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Summary Report for Companies of Research Regarding the Mobilization of Institutional Knowledge for International Projects

By

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**Mobilizing Institutional Knowledge for International Projects:
The Relative Importance, Acquisition and Transfer of Institutional Knowledge for
International Firms**
A summary of results from Amy Javernick-Will's PhD Research

This summary provides a high-level view of the results from Amy Javernick-Will's PhD research for participating firms. The research began to answer: *"How do international firms mobilize the knowledge needed for global projects?"* This dissertation focuses specifically on "institutional" knowledge— knowledge of regulations, norms and cognitive-cultural beliefs—that may differ between an entrant firm's and host country's environment. This type of knowledge is recognized as being critically important for firms entering foreign countries and can reduce the liabilities, costs and risks faced by firms when internationalizing. This research employed qualitative, case-based research methodology with 113 informants from 15 international real estate development, construction and engineering firms to determine the relative importance of different types of institutional knowledge for different firms; to identify the sources to acquire this knowledge; and to identify and analyze the processes that firms use to integrate and share this knowledge. The diagram below shows the flow of the work presented in this summary as well as the dissertation. Planned future work (see page 5) will expand from this initial focus to encompass international organizational structures and focus on additional types of knowledge.

Organization of Results & Questions

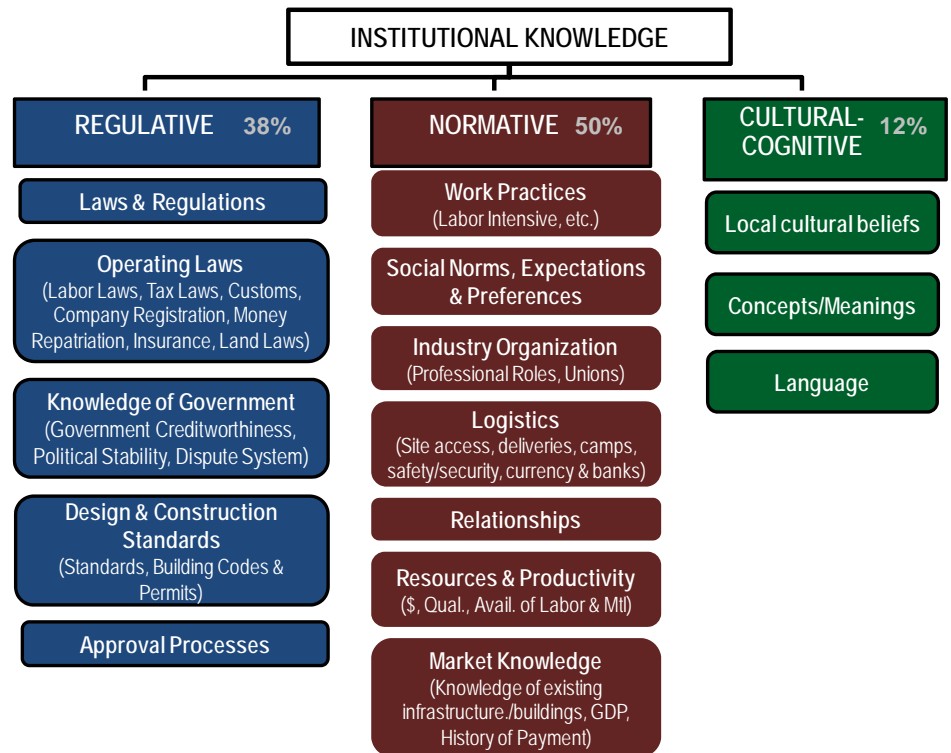| Paper #	Primary Question / *Secondary Questions*	General Contributions and Results
#1	What kinds of local institutional knowledge are important for firms engaged in international projects? / *How does this vary by firm type?*	•*Identified* & *Categorized* Important Knowledge for International Projects •*Analyzed* differences between firm types
#2	How do firms acquire institutional knowledge for their international projects? / *How does this vary by firm & knowledge type?*	•*Identified* external sources and learning methods use to acquire institutional knowledge •*Analyzed* differences between firm and knowledge types
#3	Once acquired, how do firms transfer institutional knowledge internally within the firm? / *How does this vary by knowledge type?*	•*Identified* methods used to transfer institutional knowledge internally •*Analyzed* differences between knowledge •*Discussed* benefits & limitations of methods

Links to Papers
- **Paper #1:** "Who Needs to Know What?: Institutional Knowledge and Global Projects" *(submitted to the Journal of Construction Engineering & Management; to be presented at ASCE CRC conference)*
- **Paper #2:** "Organizational Learning during Internationalization: Acquiring Institutional Knowledge" *(soon to be submitted to an ASCE journal)*
- **Paper #3:** "Mobilizing Institutional Knowledge for International Projects" *(submitted to the Journal of Construction Engineering & Management; early version won "Best Paper Award" at ASCE's LEAD conference)*
- **Complete Dissertation**

Segments of the interviews regarding knowledge needed for international projects were "coded" according to knowledge types. In addition, knowledge was coded as "important" if the informant indicated it was important, if the company strategically collected the knowledge, or if a difficulty arose due to the lack of a particular kind of knowledge. After cross-tabulating these two coding schemes, we queried the results based on relative frequency and present the results categorized into the "institutional" pillars identified in the chart on the right. Across all informants, knowledge within the "Normative" pillar was most frequently mentioned as important, followed by "Regulative" and then "Cultural-Cognitive". For a description of each subcategory, please see Paper #1.

Although all types of knowledge were important, there were noticeable differences when the results were queried across company type. The most important types of knowledge (based on relative frequency) are highlighted in the table on the right. For a description of differences and theoretical reasons behind these differences, please refer to Paper #1.

#1: WHAT KINDS OF LOCAL KNOWLEDGE ARE IMPORTANT FOR FIRMS ENGAGED IN INTERNATIONAL PROJECTS?

INSTITUTIONAL KNOWLEDGE

REGULATIVE 38%
- Laws & Regulations
- Operating Laws (Labor Laws, Tax Laws, Customs, Company Registration, Money Repatriation, Insurance, Land Laws)
- Knowledge of Government (Government Creditworthiness, Political Stability, Dispute System)
- Design & Construction Standards (Standards, Building Codes & Permits)
- Approval Processes

NORMATIVE 50%
- Work Practices (Labor Intensive, etc.)
- Social Norms, Expectations & Preferences
- Industry Organization (Professional Roles, Unions)
- Logistics (Site access, deliveries, camps, safety/security, currency & banks)
- Relationships
- Resources & Productivity ($, Qual., Avail. of Labor & Mtl)
- Market Knowledge (Knowledge of existing infrastructure./buildings, GDP, History of Payment)

CULTURAL-COGNITIVE 12%
- Local cultural beliefs
- Concepts/Meanings
- Language

| | KNOWLEDGE TYPES | COMPANY TYPES | | | |
		All	Developers	Contractors	Engineers
Regulative	Laws & Regulations	5.3%	6.2%	5.3%	4.8%
	Operating Laws	7.9%	4.1%	13.0%	3.6%
	Knowledge of Government	6.4%	7.2%	9.2%	2.4%
	Design/Const Standards & Permits	9.0%	8.2%	6.3%	12.7%
	Approval Processes	9.6%	9.3%	9.2%	10.3%
Normative	Work Practices	9.2%	3.1%	7.7%	14.5%
	Social Norms, Expectations & Preferences	9.8%	18.6%	6.3%	9.1%
	Industry Organization	9.2%	6.2%	10.1%	9.7%
	Logistics	7.9%	3.1%	11.1%	6.7%
	Relationships	1.7%	5.2%	1.4%	0.0%
	Mtl & Labor Availability,Quality,$	9.6%	5.2%	11.1%	10.3%
	Market Knowledge	2.1%	7.2%	1.4%	0.0%
Cult.-Cog	Cultural Beliefs	4.5%	4.1%	3.4%	6.1%
	Language, Concepts & Meanings	7.9%	12.4%	4.3%	9.7%
	Total :	100%	100%	100%	100%
	Total References:	n=469	n=97	n=207	n=165

Managers can use these results to collect, review, and analyze important knowledge for their firm. This categorization can also aid in designing risk checklists and knowledge management tools.

#2: HOW DO FIRMS *ACQUIRE* INSTITUTIONAL KNOWLEDGE FOR THEIR INTERNATIONAL PROJECTS?

Source	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%
External 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%
Column Totals	*100%*	*100%*	*100%*
Total References	*178*	*229*	*36*

FIRM TYPE	ACQUISITION STRATEGY	RATIONALE
	Hire Locals; Establish Local office	**Permanence; Long-term Investment: Need Local Legitimacy**
	Long Pioneering Process	*Long* Half-life of Important Knowledge
	Hire Consultants for Approval Processes/Laws	*This knowledge changes frequently and is project specific*
	Rely on *short*-term "Pioneering" and External Relationships	*Short* half-life of knowledge (changes frequently and is project specific)
	Rely on clients (may hire local consultants) or "learn as they go"	**International engineers are hired for their technical superiority**
	Rely on existing in-company knowledge	*Geographical spread of offices; completion of multiple projects; diverse staff*

Managers can use these results to figure out sources from which to collect important knowledge for their firm. Please refer to the Appendices in Paper #2 for an analysis of company type and the subcategories of important knowledge.

After identifying important knowledge for international projects, follow on questions addressed how the firm actually acquired this information. The interview results were coded into the "Source" categories presented in the Table at left and analyzed according to the institutional pillars from Question #1. For knowledge such as Laws & Regulations, Approval Processes and Design & Construction Standards, informants frequently used local consultants. This knowledge can change frequently, and thus it was important for companies to hire local experts as consultants to their team. However, as the knowledge became more tacit in the "Normative" and "Cultural" categories, companies obtained this knowledge in-house, either by strategically collecting the knowledge through "pioneering", hiring locals permanently in house, or having employees "figure it out as they went". General consultants were also hired for language translation. For additional information on each of the sources and additional information on sources for the subcategories of institutional knowledge, please refer to *Paper #2*.

The figure shown at bottom left analyzes the differences in acquisition strategies according to company type. *Paper #2* discusses this in addition detail.

After identifying important institutional knowledge and the sources to collect this knowledge, the questions shifted to how firms were sharing this knowledge in-house. Transferring previously collected knowledge can help to reduce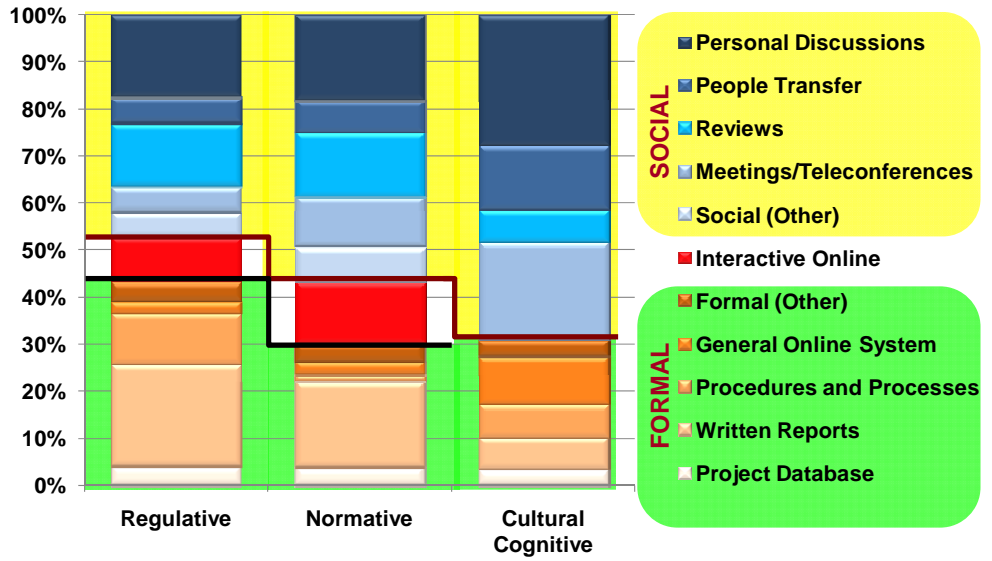 repeated mistakes and "reinventing the wheel". Methods used by informants are presented in the "Social", "Interactive Online" and "Formal" categories in the figure at right. These results were analyzed according to the institutional pillar categories from Question #1. Across all types of knowledge, Social methods are most frequently used, particularly for the more "tacit" types of knowledge. In addition, 2 companies involved in the study have well-established interactive online systems and 2 are in the process of establishing this type of system. These interactive online systems combine both social and formal methods to distribute the knowledge globally. When results from the 2 companies with an established online system are analyzed, we find that this system is used over 60% of the time for Regulative knowledge, and less frequently for Normative and Cultural Knowledge.

From the interviews, we analyzed the Benefits and Limitations of each of the methods, presented in the chart at right.

Additional details of the knowledge sharing methods and results from this section of the study can be found in Paper #3.

#3: HOW DO FIRMS *TRANSFER* INSTITUTIONAL KNOWLEDGE WITHIN THE FIRM?

Legend:
- SOCIAL
  - Personal Discussions
  - People Transfer
  - Reviews
  - Meetings/Teleconferences
  - Social (Other)
- Interactive Online
- FORMAL
  - Formal (Other)
  - General Online System
  - Procedures and Processes
  - Written Reports
  - Project Database

Categories: Regulative, Normative, Cultural Cognitive

	BENEFITS	LIMITATIONS
FORMAL	• Requires focus on externalization process • Allows comparison of data for improvement	•Maintained •Generalized knowledge •Unwilling to publish mistakes •Limited Reach
SOCIAL	•Transfers all knowledge •Allows contextualization •At ease to share •↑ Referential Knowledge •Immediate application	•Limited to personal experiences & known peers •Reach •Time intensive •Brokers maintain control
INTERACTIVE ONLINE	•Achieves global reach •Eases access & time to locate •Democratic •Attribution of knowledge •↑ referential knowledge •Leads to personal interaction & transfer of all knowledge •Integrates new members quickly	•Limited to extent of use & acceptance •Maintenance & Cost •Fit with company culture •Requires socialization

Managers can use these results to choose methods to employ for transferring knowledge that is strategically important for the firm between employees.

ADDITIONAL INFORMATION

Data Collection
- 113 Informants
- 15 International Companies:
  - 4 Owners/Real Estate Developers
  - 5 Contractors
  - 6 Engineering Firms
- 6 month Round-the-World data collection

Data Analysis
Used qualitative-coding software to "code" interviews and documentation; query the data for relative frequencies and create findings based on queries and qualitative quotes.

Theoretical Points of Departure
- **Institutional Theory**
  (*Theory of socially constructed determinants of human behavior*)
- **International Business & Project Literature**
- **Knowledge-Based-View of the Firm**
  (*Organizational Learning; Knowledge Management*)
- **Contingency Theory**
  (*Analyze differences based on firm type*)

PLANNED FUTURE WORK
- **"Glocalization": How can companies create global standards while adapting to the local environments in which they work?**
- **"Distributing and Aligning Work across a Multi-National Firm": How do companies successfully distribute work throughout the globe while maintaining alignment?**
- **"The Half-life of Knowledge: Effects on Organizational Strategy and Structure": How does the obsolescence of knowledge influence an organization's strategy and structure for sharing knowledge?**
- **"Paradox of Embeddedness": How does the degree of embeddedness within a local area affect knowledge sharing within international firms?**
- **Success Factors for Knowledge Sharing in Organizations: Case study comparisons for successful knowledge sharing, the impact of incentives & social influence factors.**
- **Knowledge Management in Project-based firms: Expansion from institutional knowledge focus to include company processes & procedures, technical knowledge, etc.**

Thank you very much for participating in this study!
If you have questions regarding this research, would like additional details, are interested in participating and receiving results from future studies, or have suggestions for future research please contact me.

This summer, I am transitioning from Stanford to the University of Colorado at Boulder, where I will be an Assistant Professor. My future contact information (starting July 2009) is:

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