the process by which the firm deploys its supply chain capabilities in the marketplace to generate customer value. For supply chain leveraging to occur, the firm must first have an inventory of supply chain capabilities with the capacity for generating customer value. Thus, it is proposed that supply chain resource bunding is positively associated with supply chain leveraging.

H3: Supply chain resource bundling is positively associated with supply chain leveraging.

Successful supply chain resource bundling relies on the firm's ability to combine and assimilate its supply chain resources to construct or alter supply chain capabilities (adapted from Sirmon et al., 2007, 2011). Through effective supply chain resource bundling activities, a firm can generate the most appropriate supply chain capabilities for the operational and competitive environment in an emerging market country. The context of an emerging market may be very different from a firm's home country environment, which creates a liability of foreignness (Zaheer, 1995). As a firm accumulates and acquires supply chain resources (e.g. supply chain partner relationships, factories, warehouses, plants, etc. (Mentzer et al., 2004)) it can use supply chain resource bundling processes to convert those resources into suitable supply chain capabilities which fit the context of the emerging market country, and improve product launch performance (Sirmon et al., 2007, 2011). Thus, it is expected that successful supply chain resource bundling is positively associated with product launch operational performance.

H4: Supply chain resource bundling is positively associated product launch operational performance.

Supply chain resource orchestration comprises of the integration of supply chain resources to generate new supply chain capabilities, but also recognizes the role of leveraging firm capabilities in the competitive arena to create customer value (Helfat et al., 2009; Sirmon et al., 2011; Chadwick, Super, & Kwon, 2014). Resource orchestration theory suggests that the resource management process begins with the acquisition of valuable strategic resources (supply chain resource acquisition) followed by the process of bundling of those resources into capabilities (supply chain resource bundling) (Sirmon et al., 2007, 2011). New firm capabilities are then leveraged in the marketplace to generate customer value and improve performance (supply chain resource bundling) (Sirmon et al., 2007, 2011). In this sense, leveraging supply chain resources

and capabilities in the marketplace is the link through which effective supply chain resource acquisition impacts product launch performance.

Subsequently, in congruence with resource orchestration theory, new supply chain capabilities must be leveraged in the marketplace before customer value is created (Sirmon et al., 2007, 2011). Without supply chain leveraging (i.e. the ability to effectively implement supply chain capabilities) supply chain capabilities are not utilized to their fullest potential and do not enhance product launch performance. It is the adequate leveraging of a firm's capabilities which improves overall performance (Ireland, Hitt, & Sirmon, 2003; Sirmon et al., 2007; Chirico, Sirmon, Sciascia, & Mazzola, 2011) by mobilizing, coordinating, and utilizing their full potential (Sirmon et al., 2011). It is through the supply chain leveraging process and effective application of a firm's supply chain capabilities in the marketplace that customer value is generated (Hitt, Ireland, Sirmon, & Trahms, 2011; Chirico et al., 2011; Sirmon et al., 2011) and thus improves product launch performance. Consequently, firms with enhanced supply chain leveraging ability should be able to bring more of their assorted capabilities to bear in the marketplace and improve product launch operational performance.

H5: Supply chain leveraging is positively associated with product launch operational performance.

Product launch operational performance is measured by the degree to which the firm achieved its efficiency and effectiveness goals during project execution. Both efficiency and effectiveness are key elements of how supply chain management, and consequently logistics processes, create customer value (Fugate et al., 2010). In fact, logistics performance has been conceptualized of consisting of three dimensions -- efficiency, effectiveness, and differentiation (Cameron, 1986; Langley & Holcomb, 1992; Fugate et al., 2010). Measures of efficiency and effectiveness are suggested to capture the complexity of supply chain performance (Defee, Stank,

Esper, & Mentzer, 2009) and thus should also capture the performance of the product launch. Effectiveness of the product launch impacts the firm's ability to fulfill customer needs, increase sales, and grow market share. Efficiency on the other hand reduces cost of the effort. Combining both efficiency and effectiveness measures into one construct should have a perceptible impact on product launch financial performance from both a top and bottom line perspective. It is thus expected that product launch operational performance is positively associated with product launch financial performance.

H6: Product launch operational performance is positively associated with product launch financial performance.

The Mediating Effects of Supply Chain Resource Bundling and Supply Chain Leveraging

As previously argued above, having valuable strategic supply chain resources does not guarantee successful application of those resources to support effective supply chain management and improve product launch performance. Resource orchestration theory suggests that the firm must first combine and assimilate its strategic resources to generate firm capabilities to improve performance (Sirmon et al., 2007, 2011). It is thus expected that supply chain resource bundling is a necessary intermediary process between supply chain resource acquisition and product launch performance. Therefore, it is theorized that supply chain resource bundling mediates the relationship between supply chain resource acquisition and product launch operational performance.

H7a: Supply chain resource bundling mediates the relationship between supply chain resource acquisition and product launch operational performance.

Resource orchestration theory suggests that customer value is created only if a firm's resources and capabilities are effectively leveraged in the marketplace (Sirmon et al., 2007, 2011). Supply chain leveraging represents managerial processes which mobilize and coordinate the

utilization of supply chain capabilities (adapted from Sirmon et al., 2007, 2011). It is through supply chain leveraging that valuable supply chain resources are deployed into the competitive arena leading to improvements in product launch performance. It is thus expected that supply chain leveraging mediates the relationship between supply chain resource acquisition and product launch operational performance

H7b: Supply chain leveraging mediates the relationship between supply chain resource acquisition product launch operational performance.

Successful acquisition of supply chain resources in an emerging market country provides a firm with the opportunity to create customer value. However, mere possession of valuable supply chain resources does not guarantee a competitive advantage and improved performance (Sirmon et al., 2007, 2011). Supply chain resources must be combined and integrated to create advantageous supply chain capabilities and then those capabilities must be leveraged in the marketplace to generate customer value (Sirmon et al., 2007). The purpose of leveraging is to "use capabilities to create solutions for current and new customers" (Sirmon et al., 2007, p. 273) which is paramount to improving product launch performance. Through supply chain leveraging, supply chain capabilities are identified, mobilized, and their application coordinated to physically utilize them to their fullest potential. However, for supply chain leveraging to occur, a firm must have an inventory of supply capabilities generated from supply chain resources that can then be deployed. Thus, for supply chain leveraging to be possible, supply chain resources must first be bundled into capabilities, which leads to the following hypothesis.

H7c: Supply chain resource bundling mediates the relationship between supply chain resource acquisition and supply chain leveraging.

Bundling of supply chain resources to generate supply chain capabilities does not guarantee increased market performance (Sirmon et al., 2011; Liu et al., 2016). Supply chain capabilities

must be effectively applied in the marketplace to improve product launch performance. Resource orchestration theory (Sirmon et al., 2007, 2011) suggests that a firm's capabilities, created through the resource bundling process, generate value only if they are leveraged to meet customer expectations. Supply chain capabilities can thus be thought of as a firm's *potential* to create customer value. The formal definition of a "capability" is the "the facility or potential for an indicated use or deployment" (Merriam-Webster, 2017), which supports the notion of a supply chain capability as potential value that has not yet been realized. Supply chain capabilities embody the capacity to generate customer value, but this does not occur without supply chain leveraging. Thus, it is expected that supply chain leveraging mediates the relationship between supply chain resource bundling and product launch operational performance.

H8: Supply chain leveraging mediates the relationship between supply chain resource bundling and product launch operational performance.

The Mediating Effects of Product Launch Operational Performance

Effective supply chain management impacts firm performance through increases in operational efficiency and effectiveness (Cameron, 1986; Langley & Holcomb, 1992; Fugate et al., 2010). These mechanisms each impact different aspects of financial performance. For the purposes of this research, *product launch financial performance* comprises of sales growth, profit, total sales, and return on investment of resulting from a product launch relative to the project's objectives. Supply chain resource bundling is used by the firm to generate capabilities that can then be deployed to create customer value (Sirmon et al., 2007, 2011). If supply chain resource bundling is done appropriately, then the firm should be able to increase its level of operational effectiveness through enhanced customer service capabilities. Further, the firm should be able to increase efficiency through building low cost distribution capabilities (Mentzer et al., 2004). One type of capability increases the effectiveness of operations (i.e. customer delivery) while the other

increases operational efficiency (i.e. low cost distribution) (Mentzer et al., 2004). Operational effectiveness impacts the financial performance of the product launch by enabling sales growth. Operational efficiency reduces the cost of product distribution activities which increases profit and enhances return on investment. Thus, product launch operational performance is a crucial mechanism through which supply chain resource bundling activities impact product launch financial performance. Consequently, it is hypothesized that the relationship between supply chain resource bundling and product launch financial performance is mediated by product launch operational performance.

H9a: Product launch operational performance mediates the relationship between supply chain resource bundling and product launch financial performance.

Supply chain leveraging enables the performance potential of a firm's supply chain capabilities to be realized (Hitt et al., 2011). Mobilizing supply chain capabilities ensures that the proper capability configurations are maintained and deployed (Sirmon et al., 2007, 2011), which then enhances operational efficiency and effectiveness. The process of coordinating the deployment of supply chain capabilities creates synergies within a firm's supply chain operations, which then improves customer service and cost efficiencies. For these reasons, supply chain leveraging should be directly linked to product launch operational performance by impacting both efficiency and effectiveness of the product launch (i.e. product launch operational performance) and improving product launch financial performance. Thus, it is hypothesized that product launch operational performance mediates the relationship between supply chain leveraging and product launch financial performance.

H9b: Product launch operational performance mediates the relationship between supply chain leveraging and product launch financial performance.

Methodology

Items for each of the constructs were generated from literature where possible. Measurement items for environmental uncertainty, competitive intensity, product launch were adapted from previous research. Prior to this research, constructs for supply chain resource acquisition, supply chain resource bundling, and supply chain leveraging had not been operationalized. Each of these constructs were measured using new items created by combining theoretical definitions in literature, input from leading academics, and findings from practitioner interviews. The validation of construct items and the associated survey instrument followed the process prescribed by Dillman (1978). The final list of constructs, definitions, measurement items, sources, and scale anchors is provided in **Table 17** (All tables and figures are located in the appendix).

Data Collection

The sampling frame for this study included supply chain, market, and new product management professionals who have been involved in a product launch into an emerging market country within the last 7 years. A single product launch into an emerging market country was the unit of analysis. The survey instrument was distributed online to the targeted respondents by a panel data service company. The panel data service pre-screened candidates to ensure that each participant was directly involved in at least one product launch into an emerging market country. Invitations to participate in the study were sent via email by the panel data company on behalf of the researchers (Lindgreen, Swaen, & Johnston, 2009; Tang & Rai, 2012; Schoenherr & Swink, 2015). Strict qualification questions and quality checks were used to ensure high levels of credibility and reliability (Schoenherr & Swink, 2015). Quality checks included; 1) two attention checks; 2) three straight-lining checks; 3) three reverse scale checks; 4) qualitative checks; and 5)

controls to identify speeders. Further, the data were examined to identify multiple responses by the same participant leading to the rejection of several records. In total, 1,500 respondents passed the initial qualification questions. Out of those that qualified, only 250 respondents successfully passed the quality checks leading to an incidence rate of 17%. Another 90 records were eliminated from the dataset due to >7-year retrospection and product launches in non-emerging markets. This yielded a total sample of 160 usable responses—an acceptance rate of 11%.

The final sample of consisted of product launch projects across 45 emerging market countries. Respondents mostly worked in the consumer products (30.00%) and industrial products (28.75%) industries, followed by electronics (20.63%), food (13.13%), and medical (7.50%). The functional roles of the respondents included supply chain project management (33.13%), manufacturing / operations (18.13%), sales / marketing (17.50%), logistics / distribution (14.38%), new product development (12.50%), purchasing (2.50%), and other (1.88%). Sample demographics are provided in **Table 11**.

Due to concerns regarding anonymity, the panel data company did not disclose the participants' contact information or any information regarding the participants' firms. Because this information was not available, it was not possible to determine representativeness and nonresponse bias using normal methods. However, using an approach applied in a similar panel data study (Schoenherr & Swink, 2015), nonresponse bias was tested by comparing (first 50) and late (last 50) respondents to determine mean differences in the various constructs (Armstrong & Overton, 1977; Schoenherr & Swink, 2015). Independent sample *t* tests revealed significant differences in the means for some of the constructs. Further analysis was conducted to determine the reason for the differences. It was discovered that the last 50 respondents conducted product launches in country markets with lower quality logistics infrastructure as measured by the logistics

performance index (LPI) (World Bank, 2016) than the first 50. Following this discovery, another analysis was performed controlling for the differences in the LPI. It was found that, when controlling for differences in LPI, mean differences for the key factors were no longer significant.

Measurement Model

Structural equation modeling (SEM) was used to analyze the data using AMOS 24. A two-step SEM approach (Anderson & Gerbing, 1988) method was used to determine the most appropriate measurement model and build the structural model for subsequent hypothesis testing. In the first step, a confirmatory factory analysis (CFA) was performed to determine validity of the constructs. Estimates of the standardized regression weights and critical ratios (CR) were used to determine unidimensional and validity. When constructing the measurement model, all items that did not significantly load or indicated poor loading (i.e. < .60) on its corresponding construct were removed. All items in the final measurement model exhibited a CR above the necessary threshold and standardized regression weights greater than .60 for the each of the latent variables, which suggests convergent validity (Anderson, 1987; Gerbing & Anderson, 1988; Mentzer, Flint, & Kent, 1999; Schoenherr & Swink, 2015). Once convergent validity was established for each scale by the CFA, the reliability for each scale was measured using both Cronbach's alpha and average variance extracted (AVE). Both the alpha and AVE values were within the acceptable range. **Table 12** provides the final measurement items for the constructs with standardized loadings, standard error, CR, AVE, and alpha values.

Discriminant validity was tested using the nested model approach (Anderson & Gerbing, 1988), which compares the original model to a series of models where the covariance between each pair of latent constructs is constrained to one. If the constrained models exhibit worse fit than the measurement model, then discriminant validity among the constructs is supported (Bagozzi &

Phillips, 1982; Bagozzi & Yi, 1988). The results of the nested model analysis are provided in **Table 14**. These results indicated that the measurement model maintained a significantly greater fit to the data than each of the subsequent constrained models, demonstrating discriminant validity of all constructs.

Common method variance was assessed using Harman's single-factor test (Podsakoff & Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The Harman's single-factor test suggests that common method variance is not an issue if two conditions are satisfied -- a single factor does not emerge from a factor analysis test and a single factor does not account for the majority of covariance among measurement items (Nyaga, Whipple, & Lynch, 2010). To measure the common method variance, measurement items for all theoretical constructs in the study were added to a principle component factor analysis. The unrotated solution revealed that the first factor accounted for 42% of the total variance. This value suggests that common method variance is not an issue.

The fit indices for the final measurement model indicated good fit to the data with χ^2 = 311.197 (df = 231, $p < .000$); χ^2/df (CMIN/df) = 1.347; Bollen-Stine Bootstrap (p = .287); CFI = .967; NNFI = .961; RMSEA = .047. In the second step of the data analysis, the structural relationships between the theoretical constructs were specified in the model to test the hypothetical relationships. The next section provides a summary of the results.

Structural Model

A series of binary control variables was generated and included in the structural model to control for several potentially influential relationships including industry, international product launch experience, firm age, and firm size. Coefficients for Industry, international product launch experience, firm age, and firm size variables were all found to be insignificant for both product

launch operations performance and product launch financial performance. Further, control variables for environmental uncertainty and competitive intensity were added to the model to isolate the effects of supply chain resource orchestration. Overall model fit indices for the structural model demonstrated good fit to the data with $\chi^2 = 554.183$ ($df = 430$, $p < .000$); χ^2/df (CMIN/df) = 1.294; CFI = .962; NNFI = .950; RMSEA = .043. Results of the hypothesis tests for both direct and indirect effects are provided in **Table 15**.

Hypothesis Tests

The hypothesis tests found that supply chain resource acquisition is positively associated with supply chain resource bundling (support for H1), but only marginally with supply chain leveraging (marginal support for H2). Supply chain resource bundling is positively associated with both supply chain leveraging and product launch operational performance (support for H3 and H4) and supply chain leveraging is positively associated with product launch operational performance (support for H5). Last, product launch operational performance is positively related to product launch financial performance (support for H6). The mediated hypotheses were examined using the indirect effects with significance levels from the bias corrected bootstrap procedure using a 95% confidence interval and executing 200 bootstrap samples. The SEM results (see **Table 15**) indicated that most expected indirect paths were significant (support for H7a, H7c, H8, H9a, and H9b) while one was found to be marginally significant (limited support for 7b).

Discussion and Conclusion

The purpose of this research was to investigate the role of supply chain resource orchestration in supporting product launches into emerging markets. An additional goal of this research was to find effective measures of three main constructs of resource orchestration (resource acquisition, resource bundling, and leveraging). Assembling these measures allowed for testing

and confirmation of the main theoretical tenets of resource orchestration within the supply chain domain and provided empirical support for associated propositions in literature. The most important objective was to use these construct measures and associated relationships as a means by which to test both theoretical relationships suggested by resource orchestration as well as advance theory by explaining the means by which firms use supply chain resource orchestration to improve product launch performance in emerging market country environments. The findings of this research contribute to international management, strategic management, and supply chain management literature in the following ways.

This is the first study to test and confirm scales for directly measuring supply chain resource orchestration and its associated impact on product launch performance. The results substantiate the three main elements of resource orchestration -- resource structuring, resource bundling, and leveraging (Sirmon et al., 2007, 2011). More specifically, this study provides empirical support that supply chain resource orchestration consists of discriminant elements representing distinct managerial processes which can be separately measured. The measure purification process resulted in confirmation of the validity of all constructs in the study -- most importantly theoretical constructs which measure managerial processes of supply chain resource orchestration. Establishing validated construct measures for the three processes of supply chain resource orchestration is an important first step in supporting more substantive supply chain research that incorporates these processes in various contexts to determine the relative importance of each given a contextual condition. This line of research should provide managers with direction on which supply chain resource orchestration activities are most beneficial in a given situation, and help give guidance on where firm investments should be concentrated.

The findings provide interesting insight into how the supply chain resource orchestration process facilitates product launch performance in emerging market countries as well as the specific contribution of each supply chain resource orchestration process. Each of the elements of supply chain resource orchestration affect product launch performance in different ways. In this vein, the current study finds strong support for the notions of resource orchestration theory as a series of distinct managerial processes which extract the value potential of strategic resources. More specifically, support was found for the assertion that managerial actions are just as important as the ability to obtain and possess strategically valuable resources (Sirmon et al., 2011). The results suggest that supply chain leveraging is a mediator between supply chain resource bundling, i.e. the creation of supply chain capabilities, and operational performance, which provides confirmation for the central tenets of resource orchestration theory.

This study may also be helpful in building new theory, especially middle range theories which are "theories that lie between the minor, but necessary, working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behavior, social organization, and social change" (Merton 1949, p. 448). Developing a middle range theory provides the researcher with tools to reach prescriptive conclusions that are closer to observable phenomena and easier to convert into actionable managerial implications. Consequently, developing middle range theory specific to supply chain resource orchestration will provide future researchers and managers with a "theoretical took kit" with which to explain supply chain phenomena and solve problems that are unique to the domain.

There are many opportunities for future research based on this study. First, future research should examine the relationships between the supply chain resource orchestration constructs and

product launch performance in the context of more mature markets. It is possible that the relationships may change based on factors such as the institutional environment of the country (Mair & Marti, 2009; Khanna & Palepu, 2010). For example, the need to rely on leveraging of supply chain capabilities to improve product launch performance may be more crucial in emerging market countries due to poor logistics and communications infrastructure. Second, the unit of analysis in this study was a product launch project. While this unit of analysis provided significant insights, there are some limitations. For example, due to the embedded nature of the project unit of analysis (i.e. projects within firms operating within countries) it is difficult to parse out the impact of country-level economic factors on supply chain resource orchestration. Future research at the firm level of analysis may uncover important environmental interactions or conditions that change the nature of the hypothesized relationships. For instance, supply chain resource acquisition may be a more important activity in countries with a low GDP per capita or a poor educational system. One of the noted main obstacles to firm performance in less develop countries is a poor education system (Khanna & Palepu, 2010) which could impact a firm's ability to hire local supply chain talent. Examining these constructs at the firm level may allow for uncovering important mechanisms providing prescriptions regarding how firms can overcome institutional challenges inherent in emerging market countries. Last, the process of developing measures for any construct is not perfect and may not result in the optimal scales for capturing the phenomena. As such, the measures in this study would benefit from reuse in future studies to further refine and add to the accuracy and efficacy of the scales.

The findings in this research confirm the importance of orchestrating supply chain resources in order to improve product launch performance in emerging market countries. The results suggest that there is value in possessing strategically important supply chain resources.

However, realizing that value may be contingent on a firm's ability to orchestrate those resources through supply chain processes that involve bundling and leveraging of resources. To some extent, these findings confirm the essence of resource orchestration theory and lends credence to the need to extend our understanding concerning resource-based research. The conceptualization of resource orchestration involves integrating and combining resources to generate capabilities, and then coordinating and utilizing those capabilities to improve performance and increase customer value. Indeed, these processes worked as expected regarding supply chain resource orchestration.

In addition to supporting the resource orchestration theoretical framework, the findings of this research also point to some interesting relationships among various constructs. Supply chain resource acquisition was found to be strongly associated with supply chain resource bundling, and supply chain resource bundling was found to be significantly associated with supply chain leveraging. Further, supply chain leveraging was found to be directly and significantly related to product launch operational performance. The indirect path through these constructs was also found to be significant. This supports the notion that supply chain resources add value to the firm through managerial practices which enable their application. Managerial practices of capability creation (bundling) and application (leveraging) are just as important as the firm having strategically valuable assets, and should be considered in the strategic planning process prior to beginning a product launch into an emerging market country. Managers who seek to improve product launch performance in emerging market countries should seek to understand not only which supply chain resources are needed to succeed, but also how those resources will actually be used to create and leverage supply chain capabilities. It is through managerial actions of supply chain resource orchestration that a firm will realize the value potential of its strategic supply chain resource endowment to improve performance of product launches in emerging market countries.

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Appendix

Figures

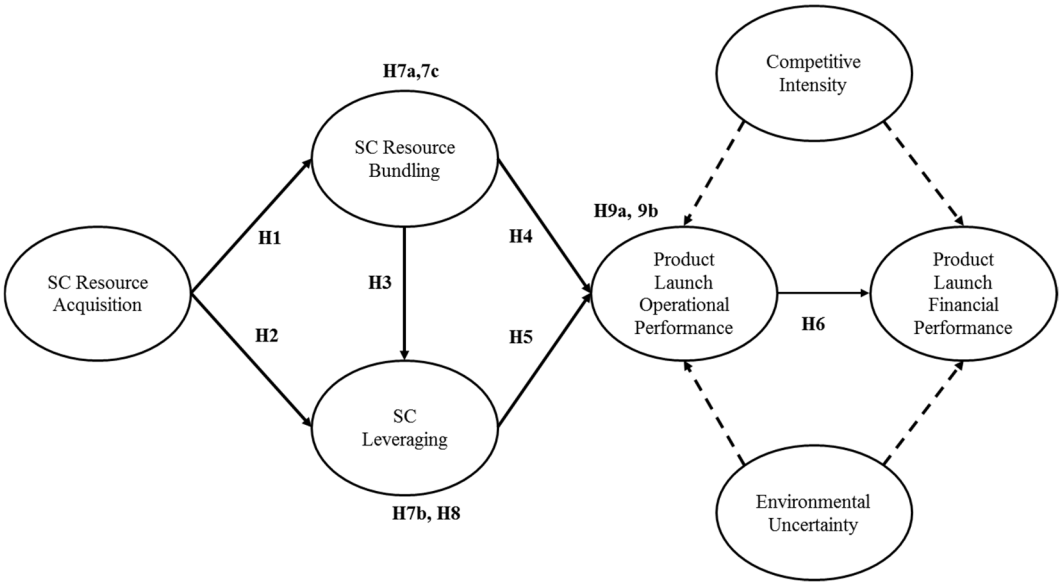
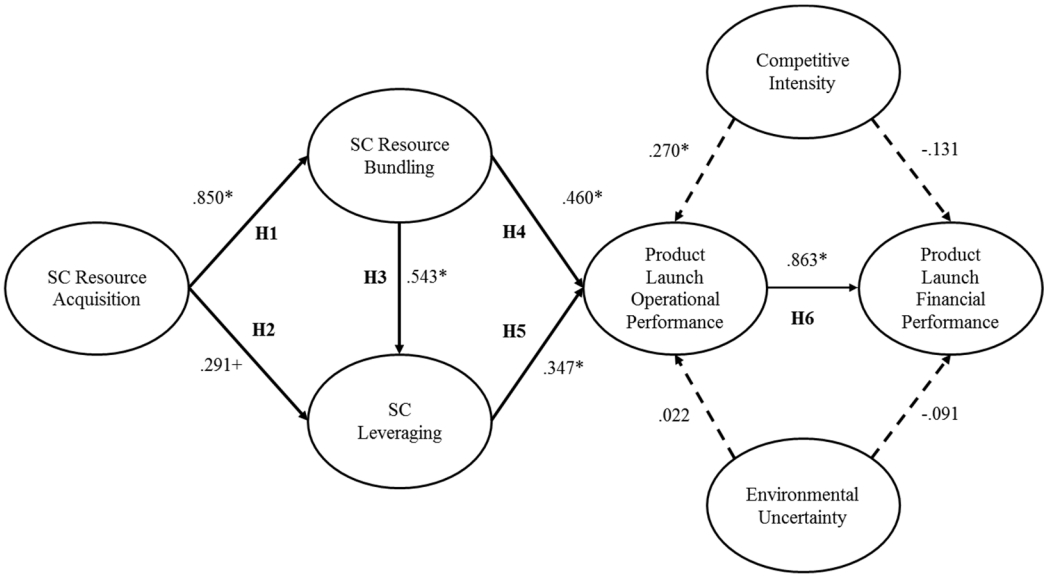


Figure 2: Essay 2 - Conceptual Model



χ^2 = 554.183 (*df* = 430, *p* < .000); χ^2/df (CMIN/*df*) = 1.294; CFI = .962; NNFI = .950; RMSEA = .043;
* *p* <.05; + *p* <.10

Figure 3: Essay 2 - Structural Model

Tables

Table 11: Essay 2 - Respondent Demographics

Project Country	Percentage	Project Country	Percentage
China	15.00%	Vietnam	1.25%
Mexico	14.38%	South Africa	1.25%
India	10.63%	Malaysia	1.25%
Brazil	5.63%	Hungary	1.25%
Argentina	4.38%	Cameroon	0.63%
United Arab Emirates	3.75%	Sri Lanka	0.63%
Thailand	3.13%	Belarus	0.63%
Belize	3.13%	Mongolia	0.63%
Russia	2.50%	Bangladesh	0.63%
Colombia	2.50%	Armenia	0.63%
Costa Rica	1.88%	Venezuela	0.63%
Turkey	1.88%	Bosnia and Herzegovina	0.63%
Nigeria	1.88%	Equatorial Guinea	0.63%
Philippines	1.88%	Oman	0.63%
Jamaica	1.88%	Ethiopia	0.63%
The Bahamas	1.25%	Botswana	0.63%
St. Lucia	1.25%	Cambodia	0.63%
Dominican Republic	1.25%	Ecuador	0.63%
Panama	1.25%	Chile	0.63%
Croatia	1.25%	Egypt	0.63%
Georgia	1.25%	Barbados	0.63%
Morocco	1.25%	Samoa	0.63%
		Serbia	0.63%

Industry	Percentage	Firm Role	Percentage
Consumer Products	30.00%	Supply Chain Project Management	33.13%
Industrial Products	28.75%	Manufacturing / Operations	18.13%
Electronics	20.63%	Sales / Marketing	17.50%
Food	13.13%	Logistics / Distribution	14.38%
Medical	7.50%	New Product Development	12.50%
		Purchasing	2.50%
		Other - Please Describe	1.88%

Table 12: Essay 2 - Final Construct Measurement Items

Construct	Loading	S.E.	C.R.	AVE	α
Supply Chain Resource Acquisition				0.80	0.88
easily acquire competent logistics services locally in the project country	0.824	0.077	12.319		
easily acquire effective logistics equipment locally in the project country to support product distribution	0.815	0.095	12.109		
easily find effective sources of materials locally in the project country to support product distribution	0.774	0.092	11.223		
easily acquire/contract effective logistics facilities and infrastructure in the project country to support product distribution	0.788	0.078	11.512		
Supply Chain Resource Bundling				0.80	0.88
easily integrate its supply chain resources to quickly alter its supply chain management capabilities to fit the competitive environment in the project country	0.816	0.086	12.219		
easily integrate its supply chain resources to quickly create new ways of providing customer delivery service to fit the competitive environment in the project country	0.803	0.083	11.927		
easily combine its supply chain resources to quickly make improvements to its purchasing capabilities in the project country	0.886	0.075	13.916		
easily combine its supply chain resources to quickly make improvements to its information sharing capabilities in the project country	0.702	0.091	9.867		
Supply Chain Leveraging				0.78	0.88
fully coordinate the application of its supply chain capabilities to exploit the market opportunity	0.736	0.083	10.467		
easily identify and mobilize all of the purchasing capabilities that were needed to support the product launch	0.819	0.075	12.224		
easily identify and mobilize all of the logistics service capabilities that were needed to support the product launch	0.796	0.079	11.714		
fully deploy and physically use all of its supply chain capabilities to exploit the market opportunity	0.784	0.084	11.45		
fully utilize all of its logistics service capabilities to exploit the market opportunity	0.741	0.083	10.556		
Competitive Intensity				0.78	0.81
Competition in the product market was cut-throat	0.786	0.109	10.713		
There were many promotion wars in the product market	0.905	0.101	12.742		
One heard of a new competitive move almost every day	0.624	0.11	8.167		
Environmental Uncertainty				0.74	0.70
It was difficult to determine the competitive advantage of the product during the product launch	0.81	0.163	7.007		
It was difficult to forecast sales for the product during the product launch	0.657	0.143	6.279		

Table 12: Continued

Construct	Loading	S.E.	C.R.	AVE	α
Product Launch Operational Performance				0.83	0.81
Product launch customer service effectiveness relative to objective	0.811	0.082	11.771		
Product launch operational efficiency relative to objective	0.844	0.081	12.412		
Product Launch Financial Performance				0.88	0.93
Sales growth rate relative to objective	0.878	0.071	13.845		
Profit relative to objective	0.858	0.085	13.349		
Total sales of product relative to objective	0.872	0.075	13.683		
Return on investment relative to objective	0.893	0.081	14.237		

Table 13: Essay 2 - Construct Correlations

	RACQ	SCRB	SCLEV	CI	EU	PLPOP	PLPFIN
Supply Chain Resource Acquisition (RACQ)	1						
Supply Chain Resource Bundling (SCRB)	0.836	1					
Supply Chain Leveraging (SCLEV)	0.760	0.811	1				
Competitive Intensity (CI)	0.185	0.112	0.104	1			
Environmental Uncertainty (EU)	-0.148	-0.229	-0.222	0.352	1		
Product Launch Operational Performance (PLPOP)	0.697	0.683	0.700	0.335	-0.067	1	
Product Launch Financial Performance (PLPFIN)	0.593	0.617	0.601	0.140	-0.170	0.815	1

Table 14: Essay 2 - Discriminant Validity Pairwise Model Comparisons

Model	DF Δ	χ^2 Δ	*p*	χ^2	DF	CFI	NNFI
Measurement Model				311.197	231	.967	.961
SCRB=RACQ	6	53.042	.000	364.239	237	.948	.939
SCRB=SCLEV	6	73.079	.000	384.276	237	.939	.929
SCLEV=RACQ	6	91.395	.000	402.592	237	.932	.921
PLPOP=PLPFIN	6	57.286	.000	368.482	237	.946	.937
SCRB=CI	6	196.735	.000	507.932	237	.888	.870
SCRB=EU	6	62.422	.000	373.618	237	.944	.934
SCRB=PLPFIN	6	273.340	.000	584.537	237	.857	.833
SCRB=PLPOP	6	102.539	.000	413.736	237	.927	.915
SCLEV=CI	6	196.562	.000	507.759	237	.889	.870
SCLEV=EU	6	63.461	.000	374.658	237	.943	.934
SCLEV=PLPFIN	6	269.547	.000	580.743	237	.858	.835
SCLEV=PLPOP	6	97.905	.000	409.102	237	.929	.917
RACQ=CI	6	192.509	.000	503.706	237	.890	.872
RACQ=EU	6	65.291	.000	376.488	237	.943	.933
RACQ=PLPFIN	6	260.481	.000	571.678	237	.862	.840
RACQ=PLPOP	6	97.067	.000	408.264	237	.929	.918
CI=PLPFIN	6	197.477	.000	508.673	237	.888	.870
CI=PLPOP	6	169.737	.000	480.934	237	.900	.883
EU=PLPFIN	6	67.656	.000	378.852	237	.942	.932
EU=PLPOP	6	69.974	.000	381.170	237	.941	.931

SCRB – Supply Chain Resource Bundling; SCLEV – Supply Chain Leveraging;
RACQ – Supply chain Resource Acquisition; CI – Competitive Intensity;
EU – Environmental Uncertainty; PLPOP – Product Launch Operational Performance;
PLPFIN – Product Launch Financial Performance

Table 15: Essay 2 - Standardized Direct and Indirect Effects

	Supply Chain Resource Bundling	**Supply Chain Leveraging**	**Product Launch Operational Performance**	**Product Launch Financial Performance**
Supply Chain Resource Acquisition	**.850***	**.291+** *.485**	.621*	
Supply Chain Resource Bundling		**.543***	**.460*** *.198**	*.528**
Supply Chain Leveraging			**.347***	*.299**
Product Launch Operational Performance				**.863***
Environmental Uncertainty			**.022**	**-.091**
Competitive Intensity			**.270***	**-.131**

Direct effects are highlighted in bold, indirect effects are in italics; Both direct and indirect effect significance levels were obtained by using bootstrapping with the bias corrected confidence interval method; * $p < .05$; +$p < .10$

Table 16: Essay 2 - Hypothesis Test Results

Hypothesis	Finding
H1: Supply chain resource acquisition is positively associated with supply chain resource bundling	Supported
H2: Supply chain resource acquisition is positively associated with supply chain leveraging	Marginally Supported
H3: Supply chain resource bundling is positively associated with supply chain leveraging	Supported
H4: Supply chain resource bundling is positively associated with product launch operational performance	Supported
H5: Supply chain leveraging is positively associated with product launch operational performance	Supported
H6: Product launch operational performance is positively associated with product launch financial performance	Supported
H7a: Supply chain resource bundling mediates the relationship between supply chain resource acquisition and product launch operational performance	Supported
H7b: Supply chain leveraging mediates the relationship between supply chain resource acquisition and product launch operational performance	Marginally Supported
H7c: Supply chain resource bundling mediates the relationship between supply chain resource acquisition and supply chain leveraging	Supported
H8: Supply chain leveraging mediates the relationship between supply chain resource bundling and product launch operational performance	Supported
H9a: Product launch operational performance mediates the relationship between supply chain resource bundling and product launch financial performance	Supported
H9b: Product launch operational performance mediates the relationship between supply chain leveraging and product launch financial performance	Supported

Table 17: Essay 2 - Constructs and Survey Items

Construct	Definition	Source	Item Removed
Supply Chain Resource Acquisition	A firm's ability to effectively and efficiently purchase supply chain resources within the local market.	adapted from Sirmon et al., 2007, 2011	
During the project, our company/division was able to _____. *1 – Strongly Disagree; 7- Strongly Agree*			
easily acquire effective logistics equipment locally in the project country to support product distribution		new	
easily find effective sources of materials locally in the project country to support product distribution		new	
easily acquire/contract effective logistics facilities and infrastructure in the project country to support product distribution		new	
easily acquire competent purchasing services locally in the project country		new	X
easily acquire competent logistics services locally in the project country		new	
easily acquire competent personnel locally in the project country		new	X
Supply Chain Resource Bundling	A firm's ability to combine and assimilate its supply chain resources to construct or alter supply chain capabilities	adapted from Sirmon et al., 2007, 2011	
During the project, our company/division was able to _____. *1 – Strongly Disagree; 7- Strongly Agree*			
easily combine its supply chain resources to quickly make improvements to its information sharing capabilities in the project country		new	
easily combine its supply chain resources to quickly develop the required logistics service offerings in the project country		new	X
easily integrate its supply chain resources to quickly alter its supply chain management capabilities to fit the competitive environment in the project country		new	
easily combine its supply chain resources to quickly make improvements to its logistics service capabilities in the project country		new	

Table 17: Continued

Construct	Definition	Source	Item Removed
easily integrate its supply chain resources to quickly create new ways of providing customer delivery service to fit the competitive environment in the project country		new	
easily combine its supply chain resources to quickly make improvements to its purchasing capabilities in the project country		new	X
Supply Chain Leveraging	A firm's ability to fully utilize or exploit its supply chain capabilities to create superior value for customers and wealth for owners	adapted from Sirmon et al., 2007, 2011	
During the project, our company/division was able to _____. *1 – Strongly Disagree; 7- Strongly Agree*			
exploit its complete range of available logistics service capabilities to take advantage of the market opportunity		new	X
fully utilize all of its purchasing capabilities to exploit the market opportunity		new	X
fully utilize all of its logistics service capabilities to exploit the market opportunity		new	
fully deploy and physically use all of its supply chain capabilities to exploit the market opportunity		new	
easily identify and mobilize all of the logistics service capabilities that were needed to support the product launch		new	
easily identify and mobilize all of the purchasing capabilities that were needed to support the product launch		new	
fully coordinate the application of its supply chain capabilities to exploit the market opportunity		new	
Environmental Uncertainty	The extent to which it is difficult to predict product demand, competitive moves, and changes in trade policies within a country market.	adapted from Lu et al., 2010	
Please indicate the extent to which you agree or disagree with the following statements. *1 – Strongly Disagree; 7 – Strongly Agree*			
It was difficult to forecast sales for the product during the product launch		adapted from Lu et al., 2010	

Table 17: Continued

Construct	Definition	Source	Item Removed
The product was greatly influenced by changes in trade policies during the product launch		adapted from Lu et al., 2010	
It was difficult to determine the competitive advantage of the product during the product launch		adapted from Lu et al., 2010	
Competitive Intensity	The degree to which rivals in the target product launch marketplace are able and willing to respond to the actions of the firm's product launch venture.	adapted from Morgan et al., 2004	
Please indicate the extent to which you agree or disagree with the statements below concerning competitive intensity in the project country during the product launch. 1 – Strongly Disagree; 7- Strongly Agree			
Competition in the product market was cut-throat		Morgan et al., 2004	
There were many promotion wars in the product market		Morgan et al., 2004	
Anything that one competitor could offer others could easily match		Morgan et al., 2004	X
One heard of a new competitive move almost every day		Morgan et al., 2004	
Product Launch Operational Performance	The extent to which product launch met the firm's operational efficiency and effectiveness objectives.	adapted from Schoenherr & Swink, 2015	
Please indicate below the extent to which the product launch achieved the following outcomes relative to your company's/division's objectives during the first 12-months of the product launch. 1 – Much Lower; 7- Much Higher			
Product launch operational efficiency relative to objective		Schoenherr & Swink, 2015	
Product launch customer service effectiveness relative to objective		Schoenherr & Swink, 2015	
Product Launch Financial Performance	The extent to which the product launch met the firm's financial performance objectives.	adapted from Schoenherr & Swink, 2015	
Please indicate below the extent to which the product launch achieved the following outcomes relative to your company's/division's objectives during the first 12-months of the product launch. 1 – Much Lower; 7- Much Higher			
Market share relative to objective		Schoenherr & Swink, 2015	X

Table 17: Continued

Construct	Definition	Source	Item Removed
Sales growth rate relative to objective		Schoenherr & Swink, 2015	
Profit relative to objective		Schoenherr & Swink, 2015	
Total sales of product relative to objective		Schoenherr & Swink, 2015	
Return on investment relative to objective		Schoenherr & Swink, 2015	

CONCLUSION

Findings

The purpose of this dissertation was to determine the extent to which supply chain knowledge and supply chain resource orchestration improve product launch performance in emerging market countries. There were also two sub-goals for this dissertation. The first sub-goal was to gain an understanding of how customer and supply knowledge affect product launch performance in emerging markets. This dissertation accomplished this goal through a survey and subsequent regression analysis. The results suggest that both supply and customer knowledge are positively associated with product launch performance in emerging market countries. The results also suggest that supply knowledge *fully* mediates the relationship between market presence and product launch performance, but customer knowledge does not. Last, the results indicate that the supply chain institutional environment does not moderate the relationship between either type of knowledge and product launch performance.

The results of Essay 1 suggest that supply knowledge gained through market presence is potentially more crucial to the success of a product launch than customer knowledge in an emerging market country. The results advance our understanding about how different types of knowledge may function in different environments. Discovering the relative value of customer and supply knowledge for improving product launch performance in emerging market countries provides managers with direction regarding how to invest their time and resources -- i.e. the results prescribe a substantial investment in supply knowledge prior to execution of the product launch in order to improve performance and suggest more effort should be spent on gathering supply knowledge than customer knowledge when launching products into emerging markets.

The second sub-goal of this dissertation was to validate constructs for measuring the components of supply chain resource orchestration in emerging markets. A subsequent objective to this goal was to test the impact of supply chain resource orchestration on product launch performance. These objectives were achieved using confirmatory factor analysis and structural equation modeling to empirically test the hypothesized theoretical relationships. The results of Essay 2 indicate that each theoretical factor of supply chain resource orchestration (supply chain resource acquisition, supply chain resource bundling, and supply chain leveraging) are distinct and can be measured separately to test the process of supply chain resource orchestration. The results also suggest that supply chain resource bundling and supply chain leveraging mediate the relationship between supply chain resource acquisition and product launch performance.

The results of Essay 2 provide support for the central tenets of resource orchestration theory (Sirmon, Hitt, & Ireland, 2007; Sirmon, Hitt, Ireland, & Gilbert, 2011) which suggest that customer value is generated only if a firm can bundle its resources to create apposite capabilities and those capabilities are adequately leveraged (mobilized, coordinated, and utilized) in the marketplace. The findings also provide support for a middle range theory (Merton, 1949) related specifically to the supply chain domain (Mentzer, Stank, & Esper, 2008) -- i.e. *supply chain resource orchestration*. Testing of middle range theory is important as the subsequent insights and knowledge bring scholarly work closer to observable phenomena making it easier for managers to implement suggested prescriptions.

Limitations and Future Research

There are several limitations associated with this dissertation. As with any quantitative study, the results and conclusions are based on inference from a representative population. The final sample size for this dissertation was 160 participants. Gerbing and Anderson (1988) suggest

that structural equation models begin to reach stability at a sample size of ~200 participants. The final sample size for this dissertation is below the suggested threshold by 40 participants. To help alleviate concerns regarding the sample size, bias corrected (Cheung & Lau, 2008; Kline, 2015) and Bollen-Stine (Bollen & Stine, 1992; Finney & Di Stefano, 2006) bootstrapping were used during each step of statistical analysis to ensure confidence in the direct effects, indirect effects, and measurement models of each essay.

Using a cross-sectional survey to collect the data introduces another limitation to this dissertation. The independent and dependent variables were both capture in one survey instrument. Having both measures in the same survey instrument poses challenges associated with common method variance (CMV). To actively confront any CMV issues, a series of quality checks and screening questions were used. Also, the survey was structured to create psychological distance between the independent variables and dependent variables, provide definitions of ambiguous terms, make questions specific, and use parsimonious syntax (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Further, two pre-tests were conducted to improve scale items and anonymity of the respondent was assured (Podsakoff et al., 2003). Once collected, the data were subjected to Harman's single-factor test (Podsakoff & Organ, 1986; Podsakoff et al., 2003) to ensure that CMV was not an issue.

Another issue in using a cross-sectional survey is that the data consist of a series of perceptual measures. The validity of perceptual measures can be hindered by systemic informant bias even though the requirements of reliability and validity are satisfied (Ketokivi & Schroeder, 2004). The random error and systematic bias in perceptual measures (Ketokivi & Schroeder, 2004) may impact the validity of a study's conclusions. To increase robustness of the conclusions, future research should make use of secondary data to quantitatively verify the findings in this dissertation.

Secondary data enhances the integrity of primary data, is more objective, and can be combined with primary data to examine phenomena more thoroughly (Calantone & Vickery, 2010). Further, the use of secondary data limits the probability of a researcher's bias skewing data collection process (Rabinovich & Cheon, 2011). Future research should also use experiments to empirically ferret out causality in the theoretical relationships in both studies as well as link managerial decision making to the accumulation of supply knowledge and execution of supply chain resource orchestration.

This dissertation is also limited to the small amount of data which can be expertly provided in a survey. Survey data, though informative, does not provide a "deep dive" into how managers solve problems associated with supply knowledge acquisition and supply chain resource orchestration in emerging market countries. A logical next step would be for future research to include qualitative case studies designed to uncover theoretical linkages that pertain directly to managerial actions. In accordance with resource orchestration theory (Sirmon et al., 2007, 2011), how a firm manages its resources is just as important as possessing the resources. Conducting case studies on the topic of supply chain resource orchestration in emerging market countries would provide important insight into how managers utilize their supply chain resources to create and leverage supply chain capabilities in the marketplace.

Last, this dissertation focuses solely on product launches into emerging market countries. This limits the generalizability of the results. Future research should test the theoretical relationships contained in both essays in advanced market countries to determine if any "boundary" conditions to the conclusions exist. For example, in more advanced country markets, customer knowledge may play a more important role than supply knowledge in improving product launch performance. Advanced market countries are characterized by the existence of competent

logistics service providers, suppliers, and effective supply chain infrastructures (World Bank, 2016). With access to well-performing supply chain institutional resources, the need for a firm to internally develop market-specific supply chain capabilities may be lessened. Thus, supply chain knowledge needed to internally build market-specific supply chain capabilities may not be as crucial. Also, due to more competition in advanced markets, the value of customer knowledge may increase.

Contributions

Theoretical Contributions

This dissertation offers four main theoretical contributions. First, the findings in this dissertation contribute to current resource management literature by supporting key components of resource curatorship, which is the process of ensuring sustainability of rents accruing for a firm's resource endowment (Breton-Miller & Miller, 2015). Curatorship consists of three functions meant to prevent the erosion of resource value: 1) preservation (combating deterioration of a resource); 2) connoisseurship (identification and evaluation of resources and qualities that make them valuable); and 3) orchestration (aligning a resource or capability with a context that sustains or enhances its value) (Breton-Miller & Miller, 2015). Based on the findings in this dissertation, supply chain resource orchestration is one mechanism through which a firm can preserve resource value as well as dynamically align resources and capabilities with an emerging market country's context to enhance customer value creation. Thus, supply chain resource orchestration could be used as a theoretical framework to test the effects of *supply chain resource curatorship* on performance. To achieve this aim, the current conceptualization of supply chain resource orchestration could be extended to account for the resource identification and evaluation processes associated with resource curatorship. This theoretical extension of supply chain resource

orchestration would act to test additional theoretical assumptions inherent in resource management and resource orchestration literature (Sirmon et al., 2007, 2011).

Using supply chain resource orchestration as a basis for empirically examining resource curatorship opens up the possibility of testing the impact of the resource alignment paradox. The paradox of resource alignment exists when the value of a resource is dependent upon a specific context, and the qualities of that resource which limit its value deterioration may also reduce its global value (Breton-Miller & Miller, 2015). For example, alignment of supply chain resources with an emerging market country context may act as a double-edged sword. Specificity of a supply chain resource, such as *market-specific supply knowledge*, allows a firm to maximize effectiveness in an emerging market country. However, that same knowledge specificity may also reduce portability of the resource to other emerging market countries (Craighead, Ketchen, Jenkins, & Holcomb, 2017) thus limiting its global applicability. A firm's ability to orchestrate its supply chain resources may dampen the negative effects of supply chain resource specificity. Supply chain resource orchestration could be used by a firm to extend its capabilities (align around a focal supply chain capability and preserve robustness) and reduce the effects of context dependency by dynamically generating new supply chain resources (Sirmon et al., 2007, 2011) that fit a new emerging market country context.

Second, this dissertation contributes to resource-based research by examining the role of non-appropriable resources in improving performance. Resource-based theory (RBT) suggests that a firm's competitive advantage lies in the possession of rare, valuable, and inimitable strategic firm resources (Barney, 1991). However, RBT does not directly account for a firm's need to use other assets, capabilities, and resources to derive value from its acquired resources. Dierickx and Cool (1989) suggest that the implementation of a firm's strategy may require the use of resources

which are “non-appropriable” from factor markets. These resources include reputation, loyalty, and trust (Dierickx & Cool, 1989) as well as tacit knowledge. Non-appropriable resources cannot be easily purchased from factor markets. Thus, a firm must develop them in in other ways. This dissertation supports this notion by offering evidence that supply knowledge mediates the relationship between market presence and product launch performance. The results suggest that valuable supply knowledge may be non-appropriable and therefore must be garnered by gaining competitive experience in an emerging market country over time -- i.e. through market presence. These results also lend credence to the suggestion that a firm gains valuable supply chain knowledge by a maintaining a strategic foothold in an emerging market country and that this knowledge could be used to improve performance if the firm decides to pursue an attack strategy in that market (Craighead et al., 2017).

Third, this dissertation contributes to resource orchestration theory (ROT) (Sirmon et al., 2007, 2011) by empirically measuring and testing theoretical constructs and relationships central to the theory. The findings support the idea that resource orchestration is divided into three distinct resource management processes (resource structuring, resource bundling, and leveraging) (Sirmon et al., 2007, 2011). Also, this dissertation confirms that resource bundling and leveraging processes mediate the relationship between resources and performance as suggested by ROT. RBT (Barney, 1991) suggests that possession of valuable strategic resources is associated with higher levels of firm performance. This dissertation extends this prediction by considering the “black box” of resource management activities and their impact on performance

Fourth, this dissertation contributes to the knowledge-based view (KBV) (Grant, 1996) by uncovering a potential boundary condition that may change the relationship between knowledge and performance under certain environmental conditions. This research was conducted in the

context of emerging market countries, which are characterized by weak institutional environments and lack of infrastructure to support supply chain operations (Khanna & Palepu, 1997, 2000, 2010). Due to the lack of country-level resources needed to facilitate effective supply chain management, emerging market countries are beset with low environmental munificence. Environmental munificence is "the scarcity or abundance of critical resources needed by (on or more) firms operating within an environment" (Castrogiovanni, 1991, p. 554). The results of this dissertation suggest that in countries with low environmental munificence, supply knowledge may be more crucial to product launch performance than customer knowledge, thus a boundary condition for the impact of customer knowledge on performance may exist. Future research may find the reverse -- that customer knowledge is more important than supply knowledge in advanced country markets.

Managerial Contributions

This dissertation provides important direction for managers who are looking to improve product launch performance in emerging country markets. Moving into emerging market countries is expensive and risky. Supply chain resources and capabilities that create customer value in a firm's home country may not be applicable in the emerging market context. Thus, knowing what supply chain resources to invest in and how to convert those resources into supply chain capabilities that fit the emerging market country's context is vital. It is beneficial for managers to understand what supply chain resources and are needed to succeed in emerging market countries and how those resources can be transformed into useful supply chain capabilities. This dissertation provides managers with guidance on both subjects. Specifically, the results of this dissertation suggest that a firm should invest in supply knowledge and establish processes to orchestrate its supply chain resources prior to launching a product into an emerging market country.

Essay 1 provides evidence that investment in market-specific supply knowledge is crucial to improving product launch performance. One way to gain market-specific supply knowledge is through maintaining a competitive presence within an emerging market country. The results of this dissertation suggest that supply knowledge is perhaps more important than customer knowledge in improving product launch performance in emerging market countries. Thus, managers are offered some guidance regarding where to invest limited financial resources. Firms that invest in gaining market-specific supply knowledge prior to a product launch will achieve a higher level of product launch performance.

Essay 2 establishes the performance enhancing value of the resource management process beyond acquisition of valuable strategic resources. The results suggest that the processes of supply chain resource bundling (supply chain capability creation) and supply chain leveraging (application of supply chain capabilities in the marketplace) are important steps in realizing the performance potential of strategic supply chain resources. Thus, managers are encouraged to develop organizational routines which support the effective conversion of acquired supply chain resources into supply chain capabilities that fit the local environment of an emerging market country. Having these organizational routines in place prior to launching a product into an emerging market country improves the overall performance of the project.

Conclusion

This dissertation consists of two essays which examine the value of supply chain knowledge and supply chain resource orchestration in launching products into emerging market countries. The results of this dissertation suggest that the possession of supply knowledge (supplier and logistics knowledge) and activities embedded in supply chain resource orchestration processes improve product launch performance. Future research should extend and explore these findings in

other country market contexts and use supplementary research methods to confirm the findings, explore managerial decision-making processes, and discover potential boundary conditions.

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VITA

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