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Challenges on Global Projects—An Institutional Perspective

Ashwin Mahalingam
PhD Candidate, Stanford University, Stanford, CA, USA, Ashwin@stanford.edu

Prof. Raymond. E. Levitt
Professor of Civil & Environmental Engineering, Director, Collaboratory for Research on Global Projects, Stanford University, Stanford, CA, USA, Ray.Levitt@stanford.edu

Abstract
Global construction projects that involve collaboration between participants from multiple countries result in unique challenges that are not faced on intra-national projects. Why is this so? Evidence from anecdotes and case studies suggest that institutional differences— i.e. differences in work practices, legal regulations and cultural values—contribute to increased costs on global projects. This paper outlines a research agenda that will help shed light on how these institutional differences lead to challenges and increase costs on global projects. Institutional theory is a branch of Organization theory that can help us understand and address some of these issues. However, there are gaps in the application of institutional theory to the problem of global projects. We identify some of these gaps and propose a methodology by which to gain new insights into this phenomenon.

Keywords
Institutions, Global Projects, Ethnography, Work Practices, Culture.

1. Introduction

To re-abuse a much-quoted cliché - We live in the age of globalization. Every generation can claim to have lived in such an age. Nevertheless, there is an much higher level of global activity in today's world compared to years past. As travel becomes faster and cheaper, as language barriers are broken, as markets open up and as global awareness increases, there is an increased intermingling across countries, cultures, races and religions both in the name of commerce and pleasure. On the one hand, international organizations such as the World Bank are engaged in a large amount of economic development and re-development activity in Asia, Africa and Latin America, while on the other hand, commercial enterprises in the Information technology, Manufacturing, Construction and Tourism sectors are embarking on or have recently embarked on projects or partnerships overseas. To obtain an idea of the magnitude of this trend, it is enough to refer to Engineering News Record magazine, which estimates that the international construction market alone is worth $106.5 billion[1].

With these bold ventures however, comes a new set of challenges. Economic feasibility studies are easily done to justify an international venture. In retrospect, these seldom serve as a viable

[1] June 2001 issue of ENR magazine

roadmap or a plan for implementation. Professionals worldwide bemoan 'cultural differences'—the 'surprising' behaviors of their overseas colleagues and the ease with which schedules and budgets are derailed. Why are global projects beset with such problems? What can we do to understand them better and mitigate their effects? We plan to discuss these issues in the rest of this paper. In the next section we describe incidents that occurred on global construction projects. We define the term 'institutions' and provide a framework that we can use to analyze our problem. Based on this framework, we identify a research agenda that will lead to a better understanding of institutional challenges on global projects. We then review the literature on institutional theory and identify gaps in the application of this theory to our research questions. We then discuss our research methodology and some of the contributions that we hope to make.

2. Challenges on Global Projects

In this section, we describe three incidents that describe challenges encountered on global projects. The first incident relates to the construction of the New Chinese Hotel in China (Pheng and Leong, 2000). This project began in the late 1980's. A joint venture was formed between the Chinese Government and an American Engineering firm to plan and execute this project. A Los Angeles-based architect was hired to provide the architectural drawings that would then be implemented by Chinese contractors. From the start of the construction phase, the Chinese contractors complained that the architect's drawings were lacking in detail and that detailed shop-drawings were not present. In the United States, architects are required to provide only the working drawings. It is the contractor's responsibility to create the shop drawings. In China however, the architects provide both the working drawings and the shop drawings. In the case of the New Chinese Hotel project, the Chinese contractors did not have the skill to produce the shop drawings and hence could not satisfactorily complete the project. This difference in work practices led to many disputes and conflicts. The project was finally finished two years behind schedule.

Our next anecdote deals with the construction of a factory in Sri Lanka by a Chinese contractor (Abeysekara, 2002). A Sri Lankan standard for bricks had existed for over four decades. However, this standard was not enforced and it was almost impossible to buy bricks that conformed to this standard in Sri Lanka. The Chinese contractor had designed the structure assuming standardized brick sizes and construction methods that were normally used in the Chinese construction industry. On being confronted with the actual situation of not having any standard bricks, the Chinese contractor spent a large amount of time and money evaluating various alternatives (importing bricks, manufacturing the bricks themselves) before they came to the realization that using non-standard bricks and Sri Lankan bricklayers was probably the most efficient way to progress.

Our last anecdote deals with an American real-estate firm that built a high-rise building in Germany.[2] American architects in charge of the design created a glass façade with windows that could not be opened. Air conditioning systems were to be used to regulate the temperature. This was in line with American building preferences. However, in Germany people were used to glass façades with windows that could be opened. Air conditioning was seldom used to regulate temperatures—a more 'natural' approach was preferred. As a result there were heated disputes between the American architects and the German engineers. The German engineers refused to tarnish their reputation by building an 'ugly' building with windows that could not be opened. After much delay and dispute, the American architects yielded to the preferences of the German contractors.

[2] This anecdote was generated by case study research done at Stanford University

Countless other anecdotes ranging from different safety practices to problems in dealing with bribes to fights with local labor unions abound in global projects. As the incidents described in this section indicate, these challenges arise due to cross-national institutional differences and would probably not be present if the project and all its participants were part of the same country. What can we make of these issues? In the next section we specify a framework that addresses some of these problems.

3. Defining Institutions

In order to specify a framework for analysis, we will first define the term 'institutions'. Merging concepts generated by Greif (Greif, forthcoming) and Scott (Scott 1991), we define ***institutions as a set of rules, norms and values that help generate a regularity of behavior***. To take an example, traffic regulations are an institution. They are a set of **rules** that generate the **regular behavior** of all actors within a domain, say the country India, traveling on the left hand side of the road. Therefore in a certain country, there will be many sets of institutions, each of which help to create some regularity of behavior among the denizens of that country.

3.1 Formulating the problem

So how does this relate to the problems faced on global projects? It is conceivable that institutions specific to different countries influence the construction industry in those countries. These institutions lead to regular patterns of behavior in these countries. These regular patterns may differ between countries and therefore conflicts or disputes may arise in trying to reconcile these differences. In order to verify whether this formulation is plausible, we attempted to see if the anecdotal evidence that we have presented would fit our conjecture. Table 1 summarizes our analysis

Table 1: Institutions on Global Projects

Incident	Institution	Regular Behavior
New Chinese Hotel	Design Practices	Architects supply shop and working drawings in China vs. only working drawings in USA
Factory in Sri Lanka	Normative work methods	Irregular bricks and bricklaying techniques in Sri Lanka vs. Regular bricks in China
Glass façade on high-rise buildings	Aesthetic values for façade design	Operable windows in Germany vs. Non operable windows in the USA

The first anecdote relates to the problems involving design contracts in China. The institutions that were an integral part of this story were the professional ***norms*** relating to design practices. In China, these normative institutions led to a regularity of behavior where architects provided both shop and working drawings. In the USA, the institutions relating to design practices led to a regularity of behavior where architects provided only working drawings. It was due to differences in exactly these behaviors that led to some conflicts on this project.

In a similar vein, the second anecdote relates to a difference in work methods – again a normative institution – in Sri Lanka, while the third anecdote relates to a difference in the institutionalized values that different cultures hold with respect to the aesthetics of building façades. This then seems to indicate that our formulation of the problem could indeed be a plausible one. We therefore wish to make the following claim: ***Problems on Global Projects arise due to institutional differences. Each nation and industry has a set of institutions. Institutional instances in a society create a specific 'logic' that leads to regularities of behavior. Differences***

in the institutions or in the institutionally specified behaviors lead to problems since these differences need to be reconciled in order for a joint activity to be successful.

4. Toward a Research Agenda

So what is it that we do not know which, if we knew, would help us better understand challenges on global projects? We propose three research questions:

1. What are some of the relevant institutions that lead to added costs on global construction projects?
2. How do differences in Institutionalized Behaviors between project participants affect their behaviors, interactions and task characteristics on projects?
3. What are the institutional costs that result?

If we could begin to answer these questions, we could then understand the dynamics behind the challenges faced on global projects. We could then attempt to predict and find ways to mitigate the institutional costs that result. Our next step then is to see what the academic literature has to offer towards answering these research questions.

5. Literature Review: A Survey of Institutional Theory

In order to better understand the nature of institutions, we look at a branch of organization theory known as institutional theory. According to institutional theorists, a firm's action is seen not as an instrumental choice among an unlimited array of possibilities determined by purely internal arrangements, but rather as a choice among a narrowly defined set of legitimate options determined by the group of actors composing the firm's *organizational field*. The form of this influence is manifested in institutions: rules, norms and beliefs that describe and prescribe reality for the organization, explaining what is and what is not, what can be acted upon and what cannot (Scott, 1991). These rules, norms and beliefs are the three pillars of institutionalization that regulate the behavior of individuals and organizations. Institutionalized behaviors once formed, are highly resistant to change (Zucker, 1977). Institutions can also be conceptualized as a game-theoretic equilibrium. In this approach, players play a repeated game (such as, say a prisoners dilemma) and reach a local Nash Equilibrium where they follow certain actions and receive certain payoffs that may be sub optimal from a global point of view, but where no player can improve its position by deviating unilaterally from the Nash Equilibrium. As a result, they continue to perform these actions with regularity, and this institution then becomes endogenous and self-regulating (Greif, forthcoming). Organizations in a particular domain will adapt in such a manner as to be competitive in the institutional environment in which they operate. Therefore, a shift in the institutional environment may imply a loss of competitiveness and efficiency (Hall and Soskice, 2001).

How do organizations respond to institutional forces? Some scholars posit that organizational isomorphism will result, wherein all organizations within an environment will display similar features (DiMaggio and Powell, 1983). Other research indicates that organizations that are highly dependant on their environment and seek legitimacy will need to accept or conform to their local institutional environment in order to succeed. However organizations that are more self-sufficient and that do not require to be viewed as legitimate may avoid, defy or even manipulate institutions in order to perform efficiently (Oliver, 1991). Under institutional pressure, organizations may also exhibit 'loose coupling' wherein a veneer of institutional conformance is proffered (Meyer and Rowen, 1977).

Work on institutional change and conflict is still at its early stages. Some indications are that disruptive events are necessary to induce institutional change (Fligstein, 1991). In terms of institutional conflict, some initial research indicates that if the institutional differences are at a cognitive level, conflicts and resistance results, whereas differences in formal rationalities may be easier to resolve (Townley, 2002).

5.1 Gaps in the application of institutional theory

This discussion indicates that institutions guide organizational behavior and are difficult to change. Therefore the presence of sets of conflicting institutional beliefs may lead to challenges on projects. Institutional theory provides us with a powerful and general analytical framework for thinking about the problems that arise on global projects. However work on institutional change and conflict is still at its formative stages and the last word has not yet been said on these issues. There are therefore some gaps with respect to our research questions.

Firstly, projects have never been considered as a unit of analysis. Projects are short-term activities that feature diverse teams that will disband at the end of the project. As a result there will always be a variety of institutional beliefs on projects, making them an ideal laboratory to study institutional conflicts. Secondly, the construction industry has seldom been featured in institutional theory as the domain of analysis. Thirdly, not much work has been done in describing the process of institutional change at a micro level.

These gaps indicate that our research questions in terms of institutional processes on global construction projects have not really been addressed by the existing literature. Thus, we feel the need to observe global projects in order to answer some of our research questions. Since we do not have a-priori hypotheses that we wish to test, we would like to pursue exploratory case studies to inform our research.

6. Research Methodology

We have selected four projects on which we plan to conduct case studies and perform comparative analysis. The first two of these projects are railroad segments on the Taiwan High Speed Rail project in Taiwan. The first segment is a joint venture between a Taiwanese firm and a Japanese firm. The second segment is a joint venture between a Taiwanese firm and a Korean firm. The other two projects that we plan to investigate are segments of the Delhi Metro Railroad project in India. The first of these projects is a joint venture between companies from Japan, Korea, Germany and India while the second project is a joint venture between companies from Sweden, Japan and India. We believe that these cases offer a unique opportunity to compare and contrast various institutional effects in a controlled way. We could take a single environment, say India and identify how firms from different nations react to a set of institutions. We can also compare how companies from a single nation react to different institutional environments by comparing the performance of Japanese and Korean companies in Taiwan vs. India.

In terms of data collection we will rely to a great extent upon on-site interviews with project participants. The interviews will be ethnographic in nature. We will not ask leading questions or test hypotheses. We will ask the informants to tell us about the nature of their tasks as well as stories about problematic interfaces with participants from another nation. From these interviews we will try to reconstruct the incidents that occurred on these projects. We also plan to interview a wide variety of participants—owner representatives, contractors, designers, etc.—in order to triangulate our stories. To a lesser extent we also plan to rely on available project documents and direct observations made on site.

In terms of analysis, we plan to identify trends within and across these projects that relate to specific themes, say, design norms. We then plan to identify scripts that participants follow in situations where there is a difference in institutionalized behaviors. We also plan to analyze the difference between behaviors of participants from different countries. The themes are the institutions that affect construction projects and the associated behaviors are the processes by which institutional differences are reconciled. In terms of our results, we plan to provide detailed case studies of each of the projects that we study. We will also be able to identify the different institutions that influence global projects, how the vary by country, type of activity and how they influence the behaviors of participants from different countries. By performing such analysis we hope to be able to answer the research questions that we have posed.

7. Conclusion

With this research we hope to contribute both to theory and practice. We plan to contribute to institutional theory by identifying at the micro-level how institutions affect projects and what happens when conflicting institutions interact. We also plan to help managers identify issues or institutions that they will need to consider before embarking on a global project, as well as helping them understand the extra institutional costs that may result on global projects and how best to mitigate them. Finally, based on our experiences in the field, we also hope to make suggestions regarding appropriate research methodologies for this kind of research.

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