

**DOES INSTITUTIONAL DISTANCE STILL MATTER?**  
**INDUSTRY STANDARDS AND GLOBAL SOURCING LOCATION CHOICES**

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**Abstract:**

This paper adds nuance to our understanding of institutional antecedents of foreign investment, in particular in global services sourcing. While prior research has stressed the various risks and effects associated with home-host country differences in national-level institutions, e.g. legal systems, we argue that industry-specific, yet often transnational field institutions, e.g. standards, have become critical factors in driving sourcing location decisions. Using data from the Offshoring Research Network, Kaufmann institutional indicators, and data on ‘capability maturity model integration’ (CMMI) process standard adoption, we show that sourcing location choices are indeed negatively impacted by institutional differences between home and host country, i.e. ‘distance’ still matters, but they are positively impacted by CMMI standard adoption in host countries, and standard adoption negatively moderates the importance of distance. Findings promote a more contextual, multi-level understanding of institutional antecedents of foreign firm location choices, which also has important policy implications in particular for emerging economies.

**Keywords:** Institutional Distance, Organizational Field, Industry Standards, CMMI, Global Sourcing, Outsourcing, Location Choices, Multinational Enterprises

*Working paper – April 2015*

## Introduction

One important recent development in international business research has been the increasing use of institutional theory. Several studies show that national institutional properties and differences—e.g., labor factors, intellectual property protection, and others—substantially impact MNC operations and behavior (e.g., Xu and Shenkar, 2002; Ioannis and Serafeim, 2012, Cantwell et al., 2010 Salomon and Wu, 2012; Kostova et al., 2008). Specifically, it has been argued that MNCs are likely to refrain from investing in institutionally distant locations, i.e. host countries whose institutional properties are very different from home countries. This argument has been forcefully made by Kostova and Roth (2002) and Xu and Shenkar (2002) who studied institutional challenges to the effective transfer of MNC practices across locations. A number of empirical studies have verified these insights (e.g., Salomon and Wu, 2012; Holburn and Zelner, 2010; Schwens et al., 2010; Dikova and van Witteloostuijn, 2007; Henisz and Macher, 2004).

In this article, we seek to add nuance to the relevance of institutional distance in today's location decisions. We observe that MNCs are increasingly embedded in both locally, nationally and transnationally constituted organizational fields whose institutional properties simultaneously influence their behavior (Phillips & Tracey, 2008). While the concept of institutional distance is anchored primarily in national level institutional differences, the notion of field cuts across levels, but is also more closely linked to industry-level practices and standards that are increasingly transnational in nature (Brunsson et al., 2012). We argue that such industry-level field institutions may provide equally important barriers and opportunities for internationalization. One important industry-level field property—which we explore in this article—is *industry standards* that cut across national boundaries. Accordingly, we investigate

how relevant both national level institutional differences and industry standards adoption are in affecting MNCs' location decisions, and how the two impact each other.

To accomplish this, we use the context of the global sourcing field, in which client firms across industries, particularly from the U.S. and Western Europe, outsource business processes such as IT, software development, call centers, administrative services and knowledge work to specialized service providers operating in various locations around the world (Doh, 2005; Manning et al., 2008; Mudambi, 2008; Kenney et al., 2009). In this context, empirical evidence has stressed the importance of both national legal systems and institutions in determining location choice (Doh et al., 2009; Hahn et al., 2011) and that of industry process standards and capabilities (Ethiraj et al., 2005; Athreye, 2005), and in particular the adoption of CMMI (Capability Maturity Model Integration) standards (Niosi and Tschang, 2009). However, no research has attempted to integrate and compare these two important institutional aspects to explore their ramifications.

Using rich data on global sourcing projects from the Offshoring Research Network combined with data on institutional differences and CMMI standards adoption, we argue and show empirically that the larger the institutional distance between home and host country, the less likely it is that firms locate their activities in that given location. This is in accordance with prior studies on institutional distance in the international business literature. However, we also find that the level of industry standards adoption (i.e., CMMI level) in a host country positively affects location choice of foreign firms. Moreover, we find that CMMI standard adoption negatively moderates the effect of institutional distance on location choice. Accordingly, we find empirical evidence for the influence of multiple institutional levels, both national and transnational, on MNCs' location decisions. This lends support to Phillips and Tracey (2008:

170) who argue that the concept of field adds to the conventional notion of institutional distance since it captures the multi-level notion of “*the institutional environment faced by MNCs in each of the institutional contexts in which they operate (these may or may not equate to different countries). The study of MNCs would benefit from a more developed and consistent use of this concept.*”

The implications of these results are important for several reasons. First, we enrich our understanding of the institutional environment in international business, by emphasizing the importance of national institutions as well as transnational standards and industry practices across nation states. Second, we provide a more nuanced institutional perspective on location choice by combining institutional distance and industry standards. Finally, we highlight important implications for policy-making and development by re-focusing on industry-level standards, rather than just political stability and the legal system.

We proceed with a review of the concept of institutional distance and transnational organizational fields before we develop specific hypotheses regarding location choice in the global outsourcing field. Next, the dataset and methods used to explain process performance are introduced, followed by the results and a discussion related more broadly to research on institutional distance, standards and location decision.

## **Institutional Distance and Industry Standards in Global Outsourcing**

### ***The baseline: The concept of institutional distance***

In terms of understanding the behavior of MNCs—and in particular country choice strategies and foreign entry modes—much international business (IB) research has emphasized the restrictive role of institutional distance between home and host country (see Bae and Salomon, 2010, for a

literature review). Foreign firms operating in a host country face disadvantages—or “liabilities of foreignness” (Zaheer, 1995)—relative to their domestic counterparts on factors such as transactions costs, labor costs, legal costs, etc. (Hymer, 1960) that together make foreign entry more difficult (Zaheer and Mosakowski, 1997). Thus, to capture the degree to which the home and host country differ institutionally, the concept of institutional distance has been proposed, being defined as “*the difference/similarity between the regulatory, cognitive, and normative institutions of . . . two countries*” (Kostova and Zaheer, 1999: 71).

Institutional distance influences MNC behavior as “*firms will refrain from investing in markets that are institutionally distant, because business activities in those markets require conformity to institutional rules and norms that conflict with those of the home country*” (Xu and Shenkar, 2002: 614) or because “*organizational survival is determined by the extent of alignment with the institutional environment*” (Kostova et al., 2008: 997). Perhaps as a result of the dominance of institutional economics and comparative institutional characteristics of national business systems in international business research (e.g. Cantwell et al., 2010; Whitley, 1999; Ioannou and Serafeim, 2012), it has been argued that entering institutionally distant countries forces firms to bridge differences between the home and host country market (Cuervo-Cazurra and Genc, 2011). Firms need to establish legitimacy in the host country (Kostova & Zaheer, 1999) and create alignment in order to transfer strategic orientations and organizational practices from the parent firm to the foreign subsidiary. In cases of high formal institutional uncertainty, firms face additional hazards, restrictions, and costs resulting from unfamiliar and unknown political, economic, and legal institutions (Henisz, 2000; Meyer et al., 2009). Thus, a large institutional distance triggers the conflicting demands for external legitimacy in the host country and internal consistency within the MNE system. In other words, institutional isomorphism will

earn organizations legitimacy, and consequently, survival in foreign locations (Deephouse, 1996; Suchman, 1995). According to Salomon and Wu (2012: 344), “*Foreign firms from more institutionally distant home countries are more likely to adopt local isomorphism strategies to acquire legitimacy and mitigate the liability of foreignness.*”

The concept of institutional distance has thus been used to explain a myriad of international business related topics. For example, institutional distance has been related to firms’ choice of location (Holburn & Zelner, 2010; Xu & Shenkar, 2002), entry mode (Schwens et al., 2010; Yiu & Makino, 2002), ownership (Eden & Miller, 2004), and performance of foreign firms (Gaur & Lu, 2007). However, others have also noted that extant research on the influence of institutions on MNC behavior is somewhat ambiguous (Schwens et al., 2010). For example, while it has been argued that institutional uncertainty drives non-equity entry modes in foreign locations (e.g. Brouthers and Nakos, 2004; Nakos and Brouthers, 2002), there is also research arguing the opposite (Dikova and van Witteloostuijn, 2007).

Importantly, the primary unit of analysis underlying the concept of institutional distance is the national level difference in institutions between the home and host country. This includes primarily formal institutions such as property rights, contract rights, labor laws, education systems, innovation systems, and others. Similar country-level concepts include culture distance (Shenkar, 2001), economic distance (Miller and Parkhe, 2002), and political distance (Henisz and Macher, 2004). The notions of ‘varieties of capitalism’ (Hall and Soskice, 2001) and ‘national business systems’ (Whitley, 1999) also capture this focus on national-level institutional differences.

***An alternative explanation: Transnational organizational fields***

While the concept of institutional distance or difference has gained much popularity in international business research, there are also concerns that the explicit focus on institutional differences buttressed in national boundaries may be too simplistic in explaining the behavior of MNCs. Indeed, if we accept the assumption that institutions include various norms, standards, and practices determining socially acceptable patterns of organizational structures and actions (DiMaggio & Powell, 1983; Washington, Ventresca, & Suddaby, 2005), then there should be no particular reasons to limit our analysis to institutions and institutional differences that are anchored in national level legal systems and institutional frameworks. In fact, firms increasingly operate according to both formal and informal norms and practices that cut across national country boundaries and that often emerge within particular industry contexts.

This reality is best captured by the notion of organizational fields which can be defined as *“those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products. The virtue of this unit of analysis is that it directs our attention not simply to competing firms . . . or to the networks of organizations that actually interact . . . but to the totality of relevant actors”* (DiMaggio & Powell, 1983: 148). Field structures and properties are constituted and reproduced in terms of mutually shared norms, practices and standards that emerge as interaction among field participants increases and as field participants come to understand that they are engaged in and need coordinate themselves in a common enterprise (DiMaggio & Powell, 1983). For example, participants in the automotive industry share an understanding of what original equipment manufacturers do, what system suppliers are, how relationships between the two are coordinated, what ISO and other standards are important to ensure product and process quality and so on. Importantly, organizational fields

and their institutional properties may be transnational. In so far, field institutions, such as industry standards, not only influence locally and nationally bounded industries, but increasingly also global value chains and production networks whereby the “connectivity” of local and global businesses is institutionally supported and constrained (Mudambi, 2008).

Similarly, Johanson and Vahlne’s (2009) focus in their new model of internationalization on network embeddedness and the related ‘liability of outsidership’ as a new variable. As pointed out by Johanson and Vahlne (2009), firms have become increasingly embedded in transnational business networks, including global client and supplier relations, *prior* to internationalizing. This is particularly true for business-to-business (B2B) firms which increasingly serve corporate clients from different parts of the world, thereby getting embedded into global value chains and production networks (Zaheer & Zaheer, 2001; Gereffi et al., 2005; Levy, 2008; Johanson & Vahlne, 2009). Examples include: automotive suppliers, electronics suppliers, professional service firms, Internet firms, and business service providers.

The notion of global production network is particularly interesting as it captures not only the structure of transnational client and supplier relations in many industries (see e.g. Gereffi et al., 2005; Henderson et al., 2002), but as it also takes account of the social processes and practices involved in producing goods and services in different parts of the world, and of the related distribution of knowledge, capital and labor power in addition to economic activity (Henderson et al., 2002). In addition, institutional processes, such as the adoption of standards, have become important means of managing operational risks across global production networks (see e.g. Yeung and Coe, 2015). These networks, along with the institutional structures that support them, thus emerge as layered, multi-directional and multi-relational systems of global

production (Dicken et al, 2001; Ernst & Ravenhill, 1999; Henderson et al., 2002; Levy, 2008), and are not restricted to a particular commodity, firm or nation state.

***The context: CMMI standards in global outsourcing***

Our empirical context is the relatively new, yet fast growing and increasingly important global service outsourcing industry (Athreye, 2005; Dossani and Kenney, 2003; Ethiraj et al., 2005; Manning et al., 2008). Facilitated by increasing digitalization and commoditization of business processes (Davenport, 2005), and driven by cost, speed, access to talent and other strategic advantages (Lewin and Peeters, 2006; Manning et al., 2008), client firms across industries, from the U.S. and Western Europe in particular, are increasingly sourcing business process tasks either from foreign captive centers or from specialized service providers operating across the world (Massini et al., 2010). Such providers include large players such as U.S.-based Accenture, IBM, and HP; and India-based Infosys, Genpact, and Wipro; as well as numerous small and midsize providers. Typically outsourced types of tasks include IT infrastructure, payroll, tech support, inbound and outbound calls, but also software development and testing, engineering support and product design (for an overview, see Couto et al., 2008).

One increasingly important standard in the global service outsourcing industry has been the adoption of Capability Maturity Model Integration (CMMI) models (Ethiraj et al., 2005; Athreye, 2005; Athreye and Arora, 2002; Niosi and Tschang, 2009). CMMI standards can be understood as a process capability maturity framework for defining and measuring processes and practices that can be used by service provider organizations. The standard is defined by Carnegie Mellon University in Pennsylvania, the United States, and was first introduced in 2002 (its predecessor, Software CMM, was developed from 1987 to 1997). It is perhaps most famous for

its five-staged framework for appraising the process maturity that organizations can only obtain when certain milestones are reached:

- *Level 1: Initial (processes unpredictable, poorly controlled and reactive)*
- *Level 2: Managed (processes characterized for projects and is often reactive)*
- *Level 3: Defined (processes characterized for the organization and is proactive)*
- *Level 4: Quantitatively managed (processes measured and controlled)*
- *Level 5: Optimization (focus on process improvement)*

The adoption of CMMI standards has been important in the evolution the service outsourcing industry. For example, most US Government software development contracts require CMMI certification. In the 1990s Indian service providers began to systematize in-house knowledge creation and to develop internal training programs, quality processes, and productivity tools. In 1999, 137 Indian companies had reached CMM Level 2 certification, and ten companies had obtained Level 5. Arguably, quality certification (such as CMMI) has thus emerged as an important marketing device for service providers in attracting global clients while also improving their ability to manage time and resources involved in large projects (Arora et al., 2001). Yet, it is noteworthy that the population of organizations that have adopted process capability maturity models is only a part of the entire population of software-developing and IT services firms (Staples et al. 2007).

On a more general level, it can be argued that the CMMI standard has become a critical institutional property of the transnational field of services outsourcing. The standard is linked to industry wide supplier capabilities but not necessarily to the specific capabilities of particular suppliers. According to Brunsson et al. (2012: 616), a standard (such as CMMI) can be defined as “*a rule for common and voluntary use, decided by one or several people or organizations*”.

There are several examples of how industry wide standards influence the behavior of firms. For example, The International Organization for Standardization (ISO), with standards in quality management (ISO 9001), environmental systems (ISO 14001), risk management (ISO 31000), and social responsibility (ISO 26000), has been extremely successful in influencing the administrative structure of firms around the world (Brunsson et al., 2012). The same goes for national organizations such as the British Standards Institution (BSI) and the American National Standards Institute (ANSI) (Russell, 2005) and NGOs such as Fairtrade International (Casula Vifell & Thedvall, 2012) and the Forest Stewardship Council (Boström, 2006).

Importantly, we emphasize that a standard can become institutionalized in industries and across national boundaries, so ‘newcomers’ would perceive the standard rather as a model set by its adopters (a de facto standard) than as a decision once made by some standardization organization (Brunsson et al., 2012). This, we argue, is the case with CMMI standards in the global outsourcing industry. Hence, we suggest that industry standards—and CMMI in particular—is an institutional property that cuts across national boundaries. Variation in adoption of this standard in different countries may influence the way firms internationalize to certain locations in particular industry contexts. In the following, we develop specific hypotheses on the relationship between institutional distance, CMMI standard adoption, and firm location choice that are subsequently tested on extensive data on the global service outsourcing industry.

### **Hypotheses Development**

The antecedents and outcomes of firms’ geographical location of their economic activities stand as a core topic of international business research (Dunning, 1989; Caves, 1996). With a point of departure in seminal work by scholars such as Hymer (1960), Dunning (1981) and Buckley and

Casson (1976), the choice of location for foreign investments has typically been regarded as a deliberate choice based on comparative advantages, expropriation risks, and knowledge transfer problems. The empirical work has largely been supportive, establishing that firms locate economic activities in other countries to gain access to resources and geographic markets (Hennart & Park, 1993; Woodward and Rolfe, 1993), favorable political, infrastructural and institutional conditions (Henisz & Macher, 2004), or agglomeration effects arising from clusters of firms performing similar activities (e.g., Krugman, 1991; Porter 2000; Saxenian 1994).

First, we argue—in line with institutional theory—that institutional distance between a home and host country influences the likelihood of establishing foreign sourcing facilities in the particular host location. As already mentioned, it has been argued that since organizational practices are shaped by the institutional environment, successful transfer of these practices from the parent firm to the foreign subsidiary depends on the distance between the host and home environments. Alternatively, with distance increases the difficulties of transferring knowledge and practices. MNEs that invest in distant locations are more likely to lack strong, routine-based competitive advantages (Rosenzweig & Nohria, 1994; Zaheer, 1995). Thus, if institutional distance undermines the transfer of organizational routines, MNEs will internationalize to host countries with an institutional environment similar to their own.

There is empirical evidence suggesting that institutional distance is important in determining location choices in the global services sourcing (e.g., Doh et al., 2009; Hahn et al., 2009). For example, Doh et al. (2009) find that firms offshore call centers to locations that offer a common language with the countries of the parent firms together with a strong ICT infrastructure. They also find that the preferred locations of shared services are characterized by low comparative risk as these services are particularly sensitive to political instability. Equally,

Hahn et al (2011) find that offshoring firms are willing to trade off lower wages to mitigate the relatively higher political risk in their preferred sourcing locations. In accordance with these theoretical and empirical views, we formulate the following hypothesis:

*H1: Institutional distance between home and host country reduces likelihood that firms from home country choose to set up foreign sourcing facilities in that host country.*

Second, in line with the competing perspective on transnational field institutions, we argue that, independent of differences in national level institutional frameworks, the level of CMMI standard adoption in a host country increases the likelihood that firms set up foreign sourcing facilities in that host country. Our argument is thus based on the observation that specific field properties—cutting across national boundaries—provide MNCs with a vehicle that reduces the uncertainties or “liabilities of foreignness” of operating in foreign locations. By targeting locations with strong industry standards, irrespective of national institutions, the MNC subsidiaries – or their outsourced operations – may avoid pursuing strategies of institutional isomorphism (Solomon and Wu, 2012) as organizational practices are standardized across national boundaries.

Indeed, there is much evidence that service providers upgrade their capabilities (such as acquiring CMMI certification) to attract foreign clients to specific locations. For example, increasing client demand for services outsourcing has been paralleled by a sophistication of supply of various service tasks and the development of client-serving capabilities (Athreya, 2005; Ethiraj et al., 2005). Several large providers headquartered in India have developed so-called global delivery models involving distributed teams at both onshore (client-side) and offshore facilities, collaborating across time zones (Govindarajan and Ramamurti, 2011).

Moreover, the range of tasks—from routine and standardized, to complex and knowledge intensive—has increased as well. Whereas prior to 2000, most service providers focused on commoditized IT and software services (e.g., Dossani and Kenney, 2007; Ethiraj et al., 2005), over time providers have not only increased the spectrum of more standardized task and service offerings (e.g., finance and accounting, HR, call centers and tech support (e.g., Sako, 2006)), but also added more complex, often knowledge-intensive tasks, such as engineering, design, and analytical services (Lewin et al., 2009). Hence, we argue that the level and quality of CMMI standards adoption in a given location facilitates firm location choice. Accordingly:

*H2: Level of CMMI standard adoption in a host country increases likelihood that firms set up foreign sourcing facilities in that host country.*

Finally, while we have thus far focused on the isolated effect of institutional distance and industry standards on MNCs' location choice, we also emphasize that both these mechanisms may obviously co-exist simultaneously. Specifically, while the costs of transferring organizational practices and establishing legitimacy in an institutionally distant host country may reduce the likelihood of making investments in that particular location (Kostova & Zaheer, 1999), the level of CMMI standard adoption in that country may at the same time increase the likelihood of investment.

As such, rather than merely being constrained by one particular institutional parameter, we argue that MNCs are embedded in multi-level organizational fields (national, regional, global) that can equally facilitate – or constrain – important opportunities for internationalization (Phillips & Tracey, 2008). Specifically, we argue that in the context of global outsourcing the prevalence of labor cost and other resource advantages have offset to some extent the risk

associated with rather ‘distant’ institutional environments (see e.g. Doh et al., 2009; Hahn et al., 2009). However, over time outsourcing destinations have started to increasingly compete for client firms beyond initial labor arbitrage effects. Yet, developing an institutional environment that is compatible with Western role models is a long-term investment and not necessarily a decisive factors for client firms to choose a particular location. Instead, we argue that increasing industry standard adoption, in particular the level of CMMI, has served to ‘compensate’ for potential differences in national level institutions. Thus, we expect that the level of CMMI adoption in a host country lowers the impact of institutional distance of foreign firm location choice. Specifically, we hypothesize:

*H3: The level of CMMI standard adoption in host country negatively moderates the influence of institutional distance between home and host country in firm location decisions.*

## **Data and Methods**

We test the hypotheses based on a combination of publicly available data and data collected by the international Offshoring Research Network (ORN). The ORN is a network of scholars based in the United States, Europe, and Australia who have been studying the dynamics and trends of global sourcing of business services. Since its foundation in 2004, the ORN research team has conducted two major surveys: the corporate client (buy side) survey and the service provider survey (for sample reports, see Lewin and Couto 2007). This study uses data from both surveys. In addition, we use externally available data for this study, including CMMI certification of providers across countries (CMMI Database, maintained by CMMI Institute), Kaufmann institutional indicators, and World Bank data. Using data from various independent data sources

helps address the common method variance problem of survey-based designs (Chang et al. 2010).

Our dependent variable – foreign sourcing facilities – and most of our control variables are derived from the ORN corporate survey. This survey has been collecting data from U.S., European, and Australian firms on their global sourcing strategies, drivers, perceived risks, outcomes, and future plans. Importantly, the survey captures detailed historical information on sourcing projects that firms have implemented over time, including the type of process, launch year, choice of location, choice of governance mode (captive or outsourced), and performance data, e.g., savings achieved. For example, if firm X has implemented three global sourcing projects over time, the survey would capture the types of processes, e.g., IT, engineering, and call center; the launch year for each implementation, e.g., 1999, 2005, and 2010; the choice of location, e.g., India, India, and China; the governance mode, e.g., captive and outsourced; and various performance measures for each project. Overall, the database used for this empirical study is based on surveys of 99 firms with 400 data points on the number of location specific sourcing facilities. On average, each firm would report on sourcing projects in four different locations.

Firms are distributed in our sample across different industries, primarily finance and insurance, software, and professional services. 25% are large firms (>10,000 employees); 38% are midsize (501–10,000 employees), and 35% are small (<500 employees). Offshored processes include IT infrastructure, administrative services (e.g., HR, legal), call centers, software and innovation projects, marketing and sales, and procurement. Client firms are based in various countries, primarily USA (60%), Netherlands (17%), UK (9%), and Australia (5%).

<<<<< Insert Table 1 about here >>>>>

In addition, we use data from the ORN service provider survey, which, as of 2007, has been collecting detailed information from service providers from the United States (39%), Western Europe (19%), India (17%), Eastern Europe (6%), China (5%), and other countries. The sample (n=481) includes all major service providers, such as Accenture, Infosys, TCS, IBM Global Services, Genpact, Tata Consulting, Cap Gemini, etc. Survey participants report the year when they began offering particular services, which provides valuable information about the supply of services at any particular point in time. In terms of size distribution, 19% of providers are large (>10,000 employees), 34% are midsize (501 to 10,000 employees), and 47% are small (<500 employees). Both the client and provider surveys are taken online. Respondents reach the survey website through external links or email invitations. Once registered and approved by the ORN survey team, respondents are added to the database.

Table 1 details the construction of our variables. Our dependent variable represents the number of *foreign sourcing facilities* implemented by a particular firm over time in a particular country. Similar to other studies examining the likelihood of firms investing in one country rather than another (see in particular, Henisz and Macher, 2004), we employ a negative binomial model that adjusts standard errors for within-group clustering in order to test our hypotheses. More specifically, our dependent variable represents a count of foreign sourcing facilities by firm X in a country Y across time. This count ranges from 1 (53%) to 13 (0.25%), i.e. in 53% of cases a firm would set up one facility in a particular country; whereas the maximum number of facilities in the same country by any one firm is 13. Importantly, although the ORN client survey also informs about launch years for most sourcing projects, we decided not to replicate the longitudinal model by Henisz and Macher (2004), since launch year data is incomplete resulting in a significant loss of data points. Also, we decided to limit our analysis to sourcing

implementations in the 25 most frequently selected countries (>20 projects each). This is because countries with very few implementations form a very heterogeneous group (in terms of labor market, supplier capabilities etc.) which would make interpretation of findings difficult. However, for robustness checks we also replicated our analysis with both more and less limited country destination samples.

As for our independent variables, we employ two major constructs: institutional distance between home and host country, and level of CMMI standard adoption in a particular host country. First, *institutional distance* can be measured in various ways, using different kinds of indicators, e.g. the Dow index, the Kaufmann index, or country indices from the International Country Risk Guide (ICRG) (see e.g. Hahn et al., 2009). We decided to mainly use the Kaufmann indicators as a proxy for measuring the institutional environment of home and host country, as well as the difference between the two. Unlike the Dow Distance index, the Kaufmann indicators measure specifically the institutional environment, including information on voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. Yet, unlike the ICRG, Kaufmann measures extend beyond risk. To proxy ‘institutional distance’, we computed the sum of absolute differences between each of the indicators comparing host and home country. The rationale behind this measure is to assume that the larger the sum of differences across institutional indicators, the larger the institutional distance between countries. To simplify, we further assume that each indicator is of equal importance in determining the institutional environment. We also acknowledge, as an important limitation, that these measures are ‘biased’ towards assumptions of ‘good’ vs. ‘bad’ institutional quality from a Western perspective (see for a critique e.g. Mair et al., 2012).

Our second main independent variable is *level of CMMI standard adoption* in the host country. As argued above, the CMMI standard is one of the most important process standards in the outsourcing industry (Athreye, 2005; Ethiraj et al., 2008; Niosi and Tschang, 2009). It signals the ‘readiness’ of a host country outsourcing field for foreign client projects, both in terms of the capability of local providers and the qualification of personnel working in the industry. Specifically, we captured from a publicly available database the CMMI level adoption of service providers in different parts of the world. In particular, we measured the degree to which providers in a particular country have accomplished a CMMI level of 4 or 5 – which signifies highest level of CMMI maturity. Importantly, rather than just measuring whether or not providers in a particular country have adopted CMMI, this measure allows to differentiate countries by level of CMMI maturity. To avoid small sample size issues, we only included host countries for which data for at least 10 providers was available. This further limits our sample to 14 host countries: Argentina, Brazil, Canada, China, France, Germany, India, Malaysia, Mexico, Philippines, Singapore, Spain, United Kingdom, and United States. Adoption rates (CMMI level 4 or 5) range from 0 to 27%. As an alternative measure we could have collected the rate of adoption in terms of no. of providers with CMMI vs. without CMMI certification. However, for that measure we lack the necessary data. Therefore, we relied on an extrapolation of available data on CMMI level adoption as provided by the CMMI database we used for this study.

As for our *control variables*, we utilize both firm specific and country specific measures. As for firm specific measures, we control for the effect of *global sourcing experience*, which can be measured in terms of number of projects across countries or number of years of global sourcing experience, both in general and with regard to specific countries in particular. The assumption here is that greater experience increases commitment to foreign investment locations

(see e.g. Johanson and Vahlne, 1977). We ended up using number of years as an experience proxy in the final model (see also Larsen et al., 2013). Also, we control for whether or not firms have an explicit *global sourcing strategy* guiding location decisions, the assumption being that a strategic approach, in addition to experience, increases the coordination capacity of firms within and across locations (see also Massini et al., 2010). Finally, we control for the *industry* of client firms, focusing on four primary industries represented in the ORN survey: finance, software & it, retail and professional services. The reference industry is manufacturing, since firms from this industry implement closest to the average number of projects per host country.

As for host country-specific measures, we control for *size of the labor market*, measured by the log of number of working population in each country. This number indicates the size of the labor pool attracting outsourcing projects – either directly for clients or through external service providers. Alternatively, we also used tertiary school enrollment as a proxy for labor market size. Results turned out similar. Either way, the assumption is that labor market size positively affects location choice. Also, we initially included *wage levels* in a particular country as a potential control, assuming that wage levels negatively affect location choice. However, unfortunately, this variable is highly (negatively) correlated with CMMI level, so we had to drop it from the final model in order not to distort our findings. Finally, we included a proxy for *availability of suppliers* by using the number of service providers for each country (taken from the ORN service provider survey) divided by size of working population (to adjust for country size). The assumption here is that countries with higher supplier availability are selected more frequently for sourcing projects – not just for outsourcing but also for captive sourcing since a stronger provider base typically attracts talent pools to particular destinations.



interaction effect between our independent variables ( $\beta = -0.099$ ;  $p < 0.01$ ). As a robustness check, we used various other measures as alternatives to the Kaufmann indicators. The Dow index, for example, turns out not significant across models. Interestingly, cultural distance, as measured by Kogut and Singh (1988), similarly shows a significant negative effect in Model B (as a replacement for institutional distance), but loses significance in Model C.

We also find strong empirical support for *Hypothesis 2*: Level of CMMI standard adoption in a host country significantly increases the likelihood that firms set up foreign sourcing facilities in that host country. The effect is consistently strong in both Models B ( $\beta = 2.784$ ;  $p < 0.01$ ) and C ( $\beta = 4.862$ ;  $p < 0.01$ ). This indicates that CMMI standard adoption in a particular country is a strong field-level institutional selection factor for client firms in their sourcing destination choice.

Finally, we find empirical support for *Hypothesis 3* as well: The level of CMMI standard adoption in a host country negatively moderates the influence of institutional distance between home and host country in firm location decisions. More specifically, in Model C we added the interaction effect between the log of institutional distance (X) and the log of level of CMMI standard adoption (Y) as a measure we defined as  $Z = \log(X) * \log(Y)$  for each client firm-host country pair. We used log values to equalize the range of each factor. In Model C this interaction variable shows a significantly negative effect ( $\beta = -0.151$ ;  $p < 0.1$ ), which indicates that the effect of institutional distance on location choice is significantly reduced through level of CMMI standard adoption, on top of the individual effect the latter has.

We also find interesting effects of some of our control variables. As for firm-level effects, prior global sourcing experience, measured by number of years, has a strongly positive effect on number of projects in a particular location across all models. This finding is consistent with prior

similar studies (e.g. Henisz and Macher, 2004). Also, the adoption of a global sourcing strategy significantly positively affects number of sourcing projects per location. Finally, in particular firms in financial services as well as software and IT seem to build a strong presence in each location, as indicated by the significant positive effect. As for country-level effects, in particular the significant positive effect of labor market size on number of projects per location across all three models stands out. Availability of suppliers only affects location attractiveness significantly positively in the controls-only model. It loses significance once main effects are added.

In addition we analyzed the sample separately for captive and outsourced facilities. However, results are difficult to interpret as firms may change governance models over time, and as prior captive experience may influence outsourcing projects and vice versa. Also, we faced some sample size issues. We therefore decided to report only the whole sample models. Future studies however should add nuance to account for the role of governance models.

## **Discussion and Conclusion**

In this article, we have compared the explanatory power of the concept of institutional distance on firm location choice to that of transnational field level properties, and especially that of CMMI adoption in different locations. Using rich data on firms' location decisions in the global outsourcing industry from the Offshoring Research Network combined with secondary data on institutional differences and CMMI standards adoption, we have found that while institutional distance does partially explain patterns of location decisions, the level of CMMI adoption in a given location provides an even stronger direct effect on location and a negative moderating effect on institutional distance. Hence, in addition to institutional distance, we find evidence

suggesting that CMMI standard adoption in a particular country is a strong field-level institutional selection factor for client firms in their sourcing destination choice.

Our analyses also reveal some further interesting results. For example, we find that there is a negative correlation between a country's institutional quality and the CMMI adoption rate. One possible interpretation of this finding is that providers in institutionally weak countries seek to counter-balance institutional attractiveness by upgrading their process standards and capabilities. This finding appears similar to the notion of institutional voids, where business groups gain competitive advantage of internalizing 'voids' in the institutional frameworks that impede economic exchange in the capital, labor and product markets (Khanna and Palepu, 1997). Hence, future research could investigate the substitutability of the institutional quality of a location and the adoption of international standards. Another interpretation is that the location selection criteria of client firms seem to involve a trade-off between country-level and field-level institutional quality. More broadly, this provides evidence to the fact that boundedly rational decisions in MNCs are faced with a multitude of institutional influences upon making internationalization decisions, and that subsuming those into simple country-level institutional differences may lead to severe under-specifications of the role of institutions.

A key contribution of this research relates to highlighting the limitations of conceiving the concept of institutional distance as the mere difference between nation state-level (formal) institutions in location decisions. Perhaps due to its empirical ease, the concept of institutional distance has emerged as a vastly important explanation of MNC behavior (see Bae and Salomon, 2010, for an overview). In particular, based on the argument that institutional unfamiliarity in a host location creates additional hazards, restrictions, and costs for MNCs, international business research has tended to use the concept of institutional distance to explain aspects such as firms'

choice of location (Holburn & Zelner, 2010; Xu & Shenkar, 2002), entry mode (Schwens et al., 2010; Yiu & Makino, 2002), ownership (Eden & Miller, 2004), and firm performance (Gaur & Lu, 2007). According to Xu and Shenkar (2002: 610), “*a large institutional distance triggers the conflicting demands for external legitimacy (or local responsiveness) in the host country and internal consistency (or global integration) within the MNE system. Balancing these conflicting demands has been a key challenge for the MNE.*”

As we have argued and shown empirically, however, MNCs are likely to be influenced by multiple institutional forces, both national as well as transnational (captured by the notion of organizational fields) (cf. Phillips and Tracey, 2008). Indeed while the former is typically captured by more conventional institutional distance measures (in this article: national differences based on the Kaufmann index), the latter is better captured by the notion of organization fields which may include various norms, standards, and practices determining socially acceptable organizational structures and actions within and across country borders (DiMaggio & Powell, 1983; Washington et al., 2005). Interestingly, we find that the effect of CMMI standards adoption—one particular organizational field level property cutting across national boundaries—to strongly explain firms’ sourcing destination as well negatively influence the effect of institutional distance. These findings somewhat counters the stand taken by Kostova et al. (2008: 997) who argues that “*The notion of organizational field in the traditional institutional sense does not apply to MNCs*”, seemingly because MNCs have the potential to form an internal institutional environment for their subunits. Thus, the MNC, they argue, has the power to bypass other organizational fields.

Accordingly, we provide important impetus to concurrent debates on the validity and relevance of institutional-based explanation of the MNC by emphasizing the role of transnational

organizational field properties, and CMMI standards in particular. Obviously, the importance of the different levels of institutional analysis will vary considerably given a particular context or industry. For example, differences between the drivers of location decisions may substantially influence the most relevant conditions of institutional pressures; e.g. market expansion may be more affected by the degree of institutional familiarity (e.g., Johansson and Vahlne, 1977), but less so in cost-driven sourcing decisions. Further, recent research has highlighted how institutional distance together with firm level capabilities constitute a powerful explanation of MNC behavior (e.g., Henisz and Macher, 2004; Salomon and Wu, 2012; Holburn and Zelner, 2010). For example, Henisz and Macher (2004) find that semi-conductor firms with less-advanced technologies are more willing to accept a trade-off between country-level political hazards and technological sophistication. Relatedly, Holburn and Zelner (2010) argue that MNCs' capabilities for assessing risks and managing the policy-making process influences their response to host-country policy risk when internationalizing. Yet, we argue that we contribute to the institutional-based explanations of MNCs by empirically showing how transnational field properties, i.e., industry level standards, provide important additional explanatory power in the location choice of MNCs. Consequently, we hold that standards need to be increasingly recognized as an important transnational institution in an increasingly globally integrated world.

Relatedly, we contribute with a more accurate specification of firms' geographical location of their economic activities, especially in the service provider industry. As mentioned earlier, location decisions stand as a core topic of international business research (Dunning, 1989; Caves, 1996). Research on location decisions has investigated relationships between a variety of economic, social, and political characteristics of states or regions and the location of investment (Buckley & Ghauri, 2004). This literature has examined whether and how decisions

to locate an activity in a particular location are affected by regional characteristics such as the presence of institutional controls to safeguard investment, low-cost access to needed skills, and access to large or growing markets (Dunning, 1988). Research has emphasized important associations between location-specific factors and location choice (Henisz & Macher, 2004), firm level in-country or international experience and location choice (Hymer, 1976; Zaheer, 1995), as well as associations between cultural distance between “home” and “host”, knowledge transfer, and location choice (Ambos, 2005; Johanson and Vahlne, 1977; Mudambi, 1998; Pedersen and Petersen, 2004). Despite these insights, our understanding of location decisions, especially given changing economic geographies (Mudambi, 2008), seems incomplete (Dunning, 1998). We contribute to this literature by emphasizing that industry standards—and CMMI in particular—is an institutional property that cuts across national boundaries, and that variation in adoption of this standard in different countries may influence the way firms internationalize to certain locations in particular industry contexts. Future international business research needs to therefore study location decision patterns in a much more industry-specific way. Also, it seems due to continue investigating how international suppliers play an important role in developing and enforcing such transnational standards (Brunsson et al., 2012).

Finally, our study also has important policy implications. Partly driven by various rankings of ‘institutional quality’ of countries (based on mostly national level institutions), policy-makers in particular in developing countries have been made to believe that all it takes to increase location attractiveness is to adopt legal and other formal institutional systems in line with Western role models. However, while this dimension of the institutional environment certainly matters, it matters less when relevant industry standards are in place that may attract foreign investment quite independent of other existing institutions. It is therefore crucial for

policy-makers to shift focus from national-level to industry-level institutions, not least because the latter change pretty fast over time and, yet, may be easier to ‘promote’ than rather sophisticated legal or other state-level systems that may require long-term political decision-making processes. Ideally, however, policy efforts should be focused on multiple institutional levels – in order to adapt both generic institutions that matter across industries as well as industry-specific institutions that partly add to, partly compensate for the perceived ‘institutional quality’ of a host country.

In conclusion, we do find both theoretical and empirical evidence that institutional distance is still highly relevant for the study of MNC behavior, in particular location choices. Indeed, the idea of institutional distance between two different nation states appears to possess important explanatory power, even in contexts and industries characterized by high global integration, of questions such as MNCs’ location decision. Yet, we also find evidence suggesting that a sole reliance on institutional distance may lead to overly simplified estimations of how institutional forces guide and restrict MNCs. Our results clearly indicate that the institutional environment faced by MNCs is multiplex and does not always necessarily equate with national boundaries. Consequently, future research needs to increasingly incorporate the influence of multiple institutional levels, both national and transnational, on MNCs’ location decisions.

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## TABLES AND FIGURES

Table 1: Variables Construction

Core Variables	Description
<b>Dependent</b>	
Foreign Sourcing Facilities	Count variable: Number of foreign sourcing facilities (either captive or outsourced) set up by a particular firm over time in a particular host country
<b>Independent</b>	
Institutional distance	Measured as sum of differences between Kaufman institutional indicators of host country and home country of sourcing firm (Indicators: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, control of corruption)
Level of CMMI standard adoption	Percentage of service providers in a particular host country that have accomplished a CMMI level of 4 or 5 (Source: CMMI Database, Data from 2012)
<b>Control Variables</b>	
Firm global sourcing experience	Log number of years of global sourcing experience across countries
Firm global sourcing strategy	Dummy which takes 1 if firm has an explicit global sourcing strategy guiding location decisions and implementation
Firm industry (Financial services, Software & IT, Retail, Professional services)	Dummy variables for Financial services, Software & IT, Retail, Professional services that takes value 1 for each (otherwise 0) if sourcing firm belongs to that industry
Host country labor market size	Log of working population in host country (Source: Worldbank; Data from 2012)
Host country supplier availability	Log of number of providers with headquarter in host country divided by labor market size of host country (Source: ORN Service Provider Survey, Worldbank)

Data source: ORN Client Survey (unless noted otherwise)

Table 2: Correlations between dependent and independent variables

	1	2	3	4	5	6	7	8	9	10	11
1 Foreign Sourcing Facilities	1.00										
2 Institutional Distance	<b>0.10</b>	1.00									
3 Level of CMMI standard adoption	<b>0.26</b>	<b>0.34</b>	1.00								
4 Firm global sourcing experience	0.09	<b>-0.13</b>	<b>-0.14</b>	1.00							
5 Firm global sourcing strategy	<b>0.16</b>	0.03	-0.02	<b>0.12</b>	1.00						
6 Firm industry: Financial services	<b>0.12</b>	-0.08	0.08	0.03	<b>0.17</b>	1.00					
7 Firm industry: Software & IT	0.06	0.06	-0.04	<b>-0.09</b>	-0.03	<b>-0.33</b>	1.00				
8 Firm industry: Retail	-0.09	<b>-0.12</b>	<b>-0.10</b>	0.04	<b>-0.15</b>	<b>-0.13</b>	<b>-0.15</b>	1.00			
9 Firm industry: Professional services	-0.06	0.04	<b>0.19</b>	-0.04	<b>-0.13</b>	<b>-0.17</b>	<b>-0.20</b>	-0.08	1.00		
10 Host country labor market size	<b>0.21</b>	<b>0.60</b>	<b>0.33</b>	<b>-0.15</b>	-0.05	-0.07	0.05	-0.01	0.07	1.00	
11 Host country supplier availability	<b>0.16</b>	0.03	<b>0.50</b>	<b>-0.11</b>	<b>-0.10</b>	0.00	-0.01	0.04	<b>0.13</b>	<b>0.50</b>	1.00
<b>Descriptive Statistics</b>											
Mean	2.158	8.774	0.190	1.650	0.578	0.228	0.275	0.055	0.093	5.127	12.049
Standard Deviation	1.850	3.157	0.093	0.826	0.495	0.420	0.447	0.228	0.290	1.580	9.395
Minimum	1.000	0.668	0.015	0.000	0.000	0.000	0.000	0.000	0.000	1.012	0.789
Maximum	13.000	14.707	0.272	3.807	1.000	1.000	1.000	1.000	1.000	6.685	43.927
Total N	400	400	400	400	400	400	400	400	400	400	400

Table 3: Effect of Institutional Distance and Adoption of CMMI levels on Foreign Sourcing Facilities  
(Negative Binomial Regression Model)

<b>Dependent Variable: GDM Location Configuration</b>	<b>Model A: Controls only</b>	<b>Model B: With Main Effects</b>	<b>Model C: With Interaction Effect</b>
<b><i>Independent Variables</i></b>			
IV1: Institutional distance		-0.041**	-0.099***
IV2: Level of CMMI standard adoption		2.784***	4.862***
Interaction effect (IV1 * IV2)			-0.151*
<b><i>Control Variables</i></b>			
Firm global sourcing experience	0.132***	0.148***	0.154***
Firm global sourcing strategy	0.234***	0.235***	0.229***
Firm industry: Financial services	0.262***	0.193**	0.189*
Firm industry: Software and IT	0.180*	0.173*	0.175*
Firm industry: Retail	-0.226	-0.172	-0.160
Firm industry: Professional services	-0.075	-0.165	-0.162
Host country labor market size	0.118***	0.169***	0.151***
Host country supplier availability	0.009*	-0.010	-0.008
N	400	400	400
Chi <sup>2</sup> / Prob>chi <sup>2</sup>	60.14 (0)	84.77 (0)	88.10 (0)
Log likelihood	- 685.50	-673.183	-671.52