

MASHIHO MIHALACHE

# Leveraging the International Context

Essays on Building Offshoring Capabilities  
and Enhancing Firm Innovation



**LEVERAGING THE INTERNATIONAL CONTEXT:**  
ESSAYS ON BUILDING OFFSHORING CAPABILITIES AND ENHANCING FIRM  
INNOVATION



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ESSAYS ON BUILDING OFFSHORING CAPABILITIES AND ENHANCING FIRM  
INNOVATION**

Gebruikmaken van de internationale context:  
Studies naar offshoring capabilities en innovatie in bedrijven

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Mashiho Mihalache



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## **CHAPTER 1:**

### **INTRODUCTION**

#### **CONTEXT OF THE DISSERTATION**

**T**he international business environment has transformed considerably in the past three decades as it witnessed increased globalization. Falling trade barriers between countries and advances in communication technologies lead to an unprecedented increase in cross-border business activity. These developments created considerable challenges, but also raised important opportunities. Overall, globalization opened the door for global competition. This means that hardly any organization can escape the threat of competitors from other parts of the world. On the positive side, the increased globalization allows firms to leverage the international environment themselves in order to improve their performance.

One important avenue through which firms can leverage the international environment is by taking advantage of differences between country characteristics in order to gain access to business resources abroad. As countries have different comparative advantages (Cantwell, 1994), firms can choose to perform a business process in the country that provides the best conditions for that particular activity. This logic is the main driver behind the offshoring movement, which sees companies increasingly locating business processes to foreign countries in order to support existing operations (Contractor, Kumar, Kundu & Pedersen, 2010; Mihalache, Jansen, Van Den Bosch & Volberda, 2012). Initially, offshoring started with companies trying to reduce their costs by taking advantage of cheaper resources and labor from developing countries. While the cost-savings motive remains a strong driver of offshoring, nowadays companies increasingly offshore in order to find qualified employees, access specialized knowledge, or to speed up their innovation process (Lewin & Peeters, 2006). Parallel to the development of offshoring motives, there was an increase in the type and sophistication of activities being offshored. Starting with the



relocation of manufacturing activities, the offshoring movement continued with the relocation of processes, both labor intensive such as call-centers or data-entry and knowledge intensive such as software development, engineering, or research and development. Increasingly, firms go beyond moving particular functions abroad by slicing their value chain in finer pieces and then locating those in locations with comparative advantages (Contractor et al., 2010; Rugman, Verbeke, & Yuan, 2011). The rapid growth of offshoring highlights firms' realization that the international environment now provides the opportunity to re-organize their value chains and to create unique sourcing arrangements that stand to provide competitive advantage as they allow companies not only to reduce costs but also to innovate.

In addition to accessing resources, the international environment creates opportunities to access new and different markets. Internationalizing firms can leverage their competencies in new markets in order to capture revenues from foreign consumers (e.g., Goerzen & Beamish, 2003; Qian, Li, Li & Qian, 2008). That is, the international environment allows firms to connect with consumers beyond their domestic market. Extending this logic, by accessing consumers in many foreign countries, firms can exploit their current competencies in markets larger than their own. The concept of 'international diversification' captures this idea and a core research stream in international business literature analyzes how international diversification influences firm performance (c.f., Kirca et al., 2011). Furthermore, existing research proposes that by being forced to address diverse needs of consumers from different foreign countries, firms come up with new solutions such as new products and services that can then be used in their domestic or other foreign markets (e.g., Immelt, Govindarajan & Trimble, 2009). Thus, the international environment provides opportunities for firms to gain new customers and access resources that allow them to improve their performance and innovation.

However, although the international environment creates many potential opportunities, the understanding of how firms can actually take advantage of these opportunities remains surprisingly limited. We know that firms increasingly engage in offshoring in an attempt to capture its potential benefits, but research indicates that offshoring performance is uncertain (Dibbern, Winkler & Heinzl, 2008; Hatch, 2004). Similarly, research is also inconclusive regarding the influence of internationalization in

general – i.e., all foreign operations including both those aimed at accessing resources and those aimed at capturing new markets – on firm performance (c.f. Wiersema & Bowen, 2011). Thus, while the international context creates many opportunities, capturing these opportunities is challenging.

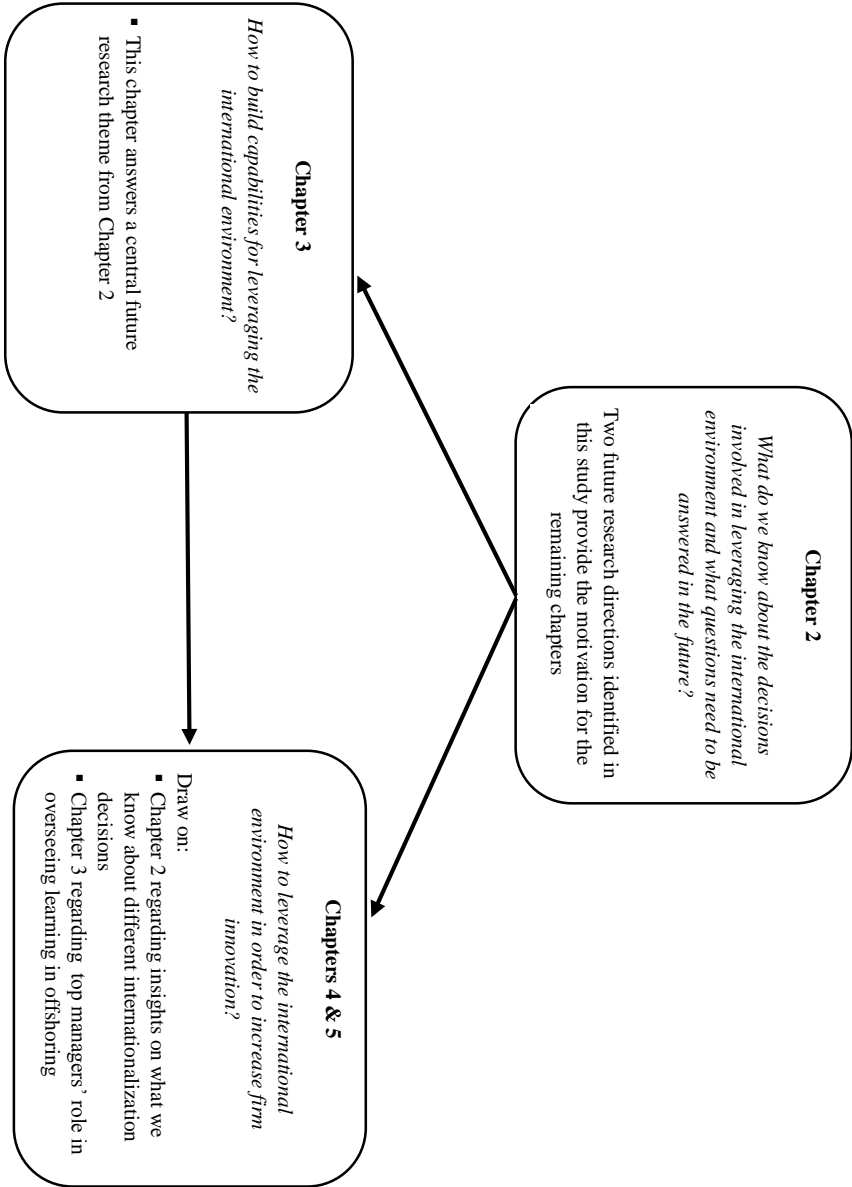
The goal of this dissertation is to advance knowledge on how firms can leverage the international context. To this end, I provide a collection of essay that extends the understanding of the factors that allow firms to leverage the international context, particularly with the goal of increasing their innovation abilities. In the next section, I describe the key features of the four studies included in this dissertation such as the research gaps they address, their methodologies, and their intended contributions.

## OVERVIEW OF THE DISSERTATION

In my quest to contribute to the understanding of how firms can leverage the international environment, particularly for driving innovation, I performed four research studies. These studies are complementary in the research questions they ask, in the research methodologies used, in their findings, and in their contributions to existing research. I begin the thesis by asking what we know about offshoring, then I develop the concept of offshoring capabilities, and then I continue with two studies that focus on how firms can use the international environment to increase their innovation. Figure 1 presents the four research studies comprising my dissertation.

The starting point of my dissertation is integrating insights on what we know about firms' attempts to leverage the international environment from a resource-seeking perspective. *Chapter 2* provides a systematic review of the growing body of research on offshoring. Interestingly, despite the growth of offshoring research, the understanding of the offshoring phenomenon remained limited because existing research developed in diverse disciplines with limited cross-fertilization (Linderman & Chandrasekaran, 2010). In Chapter 2, I review offshoring research published over the last twenty years in the top management

**Figure 1.** The roadmap of this dissertation



journals in order to provide an integrated understanding of what decisions firms need to make when offshoring and, most importantly, what informs those decisions. To this end, I reviewed 116 journal articles and inductively developed a decisional framework of offshoring. I identify the key offshoring decisions such as whether to offshore or not, what processes are good candidates for offshoring, where to offshore, how to set-up coordination and control as well as the factors that drive these decisions. By integrating insights from different research disciplines, the decisional framework I put forward in Chapter 2 provides a comprehensive understanding of the decisions made in offshoring and their impact on offshoring success. In addition, this study contributes to offshoring and, in the more general sense, to international business literature by providing several important avenues for future research that can further advance the understanding of the offshoring phenomenon. Importantly, the future research directions identified in this chapter provide the motivations for the remaining chapters of this dissertation.

*Chapter 3* builds on one of the avenues for future research identified in the first study, which called for a better understanding of the concept of offshoring capabilities. In this chapter, I develop a capability perspective of offshoring and I argue that such a perspective can explain why some firms are better able than others to leverage the international environment for resource-seeking purposes. While previous offshoring research mentions different competencies such as cultural intelligence (Ang & Inkpen, 2008) or contract design competency (Argyres & Mayer, 2007), there was a lack of a systematic analysis of what an offshoring capability comprises. Using qualitative data from five Dutch IT firms, I uncover the components of an offshoring capability and, most importantly, how firms develop it. First, I find that the offshoring capability comprises a coordination competency, relationship development, structural design, and organizational identity development and ways to build these sub-components. Second, this chapter finds how firms can develop an offshoring capability by creating a learning loop through which they can monitor offshoring performance, systematically review progress and look for improvements, and implement organizational learning mechanisms that record and disseminate offshoring knowledge. Therefore, this chapter provides theoretical insights regarding a key explanation for differences in offshoring performance and unravels a way in which firms can develop such capabilities.

**Chapters 4 and 5** draw on insights from the previous chapters. Primarily, these chapters aim to further the understanding of how firms can leverage the international environment in order to innovation because the systematic literature review conducted in Chapter 2 indicated that this relationship is not well understood and there are confounding empirical findings. In addition, Chapter 4 also draws on the insights of Chapter 3, which emphasized the importance of top management processes and pinpointed to top management team reflexivity for being able to take advantage of foreign operations. Furthermore, Chapter 5 draws on the insights developed in Chapter 2 regarding key decisions firms need to make regarding their foreign operations such as deciding on the foreign location and the type activity performed. As explained in more detail in the next paragraphs, Chapters 4 and 5 complement these insight with related theoretical concepts to provide important advancements in the understanding of how firms can improve their innovation by using opportunities from foreign locations.

*Chapter 4*<sup>1</sup> develops theoretical arguments regarding the consequences of offshoring for firm innovation. Specifically, I propose that the offshoring of knowledge intensive activities such as software development, engineering, and research and development has a non-linear relationship with firm innovation such that at low levels of offshoring firms experience an increase in their innovation, but at high levels of offshoring they might even experience a decline in innovation. The underlying logic is that low levels of offshoring knowledge intensive activities allow firms to access new specialized knowledge abroad, but high levels of offshoring impede innovation because of a decrease in the domestic operations' absorptive capacity and because of increased coordination issues associated with managing geographically dispersed operations. Furthermore, this chapter proposes a positive relationship between the offshoring of labor intensive activities such as call centers, accounting, or human resources can have a positive influence on innovation as the cost savings from offshoring can be invested in innovation activities and offshoring labor intensive processes can help focus organizational attention (Ocasio, 1997) on innovation. In

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<sup>1</sup> This study is published as: Mihalache, O.R., Mihalache, M., & Jansen, J.J.P. 2011. Offshoring knowledge vs. labor intensive services and entrepreneurial activity: A contingency perspective. In A. Verbeke, R. van Tulder, & A.T. Tavares (eds.), *Entrepreneurship in the Global Firm. Progress in International Business Research*, Vol. 6, p. 225-249.

addition, I provide a contingency perspective proposing that the aforementioned relationships depend on managerial and organizational factors.

*Chapter 5* builds on the theoretical efforts of Chapter 4 to understand how firms can use the international environment in order to enhance their innovation. While previous studies focused on offshoring, this last study expands the focus beyond seeking resources abroad to also include seeking new markets abroad. That is, in Chapter 5, I consider how firms can enhance innovation through all their foreign operations. Specifically this study considers how international diversification affects firm innovation. A main contribution of this chapter is that it expands previous conceptualizations of international diversification to include organizational aspects in addition to the previously considered geographic aspect. In other words, I propose that international diversification should not only consider the geographic location of foreign subsidiaries but also subsidiary characteristics such as the broadness of their mandate and the type of assets employed. In this way, I answer previous calls for research to address the currently narrow conceptualization of international diversification (Hennart, 2011; Wiersema and Bowen, 2011). In this study, I propose an increasing returns to scale relationship between geographical diversification and firm innovation and that the relationship is contingent on the organizational components of international diversification, i.e., subsidiary mandate broadness and asset complementarity. I test these relationships on a sample of Japanese listed electronics companies and all their foreign subsidiaries. For this purpose I compiled a database by drawing on three different data-sources. The empirical findings are mostly in line with the theoretical model proposed. That is, I find that both geographical and organizational components of international diversification affect firm innovation and that the U-shaped relationship between geographical diversification and firm innovation depends on the asset complementarity of the portfolio of foreign subsidiaries.

Together, the studies of this dissertation contribute to the understanding of how firms can leverage the international environment by moving from providing a general framework on current knowledge about offshoring, to how firms develop the required offshoring capabilities, and then honing in on how firms can take advantage of opportunities abroad in order to innovate.

### **Highlights of the studies included in this dissertation**

The four studies approach the question of how to leverage the international environment from different angles. The highlights of the four studies are presented in Table 1 below. First of all, the four studies included in this dissertation address *different research gaps* in the literature and ask different research questions regarding how firms can leverage the international environment. The dissertation moves from asking the general question of what we know about firms' attempts to leverage the international context and how they can build the capabilities required for that to the more specific question of how firms can use international opportunities to increase their innovation. In order to be able to address these different types of research gaps and questions, I used four *different methodological approaches* for the four research studies. In the first study, I used a systematic review methodology in order to analyze the state of the art of the offshoring research and to integrate insights around the key offshoring decisions. For this purpose, I reviewed 116 offshoring articles published in the top management journals. In the second study, I employed a qualitative methodology using data from five Dutch IT firms in order to inductively build theory about what an offshoring capability is and how firms can develop it. In the third study, I develop a theoretical framework as a starting point for focusing on the link between the international environment and firm innovation. In the fourth study, I employed a quantitative analysis in order to test the relationship between international diversification and firm innovation on a large sample of firms. For this purpose, I compiled a multi-sourced dataset containing 242 Japanese listed electronics firms and all their 2,944 international subsidiaries. These varied methodologies are a strength of my dissertation as they allowed me to answer the complementary research questions required to address diverse research gaps in the literature. In addition, this dissertation makes several important *research findings* associated with these different research questions and methodologies. The first study develops a decisional framework of offshoring by identifying the core decisions offshoring firms need to make and integrates the research insights regarding what informs these decisions. The second study finds the components of the offshoring capability that firms can develop it by implementing a learning loop. The third study develops a theoretical contingency framework regarding the influence of offshoring on firm innovation and how this relationship depends on managerial and organizational factors. Lastly, the fourth study finds empirical evidence

that the choices firms make regarding where to locate foreign subsidiaries and what types of subsidiaries to open abroad affect firms' ability to leverage the international environment. Specifically, I find that both the geographical and the newly proposed organizational elements of international diversification affect firm innovation and that the U-shaped relationship between geographical diversification and firm innovation depends on the level of asset complementarity of the portfolio of foreign subsidiaries. Overall, these studies provide important understanding about how firms can overcome challenges posed by international business and how to take advantage of its opportunities.

In the next chapters, I present these research studies. I conclude the dissertation with a general discussion of its contributions to existing literature and directions for future research.



**Table 1.** Highlights of the four studies of this dissertation

Study	Research Gap	Methodology	Findings
<b>Chapter 2</b> (first study)	Lack of a comprehensive understanding of what is known about offshoring.	<i>Systematic review:</i> 116 studies published in top management journals over the last 20 years.	Decisional framework of offshoring and future research directions
<b>Chapter 3</b> (second study)	While existing research suggests the existence of an offshoring capability, it lacks a comprehensive analysis of what an offshoring capability is and how it develops.	<i>Qualitative research:</i> interview, survey, and public information data from five Dutch IT firms engaged in offshoring.	The offshoring capability is a multifaceted construct comprising coordination competency, relationship development, structural design, and organizational identification developments. Furthermore, firms improve their offshoring capability by implementing learning loops.
<b>Chapter 4</b> (third study)	Previous research has conflicting insights regarding the influence of offshoring on firm innovation, with arguments and findings supporting both positive and negative relationships.	<i>Theoretical</i>	Offshoring knowledge intensive and labor intensive processes differently influence firm innovation and these relationships are contingent on top management team reflexivity and ownership degree of offshore operations.
<b>Chapter 5</b> (fourth study)	Existing research considers the influence of international diversification on firm performance, but it overlooks the consequences for firm innovation and previous research provides narrow conceptualization of international diversification.	<i>Quantitative:</i> multi-source dataset of 242 Japanese listed electronics firms and all their 2,944 international subsidiaries	International diversification comprises organizational components alongside the geographical one and all influence firm innovation. In addition, the U-shaped relationship between geographical diversification and firm innovation depends on the level of asset complementarity in the portfolio of international subsidiaries.

## CHAPTER 2:

### A DECISIONAL FRAMEWORK OF OFFSHORING BUSINESS PROCESSES: INTEGRATING INSIGHTS FROM 20 YEARS OF RESEARCH TO PROVIDE DIRECTION FOR FUTURE

#### ABSTRACT

*Mirroring the growing trend of firms locating business processes in foreign countries to support their current operations, research on the practice of offshoring increased considerably in the past years. However, despite the mounting research on the offshoring of business process, the understanding of the key factors influencing decision-making in offshoring remains surprisingly limited. We provide a comprehensive decisional framework of the key offshoring decisions that synthesizes and integrates insights from different research domains. To this end, we employ a systematic review methodology to integrate insights from 116 studies published in the most influential management and business journals in the past 20 years. In addition to providing a snapshot of state-of-the art research on decision-making for the offshoring of processes, this study also aims to stimulate future research by identifying promising research opportunities.*

**Keywords:** *offshoring; decision-making; systematic review; cross-disciplinary review*

## INTRODUCTION

Fuelled by advances in information technology and cost differentials, the practice of relocating business processes to foreign locations has grown at an incredibly fast pace in the past two decades, mirroring the earlier wave of offshoring manufacturing activities (Karmarkar, 2004; Lewin & Peeters, 2006). While there is little consensus on the absolute level of offshoring of business processes, existing statistics concur that there has been a tremendous increase in the practice and that this growth is expected to continue. For instance, some statistics indicate that between 1992 and 2005, US firms tripled the value of services relocated to offshore locations (Liu, Feils, & Scholnick, 2011). Pointing out the expected increase in offshoring, existing studies suggest that between 10 and 21 percent of US jobs are potential candidates for offshoring (Bardhan & Kroll, 2003; Blinder, 2006; Farrell & Rosenfeld, 2005; Jensen & Kletzer, 2005). Similar growth patterns are also observed in the European Union (Karmarkar, 2004).

Emulating the growth of offshoring of services observed in practice, academic research also experienced a rapid growth in the last decade and transitioned from the more practitioner-oriented journals to the top tier business journals. However, despite the growing research, the understanding of decision-making in offshoring remains limited. Previous research acknowledges the shallow understanding of the offshoring phenomenon (Mol, van Tulder, & Beijer, 2005; Bunyaratavej, Hahn, & Doh, 2008) and calls for future research to advance the understanding of how firms make offshoring decisions (e.g., Srikanth & Puranam, 2011). We argue that the cause for such calls is not the lack of research on offshoring, but the fragmentation of the research field. The proliferation of research took place in a variety of research fields asking different questions and using different methodologies. While, these research efforts provide a much needed breadth in the understanding of the offshoring practice, the lack of *systematic* attention prevented the accumulation of knowledge on offshoring.

This research fragmentation is particularly problematic for decision-making in offshoring as basing decisions on only a portion of what we know about offshoring implies a missed opportunity to improve decision-making and to, potentially, improve the

performance of offshoring initiatives. This study aims to advance our understanding of decisional processes of offshoring in two ways. First, we synthesize the body of research on the offshoring of business processes in order to develop a comprehensive decisional framework that integrates decisional factors considered in different research domains. To this end, we engage in a systematic review of offshoring research published in the top academic journals in the past 20 years. In this way, we aim to overcome field fragmentation and enhance scholarly exchange (Linderman & Chandrasekaran, 2010). Second, by thoroughly analyzing what we already know about key offshoring decisions, we identify and discuss several themes that can help future research advance knowledge on decision-making in offshoring.

The first step towards developing our integrative decisional framework is conceptualizing offshoring as a stand-alone theoretical concept. We define offshoring as *the assignment of business processes to locations outside of a firm's national borders in order to support existing business* (Contractor, Kumar, Kundu, & Pedersen, 2010; Kenney et al., 2009; Levy, 2005; Lewin, Massini, & Peeters, 2009; Mihalache, Jansen, Van Den Bosch, & Volberda, 2012). This definition captures two fundamental elements of offshoring. First, offshoring is characterized by a geographical aspect as it implies that a specific business process is performed at a foreign location. While the terms 'offshoring' and 'outsourcing' have sometimes been used interchangeably in previous research, they refer to theoretically distinct concepts. The essential distinction is that whereas offshoring is a location decision, outsourcing is an ownership decision. Numerous studies acknowledge this difference (e.g., Meeters, 2008; Mudambi & Vezin, 2010; Olsson, Conchuir, Agerfalk, & Fitzgerald, 2008) and explicitly argue that "whether to outsource an activity should be considered as separate and distinct from the decision of where to do it" (Tadeli, 2007: 265) or that "outsourcing involves a decision about the boundary of an organization, while offshoring involves a decision about the location of its activities" (Robertson, Lamin, & Livanis, 2010: 169). Although conceptually distinct, offshoring and outsourcing are also interrelated because the location decision is usually accompanied by the ownership decision. That is, once firms decide to perform certain business processes at an offshore location, they can decide to perform them in-house (i.e., captive offshoring) or to outsource them to an offshore vendor

(i.e., offshore outsourcing) (Beugre & Acar, 2008). Since the focus of this study is the offshoring phenomenon, we consider both captive offshoring and offshore outsourcing.

The second fundamental element of offshoring's definition is the idea that the ultimate goal of offshoring is to support a firm's existing business. That is, offshoring is a method of optimizing the value chain by performing specific tasks in those locations that have competitive advantages in terms of factors such as competencies, availability of labor, or cost structures. In this sense, offshoring can be considered a method of enhancing overall system efficiency (Jensen & Pedersen, 2010). This is an important aspect of offshoring as it sets it apart from the concept of internationalization, which, while it also involves entering foreign markets, it is concerned primarily with capturing new sales in those markets (Buckley & Casson, 1976). Thus, an important distinction between the two concepts is that while internationalization is a market-seeking mechanism, offshoring is a resource-seeking mechanism.

In order to synthesize and integrate knowledge on the offshoring practice, we employ a systematic review methodology. Using the above definition of offshoring, we find and include in our analysis 116 articles published in top academic journals on the offshoring of business processes. We begin this paper by describing our methodology. Following that, we present the set of articles and provide descriptive statistics. We then proceed to identify overall trends in extant research. Finally, we discuss the implications of our findings and propose possible avenues for future research.

## **METHODOLOGY**

In order to provide a critical assessment of the offshoring literature, we employ the systematic review methodology, which is a type of review that uses an explicit algorithm, as opposed to a heuristic, to perform a literature search (Tranfield et al., 2003). We chose the systematic review methodology because, when compared to non-systematic reviews, it improves the quality of the review process and outcome by employing a transparent and reproducible procedure. Thus, it combines the benefits of critical review with a comprehensive search process in order to understand what is known (Grant & Booth, 2009). As even comprehensive review articles cannot avoid the risk of selection bias

towards the well-known articles to the authors (Newbert, 2007), using the systematic review methodology enables us to use a set of articles from a wide range of journal titles over a long time period. We consider that the systematic review methodology is the most appropriate for our goal to synthesize and integrate existing knowledge on decisional factors in offshoring across research fields.

In this study, we follow Tranfield et al.'s (2003) three stages of the systematic review methodology: planning, execution and reporting. In the first phase of the planning stage we determined which journals to include in the systematic review. We include only peer-reviewed journals - excluding books, book chapters, conference proceedings, dissertation abstracts, and working papers - because they are considered validated knowledge and they are likely to have the highest impact on the field (Podsakoff et al., 2005). We follow Armstrong and Wilkinson (2007) and use the Social Science Citation Index (SSCI) to identify journals for inclusion. We use the top 20 journals from ISI Citation Index 5-year Impact Factor from year 2009 in Business and Management categories, which we expect to be the ones publishing offshoring research. Therefore, we excluded, for instances, marketing journals and psychology journals since offshoring generally falls outside of their scope of topics addressed. In addition, we consider other renowned journal lists such as the Financial Times 45 Journals and UT Dallas list. Similar to our approach with the ISI Citation Index, we select those journals that are likely to publish research on the offshoring of processes. Table 1 lists the journals included in our search.

Next, in the planning stage, we determine the keywords to use for the article search. To decide which keywords to use, we checked relevant articles and discussed with top offshoring scholars. We attempted to create a set of keywords as broad as possible in order to capture all relevant studies. We used the following keywords to conduct our search: offshor\*, international sourcing, international outsourcing, international disaggregat\*, global sourcing, global outsourcing, global\* disaggregat\*, cross-border sourcing, cross-border outsourcing, cross-border disaggregat\*.

In the *execution stage*, we engaged in data collection by searching the list of keywords on the ISI Web of Knowledge's Social Sciences Citation Index (SSCI), which is the most comprehensive database in the social sciences and it has been previously employed in systematic reviews on management topics (e.g., Crossan & Apaydin, 2010). We searched

for articles published up until September 1<sup>st</sup>, 2014. By searching for articles using the keywords identified in the planning stage, we obtained a total of 213 articles. We then scanned the titles and abstracts of all articles to determine whether they are actually relevant. We deemed an article as potentially relevant if it satisfied five conditions: (i) at least one of the variables is offshoring, (ii) international relocation of business processes, (iii) the goal of the relocation was to support current business operations, not to gain new market share into the foreign location, (iv) at least one of the activities under study is a business process, and (v) informs on decisions of the offshoring organization. We removed 42 articles because they did not focus on the practice under study – most of them considered offshore oil production (e.g., Collinson, 1999) or offshore hedge funds (e.g., Aragon, Liang & Park, 2014). We also removed 49 articles because they focused solely on the offshoring of manufacturing activities (if a study focused on multiples activities such as the offshoring of manufacturing and R&D then we kept it in our sample) and we removed 10 articles because they did not directly impact decisions of the offshoring firm as they focused solely on vendor-related issues such as vendors' internationalization strategies (Su, 2013). In order to ensure reliability, another scholar experienced with offshoring research read the titles and abstracts of all the articles to decide which articles meet the inclusion criteria. We resolved any disagreements through discussion. Therefore, this initial search provided 112 articles for inclusion in our literature review.

In addition to considering top academic outlets, we also included offshoring articles with high citations counts because the quality of a study can also be judged by peers through citations. We performed a search with the same keywords as before, but without specifying a predetermined set of journals – just limiting the search to the Business and Management categories of ISI Web of Knowledge – and then selected the offshoring articles (i.e., those articles meeting the five criteria described in the previous paragraph) with at least 50 citations. This search added 4 articles to our sample. Therefore, in total, we included 116 articles in the literature review. Table 2 lists the distribution of these articles per academic journal and scholarly domain. To divide journals per scholarly domain, we used the Association of Business Schools (ABS) classification as a base<sup>2</sup>.

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<sup>2</sup> We made three minor modifications to the ABS categories – we merged the 'Operations Research and Management Science' and 'Operations, Technology, & Management' into an 'Operations Research' category, we

In the *reporting stage* of the results we decided how to analyze data and report the findings. After compiling the list of relevant articles, we coded and categorized these articles. In the next sections we present the descriptive analysis and our integrative decisional framework.

## RESULTS

We begin the analysis with a discussion of the descriptive statistics of our sample of articles. Then we inductively identify the key decisions in offshoring business processes and integrate insights around these themes.

### **Descriptive Analysis**

Figure 2 presents the development of offshoring research over the past decades. It indicates that since the early 1990s the number of publications on offshoring business processes has been growing steadily. It is important to note that the peak recorded in the year 2008 is due to two special issues on offshoring published in *Journal of Operations Management* and *MIS Quarterly*.

The publication of special issues also reflects the accumulated research interests in the topic. This growing interest in offshoring research mirrors a proliferation of offshoring business processes in practice as well as mounting media attention (e.g., Swann, 2004).

Figure 3 shows a breakdown of offshoring research based on the *level of analysis* and the *type of processes* offshored. Regarding the level of analysis, Figure 2 indicates that most research considers offshoring at the firm level (38%) and project level (36%), followed by industry (2%), country (2%), and individual (2%), while 24 percent of the studies do not focus on a particular level of analysis as they tend to provide general accounts of offshoring. Figure 3 shows the breakdown of research by the *type of business process offshored*. We can observe that offshoring research covers a wide array of functions and that there is a somewhat equal distribution of research attention. In addition, we also considered the *type of study* and our analysis indicates that the largest proportion of studies are empirical,

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included journals *Organization Studies* and *Organization Science* in the General Management category instead of 'Organization Studies' category, and considered *Research Policy* an 'Innovation' journal rather than in the more general 'Social Science' category.



with 41% testing theory, 35% building theory, and the remaining 24% of studies are theoretical.

**AN INTEGRATIVE DECISIONAL FRAMEWORK OF OFFSHORING**

Considering the complexity of setting up and managing offshoring activities we aim to develop a decisional framework of offshoring business processes that integrates existing knowledge from different research disciplines on key offshoring decisions. To determine the key offshoring decisions, we took an inductive approach in which different categories emerged during the coding of the articles in our sample. Each article could be assigned to multiple categories if it included information relevant for multiple decisions. As an example, articles including a discussion of benefits and costs of offshoring alongside questions of which processes to offshore inform multiple decisions and we coded them in both the offshoring decision and the process choice decision. We present the decisional framework comprising the key offshoring decisions and their frequency in extant research in Figure 4. Appendix A complements Figure 4 by explicitly showing which articles inform particular offshoring decisions. In addition, we present the dispersion of key offshoring decisions between the different research domains in Table 3. This table shows that certain offshoring decisions are studied in multiple research domains; thus, indicating opportunities for cross-fertilizations.

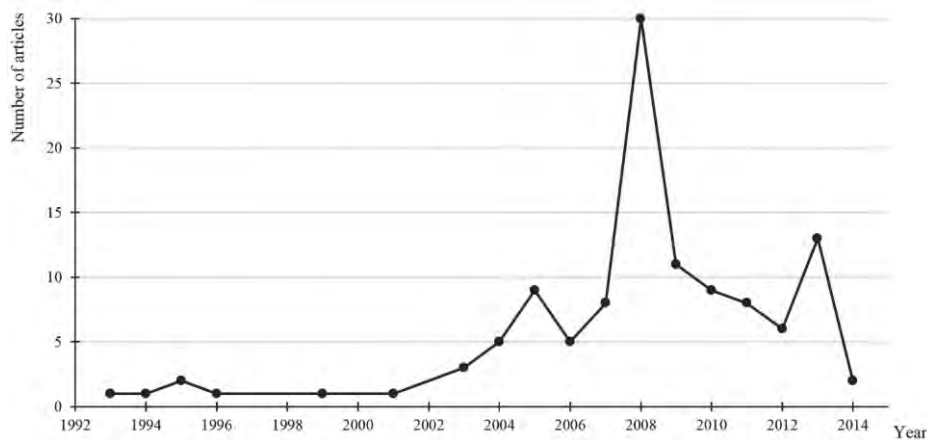
To explain these offshoring decisions, research draws on several theoretical perspectives. Table 4 provides the counts of articles using a particular theoretical perspective and a description of how the basic tenets of each theory apply to offshoring. The transaction cost economics (TCE), socio-cultural perspective, knowledge based view (KBV), and resource based view (RBV) are the theories most frequently used to explain offshoring decisions. It is also important to note that 47 percent of studies do not explicitly state the underlying theoretical perspective used and 12 percent of studies discuss multiple theories. When discussing each key decision below, we draw on these theoretical perspectives to explain how different factors influence decision-making.

**Table 2.** Distribution per scholarly domain and academic journal

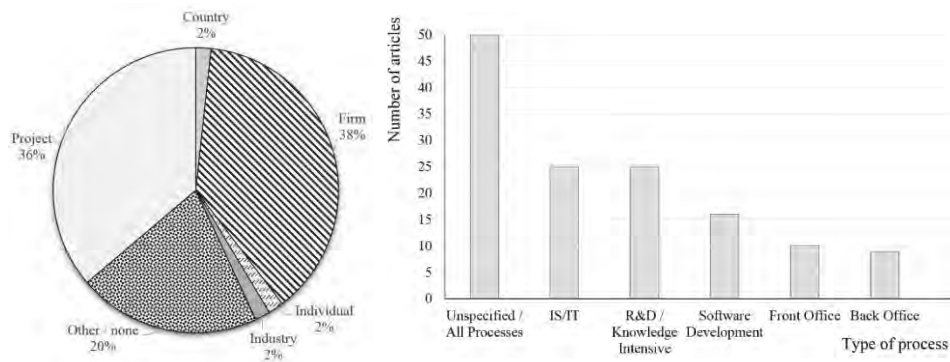
Scholarly Domain	Count (%) articles	Journals (count, % of category)
Operations Research	28 (24%)	<i>Journal of Operations Management</i> (16, 57%), <i>Decision Sciences</i> (4, 14%), <i>Production and Operations Management</i> (3, 11%), <i>Management Science</i> (3, 11%), <i>Omega</i> (1, 4%), <i>Supply Chain Management – An International Journal</i> (1, 4%), <i>Manufacturing and Service Operations Management</i> (0), <i>Operations Research</i> (0)
General Management	28 (24%)	<i>Journal of Management Studies</i> (8, 29%), <i>MIT Sloan Management Review</i> (7, 25%), <i>Harvard Business Review</i> (5, 18%), <i>Academy of Management Perspectives</i> (3, 11%), <i>California Management Review</i> (2, 7%), <i>International Journal of Management Reviews</i> (1, 4%), <i>Organization Studies</i> (1, 4%), <i>Organization Science</i> (1, 4%), <i>Academy of Management Review</i> (0), <i>Administrative Science Quarterly</i> (0), <i>Academy of Management Journal</i> (0), <i>Journal of Management</i> (0)
Information Management	25 (22%)	<i>MIS Quarterly</i> (13, 25%), <i>Information Systems Research</i> (6, 24%), <i>Information &amp; Management</i> (5, 20%), <i>Journal of Management Information Systems</i> (1, 4%)
International Business	15 (13%)	<i>Journal of International Business Studies</i> (13, 87%), <i>Journal of International Management</i> (2, 13%)
Strategic Management	9 (8%)	<i>Strategic Management Journal</i> (8, 89%), <i>Long Range Planning</i> (1, 11%)
Innovation	7 (6%)	<i>Research Policy</i> (5, 71%), <i>Journal of Product Innovation Management</i> (2, 29%)
Ethics	3 (3%)	<i>Journal of Business Ethics</i> (3, 100%)
Entrepreneurship	1 (1%)	<i>Entrepreneurship Theory and Practice</i> (1, 100%)
Total articles:	116	

Note. Percentage are rounded up, so they may add up to more than 100%.

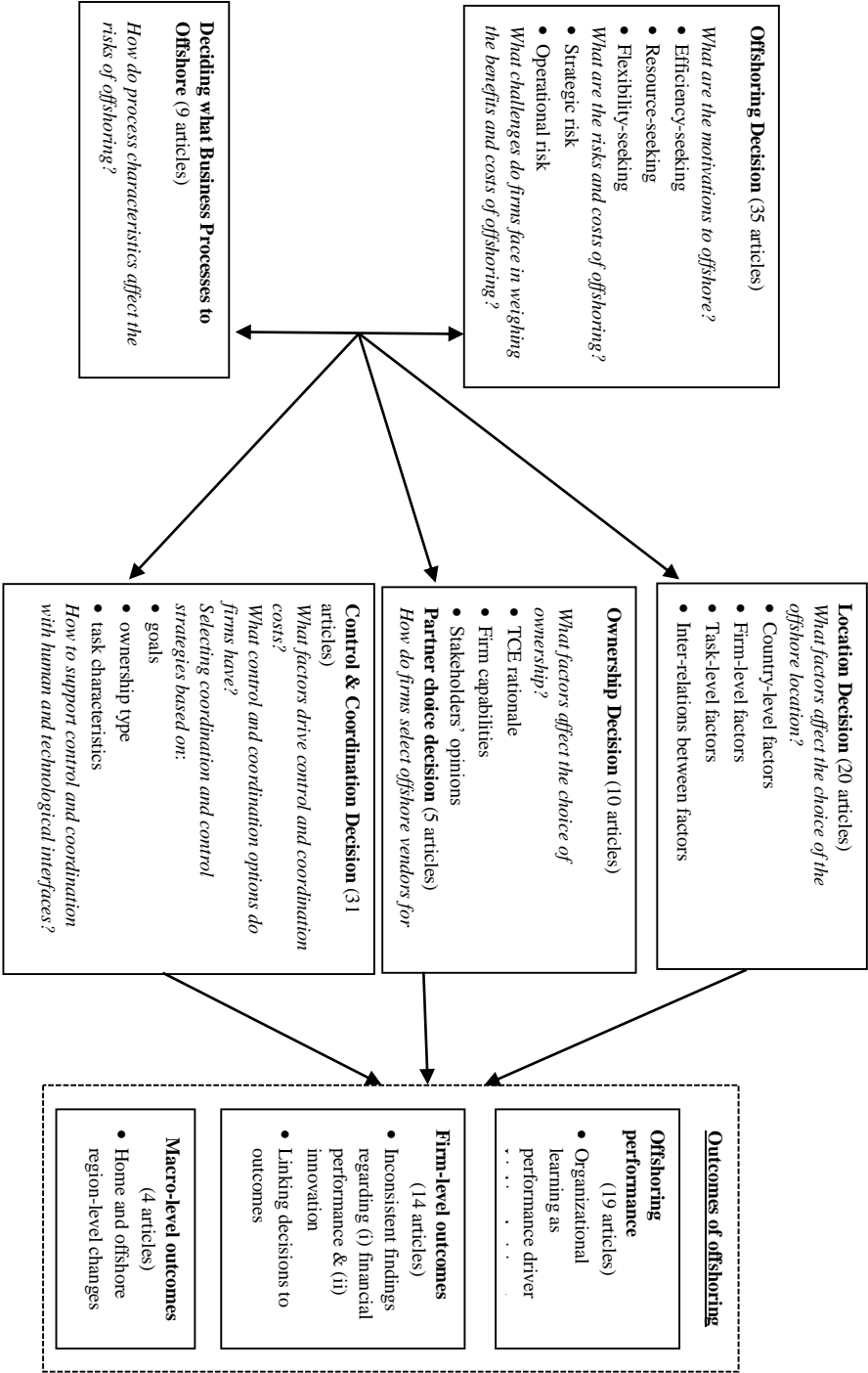
**Figure 2.** Growth of research on offshoring business processes



**Figure 3.** Breakdown of articles by level of analysis and type of process offshored



**Figure 4.** An Integrative Decisional Framework of Offshoring Business Processes



**Table 3.** Distribution of topics per scholarly domain

	General Trends	Offshoring Decision	Process Decision	Location Decision	Ownership Decision	Partner Decision	Coordination Decision	Outcomes: Offshoring	Outcomes: Firm	Outcomes: Region
Entrepreneurship		1							1	
Ethics		2			1		1			
General Management	6	12	2	7	5	1	5	6		
Information Management	1	7	2	2		3	10	7		1
Innovation		1		4			1		2	2
International Business	2	3		4	2		2		5	
Operations Research	2	5	5	2	1	1	10	5	3	1
Strategic Management	1	4		1	1		2	1	3	
<i>Totals per decision</i>	12	35	9	20	10	5	31	19	14	4

**Table 4.** Frequencies of theoretical approaches per key offshoring decisions

	Offshoring Decision	Process Decision	Location Decision	Ownership Decision	Partner Decision	Coordination Decision	Outcomes: Offshoring	Outcomes: Firm	Outcomes: Region
Transaction Cost Economics (TCE)	5	3	4	2		5	3	1	
Socio-cultural perspective	4		2	1	2	7	2	1	
Knowledge Based View (KBV)	2	1	1	1		1		4	
Resource Based View (RBV)	3		2			2		1	
Information-processing (IP)		1				4	3		
International Business (IB)	2		3						
Organizational Learning	2						3		
Agency Theory	1		1		1	1		2	1
Others	5	3	3	1		9	2	2	
Not explicitly stated	18	4	9	5	3	9	9	7	3

*Transaction cost economics* proposes that firms aim to minimize transaction costs associated with the planning, adapting, and monitoring required for completing a particular activity (Williamson 1975, 1985). TCE rationales are used to explain essentially all offshoring decisions.

*Resource Based View* considers the firm as a bundle of productive resources and holds that resources that are valuable, rare, inimitable, and non-substitutable (VRIN) may provide competitive advantage (Barney, 1991; Penrose, 1959). Using an RBV perspective, offshoring firms can develop bundles of VRIN resources by sourcing resources from locations that have comparative advantages.

*Socio-cultural perspective* of offshoring draw on social embeddedness theory (Uzzi, 1997), social identity theory (Ashforth & Mael, 1989) or cultural differences theories (e.g., Hofstede, 1980, 1983) in order to explain the decision to offshore and control and coordination challenges and solutions.

*Information-processing* perspective suggests that firms need to match information processing capacity to information processing needs in the environment (Galbraith, 1973; Tushman and Nadler, 1978) and informs primarily the control and coordination decision.

*International business* classical theories such as internationalization theory (Johanson & Vahlne, 1990) and Dunning's eclectic (OLI) paradigm (Dunning, 1993) are relevant primarily for the decision to offshore and the location decision.

*Knowledge Based View* sees knowledge as the central resource of firms and knowledge integration as the primary purpose of the firm (Grant, 1996). As the decisional framework focuses on the offshoring of business process, almost implicitly it involves knowledge access and transfer. Thus, the KBV explanations can be used for most offshoring decisions and is primarily important in explaining the link between offshoring and firm-level innovation outcomes.

*Agency Theory* deals with issues raising from goals mismatch between the principal who delegates work and the agent who performs it (Eisenhardt, 1989). In offshoring research, agency theory is not widely used, but it is relevant for several decisions such as location, partner, and control and coordination choices.

*Organizational Learning* theory suggests that firms can learn from their own experience but also from others (Levit & March, 1988). Offshoring research suggests that learning is an important benefit of offshoring and also a key driver for the success of offshoring initiatives.

## The Offshoring Decision

The start of our decisional framework is the fundamental question of whether a firm should offshore; that is, deciding whether to perform certain business processes at the home location or in a foreign country. This decision entails weighing the potential benefits that can be obtained from the foreign location against the costs and risks associated with managing across geographical and cultural boundaries.

The increasing popularity of offshoring stems from its many potential benefits. The underlying reasoning is that offshoring allows firms to take advantage of differences in country resource endowments by performing certain business processes in locations that have comparative advantages. We grouped offshoring benefits into three main motivations. The most prevalent reason for offshoring is *efficiency-seeking*. By offshoring, firms can leverage lower resource costs, primarily wage differences, between developed and developing nations for a wide array of activities such as IT, software development, back office, front office, R&D, or engineering. (Youngdahl, Ramaswamy, & Verma, 2008; Lewin & Peeters, 2006; Lieberman, 2004). Based on data on more than 1,600 offshoring initiatives, Manning et al. (2008) find that cost-savings is the most prevalent motivation for offshoring business processes with managers rating the cost reduction motive as ‘4’ or ‘5’ on a five-point scale for as much as 91 percent of offshoring activities surveyed. The pervasiveness of cost-savings goals is so entrenched with the offshoring of business processes that some studies even define offshoring as a cost-reduction strategy. For example, Chua and Pan (2008: 267) define it as “the trend where companies look for cheaper offshore resource options to reduce their baseline costs” and, similarly, Olsson et al. (2008: 258) define offshoring as “shifting of tasks to low-cost nations.” In addition to lower wages, government incentive in the form of tax advantages and financial assistance for different activities such as employee training also contribute to increases in firm efficiency (Meeters & Verma, 2008). In the case of offshore outsourcing, the increase of efficiency can also be a result of access to the vendors’ expertise and economies of scale (Cha, Pingry, & Thatcher, 2008).

Another important motivation for firms to offshore business processes is *resource-seeking*. Through offshoring firms can benefit from access to specialized labor and knowledge resources that are hard to obtain, too expensive, or not available in the home location (e.g., Farrell, 2005; Farrell, Laboissière & Rosenfeld, 2006; Ravichandran &

Ahmed, 1993). For instance, Lewin et al. (2009) find that firms offshore in an effort to compensate for labor shortages in high skilled labor at home as certain offshore locations (e.g., India) provide access to vast pools of skilled employees and Manning et al. (2008) find that, after cost savings, access to quality labor is the most frequent offshoring motive. In addition, by offshoring, firms can access specialized knowledge not available at home (Nachum & Zaheer, 2005) as specialized partners located in foreign countries can hold superior capabilities in performing certain business processes (Jensen, 2009). Such resource-seeking opportunities of offshoring can be particularly beneficial for small firms by allowing them to overcome resource deficiencies relative to their larger counterparts (Dossani & Kenney, 2008; Musteen & Ahsan, 2013).

Firms also engage in offshoring for *flexibility-seeking* motives. Offshoring provides opportunities to increase flexibility in several ways. Differences in labor laws, particularly lower labor protection in certain countries, allow firms to adapt the supply of labor to fluctuations in needs due to environmental changes (Farrell, 2005). Also, firms can enjoy greater flexibility by contracting specialized offshore service providers who have the ability to increase or decrease resources to match changing project needs because, unlike the contracting organization, they can shift resources between multiple clients (Doh, 2005). In addition, by locating non-core processes abroad, offshoring provides ability to focus on core activities (Aksin & Masini, 2008; Jacobides, 2005; Schilling & Steensma, 2001) and offers increased flexibility due to leaner organizing (Contractor et al., 2010). Furthermore, Di Gregorio et al. (2009) argue that by offshoring firms may be able to respond more quickly to changing demands because the offshored processes, especially when externalized to an outside provider, may be performed outside of the firms' bureaucratic structures and regular hierarchy.

These benefits notwithstanding, the offshoring decision needs to also take into account the costs and risks associated with locating business processes in foreign countries. The geographical distance inherent in offshoring arrangements gives rise to two main types of risks: strategic and operational risks. *Strategic risk* refers to the potential weakening of firms' ability to compete in their market. Performing business processes in a foreign country implies capabilities in those processes reside away from the firms' main operations. Due to difficulties of knowledge transfer from geographically distant locations, the home operations



may fail to stay abreast of developments and might experience diminishing capabilities in the long term. For instance, Mihalache et al. (2012) find that firms can face diminished innovation capability at high levels of offshoring knowledge-intensive processes due to hollowing out of capabilities in knowledge-generating activities and to added pressure on managerial attention. Similarly, Cha, Pingry and Thatcher (2008) find that, unless sufficient knowledge transfer from foreign to home location takes place, offshoring firms might experience cost increases in the long-term due to degradation of firm knowledge. In addition, firms experience added strategic risks in the case of offshore outsourcing arising from the foreign vendors' opportunistic behavior. When not only locating processes abroad but also externalizing them, firms face the risks that the foreign vendors do not exert the effort agreed and take advantage of the firm's loss of expertise in the area to demand higher prices or, perhaps even more threatening, to become a competitor (Aron, Clemons & Reddi, 2005). Related, firms might also endanger their long-term competitiveness when exposing intellectual property to opportunistic vendors, especially when outsourcing processes to countries with relaxed intellectual property regimes (Apte & Mason, 1995; Porter & Rivkin, 2012; Roy & Sivakumar, 2011).

In addition, offshoring firms also face a number of *operational risks*, which refer to the risks offshoring poses to the outcome or costs of performing business processes. Operational risks, stemming from the geographical distance between onshore and offshore operations, can be direct and indirect. Direct risks are generally related to country risks such as increases in wage levels, currency fluctuations, higher personnel turnover, or political turmoil (Hahn, Doh, & Bunyaratavej, 2009; Porter & Rivkin, 2012). In addition, firms face indirect costs – also referred to as “invisible” (Stringfellow, Teagarden, & Nie, 2008) or “hidden” (Apte & Mason, 1997) costs– due to physical, linguistic, cultural, or legislative distance between countries, which raise important communication and coordination problems (Apte & Mason, 1997; Ravichandran & Ahmed, 1993). Other “hidden costs” when deciding to offshore include travel costs or partner-selection, in the case of offshore outsourcing, (Larsen, Manning, & Pedersen, 2013; Tadelis, 2007). In addition, when deciding to locate business processes abroad, firms need to also consider the costs of navigating different and changing regulatory and policy environments (Metters, 2008; Tadelis, 2007). A further indirect cost is due to stakeholders' negative perceptions of

offshoring such that, even when firms obtain high quality from offshore operation and are able to manage other indirect costs, stakeholders can still penalize them for performing process outside of the home country (Desai & Roberts, 2013; Meeters, 2008). Analyzing this impact is not easy as different stakeholders make different moral judgments on the foreign location of business processes (Robertson, Lamin, & Livanis, 2010). In addition, offshoring firms also need to consider how their internal stakeholder, i.e., employees, are affected by and able to deal with the risks of offshoring (den Butter & Linse, 2008).

Particularly relevant for the decision to offshore, Nakatsu & Iacovou (2009) compare the risks experienced by managers overseeing outsourcing to domestic versus offshore providers. Their findings indicate that communication issues, poor change controls (scope creep), lack of business know-how, and failure to consider all costs were risks predominant in offshoring. Interestingly, firms' assessments of the costs and benefits of a particular offshoring opportunity differ based on their own characteristics such as experience with offshoring (Manning et al., 2008).

To decide whether to offshore business processes, firms need to weigh the costs and benefits. However, this process is not straightforward and many firms make considerable errors in estimating the outcomes of offshoring. Larsen et al. (2013) find that errors regarding the potential cost savings from offshoring increase with the complexity of the task. Assessing the net benefits of offshoring is further complicated by the fact that offshoring firms generally aim to capture multiple benefits at once (Lewin & Peeters, 2006), especially as some of the goals are incompatible such as cost-cutting and innovation (Mihalache et al., 2012). If firms do decide that the benefits of offshoring outweigh the costs, they need to make a number of decisions regarding what to offshore, where, how to set up the offshore operations, and how to manage the geographically dispersed operations.

### **Deciding what Business Processes to Offshore**

The offshoring decision is intrinsically intertwined with the decision of which processes to offshore, especially as firms slice their value chain in increasingly fine pieces (Rugman, Verbeke, & Yuan, 2011). Existing research seems to converge on the idea that process characteristics are the main factors informing the decision of which processes to offshore because they affect the degree of strategic and operational risk associated with offshoring.

A key decisional factor of whether a certain process is a good candidate for offshoring is the degree to which the offshoring of that task exposes firms to *strategic risk*. Research indicates that, in order to protect firms' ability to capture value, core processes or processes of high importance, are less likely to be offshored than non-core processes (Aron & Singh, 2005; Apte & Mason, 1995). The offshoring of core processes exposes firms to the strategic risks discussed in the previous section because of the potential loss of expertise or knowledge transfer to a supplier who can then act opportunistically.

Another element in deciding which processes can be offshored is the degree to which a process exposes firms to *operational risk*. A fundamental process characteristic that affects offshoring potential is the need for physical presence, since offshoring implies performing a process at a distance (Apte & Mason, 1995; Ellram et al., 2008; Mithas & Whitaker, 2007). Beyond this basic requirement, existing research draws heavily on the tenets of transaction cost economics (TCE) to argue that operational risk depends on transaction frequency, asset specificity, and uncertainty (Williamson, 1975, 1985). Firms can analyze different processes in terms of weighing the benefits of offshoring versus the transaction costs arising from locating the process abroad (Stratman, 2008). Processes that are more routine, less interactive, require lower specific investment, and whose performance can be easily assessed have lower transaction costs, and, thus, make good candidates for offshoring (Ellram et al., 2008; Liu, Feils, & Scholnick, 2011). Other process characteristics associated with lower operating risks include high ability to codify and standardize the process (Aron & Singh, 2005; Mithas & Whitaker, 2007; Ravichandran & Ahmed, 1993; Stringfellow, Teagarden, & Nie, 2008). Also related to operational risks is the degree of customer contact required for a business process such that processes that require lower contact with customer are better candidates for offshoring (Apte & Mason, 1995; Mithas & Whitaker, 2007).

While these studies provide important insights regarding decision-factors in determining potential candidates for offshoring, the understanding of the increasing trend of offshoring high-value added processes and that are more difficult to codify and measure such as research and development and engineering (e.g., Manning et al., 2008) remains limited. Youngdahl and Ramaswamy (2008) provide interesting nuance to the discussion as they propose that processes with high levels of customer contact and high levels of knowledge

embeddedness can also be offshored when the goal is to generate new solutions and knowledge.

### **The Location Decision**

If firms decide to offshore a particular process, they need to also decide on the location in which to offshore. Our review indicates that location decisions are influenced primarily by the characteristics of the foreign locations, firm-level factors, and task characteristics.

One stream of research proposes *country-level factors* as important determinants of location choice. As the underlying logic of offshoring is to locate business processes to locations that hold particular comparative advantages, this line of research plays a particularly important role in the location decision. A first group of country-level factors focuses on the economic and political profiles of countries. These factors include labor costs, availability of skills and labor, environment, risk potential, and infrastructure (Farrell, 2006; Liu, Berger, Zeng, & Gerstenfeld, 2008). For instance, Demirbag and Glaister (2010) find that firms considering locations for offshoring R&D processes prefer locations with low wages, more developed knowledge infrastructure, and lower risks. However, due to complex offshoring motives and country profiles, these considerations are not straight forward and decision-makers need to consider trade-offs between factors. A basic such trade-off is between cost and quality, with firms choosing locations providing higher quality even though they don't offer the lowest-possible costs (Bunyaratavej, Hahn, & Doh, 2007). In addition to these economic and political factors, research draws on socio-cultural perspectives (Uzzi, 1997; Hofstede, 1980, 1983) to argue that firms also consider potential locations' social traits, primarily culture and language when making location decisions. Investigating the impact of Hofstede's cultural dimensions on the location choices for service projects, Hahn and Bunyaratavej (2010) find that locations characterized by greater uncertainty avoidance, individualism, and masculinity are likely to attract more offshoring projects and that their explanatory power is greater than that of macroeconomic and risk factors. Similarly, Zaheer, Lamin and Subramani (2009) find that location decisions are influenced by ethnic networks more than by cluster capabilities and Meeters and Verma (2008) argue that, especially for knowledge-intensive processes, firms tend to offshore to those locations to which their home countries used to or still have colonial ties because of

the language and cultural relations such that U.S. and U.K. firms tend to offshore to India, Philippines, and Barbados, while Spanish and Portuguese firms lean toward South American locations. In addition, analyzing an online programming marketplace, Gefen and Carmel (2008) find empirical evidence that corroborates the importance of language similarity for location decisions.

Another important set of location determinants comprises *firm-level factors*, represented primarily by firms' offshoring experience. Literature has so far highlighted two types of offshoring experience: location-specific and general. As operating in a specific offshore location leads to learning about the host environment, experience with offshoring to a certain location reduces the perceived risks of that location; thus, leading firms to prefer it over new locations for future projects (Demirbag & Glaister, 2010). On the other hand, general offshoring experience increases the likelihood that firms choose locations characterized by higher risks as firms are likely to have developed capabilities that help them reduce transaction costs and better negotiate new risky environments (Hahn et al., 2009). These findings regarding experience are very interesting because they indicate that firms are able to learn from offshoring and that this knowledge is transferable to new offshoring activities. It is also important to note that, in addition to the main effect of country and firm factors, the location decision depends on their interplay. For instance, Jandhyala (2013) finds that while poor property rights reduce firms' likelihood to select a particular country for offshore information system processes, firm experience in similar countries mitigates this effect.

Extant research also proposes that *task-level factors* affect location decisions. This line of research draws on TCE to argue that firms try to match process characteristics with location characteristics in an effort to reduce transaction costs. Firms tend to offshore non-routine, complex and interactive processes to countries with better institutional quality and closer cultural proximity (Liu, Feils, & Scholnick, 2011) and interactive, repetitive, or innovative processes to countries with advanced ICT infrastructure and similar language (Doh, Bunyaratavej, & Hahn, 2009). In addition, Jensen and Pedersen (2011) find that the less standardized the processes are, the more they are located in advanced countries.

Overall, research suggests that the location decision is complex as it needs to consider not only factors at multiple levels of analysis, but also their interplay. Further

adding complexity to the location decision, some of the factors informing the location decision might provide inconsistent influences; thus, firms need to consider trade-offs in location choices such as between the level of risk and costs of inputs. Farrell (2006) suggests that firms should rank the importance of different factors in order to decide on the appropriateness of alternative locations. Further adding complexity, research suggests that the location discussion needs to go beyond between-country consideration, as firms also need to make more fine-grained within-country location decision regarding the region or city in which to locate, especially for large and diverse countries such as India (Liu & Chen, 2012; Zaheer et al., 2009).

### **The Ownership Decision**

Our review of extant research uncovers surprisingly few offshoring studies considering the ownership decision. Perhaps this is because the choice between outsourcing and captive centers is essentially a make-or-buy decision, a well-developed research stream (for a comprehensive review of make-or-buy research, see Lacity, Solomon, Yan, & Willcocks, 2011). However, since offshoring implies that processes will be performed in a foreign country, there are additional location-related factors that need to be considered in the ownership decision (Mudambi & Venzin, 2010).

Although, ownership decisions can be considered on a continuum from zero to full ownership of the offshore operations, extant research primarily distinguishes between outsourcing – when firms externalize business processes to a service provider in a foreign country – and captive offshoring – when firms have some ownership of the offshore activity (Lewin & Peeters, 2006). Mirroring general make-or-buy research (Williamson, 1975), the few offshoring studies addressing the ownership decision use arguments rooted in transaction cost theory to decide whether to perform the offshore processes in-house or to outsource them. A key decisional factor is a comparison of the captive and outsourced options with regards to their transaction costs and the primary insight of current research is that the higher the complexity of a process the more likely that the process will be performed in-house rather than outsourced at the foreign location (Karmarkar, 2004; Youngdahl & Ramaswamy, 2008). Murray et al. (1995) find that the performance advantage of captive offshoring over offshore outsourcing is greater when the asset specificity of the resources

used is higher because captive offshoring provides greater control over the specific resources and, thus, it is not susceptible to the risks associated with relying on an outside provider. In addition, Aron and Singh (2005) argue that the ownership decision depends on the degree of structural risk such that processes with high risk of being affected by vendor's opportunistic behavior – for example, raising prices, staffing less qualified employees than agreed, or appropriating intellectual property – should be performed in captive centers. In a more general sense, the ownership decision implies weighing the risks of lower control over outsourced operations such as losing competence in particular processes, dependence on a particular partner, and risks of leaks of sensitive company information against the higher costs of setting up and managing offshore captive centers (Meeters, 2008).

Interestingly, there are also some explanations that move beyond transaction cost reasoning. Mudambi and Venzin (2010) argue that ownership depends on whether firms have capabilities to support vertical integration such as linking standardized service delivery with knowledge-intensive activities versus capabilities to support specialization such as competencies in orchestrating internal knowledge-intensive capabilities with external standardized processes. Tadelis (2007) provides a different perspective by arguing that, besides cost considerations, offshore outsourcing allows firms to focus attention on their core activities. In a yet different direction, Robertson, Lamin, and Livanis (2010) draw on stakeholder theory to argue that stakeholders' opinions also affect ownership decisions and that both investors and customers perceive the choice to offshore outsource less favorably than offshoring through captive centers.

### **Partner Choice Decision**

If the outcome of the ownership decision is that the process is going to be externalized, then firms need to choose an offshore vendor to perform the process. Offshoring research on partner choice is somewhat limited as only about 4 percent of the considered studies address this decision. Selecting offshore suppliers requires firms to understand their own needs and to match these with the suppliers' competencies, which can be composed of delivery, relationship, and transformational competency (Feeny, Lacity, & Willcocks, 2005). In addition, the relative bid price and the previous experience with a particular supplier also factor in the choice of a supplier (Gefen & Carmel, 2008). Interestingly, research suggests

that firms that engage in mutisourcing, i.e., contracting multiple vendors who need to work together to deliver a particular service, can gain several benefits such as accessing diverse sources of knowledge and reduced commitment to a particular supplier, but these benefits need to be weighed against costs of more difficult coordination and perhaps reduced trust from the suppliers (Bapna, Barua, Mani, & Mehra, 2010; Levina & Su, 2008). Thus, partner choice decisions need to consider not only supplier characteristics, but also the extent of supplier concentration for the offshored processes.

### **The Control and Coordination Decision**

Our review reveals that almost 20 percent of offshoring studies consider control and coordination topics. The centrality of coordination and control research is not particularly surprising since the geographical dispersion of business processes inherent in offshoring needs to be bridged in order for firms to deliver products or services. The offshoring practice adds to the classical work design considerations (Thompson, 1967), the need to understand the implications of coordinating across geographical and, in many instances, firm boundaries. Geographical separation creates considerable costs in terms of control and coordinating as firms need to overcome not only physical separation but also cultural differences that affect communication and behavior. Drawing on socio-cultural perspectives (Ashford & Mael, 1989; Uzzi, 1997; Hofstede, 1980, 1983), research argues that cultural differences are a key contributor to the difficulties of controlling and coordinating offshore operations because they are associated with behavioral differences such as different ways to communicate (Beugre & Acar, 2008) and different approaches to corporate social responsibility (Andersen & Skjoett-Larsen, 2009) or to voicing concerns (Tavakoli, Keenan, & Crnjak-Karanovic, 2003). Furthermore, coordination is difficult in offshoring arrangements because different cultures are associated with different predispositions for tacit and explicit knowledge (Lehrer & Asakawa, 2003). The cooperation challenges between offshore and home operations are further aggravated by between-country status differences such as differences in competencies, economic resources, interpersonal connections, and social differences (Levina & Vaast, 2008). Extant research indicates that the challenges and costs of control and coordination increase with the scale of the offshore processes and the geographic



distance between home and offshore location due to increased transaction costs (Handley & Benton, 2013).

Coordination and control decisions largely build on information processing theory to suggest that firms need to match the information processing requirements with information processing capacity (Galbraith, 1973; Tushman & Nadler, 1978). To achieve this match firms can either increase communication to match the higher needs for coordination and control of offshore operation or they can reduce those needs by modularizing tasks (Mirani, 2007; Srikanth & Puranam, 2011). The coordination and control decisions fall in one of two overarching categories: organic and mechanistic strategies. While the former are characterized by social controls, are informal, cooperative, and decentralized techniques, the latter are formal controls characterized by controlling and centralized approaches (Li, Liu, Li, & Wu, 2008; Mirani, 2007; Mason & Leek, 2008). Similarly, Jean et al. (2010) point out three important control mechanisms: cooperativeness (the extent to which the two exchange partners have expectations about working together), output control (monitoring and influencing the performance of a partner's observable outcomes), and behavior control (the use of power to influence a partner's behavior). In addition to deciding between different control types, firms need to make decisions regarding the control degree (i.e., how firmly control is exercised) and control style (i.e., whether control is unilateral or bi-lateral between the offshoring firm and the offshoring operations) (Gregory, Beck, & Keil, 2013). But what factors affect firms' decisions of different control and coordination strategies?

Extant research indicates that there are several factors that influence control and coordination choices. First, the *goals for the offshoring initiative* play an important role as Li et al (2008) argue that while formal control is primarily useful for dealing with opportunism because detailed contracts contain explicit deterrents that may guarantee the efficiency of transferring codifiable knowledge, social control is particularly appropriate to stimulate radical innovation for firms trying to acquire tacit knowledge. Similarly, Roy and Sivakumar (2012) argue that organic control are most appropriate when firms aim to enhance radical innovation and mechanistic controls when they want to stimulate incremental innovation.

Second, research indicates that the *ownership of the offshore operations* also influences control and coordination decisions. While captive offshoring requires procedural coordination (i.e., a psychological contract that guides the mutual exchange of information required for completing ongoing work), outsourcing arrangements require both procedural and contractual (i.e., contract-based arrangement specifying the rights of parties involved regarding issues of setup and outcome measurement) coordination (Mirani, 2007). Interestingly, Srikanth and Puranam (2011) propose that in addition to these classical solutions presented by the information processing perspective of organizational design (Galbraith, 1973; Tushman & Nadler, 1978), firms, especially those engaged in captive offshoring, can also rely on using existing and further building common ground between home and offshore operations. While shared understandings develop over time and as onshore-offshore teams mature they can rely more on loose-coupling (Olsson, Conchuir, Agerfalk, & Fitzgerald, 2008), their development can also be encouraged through socialization activities (Gregory et al., 2013). In line with these ideas, Lehrer and Asakawa (2003) argue that for effective knowledge transfer, firms need to ensure a common explicit knowledge standard that will support the tacit knowledge flows between home and offshore operations.

To coordinate with offshore operations that are outsourced to third-party vendors, firms rely on the use of different types of contracts, with the primary choice between fixed price contracts and time and materials contracts. This decision implies a shifting of risk between the vendor and client in such a way that while for fixed price contracts the vendors is the primary risk holder, for time and materials the client is the primary risk holder (Gopal, Sivaramakrishnan, Krishnan, & Mukhopadhyay, 2003). Gopal et al. (2003) show that project and client characteristics affect the contract choice in offshore outsourcing such that more important and uncertain projects tend to be performed under time and material contracts, while fixed price contracted were more likely when the clients are larger or have greater experience with offshore outsourcing. Vendors' preference also factor in the contract choice as Gopal and Sivaramakrishnan (2008) find that vendors prefer fixed price contracts for larger and longer projects in order to secure larger rents from their knowledge asymmetry and prefer time and material contracts when facing high risks of employee attrition from the project teams. The choice of contract is important because it affects vendors' performance

with vendors acting more efficiently and providing better quality under fixed price contracts because they try to reduce the higher risks they have on these projects by staffing them with better trained employees (Gopal & Koka, 2010).

Third, control and coordination decisions are influenced by the *characteristics of the tasks offshored*. This body of research draws on TCE in order to consider the coordination implication of different task characteristics. For instance, Jayaraman, Narayanan, Luo and Swaminathan (2013) find that higher task interdependence and security increase the need for structural (e.g., economic incentives) and administrative (e.g., rules that guide behavior) control mechanisms, but are unrelated to relational mechanisms (e.g., integration through teamwork spirit and mutual support). Also, task complexity (Handley & Benton, 2013; Narayanan, Jayaraman, Luo, & Swaminathan, 2011), security, connectivity, stickiness, and dependence (Luo, Wang, Zheng, & Jayaraman, 2012) are positively related to the level of vendor-client integration.

Coordination and control are supported by the use of *human and technological interfaces* and firms have several choices in terms of using personnel and communication technologies. Strategies such as placing a home office employee as liaison in the offshore operation or by organizing personnel exchange between home and offshore locations can increase communication and exchange of information (Rai, Maruping, & Venkatesh, 2009). Program managers can also act as liaison personnel because they have the authority, resources, and network connections to work on reducing perceived status differences between home and offshore operations to promote cooperation (Levina & Vaast, 2008). Importantly, Amaral, Anderson and Parker (2011) argue that successful integrators need to be able to clarify ambiguous specification, have strong persuasion skills, and given authority and freedom to act. Research also indicates that coordination and control efforts need to be supported by information technology. Ravichandran and Ahmed (1993) provide a categorization of different technologies such as satellite links, video conferencing, or remote diagnostics and argue that the level of application of communication technologies to offshore software development depends on the stage of the project. Enterprise technologies are key for the success of offshoring because they help transfer knowledge between onshore and offshore sites (Stratman, 2008). Also, enterprise resource planning (ERP) systems, which integrate information across business processes, are an encompassing way of

providing relevant across geographically distributed operations and can reduce transaction costs by reducing operational uncertainty (Stratman, 2008). Extant research also shows that, in addition to communication (e.g., phones, email, chat) and storage (e.g., knowledge management systems) technologies, transformational technologies (e.g., spreadsheet and word applications, computer-aided engineering) are important in driving the success of offshoring, but they might require new work practices to help offshore employees interpret implicit knowledge (Leonardi & Bailey, 2008).

In sum, choosing an appropriate coordination and control strategy is a key decision in offshoring that includes not only choosing between formal and social mechanisms, but also the supporting communication infrastructure. Interestingly, Gregory, Beck and Keil (2013) argue that the coordination and control decision is not a one-time event, and that decision-makers need to adapt the control mechanisms over the life of an offshored project.

### **Linking Offshoring Decisions to Different Outcomes**

Extant research pays considerable attention to understanding the outcomes of offshoring as about 32 percent of studies address this topic. Appendix B provides an overview of the studies analyzing the outcomes of offshoring including the theoretical perspective employed and their main findings. Research on the outcomes of offshoring divides in three categories: research on what affects the performance of offshoring initiatives, research on the firm-level consequences of offshoring, and research on the macro-level consequences of offshoring. Despite the popularity of research on the outcomes of offshoring, this research stream is somewhat disconnected from the key offshoring decisions; that is, extant research does not directly link the previously discussed decisions to outcomes.

Regarding the factors that drive the performance of offshoring initiatives, a central insight, which perhaps transgresses individual decisions, draws on organizational learning theory to argue that in order to enhance the performance of offshoring operations, firms need to pay attention to knowledge accumulation and knowledge transfer between the home and offshore sites (Cha et al., 2008; Chua & Pan, 2008; Ramasubbu, Mithas, Krishnan, & Kemerer, 2008). Interestingly, a few studies do link offshoring decisions to outcomes. With regards to the performance outcomes of control and coordination decisions, Srikanth and Puranam (2011) show that different coordination mechanisms (i.e., modularization, ongoing

communication, and tacit coordination mechanisms) can reduce the negative influence of task interdependence between home and offshore processes on process performance. In addition, research shows that human interfaces such as client representative offshore and employee exchange (Rai et al., 2009) and technological interfaces such as the use of enterprise technologies (Stratman, 2008) are directly related to enhancing the performance of offshoring operations. In addition, Vestring, Rouse and Reinert (2005) connect the location decision to performance outcomes by proposing that a mix of offshore locations is beneficial for offshoring organizations.

Regarding the firm-level outcomes, research focuses primarily on financial performance and innovation. Extant research provides quite inconsistent findings regarding the influence of offshoring on firms' financial performance, ranging from no relationship (Bhalla, Sodhi & Son, 2008), to positive (Di Gregorio, Musteen, & Thomas, 2009; Kotabe & Swan, 1994), to negative (Murray & Kotabe, 1999). Research is similarly inconsistent regarding the relationship between offshoring and innovation as some studies find a negative relationship (Fifarek, Veloso, & Davidson, 2008), others a positive one (Bertrand & Mol, 2013; Li, Liu, Li, & Wu, 2008; Nieto & Rodriguez, 2011), and yet others propose non-linear relationships (Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007; Mihalache et al., 2012). Similar to the situation of research on the success of offshoring initiatives, only few studies actually link the key offshoring decisions to the firm-level outcomes of offshoring. Most notably, regarding the link between control and coordination decisions and firm outcomes, Roy and Sivakumar (2011) argue that the greater the formal control the lower the firms' ability to access intellectual property from the offshore vendor and Li et al. (2008) link the use of formal controls to incremental innovation and social controls to radical innovation. In addition, Nieto and Rodriguez (2011) highlight the importance to connect ownership decisions and firm outcomes by finding that the use of captive ownership leads to higher innovation outcomes than the use of offshore outsourcing.

In addition, a few studies also address the macro-level outcomes of offshoring and provide some interesting insights. These studies indicate that offshoring affects the productivity of the home region (Castellani & Pieri, 2013), knowledge at the offshore location (Manning, 2008), and home labor demand characteristics (Mithas & Whitaker, 2007; Tambe & Hitt, 2012).

Together these studies highlight the need to better understand how to make offshoring more successful and how it affects firm outcomes. We believe that a way forward is to attempt to further link decisions to outcomes, in order to check whether the results of key decisions are in line with expectations.

## **FUTURE RESEARCH DIRECTIONS**

To further advance the understanding of decision-making in offshoring, we build on the insights from our systematic literature review to develop several future research directions.

### **Towards Theoretical Extensions to Explain Complex Decisions**

Our review indicates that more than half of the offshoring studies do not explicitly state the theoretical perspective employed. This is not totally surprising because the complexity of offshoring decisions might make any single theory seem inadequate for providing a sufficient explanation. However, a small subset of current research handles this complexity by using and integrating multiple theories. For instance, Kedia and Lahiri (2007) propose that depending on the firms' reasons for offshoring, different theoretical approaches can be used to explain the offshore outsourcing of business processes such that TCE is most appropriate for offshoring initiatives aimed at cost reduction, organizational learning for initiatives aimed at value creation, and resource dependence for initiatives trying to redefine business processes. Also, multiple theories are used to explain a particular phenomenon as Stratman's (2008) use of TCE, information processing, and dynamic capability theories to propose that enterprise resource planning can help reduce transaction costs because they enhance firms' capacity to process information across firm and geographical boundaries. Or, Gopal and Koka's (2010) use of TCE and agency theory to explain the performance of offshore supplier under different types of contracts.

Future research can build on these efforts of using multiple theories to deepen knowledge of a particular decision, but they could also go in a different direction – use theories in extension of one another in order to explain complex offshoring decisions. As many offshoring decisions are interrelated, future research should develop theoretical

explanations that can capture such interdependencies, particularly those between the location choice – as the defining – element of offshoring and other decisions. For instance, the ownership and location decisions are interdependent as the transaction costs informing the ownership decision are a function of the location in which the processes are performed; that is, particular location characteristics might make it more desirable to employ a certain degree of ownership. Future studies can consider extending transaction cost rationales for the ownership decision with the resourced based view or the institutional perspective associated with locational factors. While previous research points out the simultaneity of these decisions (e.g., Mudambi & Venzin, 2010), there is yet limited theoretical development supporting a simultaneous decision process. Similarly, the location and the control and coordination decisions are interrelated as the cultural differences between different locations can affect the effectiveness of different coordination methods even for tasks with similar characteristics. Acknowledging the key role of location characteristics for control and coordination, Mudambi and Venzin (2010: 1511) note that “the lack of research on the interdependencies of geography and control is surprising”. Future research could consider socio-cultural theories in combination with TCE or information processing perspective to understand firms’ choices of controlling and coordinating business operations from disparate offshore locations. Therefore, future research can use extended theoretical explanations that allow more comprehensive decision-making in offshoring. Ultimately, by considering multiple theories to explain complex decisions, future research can make important inroads in understanding how firms develop unique offshoring strategies that cannot be easily reproduced by competitors.

### **Towards a Portfolio Perspective of Offshoring**

Future research can explicitly take in consideration that firms generally manage multiple offshoring activities. By theorizing at the portfolio level, future research can progress in several directions in order to advance the understanding of how previous offshoring decisions influence current decision-making. Important research directions can start from the research question: how does organizational learning from previous offshoring initiatives influence current choices regarding offshoring? This question builds on extant research

supporting the importance of organizational learning in offshoring such as Larsen et al.'s (2013) finding that offshoring experience allows firms to reduce the cost-estimation errors for highly complex offshoring arrangement and Westner and Strahringer's (2010) finding that experience enhances the cost savings from offshoring. Since firms learn to manage offshoring activities of certain types, how does experience affect major decisions firms make for new offshoring initiatives such as what activities to offshore, where to offshore, the degree of ownership of offshore operations, and control and coordination mechanisms employed? Research questions can incorporate organizational learning theory (Levitt & March, 1988) to consider the importance of path-dependency in offshoring decision-making and to develop understandings that transcend TCE considerations for decision-making of individual offshoring projects.

In addition, a portfolio perspective can help future research develop theory about the interrelatedness of offshoring initiatives. While existing research indicates that overall levels of offshoring affect firm performance (e.g., Mihalache et al., 2012), research has so far overlooked how firms' current configurations of offshoring activities (i.e., where and what they offshore and how they coordinate these offshore operations) influence decisions about additional offshoring initiatives. For instance, the added difficulty of managing an additional offshoring activity depends on whether existing offshore locations are collocated or diversified between different geographic regions. Future research can consider how different characteristics of the current portfolio such as diversification of locations, activities, and ownership, or the coordination mechanisms employed affect decisions of new offshoring activities by drawing on, for instance, information processing theory, socio-cultural theories, and economic geography theory.

Furthermore, increasingly research pinpoints to the connection between offshoring and firm strategy (Contractor et al., 2010; den Butter & Linse, 2008; Doh, 2005). Arguing that offshoring is intertwined with strategy, Karmarkar (2004: 107) states that "instead of competing over links in the chain, service companies should compete for the chain itself." To understand how firms make decisions that can lead to such strategic advantage, future research needs to consider the entire portfolio of offshoring activities. That is, future research can try to uncover how firms can engage in strategic offshoring in which they develop geographically dispersed value chains that leverage not only location advantages but also



firms' own experiences and ability to manage particular types of foreign operations. Furthermore, in an effort to engage in strategic offshoring, firms might also contemplate portfolio-level decisions such as how to ensure coordination not only between offshore-home dyads, but also between the offshore operations themselves or, even more, fundamental questions such as who in the organization should make offshoring decisions. As initial steps in this direction, Trent and Monczka (2005: 27) already highlight the importance of a "sourcing czar" and Lewin and Peeters (2006) argue that offshoring decisions should be made by the top management.

Research questions at the portfolio level could be addressed using both qualitative and quantitative approaches. For instance, qualitative research could try to uncover how managers factor in existing operations in their decision-making for additional offshoring initiatives and quantitative approaches could consider the influence of experience or different configurations of the current portfolio of offshoring activities on new offshoring decisions. Such quantitative efforts could make use of shared data-collections efforts between different universities to reduce the difficulty of collecting information on the offshoring history of multiple firms (e.g., the Offshoring Research Network dataset employed in several studies included in this review such as Lewin & Peeters, 2006; Lewin et al., 2009; Manning et al., 2008).

### **Towards Theorizing at the Individual Level**

While our review indicates that the offshoring phenomenon can be studied at multiple levels of analysis (see Figure 2), it also shows that the vast majority of studies focus either on the firm or on the project levels of analysis, largely overlooking other levels such as individual, industry, region, and country. From the underrepresented levels of analysis, the individual level holds most potential to inform decision-making in offshoring. Existing studies indicate that offshoring affects individuals in terms of the demand for labor and particular skills (Tambe & Hitt, 2012) and that individuals can raise important concerns regarding activities in offshore centers (Tavakoli, Keenan, & Crnjak-Karanovic, 2003). Future research can go beyond these considerations and incorporate individual-level factors in offshoring decisions. For instance, future research can employ socio-psychological perspective to understand how the offshoring decision affects the motivation and work performance of onshore employees.

Or, future research can draw on social identity perspective (Ashforth & Mael, 1989) to study how firms can create organizational identities that transcend national borders to understand how to improve onshore-employees' attitudes towards their offshore counterparts and to, ultimately, improve knowledge transfer and coordination. In addition, building on Stafford's (2011) observation that decision-makers' preconceptions of different countries influence the choice of an offshore location, future research could analyze how different psychological factors affect managers' choices by biasing decision-making. Therefore, developing theories that consider individual level factors could provide a more complete understanding of offshoring decisions.

### **Towards Dynamic Theories of Offshoring**

Future research on decision-making in offshoring needs to take into account the dynamic nature of offshoring strategies. Decision-making about a particular process does not end when the process is offshore, but firms have to repeatedly make decisions regarding whether to keep offshoring that process, what they aim to gain by offshoring, whether to change the offshore location, whether to change the degree of ownership, and how to adapt control and coordination to drive performance. Vivek et al. (2008) provide a good example of this ongoing decisional-process as they argue that the investments in the initial stages of offshoring are based on TCE considerations, while later-stage investments such as those in relationship-building are based on RBV considerations. Similarly, Lewin and Peeters (2006: 230) argue that firms' decision to offshore knowledge intensive processes might come only after firms build trust in their ability to manage less-knowledge intensive offshore operations. Future research can consider how the stage of offshoring influences decision-making and what other factors enter the decisional process at different stages of offshoring.

In addition, to what extent do firms incorporate changing environmental conditions in their decision-making? The relative attractiveness of offshore locations changes as the increasing offshoring activity in particular countries or regions changes local conditions such as the availability of labor, the wage levels, the quality of the infrastructure, and the suppliers' competencies (Ethiraj et al., 2005; Farrell, 2006; Manning et al., 2008). Do firms simply follow fads in their location choices or are they able to engage in rational processes that incorporate changing dynamics of locations (Stafford, 2011)? By considering the passage of

time, future research can further clarify how firms can make appropriate decisions in offshoring.

### **Towards a Capability Perspective of Offshoring**

As previous research shows that firms operate multiple offshoring activities and that they stand to learn from previous initiatives (e.g., Hahn et al., 2009), the question that arises is how firms learn to operate offshoring activities and what decisions drive such learning. In other words, is there an offshoring capability and what decisions help firms develop it? Extant research argues that “leading offshoring companies are expected to develop dynamic capabilities necessary for exploring and exploiting higher value-adding offshoring practices” (Lewin & Peeters, 2006:221), that offshoring is “related to the development of firm-level organizational and managerial capabilities to coordinate geographically dispersed networks of tasks and productive activities” (Levy, 2005: 686), and that “offshoring potentially constitutes a firm-level capability and a resource to be developed and deployed” (Doh, 2005: 699). However, despite the numerous mentions of the potential importance of an offshoring capability, the understanding of what constitutes it and, especially, what firms can do to develop it remains limited. Some of the studies included in this review indicate several capabilities that might help to drive offshoring performance such as the cultural intelligence of managers (Ang & Inkpen, 2008), integration capability (Anderson & Parker, 2013; Chen, 2004), internal monitoring capability (Aron, Clemons, & Reddi, 2005), or vendor management capability (King & Torkzadeh, 2008). Future research could investigate whether there is an offshoring meta-capability and what exactly constitutes it as some of these mentioned capabilities merit further consideration and new ones can be uncovered. Furthermore, future studies could try to understand what decisions drive the development of offshoring capabilities. Ramasubbu et al. (2008) make an interesting first step by suggesting that firms that invest in structured processes and process-based learning activities stand to improve offshore project performance. Future research can advance this line of research by investigating the mechanisms that help firms accumulate knowledge about how to decide what tasks are good candidates for offshoring, how to select offshoring locations, how to set up offshoring arrangements, and how to manage a portfolio of offshoring activities and, ultimately, develop an offshoring capability. A capability perspective is particularly

important for understanding offshoring as a strategic rather than a purely operational practice and to provide a long-term rather than a short-term orientation to decision-making.

## **CONCLUSION**

The practice of offshoring business processes has grown considerably in the last two decades and so has academic research. However, despite the mounting research on offshoring business processes, the understanding of what informs the decisional process in offshoring was limited due to research fragmentation and to a lack of an overall view of state-of-the art research. In order to put forward a decisional framework that integrates insights from multiple research disciplines regarding the factors that inform key offshoring decisions, we conducted a systematic review of the literature on the offshoring of business processes. Furthermore, to advance the understanding of decision-making in offshoring, we developed several future research directions and emphasized the need for future studies to employ theorizing that transcends particular theoretical lenses in order to extend the understanding of the intricate decisions required in setting up and managing geographically dispersed business processes.

## APPENDIX A: List of studies informing the key offshoring decisions

### **Offshoring Decision (35):**

Apte & Mason (1995); Aron, Clemons & Reddi (2005); Aron & Singh (2005); Bertrand & Mol (2013); Cha, Pingry & Thatcher (2008); Chen (2004); den Butter & Linse (2008); Desai & Roberts (2013); Dossani & Kenney (2006); Farrell (2005); Farrell (2004); Farrell, Laboissiere & Rosenfeld (2006); Gefen & Carmel (2008); Hahn, Doh & Bunyaratavej (2009); Karmarkar (2004); Kedia & Lahiri (2007); Kenney, Massini & Murtha (2009); Larsen, Manning & Pedersen (2013); Lewin, Massini & Peeters (2009); Lewin & Peeters (2006); Manning, Massini & Lewin (2008); Metters (2008); Musteen & Ahsan (2013); Nachum & Zaheer (2005); Nakatsu & Iacovou (2009); Porter & Rivkin (2012); Ravichandran & Ahmed (1993); Rilla & Squicciarini (2011); Robertson, Lamin & Livanis (2010); Stringfellow, Teagarden & Nie (2008); Tadelis (2007); Tanriverdi, Konana & Ge (2007); Venkatraman (2004); Vivek, Banwet & Shankar (2008); Youngdahl & Ramaswamy (2008)

### **Deciding what Business Processes to Offshore (9):**

Apte & Mason (1995); Aron & Singh (2005); Contractor, Kumar, Kundu & Pedersen (2010); Ellram, Tate & Billington (2008); Handley & Benton (2013); Mithas & Whitaker (2007); Ravichandran & Ahmed (1993); Stratman (2008); Youngdahl & Ramaswamy (2008)

### **Location Decision (20):**

Bunyaratavej, Hahn & Doh (2007); Chen (2004); Demirbag & Glaister (2010); Doh, Bunyaratavej & Hahn (2009); Farrell (2006); Farrell, Laboissiere & Rosenfeld (2006); Gefen & Carmel (2008); Hahn & Bunyaratavej (2010); Jandhyala (2013); Jensen & Pedersen (2011); Liu, Berger, Zeng & Gerstenfeld (2008); Liu & Chen (2012); Liu, Feils & Scholnick (2011); Manning (2013); Mudambi & Venzin (2010); Rilla & Squicciarini (2011); Smith, Mitra & Narasimhan (1996); Thomson (2013); Vestring, Rouse & Reinert (2005); Zaheer, Lamin & Subramani (2009)

### **Ownership Decision (10):**

Aron & Singh (2005); Contractor, Kumar, Kundu & Pedersen (2010); Karmarkar (2004); Metters (2008); Mudambi & Venzin (2010); Murray & Kotabe (1999); Murray, Kotabe & Wildt (1995); Nieto & Rodriguez (2011); Robertson, Lamin & Livanis (2010); Tadelis (2007)

### **Partner choice (5):**

Agerfalk & Fitzgerald (2008); Bapna, Barua, Mani & Mehra (2010); Feeny, Lacity & Willcocks (2005); Gefen & Carmel (2008); Levina & Su (2008)

### **Control & Coordination Decision (31)**

Amaral, Anderson & Parker (2011); Anderson & Parker (2013); Bapna, Barua, Mani & Mehra (2010); Beugre & Acar (2008); Gopal & Koka (2010); Gopal & Sivaramakrishnan (2008); Gopal, Sivaramakrishnan, Krishnan & Mukhopadhyay (2003); Gregory, Beck & Keil (2013); Handley & Benton (2013); Jayaraman, Narayanan, Luo & Swaminathan (2013); Kumar, van Fenema & von Glinow (2009); Lehrer & Asakawa (2003); Leonardi & Bailey (2008); Levina & Vaast (2008); Li, Liu, Li & Wu (2008); Luo, Wang, Zheng & Jayaraman (2012); Mason & Leek (2008); Medcof (2001); Metters, Zhao, Bendoly, Jiang & Young (2010); Mirani (2007); Narayanan, Jayaraman, Luo & Swaminathan (2011); Olsson, Conchuir, Agerfalk & Fitzgerald (2008); Rai, Maruping & Venkatesh (2009); Ravichandran & Ahmed (1993); Rilla & Squicciarini (2011); Roy & Sivakumar (2012); Srikanth & Puranam (2011); Srikanth & Puranam (2014); Stratman (2008); Tavakoli, Keenan & Crnjak-Karanovic (2003); Vlaar, van Fenema & Tiwari (2008)

### **Performance of offshoring (19):**

Aksin & Masini (2008); Amaral, Anderson & Parker (2011); Ang & Inkpen (2008); Aron & Singh (2005); Cha, Pingry & Thatcher (2008); Chua & Pan (2008); Dibbern, Winkler & Heinzl (2008); Langer, Slaughter & Mukhopadhyay (2014); Rai, Maruping & Venkatesh (2009); Ramasubbu, Mithas, Krishnan & Kemerer (2008); Rottman & Lacity (2006); Sarker & Sarker (2009); Srikanth & Puranam (2011); Stratman (2008); Tadelis (2007); Trent & Monczka (2005); Tripathy & Eppinger (2013); Vestring, Rouse & Reinert (2005); Westner & Strahinger (2010)

### **Firm-level outcomes (14):**

Bertrand & Mol (2013); Bhalla, Sodhi & Son (2008); Di Gregorio, Musteen & Thomas (2009); Fifarek, Veloso & Davidson (2008); Kotabe, Dunlap-Hinkler, Parente & Mishra (2007); Kotabe & Swan (1994); Li, Liu, Li & Wu (2008); Mihalache, Jansen, Van den Bosch & Volberda (2012); Murray & Kotabe (1999); Murray, Kotabe & Wildt (1995); Musteen & Ahsan (2013); Nieto & Rodriguez (2011); Roy & Sivakumar (2011); Roy & Sivakumar (2012)

### **Macro-level outcomes (4):**

Castellani & Pieri (2013); Manning (2013); Mithas & Whitaker (2007); Tambe & Hitt (2012)

## APPENDIX B. List of studies considering offshoring consequences

Study	Theory	Findings
<i>Performance of offshoring initiatives</i>		
Aksin & Masini (2008)	structure-environment perspective	Identifies four offshoring configuration and argues that their effectiveness depends on fit with the environment
Amaral, Anderson & Parker (2011)	not explicitly stated	Identified several boundaries between home and offshore operations and discusses several boundary-spanning mechanisms
Ang & Inkpen (2008)	socio-cultural perspective	Develops the concept of firm-level cultural intelligence and proposes it constitutes of managerial, competitive, and structural components
Aron & Singh (2005)	not explicitly stated	Firms need to choose the right processes to offshore and right organizational form based on different types of risk
Cha, Pingry & Thatcher (2008)	organizational learning	Knowledge transfers during offshoring can help firms achieve short-term and long term cost savings
Chua & Pan (2008)	organizational learning	Knowledge transfer from home to offshore operations is key to preventing knowledge loss when deciding to offshore
Dibbern, Winkler & Heinzl (2008)	TCE	Post-contractual extra cost depend on the level of client-specific knowledge required and cultural and geographic distance
Langer, Slaughter & Mukhopadhyay (2014)	information processing	Project managers' practical intelligence is associated with higher offshoring performance
Rai et al. (2008)	socio-cultural perspective	Information exchange, joint problem solving, and trust have a positive influence on offshore project success
Ramasubbu, Mithas, Krishnan & Kemerer (2008)	organizational learning	Investments in structured processes can lead to learning that enhances offshore project performance
Rottman & Lacity (2006)	not explicitly stated	Provides a list of 15 practices that improve the effectiveness of offshoring IT processes
Sarker & Sarker (2009)	not explicitly stated	Proposes agility as a key to the success of globally distributed information systems development teams
Srikanth & Puranam (2011)	not explicitly stated	Task interdependence between home and offshore operations can reduce process success, but coordination mechanisms can improve performance.
Stratman (2008)	TCE & information processing & dynamic capability theory	Enterprise technologies may help improve offshoring performance
Tadelis (2007)	not explicitly stated	Provides six "tips" for the success of offshoring.
Trent & Monczka (2005)	not explicitly stated	Provides seven characteristics of excellence in offshoring
Tripathy & Eppinger (2013)	TCE & information processing	Cost savings from offshoring can be enhanced by learning effects and firms should periodically increase work allocation to offshore operations.
Vestring, Rouse & Reinert (2005)	not explicitly stated	Offshoring performance can be enhanced by locating offshoring operations to a mix of regions and countries
Westner & Strahinger (2010)	not explicitly stated	Trust in the provider play a key role in offshoring success as it enhances knowledge transfer and the quality of the relationship.

## APPENDIX B.(continued)

Study	Theory	Findings
<b><i>Firm-level consequences of offshoring</i></b>		
Bertrand & Mol (2013)	not explicitly stated	Offshore outsourcing is associated with higher levels of product innovation
Bhalla, Sodhi & Son (2008)	not explicitly stated	Did not find a clear link between the extent of IT offshoring and firm financial performance
Di Gregorio, Musteen & Thomas (2009)	international entrepreneurship	Finds a positive relationship between the offshoring of administrative and technical processes and the internationalization of sales
Fifarek, Veloso & Davidson (2008)	not explicitly stated	Offshoring has a negative influence on innovation outcomes
Kotabe, Dunlap-Hinkler, Parente & Mishra (2007)	RBV	The international knowledge content that firms use to innovate has curvilinear (i.e., positive relationship for low and medium levels of international content and decreasing marginal returns for high levels) with firms' innovative performance.
Kotabe & Swan (1994)	not explicitly stated	There is a positive relationship between offshoring and firms' market share
Li, Liu, Li & Wu (2008)	KBV & socio-cultural perspective & alliance risk	Offshoring can enhance both incremental and radical innovation
Mihalache, Jansen, Van den Bosch & Volberda (2012)	KBV	The extent of offshoring has an inverted U-shaped relationship with offshoring and this relationship depends on the diversity and strategic consensus of firms' top management teams
Murray & Kotabe (1999)	TCE	Foreign sourcing of supplementary services is negatively related to the service's market performance
Murray, Kotabe & Wildt (1995)	not explicitly stated	Whether captive or outsourced offshore operations lead to higher financial performance depends on the product's levels of product innovation, process innovation, and asset specificity
Musteen & Ahsan (2013)	KBV	Offshoring of knowledge-intensive work can enhance the innovation performance of small and medium enterprises
Nieto & Rodriguez (2011)	KBV	Offshoring R&D can enhance product innovation more than process innovation and captive offshoring having a greater influence on innovation than offshore outsourcing
Roy & Sivakumar (2012)	not explicitly stated	Proposes that the offshoring of knowledge-based services can enhance both incremental and radical innovation
Roy & Sivakumar (2011)	not explicitly stated	Proposes that offshoring can enhance innovation, but that the greater the formal verification the weaker the client's ability to access the offshore vendor's intellectual property
<b><i>Macro-level consequences of offshoring</i></b>		
Castellani & Pieri (2013)	not explicitly stated	There is a positive relationship between the extent of R&D offshoring and the productivity growth of the home region
Manning (2013)	not explicitly stated	Offshoring can lead to the development of knowledge service clusters in the offshore regions
Mithas & Whitaker (2007)	service disaggregation	Does not find a negative effect on employment growth or salary growth for high information intensity occupations
Tambe & Hitt (2012)	not explicitly stated	The use of IT offshore captive centers lowers various aspects of the home employment of IT workers

## CHAPTER 3:

### UNDERSTANDING AND DEVELOPING AN OFFSHORING CAPABILITY: EVIDENCE FROM THE DUTCH IT INDUSTRY

#### ABSTRACT

*Offshoring has experienced an impressive growth in recent years as firms locate business processes in foreign countries in order to leverage location advantages. However, despite the wide adoption of this practice, the outcomes of offshoring initiatives are highly uncertain. This study puts forward a capability perspective of offshoring as an explanation for offshoring performance. To uncover what constitutes the offshoring capability and how firms develop it, the study builds theory from case studies. Using data from five IT Dutch firms, we find that the offshoring meta-capability comprises coordination competency, relationship development, structural design, and organizational identity development. Furthermore, we find that for offshoring capabilities development firms need to actively monitor performance of offshoring initiatives, engage in reflexivity, and set up organizational learning mechanisms. We discuss implications for offshoring theory and practicing managers.*

**Keywords:** *offshoring, capability model, qualitative research*



## INTRODUCTION

Fuelled by mounting competitive pressure due to increased globalization in the last two decades, offshoring has gained rapid popularity among firms from developed countries. Offshoring refers to the relocation of business processes to foreign locations in order to support current business operations (Contractor, Kumar, Kundu and Pedersen, 2010; Levy, 2005; Mihalache, Jansen, Van Den Bosch and Volberda, 2012). Offshoring owes its popularity to its potential to leverage specific relative advantages of foreign countries such as lower factor costs (Larsen, Manning, & Pedersen, 2013), access to a large pool of qualified employees (Lewin, Massini, & Peeters, 2009), and access to specialized knowledge (Mihalache, Mihalache & Jansen, 2011; Mihalache et al., 2012). However, despite the rapid growth in offshoring activity and the expectation that this upwards trend is going to continue (e.g., Geewax, 2004), the understanding of what drives the performance of offshoring initiatives is still surprisingly limited (Kotabe & Mudambi, 2009) and research indicates that there is a large variance in the success of offshoring initiatives (Dibbern, Winkler, and Heinzl, 2008; Hatch, 2004). So, why are some offshoring initiatives successful while others are not?

We contribute to advancing the understanding of offshoring's performance drivers in several ways. First, we propose a capability perspective of offshoring to explain why some firms are successful at offshoring, while others are not. With firms often holding portfolios of offshoring activities (e.g., Lewin and Peeters, 2006), the success or failure in offshoring may depend on the extent to which firms are able to manage a complex set of cross-border operations. This is not particularly surprising as setting up offshoring activities is a complex process that requires firms to analyze what processes can be offshored, where to offshore, and how to set up control and coordination mechanisms for geographically dispersed operations. We argue that some firms are able to develop capabilities to handle the complex offshoring arrangement better than others and these capabilities can explain why some offshoring initiatives are successful while other are not. In doing so, we build on previous research that provides interesting insights supporting a capability perspective. For instance,

Larsen, Manning and Pedersen (2013) find that the more offshoring experience firms accumulate, the lower the estimation errors they make regarding the benefits of offshoring.

Second, we contribute to existing research by uncovering what constitutes an offshoring capability. While previous studies have alluded to the importance of an offshoring capability (Levy, 2005; Bhalla et al., 2008; Carmel and Agarwal, 2002), there is a lack of comprehensive understanding of what actually constitutes such a capability. This lack of research on the internal capability has been addressed in previous research (Lahiri, Kedia, & Mukherjee, 2012). For example, previous research only touches upon various elements that may constitute an offshoring capability such as cultural capability (Ang and Inkpen, 2008), information processing capability (Stratman, 2008), communication capability (Vivek et al., 2009), and knowledge coordination capabilities (Manning, Massini, and Lewin, 2008). However, while these studies provide important suggestions regarding some components of an offshoring capability, they do so in a fragmented manner and an in-depth and comprehensive analysis of what constitutes an offshoring capability is currently lacking (Manning et al., 2008: 45). Third, this study contributes to international business research by building theory regarding how firms develop offshoring capabilities. That is, once we uncover what constitutes an offshoring capability, we try to determine how firms build such capabilities.

In order to uncover what an offshoring capability is and how firms develop it, we build theory from case studies. For this purpose, we collected data from 5 Dutch IT firms who offshore business processes to developing countries. Our findings suggest that offshoring is a meta-capability consisting of co-ordination competency, relationship development, structural design, and organizational identity development. We also find that developing an offshoring capability is an intentional activity and that firms need to actively monitor performance of offshoring initiatives, engage in reflexivity, and set up organizational learning by stating a clear learning intent, structural mechanisms for storing and sharing knowledge.

The remaining of the study is organized as follows. First, we discuss the offshoring phenomenon and what we know about the drivers of offshoring performance. Then, we present our methodology and the cases used to develop theory. Next, we present the

offshoring capability model and the case evidence. We conclude the study with a discussion of our findings' contributions to existing offshoring and international business research and their managerial implications.

## **LITERATURE REVIEW**

### **Offshoring of business processes**

The increased globalization of the last few decades has brought about a change in perspective regarding how firms organize their value chain. Firms initially started to realize the potential of other countries, particularly developing ones, to perform production activities cheaper than was possible at home (Lewin & Peeters, 2006). The recent advances in communication technology made possible the separation of service work from the service delivery location as technology facilitates cheap communication and the international transfer of data (Metters & Verma, 2008). This stimulated a new wave of offshoring with firms increasingly moving abroad business processes. Current statistics indicate the pervasiveness of offshoring processes and several statistics indicate that the trend is expected to further increase in developing countries in North America and Western Europe (Liu, Feils, & Scholnick, 2011).

The attractiveness of offshoring lies in its promise of providing access to a large pool of qualified workers (Lewin, Massini, & Peeters, 2009), lower wages (Larsen, Manning, & Pedersen, 2012; Lieberman, 2004; Youngdahl, Ramaswamy, & Verma, 2008), or specialized knowledge (Li, Liu, Li, Wu, 2008; Mihalache et al., 2012; Nieto & Rodriguez, 2011). However, despite the increased adoption of offshoring, there is considerable variation in the success of offshoring initiatives. This is because offshoring raises a number of issues that firms need to overcome in order to enjoy the promised benefits. These issues are due to the challenges of managing operations at geographically distant locations such as difficult coordination and control. Compounding the problems of coordination and control is the fact that geographical distance often also implies cultural and institutional distance (Ashford & Mael, 1989; Beugre & Acar, 2008; Uzzi, 1997). These difficulties are sometimes called the

“invisible” (Stringfellow, Teagarden & Nie, 2008) or “hidden” (Apte & Mason, 1997) costs of offshoring as many firms initially underestimate, or even ignore, the costs of managing internationally dispersed operations. Therefore, capturing the benefits of offshoring implies that firms need to be able to setup and offshore operations properly and that this is a complex managerial task.

The uncertain nature of offshoring outcomes is suggested by the contradictory findings in current research. Regarding the influence of offshoring for firms’ financial performance, extant research finds evidence for a positive (Di Gregorio, Musteen, & Thomas, 2009; Kotabe & Swan, 1994), to negative (Murray & Kotabe, 1999). Findings are similarly inconsistent regarding the influence of offshoring to firms’ ability to innovate, with evidence indicating a negative relationship (Fifarek, Veloso, & Davidson, 2008), a positive one (Bertrand & Mol, 2013; Li, Liu, Li, & Wu, 2008; Nieto & Rodriguez, 2011), or non-linear relationships (Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007; Mihalache et al., 2012). This inconsistency of firm-level outcomes of offshoring is rooted in high variance of the performance of individual offshoring initiatives. This suggests that we need to develop a better understanding of what drives the success of offshoring initiatives and how firms can manage multiple offshore initiatives in order to build the desired organizational outcomes. Extant research shows that several factors can enhance offshoring performance such as control and coordination decisions (Rai et al., 2009; Srikanth and Puranam, 2011; Stratman, 2008), location choice (Vestring, Rouse and Reinert, 2005), or knowledge transfer between the home and offshore locations (Cha et al., 2008; Chua & Pan, 2008; Ramasubbu, Mithas, Krishnan, & Kemerer, 2008). However, despite the individual importance of these insights, there still remains the question of how firms make these right decisions regarding how to organize and manage offshore operations. Assuming that firms consciously consider how to set-up and manage offshored operations, we need to understand why some firms - and at some times - make the ‘right’ coordination, location, and knowledge transfer choices that lead to high performance of offshoring initiatives.

In this study, we build on existing evidence that offshoring experience affects firms’ choices regarding the set-up and management of new offshoring initiatives (Hahn et al., 2009), to propose that firms can learn how to offshore. Such organizational learning

transgresses the role of individual drivers of offshoring performance as it explains why firms make the ‘correct’ offshoring decisions in the first place. In other words, we propose that firm can develop offshoring capabilities and that it is differences in offshoring capabilities that explain differences in offshoring performance.

### **A capability perspective of offshoring**

Organizational capabilities refer to the processes by which firms manipulate resources, i.e., those factors that a firm owns (e.g., human resources), in order to achieve desired goals (Amit and Schoemaker, 1993). While holding valuable resources stocks is important, the capability perspective argues that the ability to utilize the resources effectively is the key driver of organizational performance. We propose that a capability perspective can help explain offshoring performance, as firms need to develop appropriate capabilities to allow them to manage geographically dispersed activities. By doing so, we extend the resource-based view (RBV) of the firm that utilization of strategic resources enables the firm to attain higher firm performance (Barney, 1991) to the current context suggesting that holding offshoring capabilities leads to improved offshoring performance. However, holding these capabilities may not be sufficient to reach higher performance as for reaching higher performance it is important for firms to strategically utilize the capabilities (Sirmon, Gove, & Hitt, 2008).

While research on offshoring capabilities is remarkably scarce, several studies lightly touched upon the importance of such a capability and make initial contributions towards understanding what comprises such set of capability. Levy (2005: 686) emphasizes the importance of adopting a capability perspective by arguing that offshoring is “related to the development of firm-level organizational and managerial capabilities to coordinate geographically dispersed networks of tasks and productive activities” and Doh (2005: 699) similarly notes that “offshoring potentially constitutes a firm-level capability”. Several studies go beyond these pleas to consider offshoring capabilities and suggest different specific competencies that might help firms improve offshoring performance. These include a firm-level intercultural capability (Ang and Inkpen, 2008), contract design capability (Argyres and Mayer, 2007), human resources capability, coordination capability, and

collaboration with external partners (Manning et al., 2008), integration capability (Anderson & Parker, 2013; Chen, 2004), internal monitoring capability (Aron, Clemons, & Reddi, 2005), or vendor management capability (King & Torkzadeh, 2008).

Despite these important suggestions of different competencies that can help firms improve offshoring, there is yet a lack of a comprehensive analysis of what comprises an offshoring capability. That is, previous research suggests the importance of offshoring capabilities, but the understanding of what constitutes an offshoring capability and, perhaps even more importantly, how firms can develop an offshoring capability remains limited. This study aims to advance this understanding by building theory using evidence from the Dutch IT industry.

## **RESEARCH METHODOLOGY**

We conduct an explorative multiple-case study as we aim to uncover the components of the offshoring capability and how firms develop this capability. This analytical method allows us to study the phenomenon in practice (Van de Ven, 2007), observe how a contemporary set of events over which we have little or no control evolves across different entities (Yin, 1984), and mobilize multiple, non-idiosyncratic observations on complex processes (Eisenhardt and Grabner, 2007). A case study approach is considered suitable to stimulate new theoretical ideas (Edmondson and McManus, 2007; Eisenhardt, 1989), which is appropriate as we want to uncover what an offshoring capability comprises and how firms develop it. The use of multiple case studies increases external validity as increased the robustness of the findings (Eisenhardt & Graebner, 2007; Yin, 2003, 2009). While we started with a few *a priori* constructs, as the research progressed, we kept it open to refine and/ or add new constructs. Since this study is exploratory in nature, adjustments to the constructs are necessary to capture the phenomenon under study.

## **Study setting and case descriptions**

We used a theoretical sampling method (Eisenhardt, 1989; McCutcheon and Meridith, 1993) by selecting cases that we expected to have some degree of offshoring activities. For this, we chose to focus on the IT service industry as previous studies indicate that IT firms were early adopters of offshoring and this industry exhibits considerable amount of offshoring (Olsson et al., 2008; Carmel and Agarwal, 2002) as firms rely on offshoring to improve their performance (Feeny and Willcoks, 1998). Also, due to developing competencies of offshore locations to provide advanced services (Manning, 2013), IT firms also offshore more knowledge intensive processes, which require higher levels of coordination between onshore and offshore operations. The focus on a single industry allows us to avoid the risk that sources of extraneous variation conflate our findings (Eidenhardt and Graebner, 2007).

As we conduct the study in the Netherlands, we focus on the Dutch IT industry. In order to identify potential cases to include in this study, we started with a search on the Orbis database – a database listing all firms registered with the Dutch Chamber of Commerce – and obtained a list of active companies that were registered in the “(62) Computer programming, consultancy and related activities” sector. Then, we contacted firms by telephone to invite them to participate in an interview and to fill in a questionnaire. Because we wanted to learn about developing offshoring capabilities, we were interested in firms for whom offshoring is a central part of their business model. Usually, IT service providers – i.e., firms that provide IT services to other firms – tend to rely extensively on offshoring to gain competitive advantage and are, thus, more likely to develop offshoring capabilities than firms that only offshore their IT function. In other words, firms that provide IT service to other firms are more likely to become experts in offshoring and can provide important insights regarding what drives offshoring success. Because we are interested in how firms learn to offshore, we considered only organizations that have achieved high performance in their offshoring activities and we checked this through the means of a questionnaire before arranging the interviews. To determine companies’ proficiency with offshoring, we asked them to rate their satisfaction with offshoring on a seven-point scale. Asked to rate their overall satisfaction with offshoring on a seven-point scale, one company rated their satisfaction ‘5’ (i.e., slightly above expectation) and four companies rated ‘6’ (i.e.,

considerably above expectations). On the related question of whether the performance of their offshoring activities meets expectations, one company stated that they met their goals for offshoring, while the rest stated that their offshoring performance even exceeded their expectations. These ratings together with qualitative statements from the interviews indicate that the companies included in this study have achieved high performance with offshoring.

In total, we analyzed five cases because we considered that research maturity emerged and new concepts could not be added any longer. The number of cases used in this study falls within the range of four to ten cases that extant studies recognize as the typical number for case study research (Eisenhardt, 1989). In order to protect the confidentiality of respondents we use pseudonyms to refer to the five cases. Below, we provide a short description of the five companies analyzed in this study. The highlights of the company descriptions are summarized in

Table 5.

**Alpha.** Alpha is the Dutch subsidiary of a larger international provider of IT services. Alpha started offshoring in 2004 and its offshore operations are located in India, where it has around 400 employees. The offshore operations are operated as fully owned subsidiaries. The goal of offshoring is to primarily reduce the costs of developing IT solutions for their clients. In order to reduce costs, a large portion of their activity takes place offshore with as much as 60 percent of knowledge intensive activities and 80 percent of labor activities being performed at the offshore centers.

**Beta.** Beta is the Dutch subsidiary of a larger international provider of technology solutions and started offshoring in 2010. It engages in both captive offshoring – i.e., their own foreign subsidiaries – and offshore outsourcing by contracting external offshore providers. About only 20 percent of Beta's activities are performed offshore and it currently has about 30 offshore employees. Beta is offshoring to India and the main reason underlying the decision to offshore is cost-reduction. While this company had some issues with getting offshoring successful, they invested time in building relationships and now consider themselves satisfied with the performance of offshoring activities.

**Delta.** Delta, the Dutch subsidiary of an international provider of business applications, has significant offshore operations with around 1,000 employees. Delta operates captive



offshoring operation in India. They started offshoring in 2002 as a way to reduce their costs. Delta performs about 40 percent of their knowledge intensive processes abroad and about 70 percent of their labor intensive processes. While now satisfied with the performance of offshoring operations, Delta had to overcome considerable challenges due to cultural distance between the home employees and their offshore counterparts. They overcome these challenges primarily by bringing key offshore employees to work full time in the Netherlands and to act as a bridge between the operations and by trying to include in their work practices some of the foreign culture and vice-versa.

***Epsilon.*** Epsilon is a Dutch owned provider of IT solutions. It engages primarily in offshore outsourcing. While it started with outsourcing to India, it is increasingly orienting itself toward countries in Eastern Europe such as Romania and Serbia because of lower cultural distance. Epsilon engages in offshoring to reduce costs, but also in order to acquire knowledge. Epsilon started offshoring in 2005 and declares itself very satisfied with the quality received from offshore providers, satisfied with the degree of cost-reduction achieved, but acknowledge that would still like to improve the speed of the delivery of the offshore operations.

***Gamma.*** Gamma is the Dutch subsidiary of a multi-national provider of IT solutions. It started offshoring in 2008 by using the parent company's owned offshore centers in India and the Philippines. They currently use about 160 employees from offshore locations. Gamma tends to offshore primarily labor-intensive, usually repetitive, processes, while still performing a lot of the knowledge-intensive tasks domestically. They use offshoring in order to reduce costs, but also because it gives them access to the knowledge of the offshore shared services of their mother company.

***Data collection.*** We collected data through multiple methods including interviews, questionnaires, and by accessing publicly available data. We started the data-collection process by administering a questionnaire that aimed to gather basic information on companies' satisfaction with offshoring performance, offshoring activities, and firm characteristics (see Appendix 1 for the questions asked). This questionnaire collected basic information about a firms' offshoring activities (e.g., satisfaction with offshoring, number

**Table 5.** Case descriptions

Company	Subsidiary of MNE	Year offshoring started	Number employees offshore	Offshore location	Ownership of offshore operations	Reason for offshoring
Alpha	Yes	2004	400	India	full ownership	Cost savings: High Knowledge acquisition: Low
Beta	Yes	2010	28	India	full ownership & outsourced	Cost savings: High Knowledge acquisition: Low
Delta	Yes	2005	1000	India	full ownership	Cost savings: High Knowledge acquisition: Low
Epsilon	No	2005	40	India, Romania, Serbia	outsourcing	Cost savings: Moderate-High Knowledge acquisition: High
Gamma	Yes	2008	160	India, Philippines	majority ownership	Cost savings: High Knowledge acquisition: High

of employees offshore, type of activities offshore, level of sophistication, location, governance mode) and general information about the company (e.g., firm size, age, ownership). The questionnaire served a dual purpose. First, as mentioned in the preceding section, it helped us pre-screen firms for inclusion in the research by giving us a quantitative indication of firms’ satisfaction with offshoring. We collected questionnaire data from ten companies and then, based on this basic data, we ranked the cases in terms of how much we considered they could help us develop theory about developing offshoring capabilities. Second, the basic information about the firms and their offshoring activities collected through the questionnaire allowed us to prepare for the interviews by tailoring our questions to get the most out of the interview time. The persons who completed the questionnaire hold titles such as manager global sourcing, senior consultant, solutions architect, or senior delivery manager and they subsequently participated in the interviews.

Second, we conducted semi-structured interviews with personnel responsible for offshoring activities at our case companies. We interviewed two high-level respondents in each company. All the respondents were chosen because they have direct experience with

offshoring and can detail the methods that led to successful offshoring in their organizations. We chose to use semi-structured interviews because the nature of the research question is exploratory and we wanted to be able to probe deeper into relevant issues that come up during the interview. This also means that the semi-structured interview protocol is changed over time as we discover more about the research question (Glaser and Strauss, 1967). We developed initial questions from extant literature by focusing on three main areas: general information and overview about the company and offshoring activities, offshoring performance, and problems they faced while offshoring and how they dealt with them. The interviews are conducted face-to-face and in the native language of respondents (Dutch) in order to ensure smooth communication and to avoid misunderstanding of academic terms. Bilingual researchers then translated the write-ups into English. The interviews lasted on average for 60 minutes and were recorded. We complemented the information from the questionnaire and interviews with information from company records and publicly available data about the case organizations.

In order to analyze data, we coded interviews using the qualitative coding software NVivo. We first coded at the very detailed level, and then aggregated to the higher level to create the capability constructs. In order to ensure coding reliability, another researcher also coded the interviews. Any disagreements were resolved through discussion. Next, we present the findings of our analysis.

## **RESULTS**

A key finding from our cases is that the offshoring capability is multidimensional. We find that the offshoring capability comprises competencies in coordination, relationship development, structural design, and organizational identification development. In addition, the process of developing these components of an offshoring capability depends on firms' ability to implement a learning loop comprising of monitoring the performance of offshoring initiatives, engaging in reflexivity processes, and implementing organizational learning mechanisms. Figure 5 graphically depicts the theoretical model of what comprises an

offshoring capability and the process through which firms develop it. To arrive at this model, we first open coded the interviews, and then moved from open to axial coding in order to consolidate first-order constructs to raise their level of abstractness. This process allowed us to explore the dimensions of our theoretical themes. Below, we discuss in detail each element of the offshoring capability and the learning loop firms employ to improve their offshoring capability.

### **Offshoring capability: The coordination competency component**

Essentially, all cases pointed to the importance of developing an ability to coordinate geographically dispersed operations and, in the case of offshore outsourcing, also operations outside of the formal organizational boundary. Coordination is important for completing interdependent tasks (Thompson, 1967) and because IT projects tend to have high interdependency between domestic and offshore teams, coordination competency is key for the success of offshoring. This implies that firms need to be able to coordinate work between home and offshore operations in order to successfully complete their work (Srikanth & Puranam, 2011). Srikanth and Puranam (2014) consider coordination in offshoring software services so important as to conceptualize the firm as a coordination system. Coordination is difficult in offshoring due to the geographical distance. Handley & Benton (2013) find that the costs of coordination increase with the geographical distance as this increases the transaction costs. The difficulty of coordination with offshore operation is further hampered by cultural differences, which are associated with different predispositions for tacit and explicit knowledge (Lehrer & Asakawa, 2003) and status differences between countries (Levina & Vaast, 2008). Interestingly, our case companies were able to deal with these difficulties of coordinating offshore operations by employing several practices.

In order to overcome the hurdles of coordinating dispersed operations, respondents stressed the importance of *communication routines*. Developing communication routines implies developing organizational routines regarding the mode, frequency, and regularity of communication. In order to bridge the geographical and cultural gaps, many companies implemented policies for using communication modes with higher media richness. For instance, a senior manager at Alpha mentions that:

*We strive for a zero email policy, we prefer to use the telephone and chat.  
An email is very formal, and we don't want that because it consumes time.  
We are colleagues and we need to be able to approach each other as such.*

Similar thoughts are voiced also by a manager at Beta:

*...sometimes you just have to pick up a phone instead of sending an email twice.*

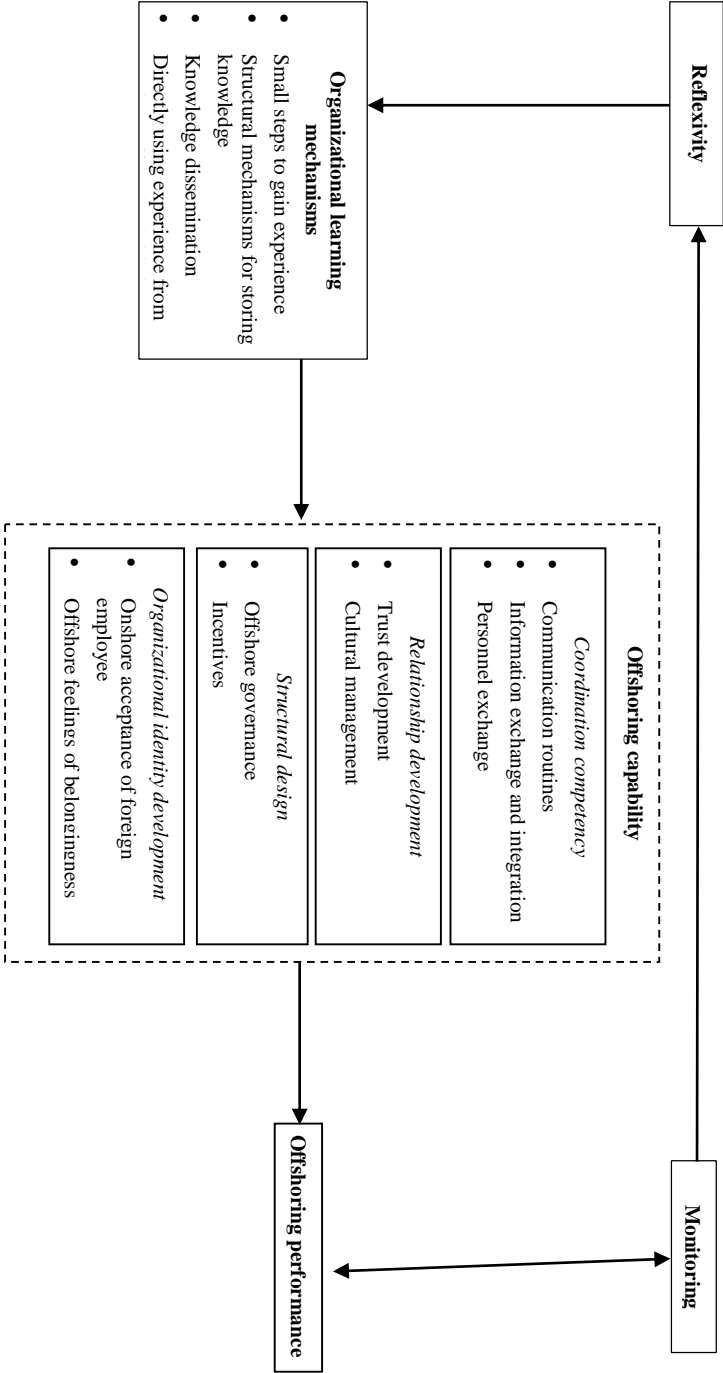
Thus, in order to develop coordination competencies, firms can implement procedures for communication that guide employees to use rich communication mediums and to communicate frequently and regularly. One respondent very nicely summarizes the above points about the importance of communication for coordination when stating Epsilon's philosophy about communication:

*The richer and more frequent communication is, the easier it is [to coordinate offshore activities].*

In addition to communication, our case evidence suggests that ensuring **information exchange and integration** between offshore and domestic operations is a key element of successful coordination. Most of our case companies were able to ensure knowledge exchange by establishing technological infrastructure that connects on-shore and offshore operations. Using IT solutions that systems integrate information from different geographical sites and allow the tracking of how work progresses at different locations allows employees to coordinate work despite the geographic distance. By accessing information regarding the work progress at different locations, geographically distant colleagues can plan their tasks accordingly. For instance, a manager describes Delta's technological infrastructure allowing them to exchange knowledge across geographically-disaggregated sites:

*When an issue pops up, a warning light is started. Someone will log in and see if they can resolve the issue... Also there is a notification made of the fact that an issue was reported. The notification is registered, because it*

**Figure 5.** The theoretical framework of developing offshoring capabilities



*could happen again when somebody else is on duty. They should be able to access the solution. This all happens in the same system. It is more or less one big knowledge base. This system is also used to make reports. At the end of the month the service manager can use this system to create some graphs and analyzes. He will add some comments and puts it all in a document.*

Related to the above point, Alpha's practice of standardizing information exchange systems across the global operations appears to be key to enabling coordination:

*...we have the same document management system all over the world. English is our formal language. Everyone is on the same network and we have a chat system.*

Describing their efforts to increase coordination, a manager at Alpha states his company enabled the knowledge exchange through the technological infrastructure by establishing clear global roles. That is, the technological infrastructure provides the means for knowledge exchange but for coordination it is required to clarify the roles of global employees in knowledge exchange:

*All the formal aspects in communication, process descriptions and who has responsibility, are all stored. These process descriptions are leading in making clear who has the lead in certain projects. All the roles are the same globally.*

A third way to ensure coordination is to set-up **personnel exchange** between offshore and on-shore operations. Personnel exchange helped improve coordination in several of our case companies as it led to the development of connections between individuals that allowed them to synchronize work and provides them with knowledge regarding the roles and responsibilities of geographically distant colleagues. A Solution Manager from Case Alpha states:

*We have an Indian colleague permanently working here in the Netherlands to make communication and cooperation easier. He knows which persons we can approach in India when we have certain issues.*

Beta employs a similar practice:

*We also transferred one team member of the Indian team to the Netherlands in November and he is working in the Netherlands with the Dutch team. I also guide him, he sees our culture, he sees how we work and he will be going back to India...and he will be the lead contact there. Then he will be our source of knowledge.*

To summarize, our interview findings indicate that in order to develop coordination capabilities firms need to establish communication routines, implement information exchange and integration platforms, and to set-up personnel exchange.

### **Offshoring capability: The relationship development component**

The success of offshoring also rests on building a strong relationship with the offshore operations. Our case companies emphasized the importance of building strong relationships and that offshoring firms need to invest in relationship development as a manager at Epsilon notes:

*A very important aspect is that you can only work well with each other when you have a solid relationship... If the relationship is not harmonious, the cooperation cannot be efficient...So, we work hard on building the relationship.*

The starting point for relationship development is the understanding that it is a long-term process, which, according to several respondents can take between two to five years. The length of the process lies in the fact that *trust*, a key element of relationship building, develops over time “by working with each other, listening, communicating, and making arrangements for certain projects” (manager at Gamma). This also means that trust is bi-directional: on-shore employees need to overcome the reluctance to send jobs abroad and believe in the skills of offshore partners, while offshore employees need to be dedicated to the relationship in order to exert effort and provide quality work.

Our respondents emphasized the importance of developing trust as a key success factor in offshoring. Trust in the other party is important as it is associated with knowledge transfer (Westner & Strahringer, 2010) and lower project costs (Rai, Maruping & Venkatesh, 2009). While trust is important developing it in offshoring relationships is challenging due to geographic and cultural distance between the parties. Our case evidence strongly indicates



that for developing trust it is necessary to attempt to mimic “natural” relationship development. This means arranging for face-to-face meetings and communicating also about personal aspects in addition to business matters. Personnel exchanges can allow opportunities for face-to-face meetings to help develop trust. Several respondents emphasized that their organizations developed trust with the offshore partners by organizing personnel exchanges and face-to-face meetings:

*Video conferences help, but with all the big projects, it is a good idea to have some persons that are critical for success meet face to face. For the big projects you need commitment from multiple countries...The point is that everybody wants alignment, but you always have cultural differences and interpretation differences. This is harder when you are both not native speakers. Also in virtual communication you miss verbal communications. What we try is that we see each other quite regularly, especially when it is a long relationship. At the start of new projects we invite three or four project members of the Indian team to the Netherlands, they stay for a while and then take the work back to India. They will tell their Indian colleagues how the project will be managed. (manager from Beta)*

*[offshore employees] look at us like we are some guys in a far country. In that case, what often works is having a representative of an offshore team here in the Netherlands for some time. Then it not ‘just those guys over there’ but you establish face to face contact. Face to face contact initially helps to build up trust. In my experience that is one factor that helps a lot. (manager from Alpha)*

In addition, our respondents found that their organization developed trust easier when they started engaging in conversations that went beyond the business and into personal issues. For instance, a manager from Beta states:

*...it is important not to only talk about work but also about their private life. I also notice that when you do this they trust you very quickly. I think this a culture thing...in India when you treat the people with respect and*

*you show your interest in them than you will receive this back and this creates trust.*

Another important element of developing trust and, consequently, building a strong relationship, is having realistic expectations of offshore partners. A manager from Beta mentions:

*I say this because I see how other colleagues are managing their outsourcing relationships. They have way too high expectations for a too short period of time. You cannot expect from people in India to develop something in two weeks. They forget that [offshore employees] also need time to pick up new things. You have to grant them some time. You shouldn't want to go too fast, because in the end you also need quality and you want both parties to be happy.*

In addition, our case evidence indicates that **cultural management** is also important for developing a strong relationship with the offshoring partners and, as essentially all respondents indicated, for successful offshoring. This is not surprising as, by definition, offshoring, implies working together with people from different cultures. Cultural differences hamper cooperation because they are associated with differences in expected behavior and communication styles (Beugre & Acar, 2008). Our interviews confirm Ang and Inkpen's (2008) theoretical arguments regarding the importance of firms' "cultural intelligence" for offshoring success. Our cases go beyond highlighting the fact that firms need to manage cultural difference and provide several ways in which firms can do this.

The main insight that came out from our interviews evolves around the idea of developing an understanding of each-others' cultures. First of all, to increase awareness of cultural differences and to provide the tools to cope with these differences, several case companies arranged for employees who deal with offshoring to take part in cultural training courses. For instance, a manager at Epsilon states about his company's investments in cultural training:

*What helps a lot is banal but simple cultural training. Dutch people who have to deal with an offshore project, give them a course on cultural difference (business and national) in order to build a bridge between the fundamental differences between countries.*

A consequence of cultural training is that it can also create some flexibility in dealing with other cultures. This manifests in allowing some of the foreign culture to enter operations; that is, adjusting to some extent to the foreign culture in order to help build a strong relationship. Beta, for instance, adapted its working habits to allow some degree of adaptation to the offshore culture:

*But I think that I managed to include some of their culture into our working habits...a lot of holiday days, longer breaks and so on.*

The converse of this also applies, as teaching offshore employees about the culture of the offshoring country helps them reach a better understanding of the “home” culture, leading subsequently to a smoother relationship. To teach offshore employees about the home culture, our case companies invite offshore workers to spend time in the home office. A manager from Delta mentions that:

*What we do to get them a little bit used to the western culture is that two employees from India spend six weeks here in the Netherlands...They worked within the Dutch team, this creates a lot of contact. Their boss also visited here for two weeks to ensure that on a tactical level we made some good arrangements...There are however some employees, especially some who work already for a long time for us in India who are a more direct already. They have learned how to be direct and they adapted to our western culture.*

These practices suggest that culture can be managed and that both sides of the border can learn what to expect and how to adjust their behavior. The result is a “cultural reconciliation” as employees from different parts of the world change their behavior a little in order to improve the working relationship.

While relationship development is not an easy task when operations are spread around the world, since the success of offshoring depends on it, offshoring firms need to actively work on developing trust and on learning how to manage cultural differences. The lengthy process of developing relationships, implies that offshoring might be a worthwhile strategy particularly for firms that have long-term orientations and that are willing to exert the effort required for developing trust and working with different cultures.

### **Offshoring capability: The structural design component**

A third element of an offshoring capability is the ability to structure the offshore relationship. *Structural design* refers to firms' ability to implement appropriate governance mechanisms and to devise incentive schemes that motivate offshore employees.

Due to geographic and, sometime, organizational boundaries, the perceived interests of offshore and domestic employees might appear divergent. Consequently, successful offshoring, especially in the case of offshore outsourcing, rests on firms' ability to devise *offshore governance mechanisms*. Contract choice is important as it affects the effort exerted and, ultimately, the performance of offshore operations (Gopal & Koka, 2010). Existing research largely focuses on understanding the choice between fixed-price and time-and-materials contracts and shows that contract type depends on vendor and client preferences (Gopal and Sivaramakrishnan, 2008) as well as project characteristics (Gopal et al., 2003).

Our field work indicates that designing contracts that lead to success in offshoring are characterized by elements that go beyond the choice between different types of contracts. Many of our companies pay great attention to contract design because their experience showed that successful offshoring initiatives tend to be governed with contracts that are specific yet allow flexibility for changing needs, that incorporate non-financial goals, and that are created together with the offshore party. For instance, a manager from Alpha describes his company's approach to contract design:

*It is often necessary to realize that you should ask the right questions. You have to put the expectations up forward, before you start. Often what happens is that people avoid this. You have to remember you are working with different people from different cultures, you have to be very specific and make sure that everybody understands something the same way. Often misunderstanding is just a matter of miscommunication. So have to be very explicit...it is useful to put everything down in black and white. What you can do and what you cannot do with regard to deadlines.*

However, as many projects are quite fluid and specifications can change, our respondents indicated that they try to design some degree of flexibility in contracts in order to accommodate changing needs. A manager from Delta states:

*When you have a contract you agree on what you do and how you will achieve certain things, but there are always things that come as you go. When you say that you need a solution which makes sure that something works, then the employees in India are perfectly capable to come up with a certain solution. This is more a matter of how you ask your question.*

Part of this flexibility is given by the inclusion of non-financial goals in the contract such as client satisfaction, as a manager from Epsilon describes his company's practices:

*Because of what I experienced in India, my contracts are not strict. This means that everything what happens falls within the contract. In the contract is something like you have to help me satisfy the customer and not build a certain thing. For me it is important that we measure on client satisfaction and not how fast someone can answer a question from a client. When I tell a supplier that I will judge him based on growth, then it means he will try his utmost to reach this growth. This means they have to be proactive. On the other hand when I really specify it on the things they have to do in situations of complaints, they will only stick to the things I ordered them to do. Of course, some things are specified and have to happen, but this is not the main goal.*

An additional tactic that can enhance contract design is to engage the offshore supplier in the design of what is expected and how it will be delivered. A manager from Beta tells about his company's approach:

*Yes, definitely, we build a 'living' document for us and our offshore team. We capture and store all agreements we make together in this document...At the start of our project we sat together with the full project team. In this session, I send them this living document. If they want to make adjustments, they were free to do so. I think that this was a strong point because this gives them a feeling that they are not obliged to do something but that they can also have their say. This gives them a chance to make the project a little bit also of their own concern. This led to a very relaxed atmosphere... I think it is important that both teams have their noses in the same direction rather than just following the direction of my nose.*

Another way to introduce structure in the relationship is to design incentives for the offshore operations, regardless of whether these are in-house or outsourced, to those of the home organization. Our cases mention the usefulness of providing bonuses to offshore employees for achieving objectives. In the words of a manager from Epsilon:

*If you are successful together, give everyone the credit it deserves for this achievement...So if we do it right, or do better than agreed in a contract, make certain that the subcontractor shares in the bonus...So you have a maximum interest.* (Epsilon, Robin)

Another type of incentive involves supporting the professional growth of offshore employees. Several of our respondents acknowledged the value for offshore employees to spend time abroad. That is, doing an exchange in the domestic organization is valuable for offshore employees as it improves their status and professionalization. As such, bringing personnel from offshore location to spend time in the home organization can also be used as a reward for high performance– in addition to the benefits it brings to collaboration and cultural understanding, as previously discussed. Thus, offshoring firms need to devise governance mechanisms and use incentives in order to drive the success of offshoring.

### **Offshoring capability: The organizational identification development component**

The fourth element of the offshoring capability is the ability to *develop an encompassing organizational identification*. Organizational identification is “the perception of oneness with or belongingness to an organization, where the individual defines him or herself in terms of the organization(s) in which he or she is a member” (Mael & Ashforth, 1992: 103). Identification with the organization has many positive consequences such as commitment to the organization, liking of other organizational members, and increased cooperation (Ashforth & Mael, 1989). Conversely, perceiving a particular employees as out-group members can damage cooperation. As offshore employees are located across geographical and, sometimes, organizational boundaries, domestic employees often perceive offshore ones as out-group members, and vice-versa. A manager from Alpha, explicitly acknowledges the problems created by out-group perceptions by stating:

*...some colleagues are skeptical, some colleagues are still looking down upon our Indian colleagues. This type of underestimation is devastating for the cooperation.*

Perceiving offshore employees as not being part of the organization, can reduce the home employees' willingness to share knowledge and to work cooperatively with them. Similar effects can take place from the other side of the border, with offshore employees identifying themselves with the offshore group rather than the entire organization and, due to lack of organizational commitment, refrain from expending effort in advancing organizational goals. This situation can be damaging to the success of the organization, and our interviews indicate that firms who are successful at offshoring actively work towards creating an encompassing sense of organizational identification.

In order to develop organizational identification feelings transgressing geographical and, in the case of offshore outsourcing, even organizational boundaries, our interviews indicate that firms need to work on both sides of the border. First, developing organizational identification requires *domestic employees' acceptance of their offshore counterparts* as part of the team and not as second class organizational citizens. Developing such perceptions takes time to develop, as evidenced in several of our cases. Alpha, for instance, went through such a transformation process that improved their offshoring performance:

*When we just started offshore outsourcing, we were in a demand-supply model. That is how we started. At this moment we grew and developed ourselves to such an extent that we see our partners in India etc. as equal and as colleagues. They also developed themselves and they also have more confidence...In the beginning we acted as a client and made a contract of what workload we would transfer to the offshore country. This was very obscure for our Indian colleagues. They were just waiting until we had a task for them. Slowly this model changed to a globalized way of working. Now we are just all colleagues. It doesn't matter if somebody from the Netherlands is programming some code or that it happens in India.*

Second, firms need to work on creating *belongingness for the offshore employees*; that is, offshore employees need to identify themselves with the larger organization. To this end, our case companies employed several tactics to make offshore employees included. A common practice among our cases is to invite offshore workers to spend time with the domestic employees in the Netherlands. Exchange experiences are valued by foreign workers because it increases their status in the offshore operations and makes them feel appreciated. While exchange experience has value for individual employees, other practices to increase organizational identification of offshore employees are of a symbolic nature such as providing knowledge about the organization. A manager from Epsilon says about how he tries to develop perceptions of belongingness in his company's offshore employees:

*When I visit Eastern Europe I always tell them about Epsilon's vision and I always treat them as Epsilon employees even though they live in Eastern Europe and not in the Netherlands. You have to treat the partners as equals and stick to that mindset, this will bring you further and make you able to strive for the same goals.*

Another interesting tactic our case firms employ to create a sense of belongingness in the offshore employees is to celebrate success together. A manager from Beta, employs this tactic:

*With a success we celebrate this with the offshore team and ask budget for it. What I do now is that I keep free some budget for them to do some fun stuff. What happens now is that, when they know that they will be working with me they are a lot more open and they go for the extra mile because they know they are working with me. They like working with me and they know that they will maybe get something extra out of the budget. These are all small things but they really appreciate that.*

### **Improving offshoring capabilities: The learning loop**

An important finding from our cases is that firms learn from their offshoring experience. That is, they can use insights from the past to improve current operations and how they set-up future offshoring initiatives. For instance, Gamma mentions learned a lot from previous



offshoring projects and they routinely incorporate these insights to set-up new offshoring initiatives differently than they did in the past:

*On every level there are signals that we can improve. This is recorded and communicated. We look how we can improve on a structural basis and use the knowledge from 1.5 years of offshoring experience. We have learned especially about setting up activities before we start. We do things differently now when starting new activities.*

Our interviews suggest that improving offshoring capabilities takes place through an organizational learning loop. That is, in order to improve the offshoring capability, firms need to assess the performance and adjust how they offshore. The learning loop consists of monitoring the current offshoring performance, engaging in reflexivity, and implementing organizational learning mechanisms.

In order to improve their offshoring capability, firms need to first understand how the current offshoring set-up is performing. To achieve this, our case firms engaged in **monitoring** the performance of offshoring activities. A manager from Gamma mentioned that for aiding monitoring it is necessary to have clear guidelines regarding who is responsible for what part of the project (i.e., what lies under the responsibility of the offshore team and under that of the on-shore team) that operations should be monitored to assess whether respective aims were achieved. In addition to clear responsibilities, a manager from Beta mentions that monitoring of offshoring activities needs to be adjusted such that if issues are identified then monitoring needs to become stricter and more frequent in order to identify the underlying problem.

A second step required for improving offshoring capabilities is **reflexivity**. Reflexivity refers to the extent to which firms reflect on and adapt their objectives and processes (Tjosvold, Tang, & West, 2004). A key element of reflexivity is its *systematic* nature, which provides firms with a way to review and take actions to improve performance. Reflexivity also seems to play a key part in developing offshoring capabilities. Our interviews revealed that in order to improve offshoring performance it is important to periodically evaluate performance and to look for ways to improve. Gamma, for instance, has monthly meetings in which offshoring performance is assessed and issues discussed. Exemplifying this idea, a manager from Epsilon describes his company's practices:

*We periodically evaluate everything we do... in order to determine the lessons learned and to improve... We store our knowledge on the intranet and use wikis to record insights on industry, customer, type of job, and so on.*

The next step of improving offshoring capabilities is for the organization to learn from the insights gained through reflexivity by implementing **organizational learning mechanisms**. In other words, through time firms develop experience in offshoring and they need to be able to benefit from these experiences. Our interviews stated that their companies engaged in experimental learning (Levitt & March, 1988) by taking small offshoring steps. That is, they started with offshoring few and simple tasks and through time they increase the magnitude of offshoring and the complexity of the tasks performed offshore. This process allowed them to develop their offshoring routines, learn about the abilities of offshore partners, and increase the acceptance of offshoring at home. Exemplifying this small-steps approach, a manager from Delta states:

*We initially started [offshoring] because of the good stories of [another company]. So we did a couple of tiny pilots in India with testing, while keeping development in the Netherlands... But step by step we transferred more activities to India, like design and analysis and we don't want to go back to the old situation.*

In order to benefit from offshoring experiences, firms need to record their knowledge regarding previous offshoring activities in order to develop best practices. Importantly, this knowledge needs to be available and even disseminated to relevant organizational members. As evidence from Epsilon indicates, knowledge recording regarding characteristics of previous offshoring initiatives can take place on intranets, thus, also allowing organizational members to access it conveniently. Furthermore, Epsilon disseminates offshoring experience through seminars which openly discuss lessons from previous offshoring initiatives in order to prevent the same problems re-occurring:

*Since we are not quite perfect [at offshoring], we try to encourage learning from each other's mistakes. We have certain knowledge sessions at which we discuss a few fantastic failures. This is not to burn the people who were responsible, but they are especially for sharing the experience.*

Building on firms' stored knowledge of offshoring, firms can also directly use experience from previous offshoring projects by using employees with specific knowledge of a particular country or of a particular offshore partner. Firms using these tactics can shorten their learning curve for new project and achieve efficiencies in shorter periods of time. Employed together, the storing, dissemination, and direct use of offshoring experience can help firms improve their offshoring capabilities and, thus, increase the chances of success of new offshoring initiatives.

## **DISCUSSION**

Lured by the potential benefits of cost savings, access to a large pool of skilled workers, and access to specialized expertise, firms increasingly engage in offshoring. However, despite its rapidly increasing popularity, offshoring remains an uncertain practice with high performance variance. This study collects qualitative data from five IT firms for whom offshoring is a central element of their business model in order to understand what drives offshoring performance.

We contribute to research on the success factors of offshoring (e.g., Aksin & Masini, 2008; Chua & Pan, 2008; Langer, Slaughter & Mukhopadhyay, 2014) by developing a capability model of offshoring. Specifically, we propose that performance differentials in offshoring can be explained by differences in offshoring capabilities. The capability perspective of offshoring we put forward in this study advances existing research suggesting the importance of such a capability (Levy, 2005; Manning, 2008). Previous research suggested different firm competencies that can help achieve higher offshoring performance such as cultural intelligence (Ang & Inkpen, 2008) and contract design capability (Argyres and Mayer, 2007). This study contributes to this line of research by providing an explicit and comprehensive analysis of what an offshoring capability comprises. Our findings indicate that the offshoring capability is multidimensional as it comprises coordination competency, relationship development, structural design, and organizational identification development. By uncovering what constitutes an offshoring capability, this study contributes to an understanding of how firms can successfully set-up and manage offshoring activities.

In addition, this study finds that, over time, firms can develop offshoring capabilities, albeit this can be a lengthy process. We find that firms need to establish a learning loop, which allows for improving their offshoring capability. This indicates that offshoring capability is a path dependent capability (Levitt and March, 1988) that is built over time through repeated engagements in offshoring. Prior empirical work provides some evidence that a firm's experience in offshoring positively influences its rate of success in new offshoring activities (Hutzschenreuter, Pedersen, and Volberba, 2007; Manning et al., 2008).

Our study uncovers that the learning loop consists of monitoring performance, reflexivity, and establishing organizational learning mechanisms. We complement previous research suggesting that the success of offshoring initiatives depends on how firms oversee their offshoring operations (Mihalache, Mihalache & Jansen, 2011) by specifying the process through which this effect takes place. Specifically, we find that monitoring and reflexivity can improve offshoring performance as it provides firms with a systematic way to understand and improve their offshoring capability. Furthermore, our findings indicate that firms need to implement organizational learning mechanisms. Building on the idea that 'mechanisms through which learning is realized and potentially converted into performance, often indirectly inferred rather than directly observed, imply structures and processes at the organizational and sub-organizational levels' (Salk and Simonin, 2003: 260) and that investments in structured processes can lead to learning (Ramasubbu, Mithas, Krishnan & Kemerer, 2008), we find that for offshoring these learning mechanisms can comprise offshoring in small steps, storing knowledge from previous experiences, disseminating this knowledge, and directly making use of experience in new projects. These findings also complement Carmel and Agarwal's arguments for an offshoring maturity model – holding that firms offshore increasingly complex tasks – as we uncover the learning loop as the underlying mechanism supporting maturation of offshoring practices.

Therefore, we advance the understanding of the drivers of offshoring success by proposing that offshoring capabilities account for performance variance, by uncovering what the offshoring capability comprises of, and the mechanisms through which develop offshoring capabilities.

## **Managerial implications**

Our qualitative research indicates that firms need to develop offshoring capabilities in order to overcome the challenges of the geographical disaggregation of business processes and to enjoy the promised benefits of offshoring. A key insight is that managers need to have a long-term orientation when offshoring as developing an offshoring capability can be a lengthy process due to learning from repeated offshoring experiments. Managers need to consciously work on creating a coordination capability, on developing relationships with the offshore operations, on structural design, and on developing organizational identification throughout the global operations. Our findings suggest several practices that can help firms develop these competencies. Importantly, managers need to implement learning loops that allow them to learn from offshoring experiences. To this end, monitoring and reflexivity provide a systematic way to assess current performance and think of improvement and organizational learning mechanisms – for storing and disseminating knowledge – that allow firms to improve their offshoring capability. In sum, offshoring is challenging and firms desiring to engage in this practice need to consciously work on developing an appropriate capability.

## **Limitations and future research**

The study makes several important contributions as it develops a capability model of offshoring. However, future research can address some of this study's limitations and advance its insights in several ways. Our study uncovers several elements of an offshoring capability, but it does not provide an understanding of the relative importance of these components. That is, as firms have limited financial and attention resources, future research could try to uncover which components firms could prioritize. Related, as project characteristics are associated with different types and degrees of risks (e.g., Apte & Mason, 1995; Ellram et al., 2008; Liu, Feils, & Scholnick, 2011), future research could consider the relative importance of the offshoring capability's components under different situations. In addition, we largely focused on developing offshoring capabilities inside the organization, but were silent on ways to shortcut the process. With the rapid spread of offshoring, a new type of service is shaping up – offshoring consultancy. Future research could investigate the role of outside experts in aiding the development of offshoring capabilities. Furthermore, future studies could employ large-scale surveys to understand the applicability of offshoring

capabilities outside the context of this study, the IT industry, and to tease out relative effects of the four components. Related, it would be useful to understand which organizational and managerial factors enhance the development of offshoring capabilities. As previous research shows that top management team characteristics influence the firm-level consequences of offshoring (Mihalache et al., 2012), future research could consider whether certain top management team characteristics help firms in the process of developing offshoring capabilities.

## **Conclusion**

Our study advances the understanding of the factors that drive offshoring success by proposing a capability perspective of offshoring. To this end we uncovered four components of the offshoring capability: coordination competency, relationship development, structural design, and organizational identification development. Furthermore, our findings indicate that firms can develop offshoring capabilities through a learning loop that involves monitoring, reflexivity, and implementing organizational learning mechanisms. We hope our study opens the way for more research on understanding what drives success in the growing practice of offshoring.

## APPENDIX

### Questionnaire collecting basic offshoring and firm information

#### *Firm and respondent identifiers*

*This information is used only for administrative purposes and it will be always kept confidential.*

Firm Name

Your Name

Position within the firm

Your E-mail address

#### *Basic information about past and ongoing offshoring projects.*

*Please answer questions per each project per country. If you have more than one offshore project or activity, there is an option to repeat the questions for each instance. Please answer this question for all your offshoring activities.*

Please write the type of activity or project offshored (for example, software development, accounting, customer service, manufacturing etc...)

To which country is this activity offshored?

In which year did you start offshoring this activity?

In which year did this offshoring activity end? (indicate "ongoing" if you are still offshoring this activity)

How many employees are engaged in this activity at the offshore location?

What is your ownership percentage of the offshore operation? (Indicate between 0% for outsourcing and 100% for captive)

How advanced is this activity in terms of the knowledge and skills required to perform it? (7-point scale between 'Totally standardized' and 'Very advanced')

Please indicate the importance of each of the following motives for deciding to perform this activity offshore? (7-point scale between 'Not at all important' and 'Extremely important')

Cost savings

Accessing specialized knowledge unavailable at home

Increasing speed to market

How much innovation has there been in this activity since you started to offshore? (7-point scale between 'Not at all' and 'Extremely').

Does this activity have clear, measurable, and reportable objectives? (7-point scale between 'Not at all' and 'Extremely').

How satisfied are you with the outcomes of offshoring this activity in terms of: (7-point scale between 'Not at all satisfied' and 'Extremely satisfied').

Cost

Speed

Quality

To what extent have you reached your initial goals with this offshore activity? (7-point scale between 'Well below expectation' and 'Well above expectation')

Overall, how satisfied are you with the outcome of this offshoring activity? : (7-point scale between 'Not at all satisfied' and 'Extremely satisfied').

### ***Basic firm information***

In what year was your firm established?

Is your firm a subsidiary of a larger domestic or international organization? (Yes / No)

How many employees (FTE) does your firm employ at home?

Overall, what percentage of knowledge intensive processes (e.g., research and development, engineering, software development) is performed offshore?

Overall, what percentage of labor intensive processes (e.g., accounting, customer service, IT support) is performed offshore?

How much did your company in the past year on average invest in R&D as % of revenues?

What is the average sales growth % over the last year?

How would you assess the performance in the last year of your organization in comparison to the competitors? (7-point scale between 'Extremely worse than competitors' and 'Extremely better than competitors')

Revenues

Profit

Customer satisfaction

Market share





## CHAPTER 4:

### OFFSHORING KNOWLEDGE VERSUS LABOUR-INTENSIVE SERVICES AND ENTREPRENEURIAL ACTIVITY: A CONTINGENCY PERSPECTIVE

#### ABSTRACT

*The purpose of this study is to analyze the influence of offshoring on entrepreneurial activity (i.e. the introduction of new products and services). We provide a theoretical framework that proposes that the offshoring of knowledge intensive services (KIS) and that of labor intensive services (LIS) will differentially influence the ability of firms to introduce new products and services. While the offshoring of KIS has an inverted U-shaped influence on entrepreneurial activity, the offshoring of LIS has a positive impact. In addition, we propose that these relationships are conditioned by organizational (i.e. governance mode) and managerial (i.e. TMT reflexivity) factors. Specifically, we argue that the degree of integration with the offshore affiliate and TMT reflexivity each moderate the nonlinear relationship between offshoring KIS and innovation in such a way that the positive effects of low levels of offshoring KIS will be stronger and the negative effects of high levels of offshoring KIS will be lower. In addition, we argue that the degree of integration constrains and TMT reflexivity enhances the relationship between offshoring LIS and innovation.*

**Keywords:** *offshoring, innovation, governance, top management teams*

## INTRODUCTION

Offshoring is “one of the most hotly debated topics in international business” (Mudambi & Venzin, 2010: 1510) and “the most important phenomenon transforming the workplace” (Youngdahl & Ramaswamy, 2008: 213). Offshoring refers to the relocation of business processes, or even entire functions, to locations outside of the organization’s national borders in order to support regular business operations (Levy, 2005; Manning, Massini, & Lewin, 2008; Venkatraman, 2004). It involves the disaggregation of the value chain and its cross-border dispersal (Contractor, Kumar, Kundu, & Pedersen, 2010). In other words, offshoring refers to the geographical reshaping of firm boundaries with the aim of enhancing overall system efficiency.

In the last decade, fuelled primarily by large labor cost differentials and advances in communication technology (Garner, 2004; Lewin & Peeters, 2006), the relocation of business operations to foreign locations has grown at an incredibly fast pace. Some statistics indicate that between 1992 and 2005, US firms tripled the value of services relocated to offshore locations (Liu, Feils, & Scholnick, 2011). McCarthy (2004), for instance, estimates that offshoring from the US is growing at a pace of about 200,000 to 300,000 jobs per year. While estimates vary, existing studies suggest that between 10 and 21 percent of US jobs are potential candidates for offshoring (Bardhan & Kroll, 2003; Blinder, 2006, 2006; Farrell and Rosenfeld, 2005; Garner, 2004; Jensen and Kletzer, 2005). Further estimates indicate that by 2015 about 3.4 million jobs worth about US\$151 billion will be relocated to foreign locations (Geewax, 2004). Similar developments have also been observed for the European Union (UNCTAD, 2004).

The increase in the magnitude of offshoring is intertwined with a growth in the array of the functions that firms relocate to cross-border locations (Lewin & Peeters, 2006; Youngdahl, Ramaswamy, & Verma, 2008). Initially, service offshoring consisted primarily of more routine processes that require a lower skill level such as customer service, payroll, or order fulfillment. While most offshoring still takes place in labor intensive services, firms are increasingly offshoring knowledge intensive services (Dossany & Kenney, 2003). Lewin and Peters (2006) find that an impressive 31 percent of offshoring firms also relocate knowledge-rich activities and that the offshoring of knowledge intensive services is expected to grow about 1.5 times faster than that of labor intensive services.

As entrepreneurial activity lies at the heart of competitive advantage and firm survival (Geroski, Machin, & Van Reenen, 1993; Hall, 2000), understanding how offshoring influences the ability of firms to introduce new products and services should be particularly high on the research agenda. So far, research has concentrated on offshoring's influence on the level of employment (Kletser, 2001), cost savings (Farrell, 2005), and short-term financial performance (Bhalla, Sodhi, & Son, 2008, Coucke & Sleuwaegen, 2008). The understanding of whether offshoring hurts or aids entrepreneurial activity is still blurred by a scarcity of research and incongruent findings (Doh, 2005; Li, Liu, Li, & Wu, 2008; Ramamurti, 2004; Youngdahl et al., 2008). This question is becoming increasingly important in the light of the overall increase in offshoring and the emerging trend of relocating knowledge intensive activities.

Accordingly, the underlying motivation of this paper is to further the understanding of the consequences of offshoring for entrepreneurial activity. To this end, we provide an encompassing framework that considers not only the main effect of offshoring on entrepreneurial activity, but also important managerial and organizational contingencies. First, while extant research predominantly focuses on the offshoring of specific functions, our study aims to consolidate these previous insights and develop theory about broader service categories. Specifically, we argue that the offshoring of knowledge intensive services (KIS) and labor intensive services (LIS) will have differential influences on entrepreneurial activity. The former category includes activities such as engineering, software development, or R&D and the latter category can include front-office activities such as customer service as well as back-office activities such as IT support, payroll, order processing, accounting, or human resources. So far, there is considerable divergence over the implications of offshoring for the introduction of new products and services. Offshoring KIS can contribute to an organization's innovativeness as it provides access to skilled labor at low costs (Quinn, 2000) and to a wide range of offshore knowledge sources (Li *et al.*, 2008), but it may also decrease firms' ability to transform new knowledge into innovations (Teece, 1987). Offshoring LIS can enhance the introduction of new products and services as it allows the firms to focus on knowledge-generating activities and it provides cost-savings that can be relocated to innovation-related activities. Thus, in this study we argue that offshoring goes

beyond a simple cost-reduction strategy and that it raises important opportunities and threats for entrepreneurial activity.

Second, this study furthers the literature on the relationship between offshoring and entrepreneurial activity by providing a contingency perspective. Whether firms can take advantage of offshore opportunities and avoid its dangers depends on how the relationships with the offshore affiliates are structured and how top management teams (TMTs) oversee these relationships. An important aspect of offshoring is the governance mode employed at the foreign location (Gui, 2010; Mudambi & Venzin, 2010). Although the offshoring literature acknowledges the role of the governance mode (e.g. Venkatraman, 2004), there is a lack of research on the degree of integration with the offshore operations (Liu, Feils, & Scholnick, 2011). We complement previous studies that focus either on offshore outsourcing (e.g. Ellram, Tate, & Billington, 2008; Li et al., 2008, Li, Wei, & Liu, 2010) or captive (i.e. full ownership) offshoring (e.g. Demirbag & Glaister, 2010) by assessing the effects of different governance modes. We argue that the degree of integration with the offshore affiliates<sup>3</sup> has important consequences for the relationship between offshoring and firms' ability to innovate as it influences the knowledge transfer from the offshore operations.

In addition, building on the idea that TMTs play a vital role in shaping the effectiveness of firm actions (e.g. Carpenter, Geletkanycz, & Sanders, 2004; Finkelstein & Hambrick, 1996), we argue that the way TMTs oversee the offshoring process will condition the consequences of offshoring KIS and LIS. As "in today's dynamic business environment managers are expected to monitor work division and integration continuously, rather than consider these issues as one-off design and decision problems" (Kumar, Fenema, & von Glinow, 2009: 643), we focus on the moderating role of TMT reflexivity. TMT reflexivity is defined as "the extent to which team members collectively reflect on and adapt their team's objectives, strategies, and processes" (Tjosvold, Tang, & West, 2004: 542). It represents a systematic way in which TMTs question the performance and the suitability of the offshoring strategy for firms' current needs. Through systematic monitoring, TMT reflexivity may bring to surface more ways to exploit the potential of offshoring and it may catch early warning signals about faltering innovation activities. By considering the

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<sup>3</sup> We use the term "offshore affiliate" to refer to the operations at the foreign location. It does not imply any particular type of ownership with regards to the offshore operations.

moderating role of TMT processes, we complement recent findings that TMT attributes influence how firms exploit the potential of offshoring (Mihalache, Jansen, Van Den Bosch, and Volberda, forthcoming).

In summary, this study provides a comprehensive view of the influence of offshoring on entrepreneurial activity as it considers both managerial and organizational contingencies. We examine how firms can use offshoring to enhance their entrepreneurial activity by strategically choosing the type of functions to offshore, the appropriate degree of integration, and monitoring processes. Figure 6 provides the theoretical framework.

## **THEORETICAL DEVELOPMENT**

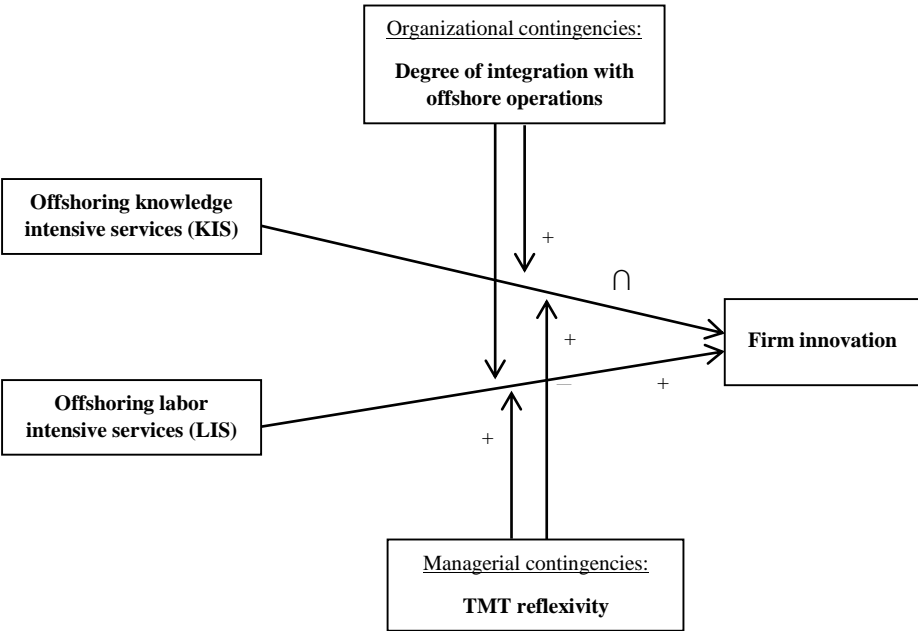
### **Offshoring**

Offshoring refers to the relocation of processes or entire functions to locations outside of the organization's national borders in order to support regular business operations (Levy, 2005; Manning, Massini, & Lewin, 2008; Venkatraman, 2004). "Offshoring, in a fuller sense, is the building of a global network whose strategic objectives go well beyond serving a local market, to a focus on global network efficiency and coherence" (Contractor et al., 2010: 1418). That is, the distinctive characteristic of offshoring is that its underlying aim is to support regular business operations. Thus, unlike internationalization (Buckley and Casson, 1976), offshoring is not primarily aimed at entering new markets in the pursuit of foreign sales, but at enhancing overall system efficiency (Jensen & Pedersen, 2010). To put it differently, whereas internationalization research is primarily concerned with downstream activities such as marketing and sales (Fletcher, 2001), offshoring concerns predominantly up-stream activities. By taking advantage of country specific characteristics, i.e. idiosyncratic combinations of skills, knowledge, and labor costs, offshoring can help firms leverage their own resources in order to enhance competitive advantage (McCann & Mudambi, 2005; Mudambi, 2007).

Offshoring can be considered a dynamic business model as it represents a new way to perceive the structure of the firm and develop efficient operational routines (Mason & Leek, 2008). Venkatraman (2004: 16) emphasizes that offshoring is "a business strategy

issue and managers would do well to think rationally...about it”. However, based on survey data from the Offshore Research Network, Lewin and Peeters (2006: 230) find that, at present, “most companies have not articulated top-down strategies for planning and guiding the adoption of offshoring”. Despite these findings, they expect that, as the bottom-up offshoring experiments increase in diversity, amplitude, and number of functions offshored, more companies will start developing top-down corporate-wide offshoring strategies.

**Figure 6.** Theoretical framework



A particularly pertinent decision of the offshoring strategy is the choice of governance mode. While the location decision is closely intertwined with the ownership decision, offshoring and outsourcing are two clearly distinct aspects of a firm’s boundaries. Specifically, offshoring refers to the geographical location where a business function is performed and it does not imply a specific governance mode. The governance mode of offshore operations can range from captive (i.e. under the full ownership of the company) to outsourced (Lewin & Peeters, 2006). With such a wide range of governance options, it is

surprising that extant research has predominantly been silent about the interplay between offshoring and *degree* of integration. Existing studies largely focus on offshore outsourcing (e.g. Doh, 2005; Ellram et al., 2008; Maskell, Pedersen, Petersen, & Dick-Nielsen, 2007), thus leaving open the question of what combinations of offshore functions and governance modes are most conducive to the introduction of new products and services.

Despite the recent public interest in offshoring, the disaggregation of the value chain and relocation of services to foreign location is not a new phenomenon. Offshoring started more than half a century ago and, at the time, it encompassed mostly manufacturing and blue collar jobs (Lewin & Peeters, 2006). During this phase, the main motivation for offshoring was generating cost savings by leveraging high labor cost differentials between the advanced and developing countries (Farrell, 2005). Related to cost savings, offshoring was further encouraged by foreign governments' incentives such as tax advantages, reduced (or free) import duty for equipment, or financial assistance for training staff (Metters & Verma, 2008). Reducing costs still remains one of the main incentives to offshore with as much as 90 percent of offshoring companies considering cutting cost an important factor in their decision to relocate (Lewin & Peeters, 2006). This statistic is hardly surprising considering the magnitude of cost differentials. For instance, Garner (2004) notes that a computer programmer in India costs about nine times less than in the US and that for less qualified employees the cost differentials are even greater. In the 1990s, the economic liberalization and technological advancement in communication and computing fuelled the offshoring of services (Ramamurti, 2004). Access to highly skilled labor such as engineers, software developers, and scientists allowed companies to start offshoring innovation-oriented functions (Lewin & Peeters, 2006). That is, companies increasingly offshore to access specific knowledge and skilled labor in an effort to reduce developmental times and increase speed to market (Doz, Wilson, Veldhoen, Goldbrunner, & Altman, 2006; Lewin & Peeters, 2009).

The recent and expected spread of offshoring, especially in knowledge-generating functions, underlines the importance of shedding light on the impact of offshoring on entrepreneurial activity. In an effort to better understand the issues surrounding offshoring, research has analyzed a wide array of outcomes at the project, firm, and industry levels as well as a number of determinants of offshoring. Table 6 presents a summary of recent



research on offshoring. However, notwithstanding the surge of research on offshoring, the understanding of the consequences of offshoring for innovation is still in an incipient phase as only few studies address this relationship. As indicated in Table 7, the few studies addressing this relationship have put forward contradictory theoretical argumentation and have found inconsistent empirical evidence. We aim to address these incongruences by distinguishing between two categories of offshored functions, i.e. knowledge and labor intensive services, and by considering boundary conditions.

### **Offshoring and entrepreneurial activity**

We argue that the offshoring of different types of functions will differentially influence the ability of firms to introduce new products and services. Using the level of knowledge embedded in a function as a delineator, we distinguish between knowledge and labor intensive services. Building on the idea that knowledge forms the basis of innovation (McGrath, 2001), we argue that the offshoring of functions that have different levels of knowledge may differently impact the ability of firms to introduce new products and services. Specifically, we argue that the relationship between offshoring KIS and innovation follows an inverted U-shape and the one between offshoring LIS and innovation is linear and positive.

*Offshoring knowledge intensive services and entrepreneurial activity.* The offshoring of KIS raises important opportunities and threats for firms' innovativeness. On the positive side, increasing offshoring KIS from low to intermediate levels allows firms to engage in co-creation of new knowledge with offshore affiliates in several ways. First of all, firms can leverage labor cost discrepancies between the home and developing countries to increase the magnitude of their knowledge generating activities. Offshoring allows firms to access highly educated and skilled employees at only a fraction of the cost of similar work in the home country (Quinn, 2000). For instance, Chung and Yeaple (2008) argue that the lower cost of international knowledge sourcing can serve as a springboard for firms' knowledge generating activities. Offshoring may also raise opportunities to address home country labor shortages and the prohibitive costs of highly specialized personnel (Lewin, Massini, & Peeters, 2009). As a result, firms can increase their research efforts and reduce developmental times.

**Table 6.** Example of recent studies about offshoring

Article	Level of analysis	Method/Sample	Function offshored	Governance mode	Outcome
Bhalla, Sodhi, & Son (2008)	Firm	Empirical / Fortune 500	Services (knowledge and labor intensive)	Various	Financial performance (no clear findings)
Coucke & Sleguwaegen (2008)	Firm	Empirical / Belgium	Not mentioned	Not mentioned	Firm survival
Di Gregorio, Museen, & Thomas (2009)	Firm	Empirical / U.S.	Manufacturing and services (administrative and technical)	Outsourcing	Financial performance
Doh et al. (2009)	Project	Empirical / worldwide	Services	Not mentioned	Offshore location (as a function of country conditions and function knowledge-intensity)
Eliram et al. (2008)	Firm	Case study / Fortune 500	Services (professional)	Outsourcing	Offshoring (as a function of the extent of offshoring and function type)
Jengen & Pedersen (2010)	Project	Empirical / Denmark	Manufacturing and services (various)	Captive vs. outsourcing	Type of task offshored
Lewin & Peeters (2009)	Project	Empirical / U.S.	Services (product development)	Outsourcing vs. captive	Offshoring (as a function of offshoring drivers, offshoring experience, and labor availability in home country)
Liu, Feils, & Scholnick (2009)	Project	Empirical / U.S.	Services	Outsourcing	Offshoring location (as a function of function characteristics)
Meters (2008)	Project	Theoretical	Services (various)	Captive → outsourcing	Typology of offshoring
Stratman (2008)	Firm	Theoretical	Services (various)	Outsourcing	Extent of offshoring and cost savings through offshoring
Youngdahl & Ramaswamy (2008)	Project	Theoretical	Services (knowledge and labor intensive)	Outsourcing vs. captive	Option for managing offshored operations

**Table 7.** Studies about the influence of offshoring on firm innovation

Article	Level of analysis	Method/Sample	Function offshored	Governance mode	Proposed influence on innovation
Chesbrough & Teece (1996)	Firm	Case study / various	Manufacturing and services	Outsourcing	Negative
Chung & Yeaple (2008)	Firm	Empirical / U.S.	Services (knowledge intensive)	Not specified	Positive
Fifarek, Veloso, & Davidson (2008)	Industry	Empirical / U.S.	Services (knowledge intensive)	Outsourcing	Negative
Li et al. (2008)	Firm	Empirical / various	Manufacturing and services (various)	Outsourcing	Positive
Markides & Berg (1988)	Firm	Case study / various	Manufacturing	Not specified	Negative
Mihalache et al. (2012)	Firm	Empirical / Netherlands	Manufacturing and service (knowledge intensive)	Not specified	Inverted U-shape

Second, offshoring can promote the introduction of new products, services and processes as it connects firms to a wide array of knowledge sources, thus, enhancing the possibility that novel ideas emerge (Galunic & Rodan, 1998; Kogut & Zander, 1992). Offshoring provides access to knowledge and technologies that are either not available or less advanced in the home country than at foreign locations (Chung & Alcacer, 2002). In line with this argument, Li et al. (2008) argue that knowledge acquisition from offshore affiliates can accelerate the process of innovation. Thus, offshoring KS stands to enhance innovation as firms can increase the magnitude of their research efforts and can access unique knowledge sources.

However, when firms offshore high levels of their KIS the effect of offshoring on innovation may change and firms face the risk of reduced innovativeness. First, when knowledge intensive activities are located at various offshore locations, firms must overcome the difficulty of transferring the offshore knowledge. However, knowledge, and especially tacit knowledge, is not easily transferable as it requires a great amount of close interaction (e.g. Bresman, Birkinshaw, & Nobel, 1999). As such, firms may be in a situation in which they have access to knowledge and knowledge-enhancing opportunities, but may not be able to make use of that knowledge due to a lack of overlap in knowledge bases. As the ability to recognize the value of new knowledge and apply it to create new products and services depends on the existence of related knowledge (Cohen & Levinthal, 1990), firms whose knowledge resides with offshore affiliates may have difficulty recognizing and responding to environmental changes (Teece, 1987). Thus, whether offshoring has a positive or a negative effect on innovation depends on the degree of offshoring (Mihalache, Jansen, Van Den Bosch, & Volberda, forthcoming). That is, increasing offshoring KIS will provide innovation-enhancing opportunities, but, beyond certain levels, offshoring may reduce innovativeness. Considering these arguments, we put forward the following relationship:

**Proposition 1:** There is an inverted U-shaped relationship between offshoring KIS and the level of firm innovation.

*Offshoring labor intensive services and entrepreneurial activity.* We expect the offshoring of LIS to have a positive influence on firm innovativeness as it creates several conditions that stimulate the introduction of new products and services. First, the offshoring

of secondary functions enhances firm innovativeness as it allows firms to focus on knowledge-generating activities (Quinn, 1999; Venkatraman, 2004). By concentrating efforts and resources at the home location on innovation activities, firms can improve their responsiveness to customer needs and shorten development times (Quinn & Hilmer, 1994). Second, the geographical separation of secondary functions fosters innovation as it creates structural differentiation (Gilbert, 2005; Tushman & O'Reilly, 1996). Separating the efficiency-driven functions from innovation activities protects the development of new products and services from efficiency pressures and it permits the implementation of organizational conditions conducive to innovation such as decentralization or informal culture (Benner & Tushman, 2003; Jansen, Tempelaar, Van Den Bosch, & Volberda, 2009).

Third, the cost savings obtained from the offshoring of LIS can stimulate innovation as they contribute to the stock of organizational slack. Organizational slack is an important (or even an essential) catalyst of innovation as it relaxes financial controls and motivates the pursuit of uncertain innovative projects (e.g. Damanpour, 1991; Nohria & Gulati, 1996). In addition to generating a culture of safe experimentation (Bourgeois, 1981), the savings from offshoring LIS can also be reinvested to increase the magnitude of knowledge-generating activities (Agrawal, Farrell, & Remes, 2003; Farrell, 2005) by, for instance, increasing the number of knowledge workers at the home location (e.g. Feenstra & Hansen, 1999). Thus, we propose the following relationship between offshoring LIS and firm innovativeness:

**Proposition 2:** There is a positive relationship between offshoring LIS and the level of firm innovation.

### **The moderating role of the governance mode**

The governance mode employed in offshoring can range from full ownership of the offshore affiliates to outsourcing arrangements (Ellram et al., 2008; Stratman, 2008). We argue that the *degree of integration* is an important factor of the offshoring strategy as it conditions the influence of offshoring on entrepreneurial activity. Whereas previous studies have emphasized the role of governance mode primarily as a response to intellectual property appropriation concerns (e.g. Caves, 1996), we argue that the control over knowledge transfer associated with the degree of integration is of particular importance for entrepreneurial activity. While high integration with the offshore affiliates, i.e. using a captive governance

mode, holds certain advantages in terms of control over the knowledge transfer process, it also comes with associated financial, attention, and time costs. We argue that high integration can help the offshoring of KIS to stimulate entrepreneurial activity, but it may dampen the influence of offshoring LIS.

***Governance mode and offshoring KIS.*** The governance mode affects the relationship between offshoring of KIS and entrepreneurial activity primarily through its effect on knowledge transfer from the offshore locations. By improving firms' control over knowledge transfer from cross-border operations, the degree of integration can enhance the positive effects of low levels of offshoring and reduce the negative effect of high levels of offshoring on firms' entrepreneurial activity.

We argue that the degree of integration influences both the motivation to share knowledge and the extensiveness of communication channels between the offshore affiliate and the rest of the firm, which are two key elements for knowledge transfer (Gupta & Govindarajan, 2002). First, the offshore affiliate's motivation to share knowledge increases with the degree of integration for several reasons. Based on agency theory, a foreign affiliate may be reluctant to share knowledge as it can decrease its power in the relationship with the home organization (Bjorkman, Barner-Rasmussen, & Li, 2004). Following this argument, fully owned affiliates are less likely to be concerned about power struggles than those under shared ownership or outsourcing agreements. Furthermore, the motivation to share knowledge is positively influenced by a common organizational identity (Bjorkman et al., 2004; Hansen & Lovas, 2004) because knowledge transfer requires the willing involvement of the participants (Bresman, Birkinshaw, & Noble, 1999). High degrees of integration of the governance mode enable the implementation of a common organizational identity as the home organization has more control over the socialization mechanisms and the incentives schemes.

Second, a high degree of integration improves knowledge transfer because it facilitates the implementation of extensive communication channels. Extant research considers that interaction and communication are necessary for the acquisition and transfer of knowledge, especially tacit knowledge (Ahuja, 2000; Gulati, 1999; Stuart, 1998). When using high levels of integration, firms have greater control to set up, maintain, and adjust the

communication channels with the offshore operations. Thus, by improving knowledge transfer, the degree of integration can augment the innovation-enhancing opportunities of low levels of offshoring and it can reduce the dangers of lower innovation associated with high levels of offshoring. This line of argumentation suggests the following proposition:

**Proposition 3:** The degree of integration with offshore operations moderates the relationship between offshoring KIS and the level of innovation in such a way that it enhances the positive effect of low levels of offshoring and reduces the negative effect of high levels of offshoring on firm innovation.

*Governance mode and offshoring LIS.* The governance mode also influences the relationship between offshoring LIS and innovation. We argue that a high degree of integration used for the offshore operations is associated with various costs that stand to detract from the benefits of offshoring LIS. An important downside of using high levels of integration for the offshore operations (e.g. captive centers) is that such governance modes have high fixed financial costs (Ellram et al., 2008; Oshri, 2011). These fixed costs may not be justified since offshore LIS are easier to monitor and, thus, require less control (Stratman, 2008). As one of the main ways in which offshoring LIS enhances innovation is by reinvesting the cost saving from offshoring in knowledge-generating activities, the high fixed costs of integration may reduce these benefits. Additionally, the complexities of managing offshored LIS under captive centers may prevent firms from focusing on knowledge intensive activities. Citing case evidence, Oshri (2011: 3) writes: "It takes a lot of overhead and management attention to manage internal facilities.... You're exposing yourself to a lot of administrative burden just to do back-office type work in lower cost-locations." Assuming that managers have bounded rationality and limited cognitive resources, the demanding tasks of supervising offshore captive centers may neutralize the benefits of offshoring LIS in terms of allowing firms to focus on knowledge-generation activities. Therefore, we propose that:

**Proposition 4:** The degree of integration with offshore operations moderates the relationship between offshoring LIS and the level of innovation in such a way that offshoring LIS is associated with higher levels of innovation in firms that use lower degrees of integration.

### **The moderating role of TMT reflexivity**

The TMT comprises the CEO and the senior executives, which usually hold positions at or above vice president (Carmeli & Halevi, 2009). TMT members play a key role in strategic decision-making and in supervising ongoing operations (Carpenter, Geletkanycz, & Sanders, 2004; Castanias & Helfat, 1991; Finkelstein and Hambrick, 1996; Hambrick & Mason, 1984). TMTs are particularly important in offshoring as they are typically responsible for coordinating and controlling international operations and for stimulating knowledge transfer from foreign affiliates (Black et al., 1992). As TMT members are decision-makers and boundary-spanners, achieving the full potential of the opportunities associated with offshoring depends on how TMTs manage the global network (Ang & Inkpen, 2008). Mihalache et al. (forthcoming) argue that TMTs' informational diversity and shared vision influence how senior executives perceive the value of offshore opportunities and how firms capitalize on these opportunities. However, extant research has been silent about the role TMT processes in offshoring.

We propose that TMT reflexivity affects the influence of offshoring on firm innovativeness. TMT reflexivity refers to “the extent to which team members collectively reflect on and adapt their team’s objectives, strategies, and processes” (Tjosvold, Tang, and West, 2004: 542). It involves questioning, evaluating, debating, planning, and monitoring of internal and external environments and as such is both backward and forward-looking (MacCurtain, Flood, Ramamoorthy, West, and Dawson, 2010). Reflexivity stands to affect the relationship between offshoring and entrepreneurial activity as it influences the perception of offshore opportunities.

***TMT reflexivity and offshoring KIS.*** TMT reflexivity can enhance firms’ ability to stimulate the introduction of new products and services through offshoring as it augments the knowledge-enhancing potential of low levels of offshoring and reduces the potential loss of expertise of high levels of offshoring. First, reflexive TMTs may identify a wider array of offshore opportunities and are more likely to choose promising alternatives. Research argues that TMTs that engage in high levels of reflexivity are likely to exhibit greater attention to detail and, as a consequence, identify more alternatives than teams that engage



in lower levels of reflexivity (MacCurtain et al., 2010). Also, as they have the tendency to closely monitor the external environment (Hoegl & Parboteeah, 2006), reflexive TMTs are likely to be aware of and have access to more offshore knowledge sources.

In addition, as it enables TMTs to continuously assess the situation and form an accurate understanding of the current issue (Hoegl & Parboteeah, 2006), reflexivity may help TMT members to allocate firm efforts to more promising activities in terms of co-creating knowledge with the offshore affiliates. Moreover, reflexivity leads to greater information gathering and better communication between TMTs and external environment (Carter & West, 1998; Hoegl & Parboteeah, 2006). As a consequence, TMTs are more effective in anticipating and overcoming disruptions of the knowledge transfer, thus, reducing the issue of a loss of expertise associated with high levels of offshoring. Therefore, we propose that TMT reflexivity can enhance the positive effect of low levels of offshoring and it can dampen the negative effect of high levels of offshoring on the introduction of new products and services.

**Proposition 5:** TMT reflexivity moderates the relationship between offshoring KIS and the level of innovation in such a way that it enhances the positive effect of low levels of offshoring and reduces the negative effect of high levels of offshoring on firm innovation.

***TMT reflexivity and offshoring LIS.*** TMT reflexivity also conditions the relationship between offshoring LIS and entrepreneurial activity. First of all, by stimulating the reframing of TMT members' cognitive representations of tasks and the questioning of assumptions (Hirst & Mann, 2004), reflexivity can help TMTs acknowledge the need for a change in the product mix. Concurrently, research argues that reflexive teams are more likely to identify and prioritize the more important issues (i.e. more relevant and urgent) than less reflexive teams (Hoegl & Parboteeah, 2006). Also, reflexive teams have the tendency to quickly address issues, whereas less reflexive teams are more likely to deny, hide or delay issues (Moreland & Levine, 1992). As a result, the cost savings achieved through the offshoring of LIS are more likely to be directed toward knowledge-generating activities at the home location. Thus, we propose the following relationship:

**Proposition 6:** TMT reflexivity moderates the relationship between the offshoring of LIS and the level of innovation in such a way that offshoring is associated with higher levels of innovation in firms whose TMTs are more reflexive.

## DISCUSSION AND CONCLUSION

In response to the rapid spread of offshoring, this study seeks to answer a call for more research on the consequences of the geographical disaggregation of business functions for firms' ability to introduce new products and services (Doh, 2005; Ramamurti, 2004; Youngdahl et al.,

2008). We put forward a theoretical framework that considers not only the differential effects of offshoring KIS and LIS, but also important managerial and organizational contingencies.

Our study untangles the effects of offshoring KIS and LIS on entrepreneurial activity. Most studies to date focus either on the offshoring of particular functions (e.g. g. Ellram et al., 2008) or on aggregated measures of offshoring (e.g. Demirbag & Glaister, 2010). By disentangling the effects of offshoring KIS and LIS, we aim to provide a more thorough understanding of the effects of offshoring on innovation. We proposed that whether offshoring KIS has a positive or negative influence on innovation depends on the extent of offshoring. At low to intermediate levels, offshoring KIS raises important opportunities to enhance innovation by enhancing knowledge-generating activities (Quinn, 1999; Venkatraman, 2004) and providing access to offshore knowledge that is not easily available in the home country (Li *et al.*, 2008). However, we argued, at high levels, offshoring KIS may start lowering firms' ability to introduce new products and services as they become increasingly detached from their own operations and, consequently, may experience difficulty in recognizing and adapting to environmental changes (Teece, 1987). Furthermore, we proposed that the offshoring of LIS can enhance firm innovativeness by providing cost savings to reinvest in knowledge-generating activities and by focusing attention on innovation-related activities. By distinguishing between the effects of offshoring KIS and LIS, we aimed to propose a possible explanation for the inconclusive findings regarding the effects of offshoring on innovation (e.g. Li et al., 2008; Ramamurti,

2004). This distinction between function types based on the level of knowledge also advances the theoretical understanding of previous research that proposed a non-linear relationship between offshoring and innovation (Mihalache et al., forthcoming).

In addition, this study proposes that the influence of offshoring strategy on company innovativeness is contingent upon organizational and managerial moderators. Our study moves offshoring literature beyond the analysis of main effects by considering the moderating roles of governance mode and TMT reflexivity. In this way, we answer a call for a more ‘sophisticated and nuanced’ (Doh, Bunyaratavej, and Hahn, 2009: 927) approach to offshoring research. Our contingency perspective highlights Lewin and Peeters’s (2006) contention of the significance of a corporate-wide offshoring strategy instead of pursuing bottom-up uncoordinated offshoring efforts.

Building on previous studies that emphasized the interconnectedness of the offshoring and governance mode decisions (Mudambi & Venzin, 2010), we propose that the degree of integration differently influences the effects of offshoring KIS and LIS on innovation. Departing from previous studies that focused primarily on safeguarding intellectual-property (e.g. Caves, 1996), we argued that the governance mode plays an important part in how firms can coordinate the knowledge transfer from offshore operations. As higher degrees of integration are more conducive to knowledge transfer, they are likely to enhance the effect of offshoring KIS on innovation. However, the costs associated with high integration may detract from the benefits of offshoring LIS. Thus, we propose that firms need to consider the function type and to balance the need to transfer knowledge against the associated costs, when deciding on the governance of offshore operations.

Third, we proposed TMT reflexivity as an additional important contingency factor. TMT monitoring may play an important role on the link between offshoring and innovation as senior executives can legitimize new knowledge and address emerging issues. By proposing TMT reflexivity as a contingency of offshoring, we contribute to furthering the understanding of how TMTs influence the effectiveness of sourcing across national borders in terms of enhancing knowledge processes (Foss and Pedersen, 2004). Our theoretical insights on the role of TMT processes complement recent empirical findings supporting the significance of TMT attributes in the relationship between offshoring and innovativeness (Mihalache et al., forthcoming).

### *Limitations and future research*

The insights of this study on the relationship between offshoring and innovation are based on a knowledge perspective. However, using another theoretical lens may lead to different insights. For instance, from an institutional theoretical perspective (e.g. Scott, 1987), companies may not be free to choose the governance mode at the offshore location that is most conducive to knowledge transfer. Future studies may consider institutional restricting and analyze their interrelation with governance choice decisions for offshore operations.

In this study, we considered the effect of only one organizational moderator, i.e. governance mode, but future research could attempt to investigate other organizational factors. For instance, many studies mention the importance of the company-level capability to coordinate geographically dispersed operations (e.g. Levy, 2005); however, studies that specifically address how this capacity develops and how it affects the returns from offshoring are still lacking. Another particularly pertinent organizational issue for the success of offshoring in enhancing innovation is the timing of the offshoring action. The offshoring literature is surprisingly silent on the issue of strategically timing the relocation of business functions to foreign locations. Such considerations may further elucidate the current inconclusive findings of the consequences of offshoring for innovation as the quality of offshore services may be influenced by the accumulation of earlier investments and their externalities (Dossani & Kenney, 2003).

In addition of our insights regarding TMT reflexivity, future studies could shed light on other managerial factors. For instance, research could also investigate the moderating effect of TMT contingency rewards as Jansen, Van Den Bosch, and Volberda (2008) find evidence of their influence on organizational exploratory and exploitative actions. In addition, future research can focus at the dyadic level and analyze the moderating role of shared visions between the home company and the offshore affiliates as ample research emphasizes the importance of matching visions between dyadic partners for knowledge transfer (Tsai and Ghoshal, 1998).

### **Conclusion**

In conclusion, this study answers a call for more research on the consequences of offshoring for firms' entrepreneurial activity. In doing so, we contribute to extant literature primarily

by proposing offshoring as an important antecedent of firm innovation. To this end, we provide a comprehensive framework that examines not only how offshoring KIS and LIS differently influence firm innovation, but also how managerial and organizational factors moderate these relationships.

## CHAPTER 5:

### INTERNATIONAL DIVERSIFICATION AND FIRM INNOVATION: A STUDY OF THE JAPANESE ELECTRONICS INDUSTRY

#### ABSTRACT

*While extant literature acknowledges the role of international subsidiaries as important sources of innovation, the understanding of how international diversification affects firm innovation is surprisingly limited. To advance this understanding, we take a portfolio perspective of firms' foreign subsidiaries and expand the conceptualization of international diversification to comprise organizational components (i.e., asset complementarity and mandate broadness) in addition to the geographical component. Empirical testing on a unique multi-source dataset of Japanese listed electronics firms (N=242) and their international subsidiaries (N=2,944) suggests that the three components of international diversification distinctly influence MNE innovation and that the non-linear relationship between geographical diversification and MNE innovation depends on the asset complementarity of the foreign subsidiary portfolio.*

**Keywords:** *international diversification, global strategy, innovation, international business, subsidiary portfolio*

## INTRODUCTION

Due to trade liberalization and advancements in communication technology, the past two decades have witnessed a stark increase in firms' expansion of business activities to international locations. This proliferation took place not only in the overall number of subsidiaries established, but also in the type of activities and geographic regions in which multinational enterprises (MNEs) locate their subsidiaries (Cantwell, 1995; Gupta and Govindarajan, 1991; Qian, Khoury, Peng, and Qian, 2010).

Early internationalization research considers the local environments of international subsidiaries primarily as product markets with the flow of knowledge going from the MNEs' home location to the foreign subsidiaries (Buckley and Casson, 1976; Caves, 1971). More recent research points to changing internationalization dynamics and increasingly considers foreign locations as potential sources of new technical, market, and functional knowledge and, consequently, international subsidiaries as direct contributors to firms' innovative processes (Dunning, 1994). That is, international subsidiaries can contribute to MNEs' innovation by accessing and creating knowledge at the foreign location and then sharing this knowledge with the rest of the organization (Birkinshaw, 2001; Cantwell and Mudambi, 2005; Frost and Zhou, 2005).

However, while we know that individual foreign subsidiaries innovate and we are starting to understand the factors that enable them to leverage their host environments (Frost, 2001; Frost, Birkinshaw, and Ensign, 2002; Phene and Almeida, 2008), surprisingly little is known about how characteristics of the overall portfolio of foreign subsidiaries affects firms' ability to innovate. Existing research considering the overall portfolio of foreign subsidiaries focuses almost exclusively on the link between international diversification and financial performance (Delios and Beamish, 1999; Goerzen and Beamish, 2003; Kirca *et al.*, 2011; Nachum, 2004; Qian, Li, Li, and Qian, 2008), overlooking the implications of international diversification on firm innovation. Moreover, the few existing studies on the consequences of internationalization for firm innovation employ narrow conceptualization of international diversification as they consider only subsidiaries performing a particular function such as R&D (Lahiri, 2010; Penner-Hahn and Shaver, 2005) or sales (Hitt, Hoskinsson, and Kim, 2007). Recent studies recognize this narrow focus of existing research and call for "a

conceptualization of international diversification that encompasses the full range of activities that determine the geographic scope of a firm” (Wiersema and Bowen, 2011: 152). Analysis of MNEs’ entire “foreign footprint” (Hennart, 2011: 135) is important to unmask the complexities firms face when operating in multiple contexts. While foreign subsidiaries may provide access to important knowledge breadth by accessing foreign environments, they also pose important coordination and knowledge management challenges. In other words, only when considering the entire portfolio of foreign subsidiaries can research acknowledge and solve the conundrum regarding whether more international diversification enhances or diminishes firm innovation. This gives rise to the question: How does international diversification, as comprising the entire portfolio of foreign subsidiaries, affect firms’ ability to innovate?

This study aims to advance the understanding of how MNEs can leverage internationalization strategies to realize greater innovation in several ways. First, we expand the conceptualization of international diversification to include all activities performed by foreign subsidiaries and to consider organizational dimensions in addition to the geographical one studied in previous research. In this way, we aim to answer Wiersema and Bowen’s (2011:156) call for a more precise conceptualization and empirical treatment of international diversification as they argue that “a fresh perspective on the phenomenon of international diversification is sorely needed in order to address the previously narrow conceptualization of international diversification”. Second, we complement previous research on the relationship between international diversification and firm performance by providing one of the first considerations of the influence of international diversification on firm innovation. Advancing the semi-globalization perspective of the geographical diversification of foreign subsidiaries (Rugman, Verbeke, and Yuan, 2011), we argue that while initially geographical diversification does not influence innovation, once firms reach a certain level of diversification of geographical regions they can experience important innovation gains.

Third, we propose that different configurations of subsidiary portfolios can distinctly affect MNEs’ ability to innovate because of the knowledge they expose the MNE to and because of the managerial challenges they pose. We consider the inter-relatedness between different characteristics of the ISP by proposing that ISP asset complementarity and



ISP mandate broadness affect the influence of the geographical diversification on innovation. Considering the inter-relationship between different characteristics of the ISP allows us to reconcile the apparent contradiction between the benefits of international diversification in terms of access to diverse knowledge and its downsides in terms of coordination and knowledge management costs. Therefore, our portfolio perspective showing how different configurations of subsidiaries aid or hinder MNEs' ability to leverage their geographical reach to innovate complements existing research on the innovativeness of international subsidiaries and dyadic relationships between a parent firm and its subsidiary (Mudambi and Navarra, 2004; Dellestrand and Kappen, 2012). Overall, by putting forward a portfolio perspective of MNEs' international subsidiaries, we highlight that MNEs can make strategic choices regarding different characteristics of the international subsidiary portfolio (ISP). Thus, our study indicates that international strategy should move beyond decisions for individual subsidiaries to considering the entire portfolio of subsidiaries due to distinct influences of portfolio characteristics and their interrelations.

We test the proposed relationships on a unique multi-source dataset of 242 Japanese electronics firms and their 2,944 international subsidiaries. Empirical findings indicate that regional diversification is associated with increasingly higher firm innovation, but only after diversification passes a certain threshold. We also find that, in addition to geographical diversification, organizational characteristics of the ISP, namely asset complementarity and mandate broadness, influence firm innovation. Furthermore, our empirical analysis suggests that asset complementarity affects the non-linear relationship between geographical diversification and firm innovation such that firms are able to enhance innovation even at low levels of geographical diversification; however, ISP asset complementarity reduces firms' ability to benefit from high levels of geographical diversification.

The next section considers existing theory about the relationship between the international context and MNE innovation and develops theory about the influence of different characteristics of the ISP on MNEs' ability to benefit from their international operations. Then, we discuss our methodology and present the empirical analysis. We conclude the study with a discussion of the implication of our findings for theory and practice.

## THEORY AND HYPOTHESES

### **Expanding the conceptualization of international diversification**

Looking for solutions to soaring competitive pressures and shortening times-to-market, firms increasingly establish business operations in a variety of foreign locations. Multinational enterprises (MNEs) are a portfolio of differentiated and interdependent subsidiaries and, thus, need to manage a set of geographically dispersed resources. These resources are both internal (i.e., firm competences) and external to the subsidiaries (i.e., location advantages of the host countries) (Rugman, Verbeke, and Yuan, 2011). The basic premise for the existence of MNEs is that international environments provide certain benefits such as larger markets or superior input factors that can help improve firms' competitiveness.

The concept of *international diversification*<sup>4</sup> “includes all foreign aspects of a firm's value chain, from the geographic markets where it sells its products/services to the global locations where it produces its products/services and the geographic locations where its capabilities reside” (Wiersema and Bowen, 2011). However, although this conceptualization goes back to the early works of Johanson and Vahlne (1977) and Ghoshal (1987), previous research predominantly uses more narrow definitions and operationalizations. Most notable is the previous research's focus on the internationalization of only a particular function such as sales – with the adherent use of foreign sales as its operationalization – and the sole focus on the geographical component of internationalization. Exemplifying this trend, Hitt, Ireland and Hoskisson (2007: 251) define international diversification as “a strategy through which a firm expands the sales of its goods or services across the borders of global regions and countries into different geographic locations or markets” and Hitt, Tihanyi, Miller and Connelly (2006) use this definition in a review study of international diversification. This tendency of capturing international diversification by considering only market-seeking foreign activities may have been

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<sup>4</sup> International diversification is also referred to as internationalization, degree of internationalization, multinationality, geographic diversification, or geographic scope.

consistent with earlier internationalization initiatives, when MNEs were primarily concerned with leveraging firm competencies in larger markets.

However, macro-level events of the last two decades have led to a change in the types of activities that firms perform in foreign countries. Liberalization of trade and technological advances, particularly in communication technologies, removed barriers and reduced the cost of operating business activities in geographically distant regions. These developments combined with labor-cost and knowledge differentials between countries stimulated a significant wave of resource-seeking internationalization with firms increasingly establishing foreign subsidiaries performing activities such as innovation, production, and administrative support (Lewin and Peeters, 2006). This expansion of foreign operations to include virtually all value-chain activities is based on the idea that a potentially important source of competitive advantage comes from the subsidiaries' access to unique resources of foreign locations. That is, MNEs now compete on the basis of optimally disaggregating their supply chain in such a way as to perform particular business processes in the locations that have comparative advantages in those activities (Contractor, Kumar, Kundu, and Pedersen, 2010). Therefore, we argue that international diversification needs to take in consideration the geographical dispersion of *all* foreign activities – both market-seeking and resource-seeking activities – and that geographical dispersion is only one aspect of global strategy.

### **International diversification and firm innovation**

In order to understand the relationship between international diversification and firm innovation, we need to expand the conceptualization of international diversification by (i) including the entire range of value chain activities that subsidiaries can perform and by (ii) considering other characteristics of MNE's foreign footprint beyond the geographical component. Thus, our expanded conceptualization of international diversification suggests that global strategy need to consider both where to locate foreign subsidiaries and what types of activities the subsidiaries should perform.

As part of their international strategy, MNE need to decide *where* to locate their subsidiaries. Since countries differ in their resource endowments and institutional contexts (Meyer, Mudambi, and Narula, 2011: 237), the location of foreign subsidiaries affects both

the potential benefits and the difficulty of managing the ISP. Due to increased regional economic integration between national states in the past decades (Buckley, Clegg, Forsans, and Reilly, 2001), these locational differences are now especially pronounced between regions rather than countries. Ghemawat (2003: 138) calls this regional integration in products, capital, labor, and knowledge an “incomplete cross-border integration” because significant differences between regions show that the current level of integration falls short of a totally integrated global market. Thus, differences in input factors and institutional environments are best considered at the regional level (Arregle, Beamish, and Hebert, 2009; Arregle, Miller, Hitt, and Beamish, 2013). Regions are generally formed of geographically close national countries that took measures to integrate economically such as through free-trade agreements. These macro-economic developments stimulated the *semi-globalization perspective* of international strategy, which holds that firms need to think about location decisions at the regional rather than country level. The semi-globalization perspective “emphasizes the importance of regions in MNEs’ international strategy as their regional coordination helps them to maintain local responsiveness and exploit region-bound firm-specific advantages” (Arregle *et al.*, 2013: 910). In support of this perspective, research finds empirical evidence that regional factors influence MNEs’ location decisions above and beyond country-level factors (Arregle *et al.*, 2009).

In addition to *where* to open foreign subsidiaries, international strategy needs to consider the complementary question of *what* type of subsidiary to open. Specifically, building on related research in alliance network (e.g., Cui and O’Connor, 2012; Jiang, Tao, and Santoro, 2010), we propose that two key organizational characteristics are ISP asset complementarity and ISP mandate broadness. *ISP asset complementarity* captures whether subsidiaries use a different rather than similar asset base than the parent firm. Subsidiaries tend to hold similar resources and knowledge when operating in the same industry as the parent and to employ complementary assets when engaging in a different line of business than the parent (Lu, 2002; Lu and Xu, 2006). *ISP mandate broadness* denotes the extent to which the foreign subsidiaries perform multiple value chain activities. Mandate broadness is an important aspect of the ISP as it captures the actual operations of the foreign subsidiaries and, consequently, the extent to which they can gain access to foreign knowledge. Also, considering the mandate broadness of the subsidiary portfolio is an answer

to recent calls for enlarging the conceptualization of international diversification to consider the global pattern of the all value chain activities (Asmussen, Pedersen, and Peterson, 2007; Wiersema and Bowen, 2011).

Therefore, we put forward a more fine-grained conceptualization of international diversification that better captures the complex global strategic choices firms face. Particularly, we argue that international diversification needs to include both geographical and organizational aspects of the ISP because organizational characteristics affect knowledge search in foreign regions and determine the complexity associated with managing the foreign subsidiaries portfolio. As MNE geographically disaggregate increasingly fine-sliced value-chain activities (Meyer, Mudambi and Narula, 2011; Rugman, Verbeke, and Yuan, 2011), considering organizational characteristics alongside the geographical component of international diversification provides a more in-depth representation of the complexity of MNEs' foreign subsidiary portfolios. Also, by explicitly considering the interplay between geographical and organizational characteristics of the ISP to understand how MNE leverage the international context to innovate, we aim to emulate the underlying logic of internationalization theory, which entails combining location advantages with organizational capabilities (Rugman *et al.*, 2011).

In the next sections, we analyze the influence of different components of international diversification, i.e., ISP geographical diversification, asset complementarity, and mandate broadness, affect MNEs' ability to innovate.

### **ISP geographical diversification and firm innovation**

Diversification across different geographical regions is particularly important when MNEs aim to leverage the international locations to stimulate innovation because foreign environments provide the context that permits the effective deployment of firm-specific knowledge in the innovation process (Dunning, 2009). Also, Cantwell (1994) argues that the technological capabilities required for global competitiveness are dispersed internationally because they are embedded in different environments. Surprisingly, despite the wealth of research on the influence of international diversification on firm performance – see Kirca *et al.* (2011) for a meta-analysis of this relationship – there is very limited research on the relationship between geographical diversification and firm innovation. The two notable

exceptions provide important insights into this relationship, but they consider only a limited scope of internationalization due to a focus on either sales (Hitt *et al.*, 1997) or R&D (Lahiri, 2010; Penner-Hahn and Shaver, 2005). Thus, while it is known that individual foreign subsidiaries contribute to firms' innovation capability, it not yet known how the geographical diversification affects MNE innovation.

Geographical diversification captures the geographical scope of MNE's entire portfolio of foreign subsidiaries. It includes decisions regarding the location of foreign subsidiaries in terms of their spread across geographical regions in such a way that MNEs with low geographical diversification exhibit regional concentration and MNEs with high geographical diversification tend to spread their international operations over a large number of geographical regions. We argue that the degree of geographical diversification of the ISPs affects MNE innovation and that the relationship is non-linear such that the benefits arising from geographical diversification are positive and increasing, but they materialize only after firms reach a certain diversification threshold.

Increasing geographical diversification stands to enhance firm innovation because it increases the diversity of knowledge resources that MNEs can access, a key element of firm innovativeness (Katila and Ahuja, 2002; Kogut and Zander, 1992). By exposing firms to distinct customer demands, new technologies and different capabilities embedded in the environments of different geographical regions, diversification can lead to exploration. International subsidiaries contribute to the innovativeness of the entire MNE as they both acquire valuable knowledge from their host environments and engage in knowledge creation (Almeida and Phene, 2004; Birkinshaw and Hood, 2001; Cantwell and Piscitello, 1999; Frost, 2001). Porter (1990) argues that knowledge from host locations often embodies social, professional, and technological relationships among firms permitting inter-firm knowledge flows. This knowledge can be transferred from the international subsidiaries and it contributes to the knowledge base of the entire MNC (Asmussen, Foss, and Pedersen, 2013; Solvell and Zander, 1998). Furthermore, as countries hold idiosyncratic resource endowments (Cantwell, 1989), portfolios comprising subsidiaries in multiple geographical regions are more likely to contribute to MNE innovativeness because they provide access to more diverse knowledge resources. Therefore, international subsidiaries contribute to firm innovativeness as they represent points of access to valuable knowledge resources.

However, firms might not experience these benefits until they reach a certain level of geographical diversification. At low levels of geographical diversification, learning opportunities may not yet be present as the concentration of operations in a small number of geographical areas does not provide access to the diversity of knowledge necessary to enhance innovation. This may be especially so because firms' initial internationalization steps tend to be in familiar or similar markets (Johanson and Vahlne, 1977). Considering that opportunity recognition requires managerial attention or alertness (Kaish and Gilad, 1991), even if learning opportunities exist, firms may not yet be looking for them as they have considerable challenges to overcome such as learning to manage across national borders, the liability of foreignness (Johanson and Vahlne, 1977), and overcoming higher administrative and control and coordination costs (Contractor, Kundu, and Hsu, 2003; Markides and Berg, 1988). These challenges can direct managerial resources away from innovation activities to operational matters. Also, due to the initial costs of international expansion (e.g., Capar and Kotabe, 2003) and the general motivation of internationalizing firms to leverage existing capabilities in foreign markets (e.g., Wiersema and Bowen, 2011), at low levels of geographical diversification, firms may be focused primarily on exploitation rather than exploration. Thus, learning opportunities may present themselves and become evident to managers especially when operations are sufficiently spread geographically to highlight the different customer needs that require new solutions or the idiosyncratic technological capabilities.

Considering these arguments, we propose that ISP geographical diversification has the potential to enhance firm innovation, but these benefits may be seized only after firms reach a certain level of geographical dispersion.

***Hypothesis 1:** There is an increasing returns to scale relationship between ISP geographical diversification and firm innovation but only after firms reach a certain level of geographical diversification.*

### **ISP asset complementarity and firm innovation**

Foreign subsidiaries can employ similar or complementary asset bases as the parent firm. Generally, foreign subsidiaries have a similar asset base as the parent firm when they engage in the same line of business and employ complementary resources and knowledge when they

diversify the business of the parent (Li, 2005; Luo, 2002). We propose that the higher the degree to which an ISP is comprised of subsidiaries employing complementary assets to those of the parent firm, the more opportunities the MNE has for organizational learning. Li (2005) argues that when foreign subsidiaries operate in different industries than the parent firm they have to engage with relatively unfamiliar markets and technologies. These challenges can lead to experiential learning because, forced to face new problems for which they can't draw on parent's expertise, they develop knowledge and capabilities complementary to those of the parent firm. Since distant knowledge is a key element of innovation (e.g., Galunic and Rodan, 1998), asset complementarity of the ISP can enhance the innovation process as it engages the firm in distant search through participation in different market and technological domains. Miller, Fern, and Cardinal (2007) argue that MNEs can source distal knowledge even from within their own boundaries due to the breadth of knowledge held by diversified foreign subsidiaries. Therefore, we propose that ISP asset complementarity can enhance firm innovation as it provides learning opportunities from operations in more distant business areas:

***Hypothesis 2:** There is a positive relationship between ISP asset complementarity and firm innovation.*

**ISP mandate broadness and firm innovation.** Another important ISP characteristic is the extent to which it comprises subsidiaries with broad versus narrow mandates. A subsidiary mandate, or charter, determines the functional roles of the subsidiaries. Expanding previous research that distinguishes between competence-creating and competence-exploiting mandates (Cantwell and Mudambi, 2005), we consider that subsidiaries can potentially perform any value chain activity such as sales, production, research, or administrative support (Porter, 1985; Rugman *et al.*, 2011). Subsidiaries with broad mandates engage in multiple value-chain activities, while those with narrow mandates tend to specialize in a particular activity. We propose that specialist subsidiaries stand to contribute more to MNE innovation than subsidiaries with broader mandate because they can understand, access and use expert knowledge from foreign locations to a greater extent than subsidiaries with broad mandates. Since firms disaggregate and geographically disperse activities to take advantage of location advantages (Rugman *et al.*, 2011), subsidiaries with narrow mandates are embedded in environments that provide state-of-the-art knowledge in their field. For



instance, Chen, McQueen and Sun (2013) find that by hiring local talent with different mental modes, offshore technical support centers build knowledge and then transfer it to the home office and potentially the entire MNE. In addition, using knowledge from foreign sources requires a certain degree of overlap in knowledge bases and mental models of the subsidiary (Cohen and Levinthal, 1990). Such overlap is more likely to be present when subsidiaries are established with a specific mandate in mind. Conversely, subsidiaries with broad mandates engage in multiple functions and might not be able to tap in the local resources to the same extent as specialized subsidiaries. Therefore, we propose that:

***Hypothesis 3:** There is a negative relationship between ISP mandate broadness and firm innovation.*

### **How the interplay between ISP's geographical diversification and organizational characteristics affects firm innovation**

In addition to the direct effects of ISP characteristics on firm innovation, it is important to consider their interplay. Specifically, we propose that asset complementarity and mandate broadness moderate the non-linear relationship between geographical diversification and innovation as they influence the extent to which firms can access, transfer and integrate foreign knowledge.

ISP asset complementarity and mandate broadness allow firms to enhance innovation even at low to intermediate levels of geographical diversification because they provide access to complementary knowledge. This builds on the idea that, for the pursuit of innovation, firms need to have complementary knowledge and resources (Teece, 1986). For instance, Helfat (1997) argues that access to coal stimulates the development of coal conversion technologies as firms require this complementary resource for successful commercialization. ISP asset complementarity and mandate broadness may enable the influence of geographical diversification as they allow MNEs access to different domains of relevant knowledge and resources. That is, the value of knowledge from a particular geographic location may be enhanced when paired with new operational knowhow or distant knowledge from a different industry as the complementarity can make the pursuit of an idea feasible and a worthwhile endeavor for the MNE.

However, asset complementarity and mandate broadness also dampen the positive relationship between intermediate to high levels of geographical diversification and firm innovation due to increased difficulty of integrating the parent firm's knowledge base with the ISP's geographically dispersed knowledge. This effect is due to the increased complexity (Andersson, 1999) that ISP asset complementarity and mandate broadness add, albeit in different ways, to the management of highly geographically dispersed operations (Jensen, Larsen, and Pedersen, 2013). High ISP asset complementarity hampers knowledge from geographically dispersed subsidiaries because the low resource and knowledge relatedness of the foreign subsidiaries implies low connectedness with the parent MNE (Lu and Xu, 2006). Since connectedness is related to inter-unit knowledge transfer (Kijkuit and van den Ende, 2010), ISP asset complementarity reduces parent firm's ability to draw on its geographically-dispersed knowledge. Knowledge transfer is further hindered as operating in different industries often requires foreign subsidiaries to employ different routines and processes than the parent firm (Jiang, Tao, and Santoro, 2010). ISP mandate broadness also reduces the positive relationship between high levels of geographical diversification and innovation. Subsidiaries with broader scope might be less reliant on the rest of the MNE and consequently might be more reluctant to share knowledge with the parent firm or other subsidiaries. Conversely, subsidiaries with more narrow mandates might be more willing to share knowledge as a means to showcase their worth and to ensure a continuing flow of resources from the rest of the organization (Berry, 2014; Mudambi, 1999).

Therefore, we propose that ISP asset complementarity and mandate broadness moderate the non-linear relationship between geographical diversification and firm innovation as they allow firms to enhance innovation even at low levels of geographical diversification and dampen firms' ability to leverage high levels of geographical diversification to enhance innovation.

***Hypothesis 4(a):*** *ISP asset complementarity moderates the non-linear relationship between geographical diversification and firm innovation such that the higher the degree of ISP asset complementarity the more positive the relationship between low levels of geographical diversification and firm innovation and the less positive the relationship between high levels of geographical diversification on firm innovation.*

***Hypothesis 4(b):** ISP mandate broadness moderates the non-linear relationship between geographical diversification and firm innovation such that the higher the degree of ISP mandate broadness the more positive the relationship between low levels of geographical diversification and firm innovation and the less positive the relationship between high levels of geographical diversification on firm innovation.*

## **METHODS**

We test these hypotheses on a multi-source dataset of Japanese public firms in the electronics industry and all of their foreign subsidiaries. We compiled a unique database by collecting information from three different data sources. First, we obtained information on the foreign subsidiaries of Japanese electronics firms from the Kaigai Shinshutsu Kigyo Soran, a directory of Japanese listed companies doing business abroad (Toyo Keizai, 2010). Previous research reports that this database covers virtually the entire population of Japanese companies listed on the First and Second Section of the Tokyo Stock Exchange and their foreign operations (Yamawaki, 1991). Second, we obtained firm-level information such as firm characteristics and financial data from the Kaisha Shikiho Database. This database contains firm-level financial information on all Japanese companies listed on the Tokyo Stock Exchange. Both of these databases are published by the Toyo Keizai Inc., a large publisher of statistical information on Japanese companies established in 1985. Evidence of Toyo Keizai Inc.'s reliability as a data provider lies in its use by worldwide rating agencies and in previous academic research (e.g., Lu and Beamish, 2006; Arregle, Miller, Hitt, and Beamish, 2013). Third, we collected data on MNE innovation from the World Intellectual Property Organization's Patentscope database that contains patents registered with the Japan Patent Office. We collected subsidiary and financial data for the year 2007 because our measure is based on granted patents and we wanted to allow ample time for patent applications to be considered. In total, our sample comprises 242 MNEs and their 2,944 international subsidiaries in 62 countries. Firms in our sample, on average, have 12

subsidiaries and operate in 7 different countries. Below we describe how we measured the model variables.

### **Measurement of Variables**

***Dependent variable.*** *Firm innovation* captures a firm's ability to develop new product ideas, design, or improvements. Following previous innovation research (e.g., Nerkar and Shane, 2007), we measure firm innovation as the count of patents granted by the Japan Patent Office for patents filed during 2007 as the application date indicates the year of innovation (Phene and Almeida, 2008) – we also use patents applied one year later in post-hoc analyses. While patents have received some criticism as a measure of innovation, they are an appropriate measure as our study circumvents the main issues associated with patents. First, our single-industry reduces the danger of between-industry patenting differences. Second, we avoid the criticism that not all inventions are patented, since firms operating in the electronics industry have a proclivity for patenting in order to protect their knowledge base. Motohashi (2008) finds the electronics industry to have the highest average number of patents per firm from all other industries in Japan. Further indication of the importance of patenting for Japanese electronics firms comes from Pitkethly's (2001) finding that this industry has the highest number of employees working as patent information specialists. Therefore, we are confident that using patent counts adequately captures the innovation of Japanese firms in the electronics industry.

***Independent and moderating variables.*** *ISP geographical diversification* refers to the spread of firms' international subsidiaries across different geographical regions. In line with the semi-globalization perspective (Rugman *et al.*, 2011), we consider firms' diversification over different geographical regions. Following Arregle, Beamish and Hébert (2009) and Arregle *et al.* (2013), we consider the following ten regions: NAFTA, Western Europe, Eastern Europe, Eastern Asia, Southern Asia, South Eastern Asia, South America, Oceania, Northwest Asia, Middle East, and Africa. Table 8 lists the countries included in each geographical region as well as the number of subsidiaries in each category.

To capture how firms spread their foreign operations over different geographical regions, we follow previous internationalization research (e.g., Lahiri, 2010; Nachum, 2004)

and measure geographical diversification using a Blau index of diversity (Blau, 1977). We develop our geographical diversification measure based on the number of all subsidiaries in each geographical region. We consider all types of subsidiaries because of our conceptualization of international diversification as encompassing all value-chain activities and due to recent critiques that operationalizations based solely on foreign sales do not fully capture the concept (Hennart, 2011; Wiersema and Bowen, 2011). We measure geographical diversification as follows:

$$GD = 1 - \sum_{i=1}^N p_i^2$$

where  $p$  is the proportion of subsidiaries in region  $i$  and  $N$  is the number of geographical regions. The advantage of using a diversity measure is that it takes in consideration both the number of subsidiaries and the number of regions in which a company operates. The theoretical range for this measure is between zero (low degree of diversification) and one (maximum diversification). However, the values observed in our data range between 0 and 0.83. These observed values are in line with previous research pointing out that, in practice, the upper ceiling for diversity measures is lower than one (Aw and Barta, 1998; Nachum, 2004).

*ISP asset complementarity* captures the extent to which the ISP contains subsidiaries with asset bases different than that of the parent firm. Previous research argues that firms operating in different industries have more different assets, operations, and intangible resources than firms in the same industry (Cui and O'Connor, 2012; Wang and Zajac, 2007). Thus, we measure ISP asset complementarity as the percentage of subsidiaries that are operating in industries different from the parent firm's main industry. Following existing research using SIC codes (Li, 2005; Lu and Beamish, 2006; Xu and Lu, 2007), we classify a subsidiary as operating in a different industry if the first two digits of its industry code differ from those of the parent firm's main industry.

*ISP mandate broadness* captures the degree to which the international subsidiaries are engaged in different functional activities. Following Rugman *et al.*, (2011), we consider four functional areas: innovation (including R&D, design, software development), production, sales, and administrative support activities. To measure the ISP's mandate broadness we first

count the functional areas in which individual subsidiaries engage and then we calculate the mean to obtain a measure for a firm's portfolio of subsidiaries.

**Control variables.** We include several control variables that possibly influence firm innovation. We include *firm age* as previous studies show it is associated with firms' ability to innovate (Klepper, 1996). We measure firm age as the natural logarithm of the number of years since the firm was established. We also control for *firm size* because larger firms tend to have more resources for innovation but may also be more inert due to higher bureaucracy (see Damanpour, 2010). We measure firm size as the natural logarithm of the firm's revenues (e.g., Arregle *et al.*, 2013). Similar to the logic for including firm age, we also control for the *time since the firm became public* by taking the natural logarithm of the number of years since their initial public offering. As most studies trying to assess firms' innovation, we control for firms' *R&D intensity* by including the ratio of R&D expenses to sales (e.g., Mihalache *et al.*, 2012). Since our measure of geographical diversification depends on the number of subsidiaries, we control for *ISP size* by including the number of foreign subsidiaries (Lahiri, 2010). We also control for the *proportion of subsidiaries engaged in innovation* as measured by the ratio of subsidiaries engaged in R&D to the total number of subsidiaries (e.g., Lavie and Miller, 2008) because subsidiaries engaged in knowledge-generating activities might be predisposed to contribute to innovation. Although the boundaries between exploitation and exploration oriented subsidiaries are blurring (Almeida and Phene, 2004; Kuemmerle, 2002), our interest in teasing out the effect of ISP mandate broadness prompts to account for subsidiaries that have an explicit mandate to explore as this might influence their knowledge-search motivation.

**Table 8.** Geographical areas and the spread of Japanese electronics firms' international subsidiaries

<b>Geographical region</b>	<b>Country</b>	<b>Geographical region</b>	<b>Country</b>
<i>East Asia</i> (1103)	China (653)	<i>East Europe</i> (77)	Hungary (18)
	Hong Kong (194)		Czech Republic (18)
	Taiwan (147)		Poland (17)
	South Korea (109)		Russia (14)
<i>South East Asia</i> (586)	Singapore (162)	<i>South America</i> (62)	Slovenia (8)
	Thailand (146)		Turkey (2)
	Malaysia (116)		Brazil (35)
	Philippines (64)		Chile (5)
	Indonesia (50)		Venezuela (5)
	Vietnam (47)		Argentina (5)
	Myanmar (1)		Panama (4)
<i>Europe</i> (586)	Germany (123)	<i>Oceania</i> (58)	Colombia (2)
	UK (123)		Virgin Islands (2)
	France (65)		Costa Rica (1)
	Netherlands (53)		Puerto Rico (1)
	Italy (39)		Peru (1)
	Spain (25)		Cayman Islands (1)
	Sweden (21)		Australia (39)
	Belgium (18)	<i>Northwest Asia</i> (44)	New Zealand (18)
	Switzerland (14)		Guam (1)
	Austria (13)		India (42)
	Finland (9)	<i>Middle East</i> (23)	Sri Lanka (1)
	Denmark (8)		Pakistan (1)
	Norway (8)		United Arab Emirates (10)
	Ireland (7)		Israel (5)
	Portugal (5)		Saudi Arabia (4)
	Luxemburg (4)		Behrain (2)
	Greece (1)		Kuwait (1)
<i>NAFTA</i> (465)	USA (394)		Lebanon (1)
	Canada (37)	<i>Africa</i> (10)	South Africa (6)
	Mexico (34)		Egypt (2)
			Tanzania (2)

Note: The number of subsidiaries is shown in parentheses.

## RESULTS AND ANALYSES

Since our dependent variable is a count measure taking positive values, we can test our proposed model using Poisson or Negative Binomial regression. Similar to previous research employing patent counts (e.g., Van de Vrande, 2013; Lahiri, 2010), we find that our dependent variable is overdispersed, i.e., variance exceeds the mean ( $p < 0.001$ ). In this situation, the Negative Binomial regression is preferred over a Poisson regression because it can account for the overdispersion of the dependent variable (Cameron and Trivedi, 1998; Hausman, Hall, and Griliches 1984).

Table 9 provides the descriptive statistics and bivariate correlations of our model variables and Table 10 provides the results of the Negative Binomial regression for firm innovation. Model 1 includes only the control variables, then Model 2 adds the moderating variables, Model 3 further adds the main effect of the ISP geographical diversification, and Model 4 adds the interaction effects, ISP asset complementarity and ISP mandate broadness. Below, we discuss the results of Model 4, the full model.

Hypothesis 1 proposes a non-linear relationship between *ISP geographical diversification* and firm innovation such that the relationship is increasingly positive after passing a certain threshold of diversification. The coefficient of ISP geographical diversification is negative and statistically significant ( $\beta = -2.00, p < 0.05$ ) and the coefficient of ISP geographic diversification squared is positive and statistically significant ( $\beta = 4.66, p < 0.001$ ), indicating that the relationship between low levels of geographical diversification and firm innovation is slightly negative and the one between high geographical diversification and firm innovation is increasingly positive. These results are largely in line with the relationship proposed in Hypothesis 1, with the difference that, while we expected no relationship between low levels of geographical diversification and firm innovation, results indicate a slightly negative relationship. Perhaps this finding can be explained by the fact that the mechanisms we explained regarding the focus on exploitation at low levels of geographical diversification are more pronounced than expected. Furthermore, we see indication of support for a positive relationship between *ISP asset complementarity* ( $\beta = 0.55, p < 0.05$ ) as per Hypothesis 2 and for a negative relationship between *ISP mandate broadness*



( $\beta = -0.67, p < 0.01$ ) as per Hypothesis 3. Empirical analysis also shows evidence in support of a moderating effect of ISP asset complementarity (Hypothesis 4a) as the coefficient of the interaction between ISP asset complementarity and geographical diversity ( $\beta = 5.84, p < 0.05$ ) and that between interaction between ISP asset complementarity and geographical diversity squared ( $\beta = -9.43, p < 0.05$ ) are statistically significant. However, we reject the moderating effect of ISP mandate broadness (Hypothesis 4b) as the interactions of ISP mandate broadness with geographical diversity ( $\beta = 0.61, p > 0.10$ ) and with geographical diversification squared ( $\beta = -2.54, p > 0.10$ ) are not statistically significant.

In order to check whether the moderating effect of ISP asset complementarity is in line with what we proposed in Hypothesis 4a, we graphed the relationships over the range of values observed in our dataset. As shown in Figure 7, the relationship between ISP geographical diversification and firm innovation depends on ISP asset complementarity. For low levels of asset complementarity in the ISP, we observe that firms experience a slight decrease (almost horizontal) in innovation at low levels of geographical diversification and increasingly positive return to innovation from medium and high geographical diversification. For high levels of asset complementarity in ISP, the relationship is almost reversed such that the relationship between low levels of geographical diversification and innovation becomes positive, while that between high levels of geographical diversification and innovation is negative. These results are largely in line with the proposed relationship in Hypothesis 4a.

### **Robustness checks**

We performed a series of tests to verify the robustness of our results. First of all, we checked whether there might be an S-shaped relationship between geographical diversification and innovation by including the cube of geographical diversification in the regression analysis. The finding that the cubed term was not statistically significant ( $p > 0.10$ ) provides evidence in favor of only one inflection point, i.e., a U-shaped rather than S-shaped relationship. Second, we measured firm innovation by considering the patents applied for one year later (i.e.,  $t+1$ ) and granted. The results of this alternative regression were largely similar to the ones presented earlier. There was however an important difference: the main effect of low

**Table 9.** Descriptive statistics and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Firm innovation	362.43	1184.91									
2. Firm age (ln)	3.85	0.54	0.21**								
3. Firm size (ln)	10.74	1.57	0.61***	0.35***							
4. Years since public firm (ln)	2.95	0.94	0.23**	0.68***	0.43***						
5. R&D intensity	0.08	0.21	0.04	-0.16*	-0.18**	-0.03					
6. ISP size	12.18	19.71	0.76***	0.20**	0.64***	0.29***	0.09				
7. Percentage research subsidiaries	0.06	0.17	0.04	-0.1	-0.01	-0.17**	0.02	0.03			
8. ISP asset complementarity	0.19	0.32	0.21**	0.05	0.18**	0.06	0.14*	0.19**	0.2**		
9. ISP mandate breadth	1.34	0.37	-0.03	0.01	-0.08	0.01	-0.06	-0.04	0.50***	0.06	
10. ISP geographical diversification	0.49	0.27	0.27***	0.15*	0.47***	0.26***	0.06	0.39***	-0.11	0.01	-0.12

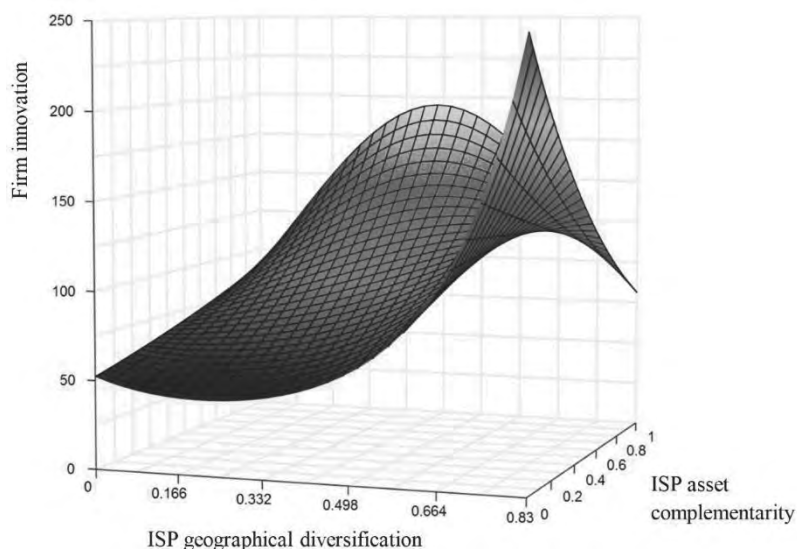
Note. Significance levels: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.

**Table 10.** Negative binomial regression for firm innovation

	Model 1	Model 2	Model 3	Model 4
Intercept	-7.88*** (0.81)	-6.64*** (0.90)	-6.26*** (0.88)	-5.77*** (0.91)
Firm age (ln)	0.25 (0.17)	0.17 (0.17)	0.27 (0.17)	0.24 (0.17)
Firm size (ln)	0.97*** (0.07)	0.95*** (0.07)	0.83*** (0.07)	0.80*** (0.08)
Years since public firm (ln)	0.07 (0.10)	0.11 (0.10)	0.06 (0.11)	0.11 (0.11)
R&D intensity	2.55*** (0.48)	2.44*** (0.50)	2.16*** (0.47)	2.19*** (0.51)
ISP size	0.01 <sup>†</sup> (0.01)	0.01 <sup>†</sup> (0.01)	0.00 (0.01)	0.01 (0.01)
Percentage research subsidiaries	-0.52 (0.44)	-0.01 (0.51)	-0.06 (0.52)	-0.28 (0.57)
ISP asset complementarity		0.21 (0.22)	0.57* (0.24)	0.55* (0.24)
ISP mandate breadth		-0.65** (0.22)	-0.53* (0.22)	-0.67** (0.23)
ISP geographical diversification			-2.05* (0.99)	-2.00* (0.99)
ISP geographical diversification sq			4.77*** (1.36)	4.66*** (1.36)
ISP asset complementarity X ISP geographical diversification				5.84* (2.89)
ISP asset complementarity X ISP geographical diversification sq				-9.43* (3.87)
ISP mandate breadth X ISP geographical diversification				0.61 (2.70)
ISP complexity breadth X ISP geographical diversification sq				-2.54 (3.84)
Log likelihood	-1229.61	-1225.11	-1210.45	-1205.38
$\Delta\chi^2_{(df)}$	887.58*** [6]	9.00* [2]	29.32*** [2]	10.14* [4]

Note. Significance levels: <sup>†</sup>p<0, \*p<0.05, \*\*p<0.01, \*\*\*p<0.001. Standard errors in parentheses.

**Figure 7.** The moderating effect of ISP asset complementarity



levels of geographical diversification was not statistically significant ( $p > 0.10$ ) any longer. Since, the relationship between *high* levels of geographical diversification and firm innovation remains positive and increasing, as in the original analysis, the results of the alternative test are more in line with our Hypothesis 1 than then original results presented in Table 10. Therefore, the take-away of the robustness test is that while at low levels of geographical diversification firms might experience a stagnation or even a slight decrease in innovation, at higher levels of international diversification they start enjoying innovation-benefits. Furthermore, the exact relationship depends on the asset complementarity of the ISP.

## DISCUSSION AND CONCLUSION

Our study advances the understanding of how firms can leverage the international context in order to stimulate innovation. While we knew from previous research that foreign countries provide important opportunities for MNEs to learn as foreign subsidiaries are important innovators (Frost, 2001; Frost *et al.*, 2002; Phene and Almeida, 2008), this study

analyzes how MNEs can organize their entire portfolio of foreign subsidiaries in order to best take advantage of these learning opportunities. Building on Johanson and Vahlne's (1977) early work on international diversification, we expand contemporary conceptualizations by proposing that international diversification needs to account for all foreign subsidiaries and to include not only a geographical dimension like most previous research (e.g., Hitt *et al.*, 2006), but also organizational dimensions. Our empirical findings that the asset complementarity and mandate broadness of the international subsidiary portfolio matter for MNEs' innovation above and beyond geographical diversification validates recent critiques of narrow conceptualizations of international diversification (Hennart, 2011). It also answers Wiersema and Bowen's (2011:154) call for a "broader conceptualization of international diversification and its measurement if researchers are to better understand the strategic choices managers face with respect to a firm's geographic scope". In addition, our findings complement the vast research on international diversification and firm performance (e.g., Delios and Beamish, 1999; Goerzen and Beamish, 2003; Kirca *et al.*, 2011), by showing that international diversification also affects innovation, in addition to financial performance.

Our study teases out the effects of multiple dimensions of international diversification on MNEs' innovation. First of all, we find that the geographical diversification of the entire portfolio of foreign subsidiaries has a non-linear relationship with MNE innovation such that the relationship is increasingly positive but only after geographical diversification passes a certain threshold. This finding complements existing insights about the geographical dispersion of R&D activities (Lahiri, 2010; Penner-Hahn and Shaver, 2005) by showing that it is important to consider the entire "foreign footprint" (Hennart, 2011) – i.e., both market-seeking and resource-seeking subsidiaries – when making global location decisions. Contributing to international knowledge search literature (e.g., Laursen and Salter, 2006; Leiponen and Helfat, 2010), our findings indicate that the geographical dispersion of subsidiaries allows firms to access important information from foreign locations. The finding that geographical diversification between regions is related to MNE innovation provides evidence supporting the semi-globalization perspective (Arregle, Beamish, and Herbert, 2009; Arregle, Miller, Hitt and Beamish, 2013). For instance, Ghemawat (2003: 149) calls for a better understanding of clustering of foreign operations

“in order to pursue commonalities more aggressively than would be possible with pure country-by-country adaptation”. That is, we show that geographical regions are important units of analysis in location choices because clustering of operations might be also relevant in terms of knowledge sourcing and innovation. Furthermore, our study adds to research on the location of international subsidiaries (e.g., Alcácer, Dezső and Zhao, 2013; Boeh and Beamish, 2012; Demirbag and Glaister, 2010) by suggesting that assessing locations for future individual subsidiaries should be made at the portfolio level due to intricate effects of ISP portfolio characteristics.

In addition, empirical results suggest that ISP asset complementarity has a positive relationship with MNE innovation. While previous research recognized the importance of asset complementarity between foreign subsidiaries and parent firms for the performance of subsidiaries (Lu and Beamish, 2006; Lu and Xu, 2006) or for the governance mode chosen for the subsidiary (Lu, 2002), we show that asset complementarity is also a portfolio-level characteristic. Similarly, we show the validity of subsidiary mandates, previously considered only at the level of a subsidiary (Almeida and Phene, 2004; Mudambi, 1999), as a portfolio-level characteristic when studying all foreign operations of MNEs. The finding of a negative relationship between ISP mandate broadness and firm innovation suggests that specialized subsidiaries might be better able to contribute to MNEs’ innovation than subsidiaries mandated to engage in multiple functions. That is, in order to enhance innovation, MNEs could benefit from developing centers of excellence (Frost *et al.*, 2002) for specific aspects of their value chain activities rather than establishing broad-mandate subsidiaries. This finding of a negative relationship between ISP mandate broadness and MNE innovation is in line with Bartlett and Ghoshal’s (1989) ideas of a transnational organization that develops centers of excellence in locations that provide best conditions and that are subsequently integrated to provide coordinated responses to market opportunities in different parts of the world.

Another important finding of this study is that the relationship between ISP geographical diversification and firm innovation depends on organizational characteristics of the ISP, namely ISP asset complementarity. Interestingly, the shape of the relationship between geographical diversification and MNE innovation changes drastically depending on the level of ISP asset complementarity: while for low levels of asset complementarity the

relationship is almost a U-shape, for high levels of asset complementarity the relationship is an inverted U-shape. This highlights the need for an encompassing subsidiary portfolio strategy that considers how different aspects of the portfolio and their interrelation enable firms to and use knowledge sources in different geographic regions in order to enhance innovation.

We also proposed that the relationship between geographical diversification and firm innovation depends on ISP mandate broadness; however, we did not find empirical support for this relationship. This non-finding of an interaction effect combined with a finding of direct influence of ISP mandate broadness on innovation is very interesting as it raises the question of the influence of subsidiary mandates in helping firms navigate the geographical dispersion of foreign operations. Perhaps more importantly for connecting with other subsidiaries and the parent company to access and transfer knowledge is the subsidiary's embeddedness in the knowledge network of the MNE (Achcaoucaou, Miravittles, and León-Darder, 2014) or the control mechanisms employed (Ambos and Schlegelmilch, 2007) rather than the variety of functions in which subsidiaries engage.

### **Managerial implications**

Our study informs managers about the opportunities, but also the dangers that international expansion poses for firms' ability to innovate. That is, MNEs can leverage knowledge and resources from different geographical regions in order to stimulate their innovation, but these benefits might not be felt from the onset of internationalization but only after a certain degree of geographical diversification. Our findings suggest that global strategic choices go beyond choosing the location of new subsidiaries to incorporate the type of assets employed and the mandates of the subsidiaries. Overall, our study informs managers that internationalization decisions need to be made at the portfolio levels, as new foreign subsidiaries interact with existing ones in complex ways that affect firms' ability to leverage the international context.

### **Limitations and future research**

The study makes important contributions to research on international diversification; however, there are several limitations that need to be discussed and addressed in future research. The finding of a negative relationship between ISP mandate broadness and firm

innovation raises an important question regarding how firms can integrate specialized and geographically dispersed operations. Gaining knowledge in different value-chain activities may enable the combinative capabilities of the MNE (Kogut and Zander, 1992; Van Den Bosch, Volberda, and de Boer, 1999) as new operational knowledge, for instance, may complement technological skills to enable the pursuit of new competencies. However, specialization might raise important challenges to knowledge transfer such as reduced relative absorptive capacity between different subsidiaries or between the subsidiaries and the parent firm (Yang, Mudambi, and Meyer, 2008). Future research could provide insights regarding the organizational designs that help MNEs best integrate specialized subsidiaries dispersed across geographical borders in order to allow knowledge transfer and use (Foss, Lyngsie, and Zahra, 2013). In addition, our discussion of how firms leverage the international context leaves out an important element of the entire process, the decision-makers of the MNE. Previous research shows that the top management teams influence firms' ability to leverage foreign environments as they influence how firms search for knowledge and how they use geographically dispersed resources (Mihalache *et al.*, 2012). Future research could consider how different managerial processes such as how top management team members make decisions (Fredrickson and Mitchell, 1984) affect firms' ability to successfully combine knowledge from different types of subsidiaries dispersed across geographical regions.

## **Conclusion**

This study advances the understanding of how firms can leverage the international context in order to innovate. We expand the conceptualization of international diversification to include organizational characteristics of the subsidiaries (i.e., asset complementarity and mandate broadness) alongside the geographical aspect and find empirical support for their individual and interactive influence. We hope that our findings will influence managers to consider their international strategy with the explicit goal of enhancing innovation and researchers to further use expanded conceptualizations of international diversification when studying international strategies.





## **CHAPTER 6:**

### **GENERAL DISCUSSION**

**T**he international environment is undergoing a great transformation as it is becoming increasingly globalized. While the international environment already has become considerably more globalized than a few decades ago, scholars believe that there is still considerable room for further globalization (e.g., Ghemawat, 2011). The increased globalization of the last decades has created a business environment in which firms look outside of their countries' borders for both threats such as new competitors, radically new technologies, changes in consumer trends but also opportunities such as new markets, new ways to perform business processes, and opportunities to increase innovation. Despite the increasing importance of the international environment, the understanding of how firms can leverage it remains limited (e.g., Dibbern et al., 2008; Hatch, 2004).

This dissertation aims to advance the understanding of how firms can leverage the international environment, especially for increasing innovation. To achieve this goal, I conducted four research studies addressing different research gaps, asking different research questions, and using different methodologies. The four studies included in this dissertation provide complementary insights regarding how firms can leverage the international environment as they move from providing a comprehensive view of current knowledge, to how firms build the required capabilities, and then to how firms can use international opportunities to increase innovation.

### **OVERVIEW OF THE FINDINGS**

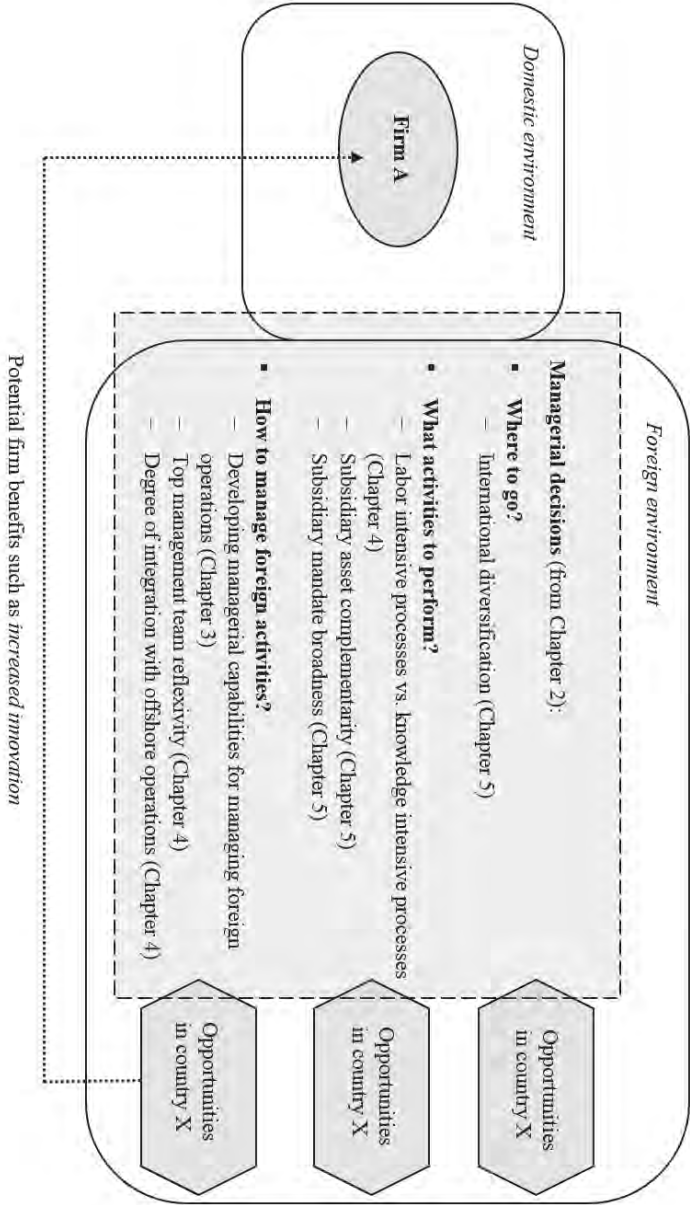
The studies performed in this dissertation aim to advance the understanding of how firms can leverage the international environment, with a particular focus on increasing firm's

ability to innovate. The four studies provide complementary insights towards this overarching goal and later chapters build on and reinforce the insights from previous ones. Figure 8 provides an overview of the interrelatedness of the questions and findings of the four studies. Chapter 2 provides the starting point of my research by developing an integrated understanding of the decisions that firms make when attempting to take advantage of resource-seeking opportunities in foreign environments and by providing future research directions, which motivate subsequent chapters. Chapter 3 answers a central research direction from Chapter 2 by uncovering what offshoring capabilities are and how firms develop them. Chapters 4 and 5 are also motivated by insights from Chapter 2 as they address the contradictory arguments and empirical findings regarding the influence of the international environment of firms' ability to innovate. These studies also build on insights from Chapter 2 with respect to decisions on the location and activities to be performed abroad and on insights from Chapter 3 regarding the role of top management team processes in driving firms' ability to operate foreign operations. Below, I discuss in more detail the central findings of my dissertation.

### **What do we know about leveraging the international environment?**

The systematic review of offshoring research of the past twenty years I performed in Chapter 2 showed an increased interest in the topic as evidenced by the proliferation of offshoring research in different scholarly disciplines such as general management, operations research, international business, innovation, information management, and ethics. It also highlighted the need of integrating the insights uncovered in these different research disciplines in order to overcome research silos. In an effort to advance the understanding of how firms can leverage the international environment, I developed a decisional framework of offshoring including the key decisions firms need to make when offshoring. I then integrated research insights from multiple research disciplines regarding the factors that inform key decisions such as whether or not to offshore, what processes are good candidates for offshoring, where to locate processes, the degree of ownership, and how to organize control and coordination. Furthermore, I also integrate research insights

**Figure 8.** Interrelation of the studies and their findings



regarding the outcomes of offshoring initiatives, the firm-level consequences of offshoring such as financial performance and innovation, and regional-level implications. In this way, my dissertation advances understanding of the offshoring phenomenon by integrating insights from previous research and by developing avenues for future research.

### **How can firms build capabilities for leveraging the international environment?**

The findings of the second study of this dissertation inform the question of what capabilities firms need in order to leverage the international environment, specifically by considering offshoring capabilities. I provide a comprehensive understanding of what offshoring capabilities are as I find that they comprise coordination competency (including communication routines, information exchange and integration, and personnel exchange), relational development (including trust building, communication, and cultural management), structural design (including offshore governance and incentives), and organizational identity development (onshore acceptance of foreign employees and offshore employees' feelings of belongingness). In addition, I find that companies can improve offshoring capabilities by implementing a learning loop consisting of monitoring offshoring performance, reflexivity, and the implementation of organizational learning mechanisms such as using small steps to gain experience and structural mechanisms for storing and disseminating knowledge. Thus, I find what offshoring capabilities are and how firms can develop them.

### **How to leverage the international environment in order to increase firm innovation?**

This thesis makes several important findings that help answer this research question, primarily in Chapters 4 and 5. First of all, in Chapter 4, I develop a theoretical framework that informs on how offshoring affects firm innovation. I argue that offshoring knowledge intensive and labor intensive processes differently affects firm innovation. Furthermore, I propose that these relationships depend on managerial (i.e., top management team reflexivity) and organizational (i.e., governance mode of offshore operations) factors. Chapter 5 further advances the understanding of how firms leverage the international environment for innovation by analyzing the relationship between international diversification and firm innovation. This study extends the conceptualization of the international diversification construct to include organizational aspects alongside the

geographical one previously considered in extant research. I find empirical evidence suggesting a U-shaped relationship between the geographical diversification of a firm's portfolio of international subsidiaries and firm innovation. In addition, my findings also indicate that the proposed organizational aspects of international diversification are important for innovation as I find that the asset complementarity has a positive influence and the mandate broadness of the international subsidiary portfolio has a negative influence on firm innovation. In addition, my findings indicate that the interrelationship between the different aspects of international diversification also affect firm innovation as I find that the degree of asset complementarity conditions the relationship between geographical diversification and firm innovation. Therefore, these empirical findings suggest that in developing global strategies is important to consider not only where and what types of subsidiaries to open, but also their interrelationship because this affects firms' ability to use foreign knowledge to innovate.

## **THEORETICAL IMPLICATIONS AND FUTURE RESEARCH**

In the quest to advance knowledge on how firms leverage the international environment, this dissertation makes several important contributions to offshoring, international business, and innovation research.

The research conducted in this dissertation contributes to *offshoring research* in several ways. First, by developing a decisional framework of offshoring that integrates research from the last two decades, this dissertation overcomes the field fragmentation and enhances scholarly exchange (Linderman & Chandrasekaran, 2010). That is, I provide a comprehensive image of the state-of-the art research on offshoring that provides an understanding of what we know about offshoring decision-making and its consequences. Second, while previous research considers the consequences of offshoring, my research integrates existing findings and highlights the need to address the inconclusive insights regarding the implications of firm performance (Bhalla et al., 2008; Di Gregorio et al., 2009; Kotabe & Swan, 1994; Murray & Kotabe, 1999) and firm innovation (Bertrand & Mol, 2013; Ficarek et al., 2008; Li et al., 2008; Mihalache et al., 2012; Nieto & Rodriguez, 2011).

Third, I advance the understanding of offshoring drivers as I develop a capability perspective of offshoring. That is, I propose that in order to explain the performance of offshoring initiatives it is important to acknowledge that firms hold portfolios of offshoring activities (e.g., Lewin & Peeters, 2006) and that they can use experience gained from previous offshoring to improve future offshoring performance (Larsen et al., 2013). In other words, I propose that differences in offshoring capabilities can help explain differences in offshoring performance, i.e., in firms' ability to use the international environment to seek resources. Fourth, I also contribute to offshoring research by answering precious calls for research to advance the understanding of the offshoring capability concept (Lahiri et al., 2012; Manning et al., 2008). I extend previous research that mentions the potential importance of offshoring capabilities (Levy, 2005; Bhalla et al., 2008; Carmel & Agarwal, 2002) by providing a comprehensive analysis of the offshoring capability concept and by actually uncovering not only its components but also how firms can develop it. Also, my comprehensive analysis and findings regarding offshoring capabilities, advances previous research that mentions only different disparate factors that could help offshoring performance such as cultural intelligence (Ang & Inkpen, 2008) or information processing capability (Stratman, 2008). The findings regarding firms' ability to develop offshoring capabilities, underscores Lewin and Peeters's (2006) contention of the importance of a corporate-wide offshoring strategy instead of decentralized and uncoordinated offshoring efforts.

Fifth, I contribute to research on offshoring performance by considering how offshoring influences firm-level outcomes, i.e., firm innovation. Previous research exhibit inconclusive findings regarding the influence of offshoring on innovation with some studies findings a negative relationship (Fifarek, Veloso, & Davidson, 2008), others a positive one (Bertrand & Mol, 2013; Li, Liu, Li, & Wu, 2008; Nieto & Rodriguez, 2011), and others non-linear relationships (Kotabe, Dunlap-Hinkler, Parente, & Mishra, 2007; Mihalache et al., 2012). My dissertation contributes to this conversation by untangling the effects of offshoring different types of functions. That is, I provide a potential solution to this debate by arguing that the influence of offshoring on innovation depends on the types of processes being offshored, with knowledge intensive ones having a U-shaped influence on innovation and with labor intensive ones having a positive influence. I also contribute to this debate by

arguing that managerial and organizational factors stand to influence the relationship between offshoring and innovation. In this way, I also answer Doh et al.'s (2009: 927) call for a more 'sophisticated and nuanced' approach to offshoring research.

This dissertation also makes important contributions to *internationalization research* as I expand the conceptualization of international diversification and clarify its relationship to firm innovation. Despite early conceptualizations of international diversification (Johanson & Vahlne, 1977; Ghoshal, 1987), existing research predominantly uses narrow conceptualization of international diversification. This realization led to several calls to expand the conceptualization of international diversification (Wiersema & Bowen, 2011) to include the entire "foreign footprint" (Hennart, 2011: 135). This dissertation advances international business literature by explicitly answering these calls. I expand the international diversification concept in two important aspects. The first aspect that I expand is to consider international diversification of *all* foreign activities, while previous studies focused on only one function – mostly sales or research and development (c.f. Wiersema & Bowen, 2011). This allows me to extend the concept of international diversification in a second way: considering it as a multifaceted construct. Previous research essentially equates international diversification with geographical diversification as it only considers how a firm's international subsidiaries are spread around the globe. I argue that international diversification is more complex and that it is important to consider not only where firms open subsidiaries, but also what type of subsidiaries these are and the activities they engage in. My theoretical arguments and empirical findings support this assertion as I show that the asset complementarity and the mandate broadness of the international subsidiary portfolio affect firms' ability to innovate above and beyond the effect of geographical diversification.

In addition, I also contribute to international business literature by providing one of the first considerations of the relationship between international diversification and firm innovation. International business research has primarily been concerned with the relationship between international diversification and firm financial performance as indicated by a meta-analysis that uses over 100 studies on the topics (c.f. Kirca et al., 2011). I complement the few studies signalling a relationship with innovation that focus only on the internationalization of sales (Hitt et al., 2007) or research and development (Lahiri, 2010; Penner-Hahn & Shaver, 2005) to show that, in order to understand the relationship between



international diversification and firm innovation, it is important to consider all the foreign subsidiaries, not only a particular type.

This dissertation also contributes to *innovation research* by advancing the understanding of the drivers of firm-level innovation. Specifically, this dissertation uncovers how firms can leverage the international environment in order to increase their innovation. I complement previous research suggesting that the international context provides access to knowledge not available or too expensive to access locally (Almeida, 1996; Chung & Yeaple, 2008) and it helps firms to overcome innovation constraints such as a limited labor pool (Lewin et al., 2009) by consider the conditions that allow firms to use these opportunities abroad. For instance, I find that managerial (i.e., TMT reflexivity) and organizational factors (i.e., ownership of foreign operations) affect the extent to which firms can increase their innovation by locating knowledge intensive activities abroad. I further inform this line of research by finding that devising international strategy for increasing innovation requires firms to make centralized decisions that consider the entire portfolio of foreign activities. Particularly, the ability the use diverse locations to access diverse resources and knowledge is contingent on the type of assets employed by different subsidiaries in firms' portfolio of foreign subsidiaries. Thus, this dissertation advances previous research that pointed to the international environment as a driver of innovation by adding important details regarding how firms can leverage these opportunities.

### **Future research directions**

There are several important directions in which future research could advance the insights developed in this dissertation. First, I took primarily a resource-based-view (Barney, 1991; Penrose, 1959) and a knowledge-based perspective (Grant, 1996) to explain how firms can leverage the international environment in order to innovate. However, future studies could consider different theory perspectives in order to provide complementary insights. For instance, future research could take an institutional perspective (e.g. Scott, 1987) to study global strategy as the institutional environments of the foreign countries affect choices firms can make and the extent to which firms can source knowledge and resources. For instance, the institutional environment can restrict governance choices available to firms and, consequently, affect their ability to transfer knowledge. Existing internationalization

research provides strong indication of the importance of the institutional environment and find evidence that the institutional mix in firms' portfolios of foreign subsidiaries affects their financial performance (Goerzen & Beamish, 2003). Specifically, in Chapter 5, I consider the geographical diversification of firms' foreign activities, but do not consider the institutional characteristics of those locations. Future studies could complement my analysis by developing theory regarding how the mix of institutional environments to which firms internationalize affects their ability to innovate. Furthermore, future research could also take a cultural perspective (e.g., Hofstede, 1980) to add nuance to my insights regarding international diversification and firm innovation. As current research shows that cultural distance increases communication difficulties (e.g., Beugre & Acar, 2008), the insights of my research on offshoring and international diversification could gain from considering the cultural characteristics of the countries in which firms have international operations. Thus, integrating multiple theoretical perspectives holds the potential to provide a more comprehensive understanding of how firms leverage the international environment to innovate.

In addition, future research could employ longitudinal designs to draw causal inferences between choices of global strategy and firm outcomes such as innovation. For instance, in Chapter 5, I capture firms' international diversification at a single point in time. Future research could instead attempt to study how changes in a firm's portfolio of international subsidiaries are related to changes in firms' ability to innovate. Related, longitudinal designs would allow the incorporation of changing conditions of the foreign locations such as changes in institutional and environmental factors or existing competencies (e.g., Manning, 2013; Manning & Massini, 2008). That is, as environmental conditions in the foreign countries are changing, the ability of firms to innovate might be also changing due to these environmental shifts.

Furthermore, this dissertation provides initial indications that managerial and organizational factors affect firms' ability to leverage the international environment to innovate. However, my analysis is limited to a few managerial and organizational factors. For instance, my proposition of Chapter 4 that TMT reflexivity affects the relationship between offshoring and firm innovation indicates the importance of TMT processes in general. Building on this insight, future studies could adopt an upper echelon perspective

(Finkelstein and Hambrick, 1996; Hambrick & Mason, 1984) to study global strategy in order to take the analysis beyond the effects of TMT reflexivity to consider additional TMT processes. Future studies could consider other TMT processes such as decision-making speed (Eisenhardt, 1989; Flood et al., 1997), political behavior (Eisenhardt & Bourgeois, 1988), or conflict (Jehn, 1995, 1997) and TMT composition such as education and background experience (Carpenter, Geletkanycz & Sanders, 2004; Knight et al., 1997).

In addition, future research can also build on the insights of this dissertation regarding the role of organizational characteristics in influencing firms' ability to leverage the international context. Chapter 3 suggests that organizational knowledge storing and dissemination mechanisms can help firms improve offshoring capability and Studies 4 and 5 consider the type of governance and assets employed by foreign operations. Complementing these insights, future research could further consider the role of organizational factors and organizational design in helping firms leverage the international context. For instance, organizations' absorptive capacity (Cohen & Levinthal, 1990; Zahra & George, 2002) can influence firms' ability to look for and use external knowledge to increase their innovation. Also, international business research indicates that the absorptive capacity of the foreign subsidiaries affects their ability to transfer knowledge from other parts of the organization (Minbaeva, Pedersen, Björkman, Fey & Park, 2003) and to innovate (Tsai, 2001). In addition, future research could consider the role of organizational design in facilitating the use of international resources. Particularly important for leveraging foreign operations is to further the understanding of how firms can improve the coordination of geographically dispersed operations and how to transfer knowledge across the organization (Foss et al., 2013).

## **Conclusion**

The goal of this dissertation was to advance the understanding of how firms can leverage the international environment. For this purpose, I conducted four research studies asking complementary research questions and using different methodologies. I first focused on answering the question of what we know about how firms use the international environment. I performed a systematic review of offshoring research published in the past 20 years in top management journals and I developed a decisional framework that integrated insights on the

factors that inform the key decisions firms make when offshoring. Also, I developed several important avenues for future research that hold great potential to influence the further development of the field. Then, I draw on one of these research directions to tackle the question of how firms can build offshoring capabilities to be able to benefit from foreign operations. Employing a qualitative methodology, I uncovered what an offshoring capability consists of and how firms can develop it. Having a more advanced understanding of what is known about leveraging the international environment and how firms can build the required capabilities to benefit from it, I then addressed the more specific question of how firm can use international opportunities to increase their innovation. To tackle this research question, I first conducted a theoretical study that considered the potential for offshoring to drive firm innovation. I developed theoretical arguments indicating that offshoring knowledge intensive and labor intensive activities differently influence firm innovation and that these relationships depend on top management team processes and the governance of foreign operations. I then continued with a large-scale quantitative study that focused on the relationship between international diversification and firm innovation. This last study expanded the conceptualization of international diversification by proposing and finding empirical evidence that organizational elements need to be considered alongside the previously considered geographical component. In addition, this study also finds that the different components of international diversification are interrelated; specifically, I find that the U-shaped relationship between geographical diversification and firm innovation depends on the asset complementarity in the portfolio of foreign subsidiaries. Together, the studies of this dissertation advance the understanding of how firms can take advantage of opportunities in the international environment.



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## ENGLISH SUMMARY

The increased globalization of the last decades created a business environment in which firms are exposed to foreign competition but also to important foreign opportunities. However, while many opportunities exist abroad, capitalizing on these opportunities is not straightforward. This dissertation advances the understanding of how firms can leverage the international environment, especially for increasing innovation.

For this purpose, I conducted four research studies asking complementary research questions and using different methodologies. In the first study of the dissertation, I perform a systematic review of offshoring research published in the past 20 years in top management journals in order to develop a decisional framework that integrates insights on the factors that inform the key decisions firms make when offshoring and to put forward several avenues for future research. The second study shows how firms can build offshoring capabilities in order to be able to benefit from foreign operations. Employing a qualitative methodology, I uncovered what an offshoring capability consists of and how firms can develop it. Having a more advanced understanding of what is known about leveraging the international environment and how firms can build the required capabilities to benefit from it, in the remaining studies I address the more specific question of how firm can use international opportunities to increase their ability to innovate. To this end, the third study puts forward theoretical proposition suggesting that firms can use offshoring to innovate, but this depends on top management team processes and the degree of integration with foreign activities. The fourth study take a large-scale quantitative approach to find that the degree of international diversification affects firms' ability to innovate and that different elements of international diversification are interrelated in their influence on innovation.

Overall, this dissertation finds that firms can use international opportunities to increase their innovation.

## DUTCH SUMMARY

De toenemende globalisering van de laatste decennia creëerde een zakelijke omgeving waarin bedrijven worden blootgesteld aan buitenlandse concurrentie, maar ook om belangrijke buitenlandse kansen. Echter, terwijl veel mogelijkheden bestaan in het buitenland, het benutten van deze kansen is niet eenvoudig. Dit proefschrift voorschotten het begrip van hoe bedrijven de internationale omgeving gebruik kunnen maken, met name voor het verhogen van innovatie.

Voor dit doel, ik vier studies die vragen complementaire onderzoeksvragen en het gebruik van verschillende methodieken uitgevoerd. In de eerste studie van het proefschrift, ik een systematische review van offshoring onderzoek gepubliceerd in de afgelopen 20 jaar in het topmanagement tijdschriften om beslissingskarakter kader dat inzichten over de factoren die de belangrijke beslissingen van ondernemingen maken bij offshoring en te informeren integreert ontwikkelen voeren naar voren gebracht verschillende mogelijkheden voor toekomstig onderzoek. De tweede studie laat zien hoe bedrijven offshoring mogelijkheden kunnen bouwen om te kunnen profiteren van de buitenlandse operaties. Gebruikmakend van een kwalitatieve methodologie, ik ontdekt wat een offshoring vermogen bestaat uit en hoe bedrijven kunnen ontwikkelen. Het hebben van een meer gevorderd begrip van wat bekend is over gebruik te maken van de internationale omgeving en hoe bedrijven de vereiste capaciteiten kan bouwen om te profiteren van het, in de overige studies richt ik de meer specifieke vraag hoe stevig internationale mogelijkheden kunnen gebruiken om hun vermogen om te innoveren te vergroten. Te dien einde, de derde studie aanvoert theoretische stelling suggereert dat bedrijven offshoring kan gebruiken om te innoveren, maar dit is afhankelijk van het top management team processen en de mate van integratie met buitenlandse activiteiten. De vierde studie neemt een grootschalige kwantitatieve benadering te vinden dat de mate van internationale diversificatie van invloed op bedrijven 'vermogen om te innoveren en dat verschillende elementen van internationale diversificatie zijn met elkaar verbonden in hun invloed op innovatie.

Kortom, dit proefschrift vindt dat bedrijven internationale mogelijkheden kunnen gebruiken om hun innovatie te verhogen.

## About the Author



Mashiho Mihalache was born in Naha, Japan. She obtained her Bachelor's Degree in Economics and Political Science from University of Toronto, Canada. After graduation, she continued her studies at Rotterdam School of Management, Erasmus University Rotterdam where she obtained the MPhil Degree.

In 2011, Mashiho joined the Technology & Operations Management Department of Rotterdam School of Management (RSM), Erasmus University, as a PhD candidate. Her research focuses on how firms can leverage the international context in order to improve their innovation performance. This includes topics such as how firms make decisions for their foreign operations, how to develop appropriate capabilities, and how to organize in order to be able to access foreign resources. Mashiho presented her research at major international conferences such as the Academy of Management, Strategic Management Society, European Academy of Management, and European Group for Organizational Studies.

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## LEVERAGING THE INTERNATIONAL CONTEXT

### ESSAYS ON BUILDING OFFSHORING CAPABILITIES AND ENHANCING FIRM INNOVATION

The increased globalization of the last decades created a business environment in which firms are exposed to foreign competition but also to important foreign opportunities. However, while many opportunities exist abroad, capitalizing on these opportunities is not straightforward. This dissertation advances the understanding of how firms can leverage the international environment, especially for increasing innovation.

For this purpose, this dissertation contains four research studies asking complementary research questions. In the first study, I perform a systematic review of offshoring research to develop a decisional framework that integrates insights on the factors that inform the key decisions firms make when offshoring and to suggest avenues for future research. The second study shows how firms can build offshoring capabilities in order to benefit from foreign operations. Employing a qualitative methodology, I uncovered what an offshoring capability consists of and how firms can develop it. In the remaining studies, I address the more specific question of how firm can use international opportunities to increase their ability to innovate. To this end, the third study puts forward theoretical proposition suggesting firms can use offshoring to innovate, but this depends on the top management team processes and the degree of integration with foreign activities. The fourth study take a large-scale quantitative approach to find that the degree of international diversification affects firms' ability to innovate and that different elements of international diversification are interrelated in their influence on innovation. Overall, this dissertation finds that firms can use international opportunities to increase their innovation.

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