

Organizational Learning during Internationalization: Acquiring Local Institutional Knowledge

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Working Paper #46

March 2009



| Collaboratory for Research on Global Projects

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About the Working Paper

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ABSTRACT

Organizational learning plays an important role for firms entering new international markets. Acquiring knowledge of a foreign market helps firms to decrease uncertainties, misunderstandings and risks, allowing them to plan and achieve project expectations more accurately. Little is known, however, about how real estate developers, contractors and engineering firms initially collect important local knowledge for their international projects. This study uses qualitative research methods to explore the methods and sources firms use to acquire different types of local knowledge. The results indicate that organizational learning is a complex process, and although similarities exist, different types of firms use different sources to collect needed knowledge. The study contributes to theory by responding to requests for additional research on how firms actually acquire and develop institutional knowledge. In addition, by understanding the sources used to acquire different types of institutional knowledge, company managers can influence the processes employed by their firms to acquire important institutional knowledge strategically for their specific business.

KEYWORDS: Organizational Learning; International Business; Institutional Theory; Institutional Knowledge; Knowledge Management

INTRODUCTION

As real estate developers, contractors and engineering firms enter new foreign markets, they need to acquire the local knowledge necessary to achieve their project goals and requirements. When working internationally, these firms are exposed to differences between the new foreign project area and the markets in which they already work. Many of these differences arise from exposure to diverse participants, organizations and governments that operate under different institutions—laws and regulations, norms, and cultural beliefs (Scott 2001; Scott 2008). Differences in these institutions can lead to additional misunderstandings, schedule delays, and costs that increase project risks for global projects (Orr 2005; Orr and Scott 2008). Thus, a failure to understand the various aspects of an international project can lead to a significant negative impact on the firm's profit (Arditi and Gutierrez 1991; Ashley and Bonner 1987; Chan and Tse 2003; Han et al. 2007).

Knowledge of the local market area and these differences is therefore extremely important during internationalization (Lord and Ranft 2000). Due to the importance of local knowledge, many international theorists, particularly those following the internationalization process view, describe international expansion as a rich and complex process of organizational learning (Johanson and Vahlne 1977; Lorenzen and Mahnke 2002; Pennings 1994). Organizational learning, including the acquisition of institutional knowledge, can help entrant firms reduce the knowledge gap—the difference between the knowledge that is needed to work in a foreign area and the knowledge the entrant firm possesses—when working on international projects (Petersen et al. 2008). However, even with the acknowledgement of the importance of local knowledge and organizational learning during internationalization, previous research has not examined the organizational learning process directly (Lord and Ranft 2000), adequately identified the sources and methods firms use to acquire this knowledge, or elaborated differences in learning engagements between firm types.

Using institutional theory as a lens for viewing various types of local knowledge, we set out to answer the question, “How do international real estate developers, contractors and engineers initially acquire different types of institutional knowledge?” Through qualitative case studies, we identify the sources these firms use to acquire institutional knowledge initially to use on their international projects. It is part of a larger study aimed at (1) identifying and categorizing important knowledge for international projects (2) analyzing the methods firms use to integrate and transfer this knowledge, once acquired, for use on later projects, and (3) developing a theoretical framework to explain and predict how the importance, acquisition and transfer of knowledge varies by firm type. In this paper, we first review theory that underpins the research and then discuss the research methodology. Following this, we present results regarding the sources firms use to acquire different types of institutional knowledge. Finally, we end with a discussion on the different acquisition sources based on firm type. We contribute to the organizational learning and internationalization literature by expanding the focus from experiential learning, which is focused primarily on the time required to acquire local knowledge, to examine the sources used to acquire this knowledge initially. In addition, these prior studies aggregate knowledge to a macro level (“local market knowledge” (Lord and Ranft 2000) and general “institutional knowledge” (Eriksson et al. 1997)). We analyze this knowledge at the micro level, for instance, “industry organization” under the larger category of “normative

knowledge”, allowing us to examine how companies decipher and determine the best sources and methods to employ to acquire knowledge that is important for their specific business. Finally, related to this, most studies combine results across firm types; we attend to and analyze differences between firms.

POINTS OF DEPARTURE

This study builds upon organizational learning and the internationalization literatures, including international business and project management. In addition, we apply institutional theory to the categories of knowledge required for international projects to identify and analyze how different types of institutional knowledge are acquired.

Institutional Theory

Recent studies employ institutional theory as a useful framework for analyzing and comparing differences encountered on international projects (Javernick-Will and Levitt 2009; Javernick-Will and Scott 2009; Mahalingam and Levitt 2007; Orr and Scott 2008). Mahalingam and Levitt (2007) apply institutional theory to describe cross-national challenges and Orr and Scott (2008) show how institutional exceptions—episodes that involve entrants being surprised by different institutions on global projects—arise and are resolved. Our research expands one of the three internationalization strategies identified by Orr (2005) to understand how firms increase the supply of local knowledge. In addition, this study uses findings from Javernick-Will and Scott (2009), who apply institutional theory to categorize important knowledge for international projects, to identify the sources used to acquire this institutional knowledge.

We follow Scott’s framework to define institutions broadly as including “regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (Scott 2001, p.48). To illustrate these distinctions as they apply to international projects:

- *Regulative elements*, emphasized particularly by economists, include laws, rules, sanctions and incentives, or the formal machinery of governance. These tend to be more easily observed and explicit. Important regulative knowledge categories for Architecture-Engineering-Construction (AEC) firms include laws and regulations, operating laws,

knowledge of government, design and construction standards and approval processes (Javernick-Will and Scott 2009).

- *Normative elements*, a focus of sociologists and historical institutionalists, focus on the prescriptive, evaluative, and obligatory dimensions of social life. This category places emphasis on shared values and norms, interpersonal expectations, and valued identities. On international projects, important normative knowledge includes work practices, social norms, expectations and local preferences, industry organization, logistics, relationships, available resources, productivity norms, and market knowledge (Javernick-Will and Scott 2009).
- *Cultural-cognitive elements*, stressed primarily by cultural anthropologists, cross-cultural psychologists and organization scholars, tap into a deeper layer that includes widely-shared beliefs about the nature of the world (cultural frames and scripts) (Schank and Abelson 1977) and cause-effect relations (social logics). The beliefs are “cultural” because they are socially constructed symbolic representations; they are “cognitive” because they provide vital templates for framing individual perceptions and decisions. Hofstede (1991) identified a useful set of dimensions for assessing values, one of the key cognitive-cultural elements of institutions. Important cultural-cognitive knowledge for the AEC industry includes local cultural beliefs and concepts and meanings (Javernick-Will and Scott 2009).

It is important to note that the categorization of these elements into regulative, normative and cultural-cognitive pillars is an analytical distinction. In the real world, these elements are found in complex combinations that underlie and influence each other. Nevertheless, Javernick-Will and Scott (2009) identified what appeared to be the dominant element in practice to separate knowledge types into the three institutional pillars for analysis.

Learning about institutions requires obtaining knowledge of the regulative, normative and cultural-cognitive frameworks that undergird social life and constitute the unnoticed background of social behavior. In a foreign environment, entrant firms are exposed to diverse organizations and cultures working under unfamiliar laws, resulting in significant institutional differences. In these situations, learning about the local project area’s institutions becomes critically important (Lord and Ranft 2000).

Many scholars stress the importance of institutional knowledge during internationalization. It has been found to reduce the “liability of foreignness”, or the disadvantage foreign firms face due to their lack of familiarity with the local environment (Zaheer 1995); lessen project overruns, schedule delays and damages to reputations (Orr 2005); and diminish problems with understanding the laws and norms that apply in a foreign context (Eriksson et al. 1997). In addition, Chetty, Eriksson and Lindbergh (2006) found that firm’s perceptions of the importance of institutional knowledge increases with increasing international experience. All of these studies point to the importance of institutional knowledge when working internationally. However, scholars note that studies do not address how firms develop institutional knowledge (Chetty et al. 2006) or identify what factors help to reduce the knowledge gap faced by firms entering foreign markets (Petersen et al. 2008).

Organizational Learning

Recognizing the importance of institutional knowledge, the question of how firms acquire this knowledge becomes fundamentally important. Departing from Petersen and colleagues (Petersen et al. 2008), we define knowledge acquisition as the firm’s ability to acquire externally generated knowledge that is critical to their operations. Acquiring knowledge thus requires that the information is available and that the firm actively searches for this information (Grant 1996). Although the internationalization literature describes expansion as a process of learning, there has been surprisingly little work to address how firms actually acquire local area knowledge. Much of the existing work in internationalization process theory follows the tradition of Johanson and Vahlne (1977) and indicates that learning about a local market occurs through direct experience, or experiential knowledge. Direct experience is, however, costly because it requires durable and repetitive experience in a location (Eriksson et al. 1997).

Perhaps because of this focus on direct experience, many scholars concentrate on the elapsed time and costs associated with international expansion. For instance, Eriksson and colleagues (1997) studied the effect that the lack of internationalization knowledge, business knowledge and institutional knowledge has on the perceived cost of internationalization. Others have researched the effect that time in an area has on a firm’s perceptions of foreign market unfamiliarity (Petersen and Pedersen 2002; Petersen et al. 2008), discovering that unfamiliarity increases with time, peaking 4.5 years after entry before declining. In addition, Lorenzen and Mahnke (2002) studied differences in the time it took to build a “code book” of how to operate in

a foreign market, comparing greenfields, joint ventures and acquisitions of local firms. These studies and others suggest that the liability of foreignness and the cost of doing business diminishes over extended time in a foreign market (Petersen et al. 2008; Zaheer and Mosakowski 1997).

Unfortunately, in the project-based AEC sector firms do not always have the luxury of repetition and lengthy amounts of time to acquire this knowledge; however, they can have experience in a variety of countries. Following work started by Cohen and Levinthal (1990), a number of scholars have found that a firm's ability to recognize and acquire new information is dependent on their absorptive capacity, or the prior knowledge and experience of the project team or firm. For instance, if a firm has experience in foreign markets, it may be able to recognize the value of institutional knowledge and acquire this knowledge for its international projects more easily. Scholars have found that knowledge acquired through international experience in diverse markets increases firm performance (Blomstermo et al. 2004), increases the likelihood that firms will be able to capture local knowledge (Delios and Henisz 2003) and leads to "procedural knowledge" for how to learn in local markets (Eriksson et al. 1997). Therefore, firms that have significant international experience should be able to acquire this knowledge more easily.

Our research aims to fill the existing gap on how AEC firms acquire local institutional knowledge for their international projects initially, focusing on the sources used to gather this knowledge. This research was inspired by two studies in particular, which helped to form some of the preliminary questions. The first identified and examined the private and public sources through which technical knowledge is disseminated between firms in the semiconductor industry (Appleyard 1996). Within the AEC industry, our inspiration came from work by Kululanga and colleagues (Kululanga et al. 1999; Kululanga et al. 2002) that studied the learning orientations and mechanisms employed by construction contractors. Their study on learning mechanisms included both collaborative (learning from other firms) and non-collaborative (learning through acquisitions or mergers) arrangements, learning through networks, in-house research-based schemes, and learning through individual employees. They discovered that very few mechanisms were frequently used (Kululanga et al. 1999). In a subsequent study, they found that the majority of contractors focused on continuous learning by individual employees (Kululanga et al. 2002). The studies by Kululanga and colleagues and Appleyard motivated our focus on

sources and methods for organizational learning, but, in order to address the existing theoretical and practical gap in this domain, we focus specifically on how firms acquire local institutional knowledge and limit our study to AEC firms working on international projects.

RESEARCH METHODOLOGY

Studies have pointed to the importance of institutional knowledge and have emphasized the time needed to acquire this knowledge through direct experience. However, to our knowledge, scholars have not addressed *how* firms actually acquire institutional knowledge, compared acquisition sources based on institutional knowledge type, or compared differences between firm types. Because of the paucity of information on these processes, we elected to use qualitative case studies to more closely examine how firms were proceeding. This method provides a level of in-depth information that more general survey methods on large samples cannot attain and responds to the question of “How” (Eisenhardt 1989; Yin 2003). To gain additional breadth, surveys can expand and validate or refine our findings and propositions.

We conducted interviews with participants within fifteen companies distributed across real estate development, construction and engineering firms to determine how they actually acquired different types of institutional knowledge on the international projects in which they were involved. The first author conducted these case studies in company offices with follow up phone interviews to participants in other office or project locations from September 2007 through August 2008. In order to focus on institutional knowledge for international projects, we selected companies that received at least 20% of their revenue from projects outside their home market. In addition, we selected informants within these firms who had past or current experience on international projects or oversaw international offices or operations. This selection was based in part on the idea that they would have greater absorptive capacity for institutional knowledge and may have developed procedural knowledge for how to acquire institutional knowledge in foreign environments. These respondents varied in title, including: Executive, President, Country head, Knowledge manager, Project manager, and Project engineer. [Please refer to Table 1 for additional details of the case studies (company names are disguised to honor confidentiality agreements)]. Real estate developers include three companies that develop and own commercial, residential and industrial properties and one company that develops or owns power plants. The five contractors construct infrastructure and building projects in various

locations throughout the world; and the six engineering firms provide design and consulting services for infrastructure and building projects around the world. The use of multiple cases within each type of firm allowed us to compare results across cases and company types, helping to address internal validity concerns (Eisenhardt 1991).

Table 1: Case Study Information

	<i>Company (Coded)</i>	<i># of Informants</i>	<i># Countries with Offices</i>
<i>Real Estate Developers</i>	Tottenham Court	6	19
	Holborn	4	16
	Goodge Street	5	2
	Southgate	2	1
<i>Contractors</i>	St Pauls	7	25
	Leicester Square	12	18
	Charing Cross	9	32
	Oxford Circus	9	12
	St James Park	5	21
<i>Engineering Consultants</i>	Hyde Park	27*	15
	Farringdon	8	28
	Angel	8	36
	Picadilly Circus	4	26
	Fulham Broadway	4	11
	Paddington	3	29

**The five most substantive of these 27 interviews were coded for this analysis*

We asked our informants to describe specific examples from their experiences, providing us with insights into that the sources they currently use in practice to acquire this knowledge. Using ethnographic interviewing techniques proposed by Spradley (1979), we asked descriptive, semi-structured but open-ended questions to informants within global firms. In total, we interviewed 113 informants, many of whom were interviewed more than once. We began with questions regarding what knowledge was important for and needed on their global projects (reported in Javernick-Will and Scott (2009)). Then, from the participants' examples, we asked specific questions regarding how they acquired this knowledge initially for use on their projects. This enabled us to gather information and insights from rich, detailed scenarios. To increase the validity of the knowledge acquisition results, additional data collection methods were employed

to supplement the *interviews* (Eisenhardt 1989) including: *collection of documents and secondary data* that were either available publicly or provided by the informants, and, where possible, *direct observation*.

We recorded over 100 hours of audiotape which were transcribed and imported (along with other relevant documentation) into a qualitative software coding program, QSR NVivo®. Nvivo allows researchers to manage data and ideas and query the data to report results across specified parameters (Bazeley and Richards 2000). We then began a four-month process of “coding” the interviews and documents (Glaser and Strauss 1967; Strauss and Corbin 1990). We used “topic coding” to assign references within the transcripts to appropriate categories and then conducted dynamic, analytical coding to draw and verify conclusions from the data. To focus on the acquisition of institutional knowledge, we coded categories of important knowledge into the three pillars of institutions—regulative, normative, and cross-cultural—(presented in Javernick-Will and Scott (2009)) and cross-tabulated the results with different types of acquisition sources and methods used. We queried the results across informants in all firms and segregated the results for comparison across each firm type. We present the results in the following section.

THE ACQUISITION OF INSTITUTIONAL KNOWLEDGE

Firms use a wide array of sources and methods to acquire knowledge. However, due to our focus on the initial acquisition of knowledge during internationalization we focused on the sources used to acquire this knowledge externally, specifically excluding in-company peers from our initial analysis. Please note that the transfer of institutional knowledge within companies is reported in Javernick-Will and Levitt (2009).

Methods for knowledge acquisition

Based on our data collection, we identified 26 sources for the acquisition of institutional knowledge. During analysis, we queried the data to group the 26 acquisition sources, or “daughter” nodes into 14 larger “parent” nodes of a tree. The “parent” nodes contained related “daughter” nodes. For instance, the “parent” node public sources integrated “daughter nodes” of journals, external websites, conferences and other general public information. We analyzed these 14 larger “parent” nodes to compare sources for different types of institutional knowledge and to analyze differences according to firm type. These acquisition categories range from contractual and non-contractual relationships, acquisitions of people and companies, strategic

direct sources, non-strategic direct sources, and public sources. We discuss these categories below.

Contractual Relationships

Some types of information and knowledge are derived from contractual relationships with others. This could be a contractual relationship for a specific project or a contract with an organization or person for other services. Subcategories, emphasizing source, include contractual relationships with the client, local consultants, other consultants, financiers, local partners, and subcontractors/suppliers.

- **Clients** can provide information directly through the contract or indirectly through meetings, conversations or other documentation. The client usually designates the scope of work to be undertaken by multiple parties, requiring them to understand the local norms of industry organization. For example, the contract can dictate the level of design the engineer is responsible for versus the contractor. In many cases, however, providing institutional knowledge is sensitive and can be a liability for the client or owner. The choice of contractual arrangement will often be determined by the degree of risk and prior knowledge the client possesses about the area.
- **Local Consultants** can include local contractors, designers or other local experts such as lawyers, hired in the project location. Many engineering companies will hire a local designer to “translate” their design in accordance with the locally accepted codes, practices and procedures. Developers also frequently hire two companies for the same function—one may be an internationally acclaimed architect who will provide the conceptual design and the other will be a local architect that will be responsible for the detailed design, making sure it abides by local codes and practices. Many contractors mentioned the particular need for a local consultant to provide information related to site work, including geotechnical, traffic, and utility standards. In many cases, companies also hire a local consultant, such as a lawyer, to provide detailed information on the country’s laws and regulations.
- **Other Consultants** include sources that are not necessarily local, but that are still able to provide knowledge or information relevant to the project. This can include specialty engineering consultants such as seismic experts, translators, business consultants such as McKenzie or Bain, or other consultants. Occasionally, companies

will hire people to provide training on the local norms and cultural beliefs so that employees entering a new area will have some background knowledge and exposure to differences prior to embarking on the project or proposal.

- **Financiers** can include the World Bank, Export-Import banks from various countries, or other private finance companies that help to sponsor the project. These banks have often conducted their own internal studies on the country and can provide information and resources to the companies engaged on the project.
- **Local Partners** include collaborative arrangements through Joint-venturing or other agreements for companies to work together on a project or in an area. Informants indicated that they started partnerships for a variety of reasons. In some cases they wanted to limit the risk born by their company in a region. Sometimes the local government or municipality required a local company to be a partner on the project, and in many cases, they hoped to obtain insights and information on the local laws, standards and norms in an area. This is in line with prior research findings indicating that firms often turn to partner organizations to fill voids in their knowledge (Eisenhardt and Schoonhoven 1996; Khanna and Rivkin 2001; Starbuck 1992). These partners can provide information on the local context, provide access to needed resources and help the entrant firm gain local legitimacy (Rondinelli and London 2003) and can be a primary source of local knowledge (Makino and Delios 1996).
- **Subcontractors and Suppliers** can be a source of local knowledge and information, often for contractors and sometimes for engineers. Contractors obtain information regarding local productivity standards, material availability and costs from these companies; however, almost all firms mentioned the additional need for “Pioneering” (discussed below) with reliance on subcontractors and suppliers. Without prior knowledge or a relationship with these local subcontractors and suppliers, many entrant firms were unwilling to accept what they said at face value and therefore obtained additional information to back up their statements and proposals.

Non-contractual Relationships

This coding category includes external relationships with other firms or individuals that do not have a contractual relationship with the party attempting to obtain the knowledge. Two subcategories, or daughter nodes, are included in this category: networks and government

relationships. Networks include professionally based networks, such as the American Society of Civil Engineers or the Construction Industry Institute; but more often, this category includes references to personal networks that have been developed through the years. For instance, informants indicated that they would seek knowledge from an acquaintance in another company who has prior experience in the local region. Of course, many companies are hesitant to acquire knowledge through their personal networks, particularly when bidding a project, due to the fear of letting competitors know about an ongoing proposal. Government relationships are also included in this category and include relationships the company establishes with local government officials. Sometimes, relationships are established due to the existing relationship between their home country government and the local municipality.

Acquisitions

Organizations can bring knowledge into the company by acquiring another firm or by hiring locals. This category includes references for hiring locals on a permanent basis rather than contracting them for specific services or on a single project.

- In some instances, companies chose to **acquire a company** in a local region. This is most often done when the company expects to establish a permanent office in the area. Lorenzen and Mahnke (Lorenzen and Mahnke 2002) found that acquisitions, as compared to greenfields and joint ventures, took the least amount of time to build a codebook. However, acquiring a company comes with other challenges including integrating the two company cultures and investing a large amount of time and capital to engage in a location on a permanent basis.
- Companies can also **hire locals** to bring existing knowledge into the company. Many informants stressed the importance of finding people with local experience who would bring knowledge of the local area into the company and fit well within the company's business and culture. Prior studies have also highlighted the advantage of locals for a company, citing their knowledge of the local environment and conditions relevant to the project including the local economy, politics, culture, business customs, infrastructure and resources (Lord and Ranft 2000; Makino and Delios 1996). In addition, these studies note the ability of locals to more readily secure the attention and cooperation of others in the area because their social ties create trust and expectations of reciprocity in the future (Argote et al. 2003; Levin and Cross 2004).

However, locating the right people can take time, resulting in a slow, organic growth versus rapid expansion via acquisitions.

Strategic Direct Sources

Many informants talked about the need to acquire local institutional knowledge from external sources strategically. Two strategic sources for acquiring this knowledge directly were coded: one we labeled “Pioneering” and the other is conducting a trial project in the area.

- References coded to the category “**Pioneering**” refer to companies sending employees into the local project area to collect various types of information and knowledge. Companies had many unique names for this method, including “pioneering”, referring to the first “pioneers” to enter a new area; “shoe leather methodology”, referring to the need to walk many miles in a location to acquire a sense of the local preferences and standards; and others. This method includes interviewing and talking to locals in the area, including the local authorities, competitors, designers, engineers, contractors and anyone else that can provide insights for the entrant firm. In addition, it includes visiting projects to ascertain local market conditions and standards in order to determine how their company can differentiate itself from competitors while meeting local expectations.
- **Trial Projects** include references to small projects or other endeavors a company carries out to acquire knowledge prior to embarking on a full-scale project. For instance, developers can contract to do property management work for building operations to gain knowledge into building permits and standards, local subcontractors and suppliers and customer preferences. Some contractors chose to contract for a project at or below cost in an area, knowing that they will lose money. They “write off” the losses experienced on these projects as the cost of acquiring knowledge to conduct future projects and establish themselves in the area.

Non-strategic Direct Sources

We also coded the sources companies use to acquire knowledge directly through non-strategic means. Subcategories within this category include employee’s prior personal experience and leaving it up to the project team members to acquire knowledge as they go through the project.

- In some companies, employees have **prior personal experience** in the area due to past employment with other companies. Even if the person did not have prior experience within the specific area, working internationally often helped them recognize knowledge that was important to acquire and sources that may be helpful in acquiring this knowledge. This follows prior research (discussed above) related to absorptive capacity.
- Even with the acknowledgement of the importance of institutional knowledge, many people are left trying to **figure out the local area knowledge on their own** as they develop, design and build the project. In some cases, the knowledge is too difficult to acquire except through direct experience. In other instances, the company does not have methods in place to prepare its employees prior to starting the project.

Public Sources

Public sources include the subcategories of acquiring knowledge through journals, the internet, conferences, or through other publically available information sites. References to this category included journals that inform readers about projects and legal cases in certain areas, conferences where employees meet others who have experience in the area, and external websites such as Globesmart® that provide information regarding different working cultures and norms, government websites that provide country information, and other sites on the internet that provide marketing information.

Acquisition methods based on knowledge type

We cross-tabulated the results obtained from informants regarding acquisition sources with different types of institutional knowledge to determine what sources were most frequently mentioned for specific types of knowledge. We analyzed these results in different formats to observe differences and develop theory. Across all informants, the relative frequency (percentage of coded references citing the use of an acquisition method) for each type of institutional knowledge is presented in Table 2.

Table 2: Relative Frequencies of Acquisition Sources and Methods for Institutional Knowledge (Aggregated across all firm types)

Source/Method	Institutional Knowledge Type		
	Regulative	Normative	Cultural-Cognitive
Client	12%	4%	8%
Consultants (Other)	2%	2%	14%
Consultants (Local)	17%	12%	6%
Financier	1%	2%	3%
Local Partner	7%	4%	0%
Subcontractor/Supplier	4%	4%	3%
Non-contractual Relationships	13%	14%	6%
Acquire Company	3%	3%	0%
Hire Locals	6%	11%	11%
"Pioneering"	17%	23%	19%
Trial Project	1%	2%	0%
Prior Personal Experience	4%	3%	3%
Figuring it out as you go	4%	8%	17%
Public Sources	7%	6%	11%
<i>Column Totals</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
<i>Total References</i>	<i>178</i>	<i>229</i>	<i>36</i>

Regulative Knowledge

From Table 2, we observe that local consultants (17%), “pioneering” (17%), non-contractual relationships (13%) and the client (12%) are the most commonly mentioned sources and methods for acquiring regulative knowledge. In our data collection, regulative knowledge included laws and regulations, operating laws, knowledge of the government, design and construction standards, and approval processes [Refer to Javernick-Will and Scott (2009) for a description of each type of regulative knowledge].

Local Consultants

During analysis, we noted that informants most frequently cited using local consultants to acquire knowledge of laws and regulations, design and construction standards and approval processes [Refer to Appendix 1 for the relative frequency of mentioned sources according to the subcategories of institutional knowledge types]. Participants noted that they would typically hire a consultant to provide local knowledge to ensure they were abiding by the local laws regarding

taxes, how to handle payments and money transfer, and other legal matters. One informant described his company's need to rely upon local consultants because laws were continually updated and revised:

In terms of the regulations... obviously we have a lot of resources in house, but we still use external resources to advise particularly on things like regulations because they are changing all the time, it's impossible for us to keep completely updated... we need to protect ourselves to ensure we are complying with the laws, which is why we employ a professional team of consultants on each development.

Firms also hire local consultants for their knowledge of design and construction standards. One engineer discussed the need to have a local company adjust the design to meet locally accepted design standards:

In Poland, we give the designs to a local design company. They translate all the details in accordance with the local requirements.

Similarly, local consultants help companies understand and traverse the local approval processes. They typically have worked with local authorities for many years, acquiring knowledge of procedures and establishing relationships with local officials charged with approving various aspects of the construction project. This often helps the project avoid schedule delays.

“Pioneering”

“Pioneering” was cited most frequently as the technique for obtaining operating laws, knowledge of the government and general laws and regulations. The company will send experienced staff into an area to gather information for this regulative knowledge. They meet with government officials, labor offices, permit offices and other local authorities. One informant described this process for a project in Madagascar:

So we sent a team... from here and they went for a site visit and they surveyed the country... to come up with a lot of details about the local tax law, laws—the country laws, financial laws, custom duties and port charges, port clearance, visas for our employees, environmental laws because we're going to cross forests and all that, safety rules and driving rules and, and all kinds of laws.

Many companies document the information they have collected in a report. In addition, they research government operations by questioning other companies and parties. They usually try to obtain knowledge of the government prior to starting a project to ensure that the government is stable, has a fair dispute resolution system, and that the local officials and governmental units are trustworthy.

Non-contractual Relationships

Companies often use non-contractual relationships to obtain knowledge during the “pioneering” process. For regulative knowledge, relationships were particularly important for obtaining knowledge of the government, approval processes and laws and regulations. Many informants mentioned using their home country government as a source of information and reference to local government contacts that could provide useable local knowledge. Others indicated that they would rely on their personal networks to provide knowledge.

Client

For regulative knowledge, informants from contractors and engineers most frequently cited the client as providing knowledge and information related to the design and construction standards. Depending on the delivery method, the contract often prescribes what standards should be used. As one engineer commented:

The standards that we have to design to and the local regulations, protocols and approvals are provided by the client through the contract and scope. We make sure that this is documented so that we know it and can give a firm price—otherwise you’re a hostage to fortune.

In many cases, the client will be obliged to specify local standards, but, depending on project type and local government stipulations, they may also specify international design and construction standards:

A lot of times the clients will tell us what codes we should use. Today, these are often based on international codes and standards or the client’s own standards.

Normative Knowledge

When queried across all firms, informants acquired normative knowledge most frequently through “pioneering” (23%), non-contractual relationships (14%) and local consultants (12%) [Refer to Table 2]. For this research, normative knowledge included knowledge of work practices; social norms, expectations and local preferences; industry organization; logistics; relationships; resources and productivity; and market knowledge [Refer to Javernick-Will and Scott (2009) for a detailed description of each type of normative knowledge].

“Pioneering”

Pioneering is one of the most frequently cited sources to acquire all types of normative knowledge with the exception of knowledge about the local industry organization. Because this knowledge is often not available in public materials, companies must take extra measures to

ensure they acquire the knowledge needed to complete project obligations. Therefore, they send staff (often who have experience working internationally) into the area to “walk the streets”, “learn the lingo”, and start to identify local norms. This involves interviewing informants, visiting local projects and offices of lawyers, architects, subcontractors, government, banks, competitors, etc. and spending time in the area.

One developer commented on the “pioneering” process they undertook when deciding if they wanted to develop projects in China:

We started in China in 1996 with two guys and... basically rented a hotel suite for a year...[to] literally just do our research. We ran around and met everybody, we walked, we studied maps, we looked at historic progression, we talked to the public officials, and asked them what their ideas were, where did they want the city to grow?, did they want to grow out? grow up? become mixed use? become less mixed use? We talked to people about whether they were willing to live in high-rise residential or whether they wanted to be close to the ground, etc.

The same process helps them to benchmark comparable projects in order to detail the specifications and contracts for a building once they decide to proceed. They talk with a wide range of informants to determine what people consider to be the “best” buildings in the area and why in order to decide how they can best compete in the environment. Walking buildings to observe lobbies, elevators, and restrooms, floor-to-ceiling heights, floorplates, exterior facades, etc. enables them to “see, feel, and touch the best product that is available on the market in each of the segment groups”. This helps them to understand the local market and preferences to determine the project they want to build.

“Pioneering” also helps companies to determine knowledge regarding a specific project. For instance, one contractor described sending in “pioneers” to meet with officials and produce a “site visit report”. This report detailed knowledge regarding available resources, labor rates and productivity norms, work practices and logistics within the area that the pioneers obtained from conversations with sub-contractors and visits to project sites. Many contractors indicated that they could not just rely on word-of-mouth to obtain this knowledge. Instead, they had to conduct their own investigation to communicate differences between their home market and the new project area and avoid translation issues.

Non-contractual Relationships

To acquire normative knowledge, companies frequently rely on external relationships. For instance, it is often important for companies to understand existing relationships and networks in

an area. Informants from entrant firms most frequently cited their personal networks to understand and navigate these relationships in the area. In addition, they used their global network of competitors and others in their supply chains to determine local companies that could be trusted for projects or to obtain additional knowledge of relationships and logistics in the area. As one developer indicated: “Relationships and joint ventures are formed from other [existing] relationships and meeting companies and people in the area”.

Local Consultants

In addition to helping entrant firms acquire regulative knowledge, local consultants also help them learn normative knowledge, such as work practices, norms and preferences, the organization of the industry and market knowledge. For instance, if an international engineer or architect is hired for a project, they will frequently have a local counterpart that helps them adjust designs according to locally accepted norms. Developers and engineers frequently mentioned this organizational arrangement. One developer described the process:

In most of the emerging markets that we've worked in, we've gone with what we call an international consultant team and local consultant team. We would hire international consultants ... who know multinational expectations, quality, good design, and efficiency from both engineering and space and planning, and they would set the standards for the building and would basically design through a design development package. And then, the local team would finish the design...and so you would have a local team who would be helping the international team all the way through the design process with local norms and requirements...and would complete the working drawings.

The local consultants help to ensure that the design is buildable in the location from the standpoint of work practices and resources and that the project meets local expectations.

Cultural-Cognitive Knowledge

Cultural-cognitive knowledge includes knowledge of local cultural beliefs, language, and concepts and meanings. Where discussed, informants obtained this knowledge from “pioneering”, figuring it out on their own, hiring locals, or, in the case of language, through hiring consultants. Cultural-cognitive knowledge is difficult to acquire and comprehend. As a result, only 36 references were cross-coded to both cultural-cognitive knowledge and external acquisition sources. This is not surprising given that this category is the least well-recognized aspect of institutions. People’s basic assumptions and beliefs tend to be central to their thought processes; as a result, it is difficult for people to recognize and express these differences or how

they learned about cultural-cognitive knowledge in a project location. Thus, we provide only a brief discussion of the results collected in this section.

Many companies try to obtain some cultural-cognitive knowledge through pioneering. This method was mentioned for obtaining knowledge of concepts and meanings. For instance, informants can learn how different areas market their buildings, i.e. Do they have terminology that specifies what is included in rentable square feet? However, due to the difficulty of understanding deeply held cultural cognitive knowledge, many informants indicated that they had to learn about beliefs and meanings on their own as they went through the project. In some cases, engineers and contractors could rely on the client to provide this knowledge, particularly if cultural beliefs were creating problems on a project and causing schedule delays. In these cases, the problem is often due to the location or project type and thus, the client would be actively involved in finding an alternative solution or settling the matter. Finally, hiring locals who have acquired deeply held cognitive-cultural beliefs can help the entrant firm to understand cultural beliefs and meanings within the project area. These locals often act as translators between beliefs, so it helps if they have multinational experience as well. In addition, informants most frequently mentioned hiring consultants to help them translate and understand the language in the project area.

Based on the results obtained from all informants regarding acquisition methods and sources, we document differences according to institutional knowledge type. For instance, the importance of local consultants declines from regulative to normative. This category increases for cultural-cognitive knowledge, but only for the subcategory of language. Consultants can help entrant firms navigate changing laws and regulations, design and construction standards and approval processes. In addition, local design consultants can advise and translate international designs into a product that would fit local expectations and norms. Relying on consultants becomes a bit more difficult, however, as the knowledge becomes more tacit and taken for granted. When this occurs, we observe an increase in “pioneering”, hiring locals and “figuring it out as you go” from regulative to normative and from normative to cultural-cognitive knowledge. This suggests the need for the firm to bring the knowledge permanently in house to translate the tacit differences between familiar and foreign environments. The most tacit knowledge, cultural-cognitive knowledge, is extremely difficult for foreigners to recognize,

acquire and comprehend. As a result, references to this category were sparse. Future research is needed to provide more reliable insights into acquisition of this knowledge type.

Acquisition methods based on firm type

The previous section discussed results aggregated across informants from all firms. When these results are segregated based on firm type, we observe differences between acquisition methods.

Please refer to

Table 3 for the relative frequencies of use of different sources for each firm type.

Table 3: Relative Frequencies of Acquisition Methods/Sources for Institutional Knowledge (Separated by Firm Type)

Source/Method	DEVELOPER			CONTRACTOR			ENGINEER		
	Reg	Norm	Cult-Cog	Reg	Norm	Cult-Cog	Reg	Norm	Cult-Cog
Client	0%	0%	0%	9%	7%	0%	27%	8%	16%
Consultants (Other)	0%	0%	0%	2%	0%	0%	4%	8%	26%
Consultants (Local)	21%	19%	0%	15%	9%	0%	16%	8%	11%
Financier	0%	0%	0%	2%	4%	7%	0%	0%	0%
Local Partner	5%	4%	0%	7%	2%	0%	7%	9%	0%
Subcontractor/Supplier	2%	1%	0%	7%	9%	7%	2%	2%	0%
Non-contractual Relationships	17%	17%	0%	12%	15%	14%	11%	9%	0%
Acquire Company	5%	7%	0%	2%	1%	0%	2%	0%	0%
Hire Locals	14%	19%	33%	2%	2%	14%	4%	13%	5%
"Pioneering"	14%	19%	67%	28%	34%	21%	4%	11%	11%
Trial Project	2%	2%	0%	0%	1%	0%	2%	2%	0%
Prior Personal Experience	12%	6%	0%	1%	2%	7%	4%	2%	0%
Figuring it out as you go	5%	4%	0%	1%	5%	14%	9%	21%	21%
Public Sources	2%	2%	0%	9%	9%	14%	9%	8%	11%
<i>Column Totals</i>	100%	100%	100%	100%	100%	100%	100%	100%	100%
<i>Total References</i>	42	84	3	81	92	14	55	53	19

Developers/Owners

To acquire local institutional knowledge, developers most frequently mention “pioneering”, hiring locals, contracting local consultants and external relationships. Consultants are part of an owner’s team no matter where the project is developed. For institutional knowledge, they were

the primary source of knowledge regarding design and construction standards, approval processes, and social norms and local preferences [See Appendix 2 (Developers), Appendix 3 (Contractors), and Appendix 4 (Engineers) for the relative frequency of sources different types of firms mentioned from which they acquire each subcategory of institutional knowledge]. As discussed above, these consultants are able to modify and influence the design in accordance with local protocol and standards. Developers also used external relationships to acquire regulative and normative knowledge, primarily to acquire knowledge of the government, approval processes, relationships and material and labor availability. These results are not surprising because owners take the lead role in putting a project together. As a consequence, they build many relationships with other companies and hire a diverse array of consultants to complete the project. One developer described his role on a project by relating it to a conductor in an orchestra:

A developer is a conductor in an orchestra; in that orchestra are at least 100 musicians and therefore the developer has at least 100 relationships with all of these musicians... within this orchestra, there are contractors, engineers, bankers, tenants, and city officials, which might in turn be the planning department, fire department, sewer department, water department etc. There are brokers for leasing, brokers for selling, environmental agencies, the greater government. So that the developer has the primary relationships with dozens of different types of bodies.

Developing and owning a project requires a large investment of both time and money. In addition, these projects are permanent. Therefore, investing in a project necessitates that the developer or owner have significant knowledge of the area to ensure an adequate long-term return on the investment. In addition, developments require time to achieve their full return, dictating the need for the project to be accepted by the local population. For instance, achieving local legitimacy will enable a developer to lease space in an office building or receive payment for services provided by new infrastructure. To obtain the knowledge necessary to achieve these goals, a developer must spend a long time acquiring this knowledge by “pioneering”. Pioneering not only helps them to obtain information about the local area, but it also is critical for them to find reliable people within the area to hire permanently and establish a local office. Hiring locals is vital for developers to achieve local legitimacy and build a long-term, sustainable local organization. Many developers described the importance of locating good people during the pioneering process, indicating that they would take as much time as needed to find the right

people to hire. In addition, many attributed their international project successes to building strong local teams. One developer provided an internal book that quoted one of our informants describing the importance of identifying people through the pioneering process:

Our hidden agenda [in the “pioneering process”] was to find people. We get to know and like people and a year or two later they are on board. We were in no rush, because once you find the right people, you can do anything... if we go in and spend the time to understand the dynamics of the market, well, even a blind pig finds a truffle every now and then, but if you dig with local people who understand the market, you have a better chance of finding an opportunity... or develop something to respond to a particular need.

Another informant also described the importance of locating people who have done developments and gone through the approval process before, describing that the key to receiving approval is having informal relationships with the people in approval departments:

The real talent is in being able to hire somebody that has been through the [approval] process so many times that they know who the right people are to go and talk to, and they know how to get things through the process.

For developers, this pioneering process takes a lot of time, often at least a year, to determine the appropriate people to hire and project to build. After describing the pioneering process, one informant acknowledged that his company would freely back out of entering a new location if they do not feel comfortable with the knowledge they have collected over time:

We spent the first year literally just doing our research... and we were very open to say at the end of that year, “Let’s shut things down and pull out”. But, in fact we stayed in, we invested for another year, and the result of that was we identified an initial project, an initial group of partners, and an initial group of architects and engineers and contractors, who we felt comfortable with, in terms of quality and ethics and knowledge and reputation.

The developers interviewed stressed the importance of time within an area to acquire local area knowledge before they invested in a project and local office for the long-term.

We offer propositions to summarize our findings more formally regarding the learning sources different firms employ to acquire institutional knowledge on their international projects. The foundation of these propositions was developed in the paper, based upon the relative frequency of responses and participants’ interview quotes. Formalizing these propositions will allow future

work to expand or refine our findings. We present results regarding the propositions for institutional learning by developers below:

Proposition 1: Due to the permanence, long-term investment and need for local legitimacy on infrastructure and building projects, real estate developers/owners will try to bring knowledge of the local area into their company by hiring locals and creating a local office. This also helps them to acquire some of their most important knowledge (Javernick-Will and Scott, 2009), including social norms, preferences, concepts, and meanings, which remain relatively consistent over time.

Proposition 2: Certain types of knowledge change frequently or require intimate knowledge of people and local processes, such as approval processes, permits and laws and regulations. For this type of knowledge, real estate developers/owners will hire locals or rely on local consultants who are aware of the changing nuances and regulations.

Proposition 3: Identifying the right people to hire as consultants and employees and selecting the appropriate project for an area requires investing in long-term strategies to acquire knowledge through interviews, establishing relationships, and observing practices and existing infrastructure.

Contractors

Similar to developers, contractors also rely chiefly on “pioneering” to acquire institutional knowledge. As part of this process, local consultants and external relationships help provide access to the needed knowledge. However, in contrast to developers, these “pioneers” were sent on a temporary basis to gather knowledge, collecting the knowledge in a much shorter period. When asked, a few of the informants indicated that the initial phase of pioneering could be collected in a few weeks with subsequent follow up as required. One informant talked about this phase prior to being awarded the contract:

[We initially] send people in—they are spying there for one weeks or two weeks just to collect data and come back.

Another person, who held the job of “pioneer”, indicated that the data collection during the initial phase was very rushed with a lot of data to collect. He said:

I had a few days in the capital. There I tried to get as much content as I could with labor, labor laws so I went to a few ministries to see if I could get any documents...I only had 2 days available, but I made a, a few contacts, gave [subcontractors, etc.] our brochures... explaining what our company does.

These visits often result in a final report or presentation that is used to prepare the bid and set up the project. After receiving a contract, contractors will frequently send in other “pioneers” to set up camps, register the company, obtain working permits, set up banking systems, etc. to prepare for the project at hand.

Then after the [award of the] project comes the execution. We have the project, we have the contract, and now we come to the execution... So, we send people over there and their job is to do a pioneer set up for the project so that the project staff and personnel can come over and start the actual work.

These comments suggest that even though contractors and developers relied on similar strategies to acquire knowledge, they needed different types of knowledge, and, as a result, they acquired this knowledge under different time frames. Largely, this was due to their investment and commitment in the project. Whereas developers need a deep understanding of the local preferences and beliefs in the area to ensure that their project would be locally sustainable, contractors were looking for very specific pieces of knowledge that would be required for them to complete the work outlined in a bid or contract. As reported in Javernick-Will and Scott (2009), the most important knowledge for contractors was knowledge of operating laws, logistics and material and labor availability. This knowledge is often specific to a particular project and will change over time, therefore they need to acquire knowledge on a project-by-project basis and as close as possible to the start of the project. From this, we develop the following propositions for institutional learning by contractors:

Proposition 4: Contractors will often send employees into a new region or country on a short-term basis to collect knowledge from local contractors, their network, and others in the area.

Proposition 5: The most important knowledge for contractors in a new location is changing frequently and project specific; therefore, they will prefer to collect this knowledge shortly before the project and rely on external relationships instead of bringing the knowledge in house permanently.

Engineers

Compared to contractors and developers, who strategically set out to acquire the knowledge through pioneering, engineers indicated that they acquired institutional knowledge through the client or learned about institutional knowledge as they went through the course of the project. Engineers typically cited clients as providing the design standards and approval process for the project; two of their most important types of knowledge on international projects as reported in Javernick-Will and Scott (2009). Learning as they went was the most frequently cited source for knowledge of work practices and material and labor availability, also cited as being important. One engineer described this as learning in “bump navigation” mode, meaning you “bump” into problems and figure them out as they arise:

You know, it is very much a question of what I call “bump navigation”: you don’t know where you’re going until you bump into a problem. And then...you’re in the sideways.

Upon initial inspection, these results may seem surprising. However, upon closer inspection there are at least two reasons for these sources and methods. The first reason involves the case studies employed in this study. We selected informants from international companies who had experience dealing with institutional differences in foreign markets. If international designers and engineers do not have a local office in a given project area, they are often selected for the project due to their international reputation. One engineer described this:

One of the main reasons why we go into specific areas is either due to a client request or the request of the client’s architect or urban designer.

Another, commenting on experiences entering Saudi Arabia, indicated that they were brought in to advance the expertise within the country:

They recognized that Saudi Arabia wasn’t particularly advanced [at the time]. And they had a great deal of money that they could use to bring expertise to Saudi Arabia. So, they brought in people like us because they wanted our international expertise.

In these instances, the client will typically help provide needed knowledge or contract with a local designer who can supplement the firm’s international experience with local expertise.

The second reason is that we limited results for this paper to *external* sources through which institutional knowledge can be acquired initially. The international engineers involved in

the study are globally distributed with an average of just over 24 countries with offices [refer to Table 1]. As one engineer commented:

Its probably true to say that we have gone into places where we don't have an established office, but its more usual for us to have an office where we are going to do a project.

These companies will often contact an office that is close to the project location to provide needed knowledge as one informant described:

The local office can give strategic advice on the contracts, what stages of work you're going to be taking on, what you'll be expected to produce at that stage, etc. So you know it's a two way discussion basically with the aim of making sure that we do whatever work we're doing in the area to a standard which is acceptable and the standard that's required.

In addition to the local office, employees in these firms work on multiple projects at once. Therefore, they have acquired experience from many projects in many different regions throughout the company's lifetime. As a result, employees in engineering firms will most frequently rely on existing in-company knowledge, either from local offices or others with prior experience in the area, to obtain local institutional knowledge. Please refer to Javernick-Will and Levitt (2009) for results regarding institutional knowledge sharing methods within companies. These results lead us to create the following propositions regarding the sources engineers use to acquire institutional knowledge:

Proposition 6: International engineers will rely primarily on in-company knowledge, either from a local office or from others within the firm with prior experience in a region, because they are geographically distributed and have employees with experience in multiple regions.

Proposition 7: If international engineers do not have a local office or employees with prior experience in a given area, they will rely on the client or the party who brought them into the area. This is generally acceptable to clients, because the engineers are hired largely for their technical expertise.

CONCLUSION

Prior studies have highlighted the importance of acquiring knowledge of a local project area's institutions—regulations, norms and cultural beliefs—for an entrant firm. This knowledge helps

to reduce some of the unexpected problems and risks that arise from differences between the project area and entrant firm. Collecting institutional knowledge to use on international projects is therefore extremely beneficial for firms entering a new market. Although many scholars recognize the importance of institutional knowledge and organizational learning for international business, only a few recent studies have begun to analyze how this knowledge is acquired. Many of these studies concentrate on the time required to acquire institutional knowledge, focusing on acquisition through direct experience or through joint ventures and acquisitions. In addition, they typically aggregate results across firm type and generalize institutional or local market knowledge without analyzing different components.

Using qualitative research methods with 113 informants distributed across fifteen international firms, we answer calls for additional studies on the sources firms use to acquire this knowledge initially. We focus specifically on the project-based AEC industry and attend to differences in both knowledge type and firm type. We identified fourteen sources that firms use to acquire this knowledge. Aggregated results across all firms showed that pioneering, external relationships, local consultants and the client were important sources and methods for acquiring institutional knowledge. However, local consultants were more important for knowledge that could be acquired but that was changing frequently, for example, laws and design and construction standards. As the knowledge became more tacit in the normative and cultural-cognitive categories, bringing the knowledge in house became more important through “pioneering” and hiring locals. In addition, we analyzed results for different types of firms. The responses indicate that developers most frequently engage in pioneering, taking a long time to hire local consultants and permanent staff to establish a long-term, sustainable office that produced locally accepted projects. Contractors also relied heavily on “pioneering”, local consultants, and external relationships to acquire institutional knowledge; however, they acquired knowledge that was specific to individual projects over a short period. The results showed that engineers relied on clients and learning as they went to acquire institutional knowledge from external sources; however, they also frequently relied on local offices and others within their firms, subjects that were excluded from the data analysis due to the focus on the initial acquisition of this knowledge.

We contribute to the international business literature, organizational learning and institutional theory by allowing informants to respond openly regarding how they acquired

institutional knowledge, enlarging the focus from direct experience and contractual differences to include additional sources. In addition, we divided institutional knowledge to analyze differences between acquisition sources and attended to differences between firm types. For practitioners in the AEC industry, we offer suggestions of sources that appear to be useful for acquiring different types of knowledge. This can be helpful for firms who realize the need to acquire specific knowledge for their international projects and are looking for means that can help them obtain this knowledge. Future extensions of this work can attempt to develop tools and guidelines to help firms decide which types of knowledge are important and how to acquire them.

We encountered practical limitations during our research. The time and cost required to conduct international qualitative research limited the number of informants and firms we could include in the study. Future work can validate the propositions and generalize the findings by collecting data through survey methods or other means to expand the number of firms and informants involved in the study. In addition, our responses were limited regarding the acquisition of cultural-cognitive knowledge. Additional research is needed to validate how entrants can acquire this knowledge. Finally, our responses are limited to what the informants in firms currently use in practice to acquire this knowledge. This does not necessarily dictate the best method, but the overall frequency of methods used in the past to successfully acquire this knowledge.

This study identifies different sources and methods firms can use to acquire different types of institutional knowledge. Prior studies focused on the AEC industry have stressed the need for firms to adopt a culture of learning to increase their ability to respond to the current business environment (Chinowsky and Carrillo 2007; Kululanga et al. 2002). We also stress the importance of strategically implementing learning mechanisms and focus specifically on how firms can learn during internationalization. The overall aim of this research is to allow firms to increase their knowledge of institutions to create economically, environmentally, and socially sustainable international projects.

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Appendix 1: Relative Frequency of Sources for Acquiring Institutional Knowledge (by Subcategories) across All Firms

SUBCATEGORIES OF INSTITUTIONAL KNOWLEDGE TYPES															
Source/Method	Laws & Regulations	Operating Laws	Knowledge of Government	Design Const Standards and Permit	Approval Processes	Work Practices	Social Norms, Expect & Local Preferences	Industry Organization	Logistics	Relationships	Mkt and Labor Availability	Market Knowledge	Cultural Belief	Concept Meaning	Language
Client	7%	2%	2%	25%	11%	3%	2%	43%	3%	2%	3%	2%	18%	0%	5%
Consultants (Other)	2%	0%	2%	5%	3%	3%	2%	7%	3%	0%	1%	0%	0%	0%	23%
Consultants (Local)	18%	15%	9%	25%	24%	19%	15%	14%	9%	7%	11%	16%	9%	0%	5%
Financier	0%	3%	4%	0%	0%	0%	0%	0%	6%	0%	4%	2%	9%	0%	0%
Local Partner	5%	11%	4%	5%	8%	3%	2%	0%	0%	9%	3%	3%	0%	0%	0%
Subcontractor/Supplier	0%	7%	0%	6%	6%	3%	2%	0%	3%	2%	11%	3%	0%	0%	5%
External Relationships	15%	13%	21%	3%	14%	6%	13%	0%	17%	27%	11%	11%	9%	0%	5%
Acquire Company	3%	3%	0%	2%	5%	3%	6%	0%	0%	4%	0%	5%	0%	0%	0%
Hire Locals	10%	7%	2%	3%	10%	13%	13%	0%	3%	15%	6%	14%	9%	25%	14%
"Pioneering"	18%	28%	28%	10%	10%	19%	24%	0%	40%	18%	32%	25%	18%	50%	14%
Trial Project	2%	2%	0%	2%	0%	0%	0%	0%	3%	4%	3%	3%	0%	0%	0%
Prior Personal Experience	3%	2%	2%	6%	5%	10%	6%	7%	0%	4%	4%	5%	0%	0%	5%
Figuring it out as you go	7%	3%	6%	5%	2%	13%	11%	29%	3%	4%	9%	0%	18%	25%	14%
Public Sources	10%	5%	19%	3%	3%	3%	6%	0%	11%	5%	3%	11%	9%	0%	14%
Column Totals	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total References	60	61	47	63	63	31	54	14	35	55	79	63	11	4	22

Appendix 2 : Relative Frequency of Sources for Acquiring Institutional Knowledge (by Subcategories) for Developers

Source/Method	SUBCATEGORIES OF INSTITUTIONAL KNOWLEDGE TYPES														
	Laws & Regulations	Operating Laws	Knowledge of Government	Design Const. Standards and Permit	Approval Processes	Work Practices	Social Norms, Expect & Local Preferences	Industry Organization	Logistics	Relationships	Mtl and Labor Availability	Market Knowledge	Cultural Belief	Concept Meaning	Language
Client	0%	0%	0%	0%	0%	0%	0%	0%	N/A	0%	0%	0%	N/A	0%	N/A
Consultants (Other)	0%	0%	0%	0%	0%	0%	0%	0%	N/A	0%	0%	0%	N/A	0%	N/A
Consultants (Local)	14%	17%	17%	50%	18%	33%	27%	50%	N/A	7%	14%	19%	N/A	0%	N/A
Financier	0%	0%	0%	0%	0%	0%	0%	0%	N/A	0%	0%	0%	N/A	0%	N/A
Local Partner	5%	8%	8%	0%	6%	0%	3%	0%	N/A	3%	0%	5%	N/A	0%	N/A
Subcontractor/Supplier	0%	0%	0%	0%	6%	0%	3%	0%	N/A	3%	0%	2%	N/A	0%	N/A
Non-contractual Relationships	14%	8%	25%	10%	18%	0%	13%	0%	N/A	24%	36%	10%	N/A	0%	N/A
Acquire Company	5%	0%	0%	0%	12%	0%	10%	0%	N/A	7%	0%	7%	N/A	0%	N/A
Hire Locals	24%	25%	8%	0%	18%	33%	17%	0%	N/A	21%	14%	19%	N/A	33%	N/A
"Pioneering"	19%	17%	8%	20%	18%	0%	20%	0%	N/A	17%	21%	21%	N/A	67%	N/A
Trial Project	5%	8%	0%	0%	0%	0%	0%	0%	N/A	3%	7%	5%	N/A	0%	N/A
Prior Personal Experience	10%	8%	8%	20%	6%	17%	7%	50%	N/A	7%	0%	7%	N/A	0%	N/A
Figuring it out as you go	5%	8%	17%	0%	0%	17%	0%	0%	N/A	3%	7%	0%	N/A	0%	N/A
Public Sources	0%	0%	8%	0%	0%	0%	0%	0%	N/A	3%	0%	5%	N/A	0%	N/A
Column Totals	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	100%	0%	100%	0%
<i>Total References</i>	21	12	12	10	17	6	30	2	0	29	14	42	0	3	0

Appendix 3: Relative Frequency of Sources for Acquiring Institutional Knowledge (by Subcategories) for *Contractors*

SUBCATEGORIES OF INSTITUTIONAL KNOWLEDGE TYPES															
Source/Method	Laws & Regulations	Operating Laws	Knowledge of Government	Design Const Standards and Permit	Approval Processes	Work Practices	Social Norms, Expect & Local Preferences	Industry Organization	Logistics	Relationships	Mit and Labor Availability	Market Knowledge	Cultural Belief	Concept Meaning	Language
Client	5%	2%	4%	16%	4%	7%	0%	100%	3%	9%	4%	5%	0%	N/A	0%
Consultants (Other)	5%	0%	4%	4%	8%	0%	0%	0%	0%	0%	0%	0%	0%	N/A	0%
Consultants (Local)	29%	7%	7%	28%	28%	20%	0%	0%	10%	0%	12%	10%	0%	N/A	0%
Financier	0%	5%	7%	0%	0%	0%	0%	0%	7%	0%	6%	5%	20%	N/A	0%
Local Partner	0%	7%	4%	12%	12%	7%	0%	0%	0%	9%	0%	0%	0%	N/A	0%
Subcontractor/Supplier	0%	10%	0%	12%	8%	7%	0%	0%	3%	0%	16%	5%	0%	N/A	10%
External Relationships	10%	17%	15%	4%	12%	13%	15%	0%	17%	45%	8%	15%	20%	N/A	10%
Acquire Company	5%	5%	0%	0%	0%	7%	0%	0%	0%	0%	0%	0%	0%	N/A	0%
Hire Locals	5%	2%	0%	4%	8%	0%	8%	0%	3%	0%	2%	0%	20%	N/A	20%
"Pioneering"	29%	37%	41%	12%	12%	27%	31%	0%	41%	27%	37%	35%	20%	N/A	20%
Trial Project	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	2%	0%	0%	N/A	0%
Prior Personal Experience	0%	0%	0%	0%	4%	7%	8%	0%	0%	0%	4%	0%	0%	N/A	10%
Figuring it out as you go	0%	0%	0%	4%	0%	0%	23%	0%	3%	0%	6%	0%	20%	N/A	10%
Public Sources	14%	7%	19%	4%	4%	7%	15%	0%	7%	9%	4%	25%	0%	N/A	20%
Column Totals	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	100%
Total References	21	41	27	25	25	15	13	3	29	11	51	20	5	0	10

Appendix 4: Relative Frequency of Sources for Acquiring Institutional Knowledge (by Subcategories) for Engineers

Source/Method	SUBCATEGORIES OF INSTITUTIONAL KNOWLEDGE TYPES														
	Laws & Regulations	Operating Laws	Knowledge of Government	Design Const Standards and Permit	Approval Processes	Work Practices	Social Norms, Expect & Local Preferences	Industry Organization	Logistics	Relationships	Mtl and Labor Availability	Market Knowledge	Cultural Belief	Concept/ Meaning	Language
Client	17%	0%	0%	43%	29%	0%	9%	33%	0%	0%	0%	0%	33%	0%	8%
Consultants (Other)	0%	0%	0%	7%	0%	10%	9%	11%	17%	0%	7%	0%	0%	0%	42%
Consultants (Local)	11%	50%	0%	14%	24%	10%	0%	11%	0%	13%	7%	0%	17%	0%	8%
Financier	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Local Partner	11%	38%	0%	0%	5%	0%	0%	0%	0%	20%	14%	0%	0%	0%	0%
Subcontractor/Supplier	0%	0%	0%	4%	5%	0%	0%	0%	17%	20%	7%	0%	0%	0%	0%
External Relationships	22%	0%	38%	0%	14%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%
Acquire Company	0%	0%	0%	4%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Hire Locals	0%	0%	0%	4%	5%	20%	9%	0%	0%	13%	14%	100%	0%	0%	8%
"Pioneering"	6%	0%	13%	4%	0%	20%	27%	0%	33%	13%	21%	0%	17%	0%	8%
Trial Project	0%	0%	0%	4%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%
Prior Personal Expertise	0%	0%	0%	7%	5%	10%	0%	0%	0%	0%	7%	0%	0%	0%	0%
Figuring it out as you go	17%	13%	13%	7%	5%	30%	27%	44%	0%	7%	21%	0%	17%	100%	17%
Public Sources	17%	0%	38%	4%	5%	0%	9%	0%	33%	7%	0%	0%	17%	0%	8%
Column Totals	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total References	18	8	8	28	21	10	11	9	6	15	14	1	6	1	12

