

# Dancing in the Tigers' Den: MNCs versus Local Firms Leveraging IT Enabled Strategic Flexibility

*Completed Research Paper*

**Jiban Khuntia**

University of Colorado Denver  
Business School  
Denver, CO 80202  
[jiban.khuntia@ucdenver.edu](mailto:jiban.khuntia@ucdenver.edu)

**Terence J.V. Saldanha**

Washington State University  
Carson College of Business  
Pullman, WA 99164  
[terence.saldanha@wsu.edu](mailto:terence.saldanha@wsu.edu)

**Abhishek Kathuria**

The University of Hong Kong  
School of Business  
Pokfulam, Hong Kong  
[kathuria@hku.hk](mailto:kathuria@hku.hk)

## Abstract

*Institutional settings in emerging markets pose challenges for multinational corporations (MNCs). We argue that information technology (IT) can be used to develop strategic flexibilities to complement organizational capabilities in emerging markets. We explore how MNCs and local firms compare in leveraging their IT enabled strategic flexibilities and organizational capabilities to improve performance in emerging markets. We focus on two capabilities: marketing capability and relational capability. We theorize that IT enabled strategic flexibility in customer services (ITCS) complements the firm's marketing capability, and IT enabled strategic flexibility in transaction services (ITTS) complements the firm's relational capability to influence firm performance. Further, we posit that the complementary effect of ITCS with marketing capability is lower for MNCs than for local firms, whereas the complementary effect of ITTS with relational capability is higher for MNCs than local firms. Our empirical analysis of primary data collected from MNCs and local firms in India broadly supports our theory.*

**Keywords:** *Emerging Economies, Multinationals, Firm performance, Strategic flexibility, Alignment, IT enabled transaction services, IT enabled customer services*

## **Introduction**

With the current trends in globalization, multinational corporations (MNCs) are striving to expand into emerging economies such as India, China, Brazil and Russia (Friedman 2005; Padmanabhan 2012). Emerging markets are attractive due to the revenue-generating potential from a wide base of customers, offering opportunities for firms in developed economies to extend their businesses globally. Some emerging markets, such as China and India, have annual purchasing power of approximately 13.5 and 5.8 trillion dollars respectively, and are projected to collectively account for roughly 30% of the increase in the world population by 2050 (Hammond et al. 2007; Prahalad 2008; World Bank 2011). In addition, recent economic development in emerging economies has raised disposable incomes of consumers for spending on products and services. Furthermore, the increasing reach of the internet and digital media creates consumer awareness and aspirations to acquire products and services available in developed economies.

Despite the attractiveness of emerging economies, MNCs face several challenges to establish themselves in these markets (Peng et al. 2008). Often, business in emerging economies is a daunting task for MNCs due to institutional settings of these markets, such as the lack of quality infrastructure, poorly developed distribution channels, and inadequate regulations and controls (Child and Tsai 2005; Hempel and Kwong 2001). Recent examples of struggles of several MNCs such as Walmart, Unilever, and Kellogg's in India exemplify the challenges in these markets (Padmanabhan 2012; Srivastava 2009). At the same time, MNCs such as Samsung, Nike, HSBC, and Procter and Gamble are doing exceedingly well in emerging economies. Along with infrastructural issues, protectionist environments, power distances, and established relationships amongst local businesses create barriers for MNCs to perform in these markets (Aulakh et al. 2000). Emerging economies are also characterized by fast-changing business environments and rapid changes in their economic, social, and legal institutions, necessitating that firms develop strategies to cope with changes to succeed (Zhou et al. 2008; Zhou and Li 2010). MNCs in particular need to develop strategies to combat the challenges and complexities of the institutional settings of emerging markets, and explore effective ways to establish their businesses and compete with local firms (Roztocki and Weistroffer 2010).

In emerging economies, local firms may have developed significant capabilities that are appropriate for their environment. For example, the local firms' relationships with their partners or distributors may stem from a multi-year long association that goes beyond the business settings and extends to family or social relationships. Some of these capabilities or assets that may be very useful in emerging economy environments would be very different from what MNCs would have developed in their domestic environment and perhaps may pose a winning factor for local firms (Hoskisson et al. 2000; Kathuria et al. 2010).

Anecdotal and recent empirical evidence suggests that information technology (IT) can play a role in helping to mitigate some of the challenges in emerging economies. For example, in case of business process outsourcing firms, an IT-based client communication strategy has been effective in bringing radical changes to the industry, resulting in clients outsourcing services to emerging countries. Likewise, using IT enabled strategies, small and medium-sized MNCs may be able reach businesses and customers in emerging markets that would not otherwise warrant the time and cost of establishing traditional relationships (Quelch and Klein 1996). Similarly, IT can help firms by providing efficiency in transactions and communications, thereby enabling firms to more effectively manage customers, operations, and innovation in these markets (e.g., Kathuria and Konsynski 2012; Roztocki and Weistroffer 2004).

Research in the information systems (IS) literature suggests that IT enabled strategic flexibility, which refers to the extent to which a firm's IT can enable it to adapt to strategic complexities, can be a critical contributor to organizational success and can orient firm capabilities to achieve higher performance (Pavlou and El Sawy 2006; Sambamurthy et al. 2003; Saraf et al. 2007). Existing IS research suggests that IT can play different roles in emerging and developed economies: IT plays an important role in shaping performance in emerging countries by compensating for poor infrastructure whereas IT use in developed economies substitutes expensive human labor (Bingi et al. 2000; Dewan and Kraemer 2000). Studies also suggest that MNCs and local firms may differ in the kinds of benefits that IT provides. For example, whereas local firms may benefit from IT in terms of operational efficiency, MNCs may be more likely to benefit from IT in terms of improved communication links to headquarters (Roztocki and Weistroffer 2010). Nevertheless, there is scant research examining questions related to how MNCs and

local firms may differ in leveraging their IT strategies to orient other organizational capabilities to achieve superior firm performance. Also, as noted by prior research (Roztocki and Weistroffer 2010, p. 5), “relatively few findings related to emerging economies have been reported in the major IT journals” and “most mainstream IT research continues to concentrate on implementations in regions with highly developed economies”. In the context of emerging economies, several potential questions warrant exploration. How should firms leverage IT to successfully compete with local firms in an emerging economy? How should MNCs align their IT strategies to other capabilities to perform better in a specific market?

In this study, we examine: (1) how IT enabled strategic flexibility can complement organizational capabilities to improve performance, and (2) how MNCs and local firms compare in leveraging their IT enabled strategic flexibilities and capabilities to improve performance. We focus on two important organizational capabilities of firms relevant to emerging markets: (1) marketing capability that focuses on reaching out to customers, and (2) relational capability that pertains to relationship with distributors, retailers, and other businesses partners. We choose to focus on these two capabilities because in emerging markets, the abilities to effectively reach customers and develop business collaborations with external partners are important components of success (Appiah-Adu 1998; Hoskisson et al. 2000; Subramanian and Gopalakrishna 2001). While customers are the primary source of information related to product localization and innovation (Tsang, 2002), business partners are key sources of resources and local knowledge regarding operational details on local market conditions, business practices, and country-specific commercial practices (Li, Poppo, and Zhou, 2008; Steensma et al., 2008).

We posit that firms need to develop IT enabled strategies that provide flexibility and augment performance by complementing their marketing and relational capabilities in emerging markets. Accordingly, we define two attributes of IT enabled strategic flexibility. First, we define IT enabled strategic flexibility in customer services (ITCS) to capture the level of flexibility and adaptability provided by the IT enabled customer services of the firm. Next, we define IT enabled strategic flexibility in transaction services (ITTS) to capture the level of flexibility and adaptability provided by the IT enabled transaction services of the firm. Drawing on IT and strategy alignment literature, we argue that ITCS complements the firm’s marketing capability, and ITTS complements the firm’s relational capability to influence firm performance. Further, we posit that the complementary effect of ITCS with marketing capability will be lower for MNCs than for local firms, whereas the complementary effect of ITTS with relational capability will be higher for MNCs than local firms. Using primary survey data from 143 MNCs and local firms in India, we find broad empirical support for our theory that MNCs can dance in the tigers’ den and compete against emerging economy local firms by leveraging IT enabled strategic flexibility.

## **Prior Literature**

### **Firm Capabilities in Emerging Markets**

Due to their transition towards liberalized market systems, emerging economies undergo rapid changes in economic, social, and legal institutions (Zhou and Poppo 2010). Emerging markets have different institutional settings than developed markets (Child and Tsai 2005). These include less formalized laws, regulations, and distinct monitoring and law enforcement systems (Xu and Shenkar 2002). Some emerging economy countries have highly lax property rights regimes, difficulties in enforcing contractual obligations, and corrupt regulatory bodies (Khanna et al. 2005; London and Hart 2004). The different institutional settings often result in unique contexts for businesses, to which firms respond when constructing their business portfolios (Lusch et al. 2010; Vargo and Lusch 2008).

Existing literature has identified at least two firm capabilities that need to be strengthened and can help shape firm performance in emerging markets (Fahy et al. 2000). First, firms need to strengthen marketing capability, that is a core organizational competency which plays a key role in value creation by enhancing firms ability to reach to the market to sell products and services (Krasnikov and Jayachandran 2008; Subramanian and Gopalakrishna 2001). Second, firms need to develop a relational capability that establishes collaborative relations with external partners (Hoskisson et al. 2000; Kulp et al. 2004), and helps to institute business-to-business relationships in emerging markets. Thus, while marketing capability addresses the market requirements in reaching out to customers, relational capability helps in building a multi-business distributor and collaborator system to deliver products and services. Further,

relational capability helps to develop resources and gain knowledge of local market conditions, business practices, and cultural norms (Li, Poppo, and Zhou, 2008; Steensma et al., 2008).

### **Strategic Flexibility and IT enabled Strategic Flexibility**

Strategic flexibility is defined in management research as the “organizational capacity to adapt to environmental changes” (Golden and Powell 2000), and the “degree to which an organization possesses a variety of actual and potential procedures, and the rapidity by which it can implement these procedures” (De Leeuw 1996). A vast body of literature in management recognizes the importance of the firm’s strategic flexibility for superior firm performance (e.g., Dreyer and Grønhaug 2004; Grewal and Tansuhaj 2001). Strategic flexibility has also been recognized as critical for success in the global marketplace as it enables firms to cope with uncertainty and change by overcoming organizational inertia through better reallocation of resources and break down of existing operational routines, thereby creating a sustainable competitive advantage (D’Souza and Williams 2000; Zhou and Wu 2010). Strategic flexibility can thus play a critical role in enhancing outcomes such as service delivery, relationship quality, and customer satisfaction (Fredericks 2005; Ivens 2005).

Research in information systems suggests that a synchronized alignment of IT capabilities and strategies leads to the development of higher flexibility and adaptive capabilities, which in turn influence performance (Kearns and Sabherwal 2007; Tallon and Pinsonneault 2011; Tanriverdi 2006). In this context, a stream of research focusses on the concept of IT enabled flexibility, which refers to the extent to which a firm’s IT can help the firm be agile and adapt to contextual complexities (Overby et al. 2006; Sahaym et al. 2007; Sambamurthy et al. 2003). This flexibility stems from the modularity, connectivity and compatibility of the IT infrastructure that can support change and agility in meeting business needs (Byrd and Turner 2000; Tafti et al. 2013).

Prior literature recognizes that flexibilities associated with structural and functional characteristics of IT within an enterprise help firms to quickly sense change and adapt their business priorities (Gosain et al. 2005; Sahaym et al. 2007). Research suggests that central tenet of flexible IT configurations is to establish cross-functional capabilities such as digital reach (Sambamurthy et al. 2003) and partner-enabled knowledge creation (Malhotra et al. 2005). Similarly, studies have suggested that modular IT architectures provide access options to meet differing customer needs, often providing an integrated framework of IT subsystems within a firm to influence performance (Tiwana and Konsynski 2010).

### **Information Technology and Firm Performance in Emerging Economies**

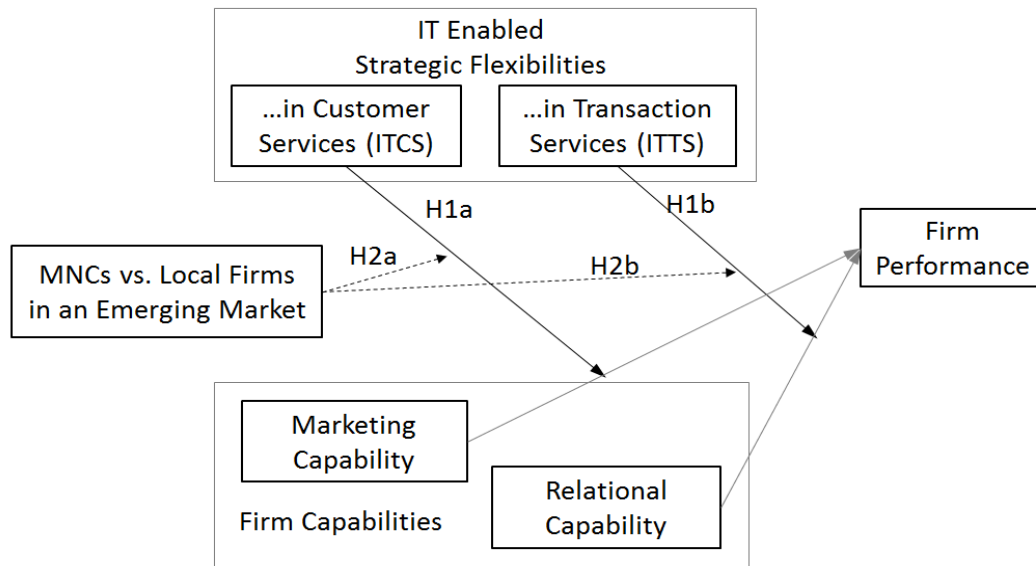
Existing research suggests that IT can play an important role in shaping performance in emerging countries by compensating for poor infrastructure (Bingi et al. 2000). Productivity impacts of IT are different in developing economies than developed countries; for example, in a country-level study, IT capital was not found to significantly improve productivity in developing countries whereas it did improve productivity in developed countries (Dewan and Kraemer 2000). Organizational level studies have also found non-significant or negative effects of IT in emerging economies (e.g. Lal 2002; Kathuria and Konsynski 2012). Studies also suggest that MNC firms and local firms may differ in the kinds of benefits that IT provides; for instance, IT may benefit local firms in terms of operational efficiency, whereas MNCs may benefit in terms of improved communication links to headquarters (Roztockki and Weistroffer 2010).

### **Literature Synthesis**

In sum, existing management literature recognizes the importance of strategic flexibility and organizational capabilities for firm performance. Although information systems literature expounds the importance of IT to enable firms to be flexible, prior studies indicate that the role of IT in strategic flexibility needs more attention (Matthyssens et al. 2005). Nevertheless, the alignment of IT enabled flexibility to specific capabilities of the firm in emerging markets remains a relatively unexplored gap in existing literature. Furthermore, there is limited understanding of how MNCs can develop an alignment of IT enabled strategic flexibilities with organizational capabilities to perform better than local players in an emerging market. Our study helps address these gaps in the literature.

## Theory Development

We anchor our study on the discussions on IT enabled strategic flexibility (Sambamurthy et al. 2003; Saraf et al. 2007) and strategy-process alignment literature in information systems research (Chan et al. 2006; Tallon 2008; Tallon and Pinsonneault 2011) to present a theoretical framework (Figure 1). The framework posits that organizational capabilities and IT enabled strategic flexibilities align to improve firm performance. However, the positioning of the firm within an institutionally-oriented context of emerging markets, more specifically being an MNC or a local firm will have differential implications for the alignment of capability and IT enabled strategic flexibilities.



**Figure 1: Conceptual Model**

As discussed earlier, firms in emerging markets need to focus on at least two capabilities: (1) marketing capability which focuses on reaching customers, and (2) relational capability which establishes relationships with distributors, retailers, and other businesses partners (Hoskisson et al. 2000; Subramanian and Gopalakrishna 2001). While both these organizational capabilities are externally focused or “outside-in” in nature, the firm’s internal or “inside-out” IT enabled abilities help to shape and orient the organizational capabilities to achieve superior performance (Wade and Hulland 2004, p. 111). Moreover, with the move towards electronic channels in establishing relationships with partners and channelizing services to customers, the influence of IT on these capabilities is increasing. As research shows, firms that use IT to strategically focus their capabilities perform better (Bharadwaj 2000).

We posit that IT enabled strategic flexibility in customer services (ITCS) enhances the firm’s marketing capability to improve firm performance. Similarly, we argue that IT enabled strategic flexibility in transaction services (ITTS) complements the firm’s relational capability to improve firm performance. The arguments are based on the discussions in the existing business value of IT literature that suggests that processes may be enhanced using IT that provides agility and strategic flexibility (Sambamurthy et al. 2003; Saraf et al. 2007). In addition, studies suggest strategic flexibility as an organizing principle which works together with other capabilities to impact firm performance (Zhou and Wu 2012). However, because of the idiosyncrasies associated with the institutional setting and context of firms in emerging markets, we argue for differences in these two complementary effects for MNCs and local firms. Specifically, we hypothesize that the complementary role of ITCS with marketing capability will be lower for MNCs than for local firms, whereas the complementary role of ITTS with relational capability will be higher for MNCs than for local firms.

### Alignment of Firm Capabilities and IT enabled Strategic Flexibilities

The synergistic combination of IT capabilities with other organizational resources and capabilities is well-established in existing research (Bharadwaj 2000; Bharadwaj et al. 2007; Melville et al. 2004). We

suggest that IT enabled strategic flexibility can reduce uncertainties and complexities associated with the marketing capabilities and relational capabilities. As a result, the organizational capabilities get tightly aligned with IT enabled flexibilities to achieve better performance (Tallon and Pinsonneault 2011). We posit that firms need to develop flexibility in managing their IT enabled strategies that would help them to align the marketing and relational capabilities of the firm. More specifically, we consider two attributes of IT enabled strategic flexibility that need to be aligned with the two capabilities respectively. First, IT enabled strategic flexibility in customer services (ITCS) positions the firm to develop an IT enabled customer service portfolio and make it adaptable so as to cater to the changing market needs to align the marketing capability for better firm performance. Second, we posit that IT enabled strategic flexibility in transaction services (ITTS) positions the firm to develop an IT enabled business to business relationship portfolio to enhance the relational capability for superior performance.

Prior research indicates that marketing capability can significantly drive firm performance (Jayachandran et al. 2004; Krasnikov and Jayachandran 2008; Morgan et al. 2009). In emerging markets, superior marketing capabilities can help orient the business towards the local processes and norms so as to offer more meaningful products and services to customers (Subramanian and Gopalakrishna 2001). For example, superior marketing capability can help a finance mortgage firm tailor and disburse loans to customers according to local lending rates, amortization processes, and mortgage norms.

We propose that IT enabled flexibility in customer services complements the role of marketing capabilities on performance. Three theoretical reasons underlie this hypothesis. First, IT enabled flexibility in customer services can enable a quick response to customer inquiries and needs. The faster response to customer inquiries is due to the increased efficiency through automation.

Second, IT enabled flexibility in customer services helps in identification of the most profitable customers. Such identification results in deeper understanding of customer needs through market intelligence (Nazir and Pinsonneault 2012; Rai et al. 2006). For instance, Cemex, a cement-manufacturing company was able to open up a new unserved market at the bottom of the pyramid by implementing IT enabled customer service systems that enabled flexibility in meeting customer needs (Pralhad and Krishnan 2002).

Third, IT enabled flexibility in customer service helps a firm to integrate, synchronize and share knowledge across multiple departments for targeted marketing (Andrade Rojas and Kathuria 2014). Sharing of the knowledge between the business, IT department, and customer service to better target the right customers helps the firm to benefit from marketing campaigns (Ray et al. 2005). For example, when a marketing department runs an outbound campaign, the information about customers and the program can be retained for the customer service representatives to answer any queries, and technical support to provide any field support. The importance of knowledge of the customer is especially important in an era where it is incumbent on firms to sense and respond to customer needs (Jayachandran et al. 2004).

Thus, we posit that IT flexibility in customer services can enhance marketing capabilities and hence firm performance, because it enables quick response to customer inquiries and needs, the identification of the most profitable customers, and a sharing of knowledge across multiple departments for targeted marketing. Based on these arguments, we hypothesize:

*Hypothesis H1a: IT enabled strategic flexibility in customer services (ITCS) has a complementary effect on the relationship between marketing capability and firm performance.*

Prior research suggests that collaborative relational capabilities with external partners improve firm performance (Kulp et al. 2004). Such relational capabilities can help firms collect information about potential opportunities and risks (Hoyt et al. 2007). Business ties provide firms with important market resources and political ties help firms obtain key regulatory resources (Sheng et al. 2011). Studies also suggest the role of flexibility in improving organizational performance in the business-to-business marketplace (Fredericks 2005).

We argue that IT flexibility in transactional services can improve collaboration with partner firms by increasing the sharing of information and synchronizing operations. ITTS can enhance collaboration by helping companies share information, processes and decision making (Braunscheidel and Suresh 2009). ITTS helps firms to connect with external partners and share information and knowledge more easily (Nazir and Pinsonneault 2012). IT enabled transaction services provide flexibility to change and can complement the relational capabilities for improved speed and agility (Gosain et al. 2005; Sambamurthy

et al. 2003). IT enabled strategic flexibility in transaction services (ITTS) thus enhances collaboration between companies, allowing for streamlined operations (Saldanha et al. 2013). Electronic connectivity through ITTS enables companies to execute networked, cross-enterprise processes and integrate with trading partner operations, moving them toward synchronized electronically-connected networks and providing firms with increased insights from partners (Wang and Wei 2007). For example, an IT enabled retail and distribution strategy can bring insights from partners to complement the firm's relational capabilities. Thus, ITTS enables operations to be integrated electronically so that execution and collaboration can be aligned together to meet consumer demands in real-time (Devaraj et al. 2007). IT enabled flexibility in transaction services can thus complement collaboration in relationships among partners (Myhr and Spekman 2005). Hence, we hypothesize:

*Hypothesis H1b: IT enabled strategic flexibility in transaction services (ITTS) has a complementary effect on the relationship between relational capability and firm performance.*

### **MNCs versus Local Firms in Shaping Alignments**

Strategy literature suggests that firms get contextually clustered or categorized into groups based on institutional and contextual pressures (Cool and Schendel 1988). Firms evolve differently through structural evolution and formation of strategic groups, especially when they are challenged in institutional environments, and have to formulate adaptive strategies to suit the context in which they are operating (Chang et al. 2006; Cool and Schendel 1988). In this regard, emerging markets provide a contextual and institutional environment that is often not experienced by MNCs earlier. As a result, many MNCs learn from each other, and may form a strategic reference group to mimic each other's behavior, leading to consistent patterns of strategies and actions in markets (Fiegenbaum and Thomas 1995). The differences in the contextual origins of MNCs and local firms and the institutional settings can have important performance implications in emerging markets (Garcia-Pont and Nohria 2002). For instance, the influence of customer relationships and business-partner social capital were found to be different for domestic and international firms in China (Luo et al. 2004).

Prior research also suggests differences in IT benefits for MNCs and local firms in emerging economies (Roztock and Weistroffer 2010). Building on prior research, we theorize that due to differences in their inherent capabilities, MNCs differ from local firms in how they benefit from the IT enabled strategic flexibilities in emerging markets. More specifically, we argue that the complementary role of IT enabled strategic flexibilities (ITCS and ITTS) on the respective capabilities (marketing capability and relational capability) will be different for MNCs and local firms.

We posit that the complementary role of ITCS on marketing capabilities will be less pronounced for MNCs than for local firms due to the reason that local firms may develop IT capabilities that take advantage of their extensive knowledge of local cultures and practices, and are customized to the context and expectations of local customers. The uniqueness of the local context, including cultural and language issues poses a problem for MNCs (Child and Tsai 2005; Hempel and Kwong 2001). For example, when presented with IT enabled customer service channels from MNC food chains and competing local food chains, customers may be more likely to be attracted to the local firm's IT enabled customer services because a local firm's IT enabled customer services are usually augmented by local persons with a deeper connection to the customers. Likewise, MNCs face challenges in bringing customers to their IT enabled customer service rendering channels such as chat-on-demand services, for which the local customers are not yet ready. Such challenges in reaping the benefits of ITCS stem from a relative lack of MNCs' understanding of the culture, mindset, and needs of local customers and the consequent difficulty of designing an appropriate customized IT enabled strategy to suit the needs of the local market (Walters and Samiee 2003). Thus, although MNCs may be well-known brands, the power of their brands is often not enough to compensate for their relative lack of understanding of local consumers and the challenge of more knowledgeable local competitors.

An example of the lack of understanding of the local knowledge can be important and manifest will clarify our reasoning. In emerging markets, customers rely more on an experience purchasing than quick IT based purchasing. They may prefer to physically spend a significant amount of time in a retail store, interacting with the shop keeper, and developing a bond that is crucial to the purchasing decision process. This helps the local firms to develop a deeper relationship with customers that may not be appropriately supported by an IT enabled customer service system. Thus, our reasoning supports the notion that it is

difficult for firms to do well in emerging economies without an understanding of informal institutions and relationships affecting customers (Wright et al. 2005, p. 6).

In contrast to MNCs, local firms have a greater knowledge of the local market and would hence typically use IT only as necessary and as it suits the market need. For instance, often local firms in emerging markets are reluctant to open an electronic store or a digital customer service channel, as they know that customers in the local market may want a more “physical” and “intimate” channel to interact. Thus, local firms will take a more customized approach in aligning ITCS to complement their marketing capability; and will be able to accrue more benefits compared to MNCs. Further, local firms are more knowledgeable of customers’ IT usage, and therefore less likely to suffer from the negative consequences of increasing digitized service channels (Kathuria et al. 2014). Moreover, since social ties help overcome weak institutional infrastructures, particularly in turbulent environments, local firms are more likely than MNCs to have developed such ties and reaped the additional benefit of being able to exploit personal connections to shoppers, home delivery, easy credit, and discounts for loyal customers (Sheng et al. 2011).

Thus, local firms may develop IT capabilities that take advantage of their extensive knowledge of local cultures and practices, and are customized to the context and expectations of local customers. In contrast, MNCs may import IT capabilities from developed markets which are less suitable to local market needs. Thus, the complementary effect of IT enabled strategic flexibility in customer services on marketing capabilities may be greater for local firms than for MNCs. Thus, we hypothesize:

*Hypothesis H2a: Compared to local firms, multinational firms experience a lower complementary effect of IT enabled strategic flexibility in customer services (ITCS) on the relationship between marketing capability and firm performance.*

In contrast to ITCS, we posit that the moderating role of ITTS on the link between relational capability and performance will be greater for MNCs compared to local firms due to two reasons. First, MNCs have multinational experience in managing business-to-business IT-based interactions that are typically unfamiliar for local firms. Further, MNCs have experience of using IT to substitute for strategic alliances in the development of a competitive network position across multiple markets (Andrade Rojas and Kathuria 2014). Local firms in emerging economies rely on a legacy nature of conducting businesses and existing loyal relationships to manage business-to-business transactions which are often inefficient and not performance maximizing (Sheng et al. 2011). Although new to a specific emerging market, many MNCs may have already developed IT-based business-to-business transactional setups in similar emerging markets, giving them insights to develop such relationships through IT.

Although IT-based transaction models and the expertise to develop relational capability are available for local firms, they may not be able to leverage these due to a number of reasons. In the emerging market scenario, the existing relationships of local firms would prefer the non-IT based exchanges, such as meeting in person, or a phone call. IT enabled flexibility in transactional services can improve collaboration with partner firms by increasing the sharing of information and synchronizing operations. MNCs typically have considerable experience in efficient IT-based business-to-business transactions, while local firms have less; the latter typically rely more on long-term relationships with partners, often based on social ties and past loyalty. For example, in India, most MNC automobile manufacturers derive flexibility transactional services by managing their relationships with suppliers through online portals. While suppliers have an option to integrate their IT systems with the portals, few local firms do so. Thus, IT flexibility in transactional services may complement the effect of relational capabilities more for MNCs than for local firms.

In addition, local firms may not have developed enough IT expertise to integrate IT within transactional relationships with partners. For example, platforms such as automated clearing houses, or multi-firm integrated supply chain and inventory monitoring systems are hardly seen in these markets. Thus when MNCs align their IT strategy to develop a robust transactional orientation, the prior expertise and experience of MNCs relative to local firms would have a greater payoff in relational advantage from transactional relationships with partners. In other words, IT enabled flexibility will help MNCs to establish a tightly coupled relationship with other businesses, than for local firms.

Second, MNCs inherently have established partnerships with other firms globally (Sheng et al. 2011). Such partnerships already have efficient mechanisms built-in that would strengthen the ability of IT enabled flexibility in transactional services to complement the link between relational capability and performance.



For instance, a global computer manufacturer such as HP has pre-established partnerships with global computer component suppliers so that the mechanisms of supply are more efficient compared to local firms who do not typically have these global partnerships.

Thus, we argue that MNCs typically have considerable experience in efficient IT-based business-to-business transactions, while local firms have less; the latter typically rely more on long-term relationships with partners, often based on social ties and past loyalty. Thus, IT flexibility in transactional services may complement the effect of relational capabilities more for MNCs than for local firms. Therefore, we hypothesize:

*Hypothesis H2b: Compared to local firms, multinational firms experience a higher complementary effect of IT enabled strategic flexibility in transaction services (ITTS) on the relationship between relational capability and firm performance.*

## **Research Design and Methodology**

To examine our hypotheses, we conducted a survey of MNCs and local firms in India. India is an attractive emerging market for MNCs with a huge potential due to its large bottom-of-pyramid consumer base and increasing middle class (Kathuria et al. 2010; Prahalad 2008). Thus, India provides a rich context for examining the research questions of this study. To avoid confounding errors due to uneven economic development that is prevalent in an emerging economy, our sample drew from compilations of firms from an industry directory around an emerging commercial hub in western India (Kathuria and Konsynski 2012). We collected matched-pair data via a research firm that conducted a survey during December 2013 - February 2014 through in-person visits, phone calls, and emails. The respondents are top managers such as senior managers, vice presidents, chief executive officers, chief operating officers, and chief marketing officers. Managers in the strategy function provided data on dependent variables, while senior marketing managers responded to questions on the independent variables. We collected control variables from both respondents. Table 1 provides a description of the variables, along with the relevant questions from the survey. After dropping incomplete responses and outliers, our sample consists of 143 firms. The firms are across multiple industries including financial services, telecommunications and media, manufacturing, retail, and logistics. Our sample size is similar to the sample sizes in prior management research examining organizational performance of multinationals and local firms in emerging economies (Bae and Lawler 2000).

The dependent variable is financial performance, a 4-item reflecting on the performance of the firm (Cronbach alpha=0.87). Amongst the independent variables, the marketing capability variable measures the planning, resourcing, strategy and programs related to development of marketing capability of the firm, using a 6-item anchor instrument from prior research (Morgan et al. 2009) (Cronbach alpha=0.70). Relational capability is a 6-item instrument focusing on the firm's collaboration with external partners (Brinckmann and Hoegl 2011) (Cronbach alpha=0.71). ITCS and ITTS are each 4-item instruments adapted from prior research (Saraf et al. 2007) and are measured using seven-point Likert scales, and have Cronbach alphas 0.70 and 0.78 respectively. Thus, all the variables exhibited sufficiently high reliability with Cronbach alphas above the minimum recommended values (Nunnally 1988).

Consistent with prior research, we control for factors that might influence performance. First, we control for the size of the firm (number of full-time employees) which helps account for scale effects on performance as larger firms have a higher level of resources (Rosenzweig et al. 2003; Tanriverdi 2005). Second, we control for firm age which accounts for potential learning curve influences (Bae and Lawler 2000; Shah and Ward 2003). Third, we control for industry sector to which the firm belongs (Devaraj et al. 2007). To test the differences between MNCs and local firms, we add the appropriate additional interaction terms.

Variable	Definition and survey questions [Scale: 1 (Strongly Disagree) to 7 (Strongly Agree) where applicable]	References
Firm Performance	Overall financial performance of the firm. Survey questions: 1. Over the past 3 years, our financial performance has been outstanding. 2. Over the past 3 years, our financial performance has exceeded our competitors'. 3. Over the past 3 years, our sales growth has been outstanding. 4. Over the past 3 years, we have been more profitable than our competitors.	Kim et al. 2010
Marketing Capability (MktCap)	Marketing capability of the firm, as reflected in its marketing planning, resources, strategies, and programs. Survey questions: 1. Our organization develops creative marketing strategies. 2. Our organization possesses thorough marketing planning processes. 3. In our organization, we allocate marketing resources effectively. 4. In our organization, we organize to deliver marketing programs effectively. 5. Our organization translates marketing strategies into action. 6. In our organization, we execute marketing strategies quickly.	Morgan et al. 2009
Relational Capability (RelCap)	Relational capability of the firm, as reflected in its collaboration intensity and effective interactions with partners. Survey Questions: 1. Our organization collaborates intensively with external partners in the management domain (e.g., research institutions, other firms). 2. A collaborative atmosphere characterizes the interaction between our organization and the external partners. 3. Our organization collaborates intensively with external partners in the marketing domain (e.g., distributors, market research firms). 4. A collaborative atmosphere characterizes the interaction between our organization and the external partners. 5. Our organization collaborates intensively with external partners in the financial management domain (e.g., accountants, investors). 6. A collaborative atmosphere characterizes the interaction between our organization and the external financial management partners.	Brinckmann and Hoegl 2011
IT enabled Strategic Flexibility in Customer Services (ITCS)	ITCS captures the level of flexibility and adaptability provided by the IT enabled customer services of the firm. Survey Questions: 1. The manner in which IT enabled customer services are organized allows for rapid changes. 2. Our IT enabled customer services are highly scalable. 3. Our IT enabled customer services are designed to support new business relationships easily. 4. Our IT enabled customer services accommodate changes in business requirements quickly.	Saraf et al. 2007
IT enabled Strategic Flexibility in Transaction Services (ITTS)	ITTS captures the level of flexibility and adaptability provided by the IT enabled transaction services of the firm. Survey Questions: 1. The manner in which IT enabled transaction services with our partners are organized allows for rapid changes. 2. Our IT enabled transaction services with our partners are highly scalable. 3. Our IT enabled transaction services with our partners are designed to support new business relationships easily. 4. Our IT enabled transaction services with our partners accommodate changes in business requirements quickly.	Saraf et al. 2007
MNC	1 if the firm is a multi-national firm; 0 if the firm is a local firm	

**Table 1: Description of Major Variables and Survey Questions**

We estimate the following equation specific to hypotheses H1a and H1b:

$$Performance = f(\beta_1 MktCap, \beta_2 RelCap, \beta_3 ITCS, \beta_4 ITTS, \beta_5 MktCap \times ITCS, \beta_6 RelCap \times ITTS, \beta_c \mathbf{X}_c, \varepsilon)$$

where  $\mathbf{X}_c$  is the vector of control variables. Likewise, to test hypotheses H2a and H2b, we include three-way interaction terms (MNC x ITCS x MktCap) and (MNC x ITTS x RelCap) along with the necessary corresponding two-way interaction terms and test the significance of the three-way interaction terms. We employ robust standard errors that account for potential heteroskedasticity.

## Results

Table 2 shows the descriptive statistics and correlations of the variables.

Variable	Mean	SD	1	2	3	4	5	6	7
1 Performance	5.27	1.42	1.00						
2 Marketing Capability	3.82	1.16	0.09	1.00					
3 Relational Capability	2.55	1.13	0.28*	0.48*	1.00				
4 ITCS	4.79	1.02	0.38*	0.09	0.25*	1.00			
5 ITTS	4.63	1.24	0.49*	0.08	0.18*	0.57*	1.00		
6 MNC	0.36	0.48	0.15	0.05	-0.04	0.19*	0.10	1.00	
7 Size	2.86	2.56	0.27*	0.13	0.03	0.26*	0.26*	0.17*	1.00
8 Age	44.22	166.1	0.05	-0.07	0.01	-0.04	0.08	-0.03	0.05

N = 143. \* indicates significance at the 5% level.

**Table 2: Descriptive Statistics and Correlations**

VARIABLES	(1)	(2)	(3)
	Performance	Performance	Performance
MktCap	0.32*** (0.10)	0.33*** (0.09)	0.39*** (0.09)
RelCap	0.43*** (0.09)	0.99*** (0.24)	0.84*** (0.26)
ITCS	-0.14 (0.15)	-0.03 (0.16)	0.01 (0.18)
ITTS	0.49*** (0.13)	0.03 (0.17)	0.19 (0.21)
ITCS x MktCap		<b>0.38***</b> (0.11)	0.37*** (0.11)
ITTS x RelCap		<b>0.13***</b> (0.04)	0.08* (0.04)
Size	0.06* (0.03)	0.06** (0.03)	0.07** (0.03)
Age	0.13 (0.14)	0.28* (0.15)	0.28* (0.15)
MNC	0.47* (0.27)	0.41 (0.25)	1.81 (1.36)
MNC x ITCS x MktCap			<b>-0.29**</b> (0.12)
MNC x ITCS			-0.39 (0.34)
MNC x MktCap			-0.35** (0.17)
MNC x ITTS x RelCap			<b>0.15**</b> (0.06)
MNC x ITTS			-0.45 (0.28)
MNC x RelCap			-0.63 (0.38)
F-statistic	8.82***	9.92***	8.24***
N	143	143	143
F-test comparison		10.86***	4.01**
R-Square	0.37	0.43	0.47

Notes: (1) Robust standard errors in parentheses. (2) Industry dummies are included in models. (3) Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Table 3: Results**

Table 3 presents the results. We find marketing capability (column 1,  $\beta = 0.32$ ,  $p < 0.01$ ) and relational capability (column 1,  $\beta = 0.43$ ,  $p < 0.01$ ) have positive and significant coefficients. Column (2) includes the two-way interaction terms to test hypotheses H1a and H1b. As shown in column (2), the interaction

term (ITCS x MktCap) is significant and positive (column 2,  $\beta = 0.38$ ,  $p < 0.01$ ), thereby supporting H1a. We also find support for H1b, as the interaction term (ITTS x RelCap) is significant and positive (column 2,  $\beta = 0.13$ ,  $p < 0.01$ ). We also found similar results (omitted for brevity, available from the authors on request) when the interaction terms are included one at a time rather than both at once.

Column (3) includes the three-way interaction terms to test H2a and H2b, along with the corresponding two-way interaction terms. As column (3) shows, we find support for H2a (coefficient of MNC x ITCS x MktCap is  $\beta = -0.29$ ,  $p < 0.05$ ) and H2b (coefficient of MNC x ITTS x RelCap is  $\beta = 0.15$ ,  $p < 0.05$ ).<sup>1</sup> Graphical plots of the results (omitted for brevity, available from the authors on request) provide support for the hypotheses.

Thus our results strongly support all the four hypotheses, suggesting that IT customer service and transactional service flexibility do have complementary effects on the linkage between performance and both marketing capabilities and relational capabilities. Further, these effects are different for MNCs and local firms.

### Robustness Tests

We conducted several tests to assess the robustness of our findings. First, F-tests of joint significance of the interaction terms were rejected, suggesting rejection of the null that the interaction terms are jointly zero. Second, we performed the Harman's one-factor test (Harman 1967) and the marker variable test (Lindell and Whitney 2001). In Harman's test, five factors with eigenvalues exceeding 1 were extracted with the first factor explaining only 23.29% of the variance. In the marker-variable tests, the correlations among the variables did not change significantly after accounting for common method variance. Thus, our matched-pair data collection protocol and results of both tests suggest that common method bias is not a significant concern. Furthermore, since our core theory pertains to interaction effects, common method variance is even less of a concern because common method variance reduces the likelihood of detecting interaction effects (Wall et al. 1996).

Third, we checked for multicollinearity by examining the variance inflation factors (VIF). In all equations, the maximum VIF and the average VIF were well below suggested limits, indicating that multicollinearity is not a significant concern. Fourth, White (1980) tests for heteroskedasticity did not suggest the presence of heteroskedasticity. Nevertheless, as suggested in the literature (Greene 2003), we use robust standard errors in all our estimations.<sup>2</sup> Fifth, as another measure of robustness, we re-estimated the models after dropping the item related to sales growth from our dependent variable. The results remain unchanged and are shown in the Appendix.<sup>3</sup> Finally, a potential concern may be that ITCS and ITTS might be endogenous. Such endogeneity can occur if there are potential unobserved factors that affect ITCS and ITTS as well as performance. To address this potential concern, we re-estimated the models accounting for the possibility of endogeneity of ITCS and ITTS. We followed the two-stage approach suggested by Heckman (1979) and used in management research and IS research (Bharadwaj et al. 2007; Shaver 1998). The results (omitted for brevity, available from the authors on request) remain qualitatively unchanged and do not suggest the presence of endogeneity (Greene 2003; Heckman 1979).

## Discussion

The objective of this study was to examine the link between IT enabled strategic flexibility, organizational capabilities, and firm performance; and compare them across MNCs and local firms in the context of an emerging economy. This study has four principal findings. First, IT enabled strategic flexibility in customer services positively moderates the relationship between marketing capability and firm performance. This suggests that being able to adapt to customer needs in emerging markets through the

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<sup>1</sup> Consistent with prior research (Dunk 1993; Southwood 1978), we do not interpret the significance tests for the main effects and the two-way interaction terms in the models with the three-way interaction terms.

<sup>2</sup> Our results remain unchanged whether we use robust or non-robust standard errors.

<sup>3</sup> We thank an anonymous reviewer for motivating this additional robustness analysis on the grounds that sales growth and profit might be capturing different aspects of performance. Consistent with prior research, we believe that including sales growth measure provides a more holistic measure of performance. For instance, Song and Song (2010) measured new product performance in three dimensions: return on investment, market share, and a subjective measure.

use of IT is an important enabler of success. Second, we find that IT enabled strategic flexibility in transaction services complements the link between relational capability and performance. This suggests that firms can strengthen their collaborative relationships with their partners by implementing technologies and systems that are adaptable to support change in emerging markets. Third, we find that the benefits of ITTS for leveraging relational capability are stronger for MNCs than for local firms. This suggests that MNCs are better able to leverage the benefits of ITTS. Finally, we find that the benefits of ITCS for strengthening the role of marketing capability on performance are weaker for MNCs than for local firms. This finding suggests that local firms are able to leverage their knowledge of the market better as compared to MNCs.

Our study can offer several contributions to research. First, our findings reconcile the contradictory findings of earlier IS research in emerging economies by suggesting a critical role of IT enabled strategic flexibilities in complementing organizational capabilities in emerging markets. Second, by drawing insights about how the complementarities are different for MNCs and local firms, we suggest how to leverage on two specific tenets of IT governance: (1) alignment of the IT enabled strategic flexibility in customer services (ITCS) to complement a firm's marketing capability, and (2) complementary effect of IT enabled strategic flexibility in transaction services (ITTS) on a firm's relational capability to influence firm performance. These implications lead to an effective IT governance portfolio, specifically in transactions and customer services in emerging markets. The findings suggest that the flexibility of processes enabled by IT is an important enabler of performance in emerging economies. Third, another contribution lies in differentiating how IT is used or applied (ITTS versus ITCS), and in theorizing their implications. Thus, the study reinforces the need to carefully consider how IT is used (Devaraj and Kohli 2003) in order to tease out the effect of IT enabled flexibilities on performance. Last, this study uncovers contingent factors in how IT enabled strategic flexibility can help performance. Prior research identified "a need to assess the impact of some contingent factors on the IT-agility relationship", and our study takes a step towards addressing this call (Nazir and Pinsonneault 2012, p. 163). In doing so, this study also builds on research that emphasizes that firm performance can be explained by how IT complements core organizational capabilities (Melville et al. 2004; Ravichandran and Lertwongsatien 2005; Kathuria et al. 2014).

Our study has several managerial implications. First, IT investments in firms are often swayed by industry effects of firms' adopting IT without realizing its benefits rather than really focusing on strategies that can bring higher benefits for firms. Our findings suggest that where strategy is aligned to customer service, investments in IT can improve the marketing capability of a firm, or when the strategic focus is on transaction service, can improve the relational capability. In other words, it may be prudent to invest or adopt IT in relevant customer service areas, if a firm wants to develop its marketing capability. A second managerial implication is that the managers need to consider their contextual and institution factors of a market, e.g., whether being local or MNCs, to orient their IT strategies. These competing factors may be a driver to develop a differentiated IT strategy compared to other markets, such as implementing an IT enabled voice response systems in local language for customer services rather than a sophisticated non-local language IT enabled voice response system. A third implication for local firms in emerging markets is that while existing relationships or established market orientation may accrue current returns on investments, they need to be aware of MNCs entering into these markets who may play a disrupting role. For example, when cell phone providers enter into emerging markets, they bring some differentiated value added services that gives them a winning strategy against local competitors. Local competitors need to also learn and adopt newer systems as soon as possible to be at par with the entering MNCs.

The study has several limitations which can serve as starting points for future research. First, the data were collected only from firms located in India. Although this helps enhance internal validity, it may limit the generalizability of the study. Future research can extend the analysis by incorporating studies in other regions and geographies. Second, although we theorize the moderating role of ITTS and ITCS, we do not empirically test the theoretical mechanisms underlying the phenomena being studied. Future research can empirically test such mediating mechanisms potentially using alternate methods and case studies. Third, in our study, respondents on only one side of inter-organizational dyads were surveyed. How ITCS or ITTS by firms may influence their partners or customers remains a potential area for future research. Last, due to the cross-sectional nature of the study, like much research studies that use cross-sectional designs, we cannot categorically confirm causality. However, similar to prior literature, our two-step model estimations (that we conducted for robustness, shown in Appendix) that statistically account for endogeneity and that gave us similar results as the standard models mitigate potential endogeneity

concerns (Greene 2003; Heckman 1979; Shaver 1998). Nonetheless, future research can adopt additional empirical strategies that can explicitly model temporal ordering, potentially using longitudinal research designs.

In conclusion, this study provides one of the first conceptualizations and theory-building of IT enabled strategic flexibilities in the context of MNC and local firms in an emerging economy. We theorized and found a complementary role of IT enabled strategic flexibility in customer services (ITCS) on the marketing capability-performance linkage, and a complementary role of IT enabled strategic flexibility in transaction services (ITTS) on the relational capability-performance linkage. Further, we found that the complementary role of ITCS is stronger for local firms whereas the complementary role of ITTS is stronger for MNC firms. This research contributes towards a more complete understanding of the role of IT enabled strategic flexibilities in emerging economies by uncovering the linkages between IT enabled flexibilities, marketing capability, relational capability, and performance. More broadly, the study contributes to the literature that examines the governance of IT in emerging economies and attempts to push IS theory beyond developed countries, into the exciting new context of an emerging economy. We hope that this study can stimulate further exploration into the role of IT in emerging economies.

## Appendix

### Robustness Test: Results after dropping “sales growth”

For additional robustness, we re-estimated our models after dropping the “sales growth” measure from the dependent variable. Table 4 shows these results. As can be seen, the results remain unchanged.

VARIABLES	(1)	(2)	(3)
	Performance	Performance	Performance
MktCap	0.37*** (0.12)	0.37*** (0.10)	0.44*** (0.11)
RelCap	0.49*** (0.11)	1.10*** (0.28)	0.87*** (0.32)
ITCS	-0.20 (0.17)	-0.04 (0.18)	-0.01 (0.20)
ITTS	0.60*** (0.15)	0.09 (0.20)	0.30 (0.25)
ITCS x MktCap		<b>0.48***</b> <b>(0.12)</b>	0.45*** (0.13)
ITTS x RelCap		<b>0.14***</b> <b>(0.05)</b>	0.08* (0.04)
Size	0.06* (0.03)	0.05 (0.03)	0.07* (0.04)
Age	0.12 (0.16)	0.31* (0.17)	0.31* (0.18)
MNC	0.52* (0.31)	0.45 (0.28)	0.50 (1.62)
MNC x ITCS x MktCap			<b>-0.30**</b> <b>(0.14)</b>
MNC x ITCS			-0.59 (0.40)
MNC x MktCap			-0.30 (0.20)
MNC x ITTS x RelCap			<b>0.22***</b> <b>(0.08)</b>
MNC x ITTS			-0.57* (0.33)
MNC x RelCap			-0.88* (0.45)
F-statistic	7.45***	7.88***	6.63***
N	143	143	143
F-test comparison		10.56***	4.72**
R-Square	0.36	0.43	0.47

Notes: (1) Robust standard errors in parentheses. (2) Industry dummies are included in models. (3) Significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$ .

**Table 4: Robustness Results: Dropping Sales Growth**

## References

- Andrade Rojas, M.G., and Kathuria, A. 2014. "Competitive Brokerage: External Resource Endowment and Information Technology as Antecedents," *Best Paper Proceedings of the Academy of Management Annual Meeting*, Philadelphia, PA: Academy of Management.
- Appiah-Adu, K. 1998. "Market orientation and Performance: Empirical tests in a transition Economy," *Journal of Strategic Marketing* (6), pp. 25-45.
- Aulakh, P., Kotabe, M., and Teegen, H. 2000 "Export Strategies and Performance of Firms From Emerging Economies: Evidence from Brazil, Chile, and Mexico," *Academy of Management Journal* (43:3), pp. 342-361.
- Bae, J., and Lawler, J.J. 2000. "Organizational and HRM Strategies in Korea: Impact on Firm Performance in an Emerging Economy," *Academy of Management Journal* (43:3), pp. 502-517.
- Bharadwaj, A. 2000. "A Resource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation," *MIS Quarterly* (24:1), pp. 169-196.
- Bharadwaj, S., Bharadwaj, A., and Bendoly, E. 2007. "The Performance Effects of Complementarities between Information Systems, Marketing, Manufacturing, and Supply Chain Processes," *Information Systems Research* (18:4), pp. 437-453.
- Bingi, P., Leff, L., Shipchandler, Z., and Rao, S. 2000. "Critical IT Implementation Issues in Developed and Developing Countries," *Information Strategy: The Executive Journal* (16:2), pp. 25-34.
- Braunscheidel, M., and Suresh, N. 2009. "The Organizational Antecedents of a Firm's Supply Chain Agility for Risk Mitigation and Response," *Journal of Operations Management* (27:2), pp. 119-140.
- Brinckmann, J., and Hoegl, M. 2011. "Effects of Initial Teamwork Capability and Initial Relational Capability on the Development of New Technology-Based Firms," *Strategic Entrepreneurship Journal* (5:1), pp. 37-57.
- Byrd, T.A., and Turner, D.E. 2000. "Measuring the Flexibility of Information Technology Infrastructure: Exploratory Analysis of a Construct," *Journal of Management Information Systems* (17:1), pp. 167-208.
- Capron, L., and Hulland, J. 1999. "Redeployment of Brands, Sales Forces, and General Marketing Management Expertise Following Horizontal Acquisitions: A Resource-Based View," *Journal of Marketing* (63), pp. 41-54.
- Chan, Y., Sabherwal, R., and Thatcher, J. 2006. "Antecedents and outcomes of strategic IS alignment: an empirical investigation," *IEEE Transactions on Engineering Management*, (53:1), pp. 27-47.
- Chang, S., Chung, C., and Mahmood, I. 2006. "When and How Does Business Group Affiliation Promote Firm Innovation? A Tale of Two Emerging Economies," *Organization Science*, (17:5), pp. 637-656.
- Child, J., and Tsai, T. 2005. "The Dynamic Between Firms' Environmental Strategies and Institutional Constraints in Emerging Economies: Evidence from China and Taiwan," *Journal of Management Studies*, (42:1), pp. 95-125.
- Cool, K., and Schendel, D. 1988. "Performance differences among strategic group members," *Strategic Management Journal* (9:3), pp. 207-223.
- D'Souza, D., and Williams, F. 2000. "Toward a taxonomy of manufacturing flexibility dimensions," *Journal of Operations Management* (18:5), pp. 577-593.
- Day, G. 1994. "The Capabilities of Market-driven Organizations," *Journal of Marketing* (58:4), pp. 37-56.
- De Leeuw, A. 1996. "On the concept of flexibility: A dual control perspective," *Omega* (24:2), pp. 121-139.
- Devaraj, S., and Kohli, R. 2003. "Performance Impacts of Information Technology: Is Actual Usage the Missing Link?" *Management Science* (49: 3), pp. 273-289.
- Devaraj, S., Krajewski, L., and Wei, J. 2007. "Impact of eBusiness Technologies on Operational Performance: The Role of Production Information Integration in the Supply Chain," *Journal of Operations Management* (25:6), pp. 1199-1216.
- Dewan, S., and Kraemer, K. 2000. "Information Technology and Productivity: Evidence from Country-level Data," *Management Science* (46:4), pp. 548-562.
- Dreyer, B., and Grønhaug, K. 2004. "Uncertainty, flexibility, and sustained competitive advantage," *Journal of Business Research* (57:5), pp. 484-494.
- Dunk, A. 1993. "The Effect of Budget Emphasis and Information Asymmetry on the Relation between Budgetary Participation and Slack", *The Accounting Review* (68:2), pp. 400-410.

- Fahy, J., Hooley, G., Cox, T., Beracs, J., Fonfara, K., Snoj, B. 2000. "The Development and Impact of Marketing Capabilities in Central Europe," *Journal of International Business Studies* (31:1), pp. 63-81.
- Fiegenbaum, A., and Thomas, H. 1995. "Strategic groups as reference groups: Theory, modeling and empirical examination of industry and competitive strategy," *Strategic Management Journal* (16:6), pp. 461-476.
- Fredericks, E. 2005. "Infusing flexibility into business-to-business firms: A contingency theory and resource-based view perspective and practical implications," *Industrial Marketing Management* (34:6), pp. 555-565.
- Friedman, T. L. 2005. *The World is Flat: A Brief History of the Twenty-first Century*, Farrar, Straus and Giroux, New York.
- Garcia-Pont, A., and Nohria, N. 2002. "Local versus global mimetism: the dynamics of alliance formation in the automobile industry," *Strategic Management Journal* (23:4), pp. 301-321.
- Golden, W., and Powell, P. 2000. "Towards a definition of flexibility: in search of the Holy Grail?," *Omega* (28:4), pp. 373-384.
- Gosain, S., Malhotra, A., and El Sawy, E., 2005. "Coordinating for Flexibility in e-Business Supply Chains," *Journal of Management Information Systems* (21:3), pp. 7-45.
- Greene, W. H. 2003. *Econometric Analysis*, Prentice Hall, Upper Saddle River, NJ.
- Grewal, R., and Tansuhaj, P., 2001. "Building Organizational capabilities for Managing Economic Crisis: The Role of Marketing Orientation and Strategic Flexibility," *Journal of Marketing* (65:2), pp. 67-80.
- Harman, H. 1967. "Modern Factor Analysis," University of Chicago Press, Chicago, IL.
- Hammond, A., Kramer, W., Tran, J., Katz, R., and Walker, C. 2007. "The next 4 billion : market size and business strategy at the base of the pyramid," World Resources Institute, International Finance Corp.: Washington, DC.
- Hausman, J. 1978. "Specification Tests in Econometrics," *Econometrica* (46:6), pp. 1251-1271.
- Heckman, J. "Sample Selection Bias as a Specification Error," *Econometrica* (47:1), 1979, pp. 153-161.
- Hempel, P., and Kwong, Y., 2001. B2B e-Commerce in Emerging Economies: i-Metal.com's non-ferrous metals exchange in China. *Journal of Strategic Information Systems* (10), pp. 335-355.
- Hoskisson, R., Eden, L., Lau, C.M., and Wright, M. 2000. "Strategy in Emerging Economies," *Academy of Management Journal* (43:3), pp. 249-267.
- Hosmer, D., and Lemeshow, S. 2000. "Applied Logistic Regression," John Wiley Sons, Inc., Hoboken.
- Hoyt, J., Huq, F., and Kreiser, P., 2007. "Measuring organizational responsiveness: the development of a validated survey instrument," *Management Decision* (45:10), pp. 1573-1594.
- Ivens, B.S. 2005. "Flexibility in industrial service relationships: The construct, antecedents, and performance outcomes," *Industrial Marketing Management* (34:6), pp. 566-576.
- Jayachandran, S., Hewett, K., and Kaufman, P., 2004. "Customer Response Capability in a Sense-and-Respond Era: The Role of Customer Knowledge Process," *Journal of the Academy of Marketing Science* (32:3), pp. 219-233.
- Kathuria, A., Andrade Rojas, M.G., Saldanha, T., and Khuntia, J. 2014. "Extent Versus Range of Service Digitization: Implications for Firm Performance," *Proceedings of the Twentieth Americas Conference on Information Systems*, Savannah, GA: Association for Information Systems.
- Kathuria, A., and Konsynski, B.R. 2012. "Juggling Paradoxical Strategies: The Emergent Role of IT Capabilities," *Proceedings of Thirty Third International Conference on Information Systems*, Orlando, FL, : Association for Information Systems.
- Kathuria, R., Porth, S., Kathuria, N., and Kohli, T. 2010. "Competitive priorities and strategic consensus in emerging economies: evidence from India," *International Journal of Operations & Product Management* (30:8), pp. 879-896.
- Kearns, G., and Lederer, A. L. 2000. "The effect of strategic alignment on the use of IS-based resources for competitive advantage," *The Journal of Strategic Information Systems* (9:4), pp 265-293.
- Kearns, G. S., and Sabherwal, R. 2007. "Strategic alignment between business and information technology: a knowledge-based view of behaviors, outcome, and consequences," *Journal of Management Information Systems* (23:3), pp 129-162.
- Khanna, T., Palepu, K. G., and Sinha, J. 2005. "Strategies That Fit Emerging Markets," *Harvard Business Review* (83:6), pp. 63-76.
- Kohli, A., and Jaworski, B. 1990. "Market Orientation: The Construct, Research Propositions, and Managerial Implications," *Journal of Marketing* (54), pp. 1-18.



- Krasnikov, A., and Jayachandran, S. 2008. "The relative impact of marketing, research-and-development, and operations capabilities on firm performance," *Journal of Marketing* (72:4), pp. 1-11.
- Kulp, S., Lee, H., and Ofek, E. 2004. "Manufacturer Benefits from Information Integration with Retail Customers," *Management Science* (50:4), 431-444.
- Lal, K. 2002. "E-Business and Manufacturing Sector: A Study of Small and Medium-Sized Enterprises in India," *Research Policy* (31:7), pp. 1199-1211.
- Lindell, M. K., and Whitney, D. J. 2001. "Accounting for Common Method Variance in Cross-Sectional Research Designs," *Journal of Applied Psychology* (86:1), pp. 114-121.
- London, T., and Hart, S. L. 2004. "Reinventing Strategies for Emerging Markets: Beyond the Transnational Model," *Journal of International Business Studies* (35:5), pp 350-370.
- Luo, X., Griffith, D., Liu, S., and Shi, Y. 2004. "The Effects of Customer Relationships and Social Capital on Firm Performance: A Chinese Business Illustration," *Journal of International Marketing* (12:4), pp. 25-45.
- Lusch, R., Vargo, S., and Tanniru, M. 2010. "Service, value networks and learning," *Journal of the Academy of Marketing Science* (38:1), pp. 19-31.
- Malhotra, A., Gosain, S., and El Sawy, O.A. 2005. "Absorptive Capacity Configurations in Supply Chains: Gearing for Partner-Enabled Market Knowledge Creation," *MIS Quarterly* (29:1), pp. 145-187.
- Matthyssens, P., Pauwels, P., Vandenbempt, K. 2005. "Strategic flexibility, rigidity and barriers to the development of absorptive capacity in business markets: Themes and research perspectives," *Industrial Marketing Management* (34:6), pp. 547-554.
- Melville, N., Kraemer, K., and Gurbaxani, V. 2004. "Information Technology and Organizational Performance: An Integrative Model of IT Business Value," *MIS Quarterly* (28:2), pp. 283-322.
- Morgan, N., Vorhies, D., and Mason, C., 2009. Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal* (30:8), 909-920.
- Myhr, N., and Spekman, R. 2005. "Collaborative supply-chain partnerships built upon trust and electronically mediated exchange," *Journal of Business & Industrial Marketing* (20: 4/5), pp. 179-186.
- Nazir, S., and Pinsonneault, A. 2012. "IT and Firm Agility: An Electronic Integration Perspective," *Journal of the Association for Information Systems* (13:3), pp. 150-171.
- Nunnally, J.C. 1988. *Psychometric Theory*. Englewood Cliffs, NJ: McGraw-Hill.
- Overby, E., Bharadwaj, A., and Sambamurthy, V. 2006. "Enterprise Agility and the Enabling Role of Information Technology," *European Journal of Information Systems* (15,2), pp.120-131.
- Padmanabhan, M. 2012. "Walmart's Struggles in India: How Institutional Contexts Can Limit Foreign Entry," *Journal of Communication, Culture & Technology* (13:1).
- Palmer, J. W., and Markus, M. L. 2000. "The performance impacts of quick response and strategic alignment in specialty retailing," *Information Systems Research* (11:3), pp 241-259.
- Pavlou, P., and El Sawy, O. 2006. "From IT Leveraging Competence to Competitive Advantage in Turbulent Environments: The Case of New Product Development," *Information Systems Research* (17:3), pp. 198-227.
- Peng, M., Wang, D., and Jiang, Y., 2008. "An institution-based view of international business strategy: a focus on emerging economies," *Journal of International Business Studies* (39), pp. 920-936.
- Prahalad, C. K. 2008. *The fortune at the bottom of the pyramid*, (Wharton School Publ.: Upper Saddle River, NJ).
- Prahalad, C. K., and Hammond, A. 2002. "Serving the world's poor, profitably," *Harvard Business Review* (80:9), pp 48-59.
- Prahalad, C. K., and Krishnan, M.S. 2002. "The Dynamic Synchronization of Strategy and Information Technology," *MIT Sloan Management Review*, pp. 24-33.
- Prahalad, C., and Lieberthal, K. 2003. "The End of Corporate Imperialism," *Harvard Business Review* (81: 8), pp. 109-142.
- Quelch, J. A., and Klein, L. R. 1996. "The Internet and International Marketing", *Sloan Management Review* (37:3).
- Rai, A., Patnayakuni, R., and Seth, N. 2006. "Firm performance impacts of digitally enabled supply chain integration capabilities," *MIS Quarterly* (30: 2), pp. 225-246.
- Ravichandran, T., and Lertwongsatien, C. 2005. "Effect of Information Systems Resources and Capabilities on Firm Performance: A Resource-Based Perspective," *Journal of Management Information Systems* (21), pp. 237-276.

- Ray, G., Muhanna, W.A., and Barney, J.B. 2005. "Information technology and the performance of the customer service process: A resource-based analysis," *MIS Quarterly* (29: 4), pp. 625-652.
- Rosenzweig, E.D., Roth, A.V., and Dean, J.W., 2003. "The influence of an integration strategy on competitive capabilities and business performance: an exploratory study of consumer products manufacturers," *Journal of Operations Management* (21: 4), pp. 437-456.
- Roztocki, N., and Weistroffer, H. 2004. "Evaluating Information Technology Investments in Emerging Economies using Activity-based Costing," *Electronic Journal of Information Systems in Developing Countries* (19: 2), pp. 1-6.
- Roztocki, N., and Weistroffer, H. 2010. "Information Technology Investments in Emerging Economies," *Information Technology for Development* (14: 1), pp. 1-10.
- Sahaym, A., Steensma, H.K., and Schilling, M.A. 2007. "The Influence of Information Technology on the Use of Loosely Coupled Organizational Forms: An Industry-Level Analysis," *Organization Science* (18:5), pp. 865-880.
- Saldanha, T., Melville, N., Ramirez, R., and Richardson, V. 2013. "Information Systems for Collaborating versus Transacting: Impact on Manufacturing Plant Performance in the Presence of Demand Volatility," *Journal of Operations Management* (31:6), pp. 313-329.
- Sambamurthy, V., Grover, V., and Bharadwaj, A. 2003. "Shaping Agility through Digital Options: Reconceptualizing the Role of Information Technology in Contemporary Firms," *MIS Quarterly* (27:2), pp. 237.
- Saraf, N., Langdon, C.S., and Gosain, S. 2007. "IS Application Capabilities and Relational Value in Interfirm Partnerships," *Information Systems Research* (18:3), pp. 320-339.
- Setia, P., Sambamurthy, V., and Closs, D. 2008. "Realizing business value of agile IT applications: antecedents in the supply chain networks," *Information Technology and Management* (9:1), pp. 5-19.
- Shah, R., and Ward, P. 2003. "Lean Manufacturing: Context, Practice Bundles, and Performance," *Journal of Operations Management* (21:2), pp. 129-149.
- Shaver, J. M. 1998. "Accounting for Endogeneity when Assessing Strategy Performance: Does Entry Mode Choice Affect FDI Survival?," *Management Science* (44:4), pp. 571-585.
- Sheng, S., Zhou, K.Z., and Li, J.J. 2011. "The Effects of Business and Political Ties on Firm Performance: Evidence from China," *Journal of Marketing* (75:1), pp. 1-15.
- Song, L., and Song, M. 2010. "The Role of Information Technologies in Enhancing R&D-Marketing Integration: An empirical Investigation," *Journal of Product Innovation Management* (57), pp. 382-401.
- Southwood, K. 1978. "Substantive theory and statistical interaction: Five models," *American Journal of Sociology*, (83), pp. 1154-1203.
- Srivastava, M. 2009. "Big Retailers Still Struggle in India," *Bloomberg Businessweek*, [http://www.businessweek.com/globalbiz/content/oct2009/gb20091016\\_385819.htm](http://www.businessweek.com/globalbiz/content/oct2009/gb20091016_385819.htm).
- Steensma HK, Barden JQ, Dhanaraj C, and Tihanyi L. 2008. "The evolution and internalization of international joint ventures in a transitioning economy," *Journal of International Business Studies* (39), pp. 491-507.
- Subramanian, R., and Gopalakrishna, P. 2001. "The market orientation-performance relationship in the context of a developing economy: An empirical analysis," *Journal of Business Research* (53:1), pp. 1-13.
- Tafti, A., Mithas, S., and Krishnan, M. S. 2013. "The effect of information technology-enabled flexibility on formation and market value of alliances," *Management Science* (59:1), pp 207-225.
- Tallon, P. P. 2008. "A process-oriented perspective on the alignment of information technology and business strategy," *Journal of Management Information Systems* (24:3), pp 227-268.
- Tallon, P. P., and Pinsonneault, A. 2011. "Competing perspectives on the link between strategic information technology alignment and organizational agility: Insights from a mediation model," *MIS Quarterly* (35:2), pp. 463-484.
- Tanriverdi, H. 2005. "Information Technology Relatedness, Knowledge Management Capability, and Performance of Multibusiness Firms," *MIS Quarterly* (29:2), pp. 311-334.
- Tanriverdi, H. 2006. "Performance Effects of Information Technology Synergies in Multibusiness Firms," *MIS Quarterly* (30:1), pp. 57-77.
- Tiwana, A., and Konsynski, B. 2010. "Complementarities between Organizational IT Architecture and Governance Structure," *Information Systems Research* (21:2), pp. 288-304.
- Tsang, E. 2002. Acquiring knowledge by foreign partners from international joint ventures in a transition economy: learning-by-doing and learning myopia. *Strategic Management Journal* 23(9): 835-854.

- Vargo, S.L., and Lusch, R.F. 2004. "Evolving to a New Dominant Logic for Marketing," *Journal of Marketing* (68: 1), pp. 1-17.
- Vargo, S.L., and Lusch, R.F. 2008. "Service-dominant logic: continuing the evolution," *Journal of the Academy of Marketing Science* (36: 1), pp. 1-10.
- Wall, T., Jackson, P., Mullarkey, S., and Paerker, S. 1996. "The demands-control model of job strain: A more specific test", *Journal of Occupational and Organizational Psychology* (69), pp. 153-166.
- Walters, P., and Samiee, S. 2003. "Marketing Strategy in Emerging Markets: The Case of China," *Journal of International Marketing* (11:1), pp. 97-106.
- Wade, M., and Hulland, J. 2004. "The Resource-based View and Information Systems Research: Review Extension, and Suggestions for Future Research," *MIS Quarterly* (28:1), pp. 107-142.
- Wang, E., and Wei, H. 2007. "Inter-organizational Governance Value Creation: Coordinating for Information Visibility and Flexibility in Supply Chains," *Decision Sciences* (38:4), pp.647-674.
- White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," *Econometrica* (48: 4), pp. 817-838.
- World Bank, 2011." Purchasing Power Parities and Real Expenditures of World Economies: Summary of Results and Findings of the 2011 International Comparison Program," <http://siteresources.worldbank.org/ICPINT/Resources/270056-1183395201801/Summary-of-Results-and-Findings-of-the-2011-International-Comparison-Program.pdf>.
- Xu, D., and Shenkar, O. 2002. "Institutional Distance and the Multinational Enterprise," *The Academy of Management Review* (27:4), pp. 608-618.
- Zhou K., Poppo L, and Yang Z. 2008. "Relational ties or customized contracts? An examination of alternative governance choices in China," *Journal of International Business Studies* 39(3): 526–534.
- Zhou, K., and Li, C. 2010. "How strategic orientations influence the building of dynamic capability in emerging economies," *Journal of Business Research* (63:3), pp. 224-231.
- Zhou, K., and Wu, F. 2010. "Technological Capability, Strategic Flexibility, and Product Innovation," *Strategic Management Journal* (31:5), pp. 547-561.