

# An Investigation into Cultural Dimensions of Construction Professionals Working for International Projects in Oman

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**Abstract**—International construction projects involve multinational participants with different nationalities and cultural backgrounds. To execute international projects, construction companies easily face significant risks which hinder the capability to create profits and degrade company credibility. One of the major risk factors affecting project performance and success is cultural characteristics of project participants, especially expatriates, working in international construction projects. This research investigates the cultural dimensions of Indian, Sri Lankan and British construction professionals working for international projects in Oman. Cultural dimensions have been surveyed by a quantitative approach. The outcomes indicate that even though these professionals are working in the same construction industry and currently in similar working environments, their cultural dimensions are mainly influenced by national culture. Further Asian participants of the survey showed lower Power Distance Index (PDI) and Uncertainty Avoidance Index (UAI) than their national cultural dimensions. This is a reflection of westernization of their companies in the international construction markets. Also lower Long Term Orientation (LTO) indicates the temporary tendency of employment in international construction projects. Further research will need to focus on the relationship between corporate culture and national culture to complete the entire picture of culture in construction.

**Keywords**—culture; difference; international; construction; project

## I. INTRODUCTION

Today's economy is more globalized than ever before and the world is more culturally integrated. The topic of culture has become an influencing topic when it comes to concerns regarding international construction. This is primarily due to the increasing globalization of construction businesses worldwide which requires the development of multi-cultural human communications and interactions. In international construction markets, the importance of differences in national culture has become extremely critical as professionals with different nationalities and cultural backgrounds are employed together. It is vital that companies consider the impact of cultural concepts in their daily business to successfully operate complex construction projects. Awareness, understanding and accommodation of cultural differences should be recognized for successful performance of construction projects [1]. Construction companies expand into the global market in order to avoid stagnant domestic markets and to effectively capitalize special expertise obtained from the companies' domestic projects. For instance, international contracts awarded to Korean small and medium sized construction companies had significantly increased from 49 projects in 1997 up to 305 in 2007 [2]. A construction firm's intention to expand into a foreign market can stem from several reasons, not only due to the prospect of increased revenues. Dormant domestic markets, chances to increase expertise and knowledge in new technology and privatization of markets are the major reasons which companies choose to participate in international projects. Despite the benefits associated with undertaking construction in foreign markets, there is a substantial amount of risks involved due to the complex nature of international construction projects. Risks that have not been encountered in domestic markets may arise and can affect the growth and performance of a construction company. Construction companies have to face political, cultural, legal, ethical and financial risks when expanding their business overseas [3]. It is also a fact that political, cultural, social and economic factors differ from nation to nation. It is important for construction companies to beware of this difference as factors affecting one nation may be of different importance to another. Reference [4] and [5] identified the effect of cultural differences in international projects. Both researches contemplate that conflict of cultures in the host country can significantly affect the performance of companies. In [4]'s survey conducted in Hong Kong, London and Sydney, they found that majority of the respondents indicated that cultural differences among parties from different nationalities

contributed to disputes in international construction projects. According to [6], the major obstacles which international construction companies have to face are longer return periods of investment and higher burdens of risk exposures than those found in domestic markets. They advocated that out of the many reasons which can have considerably negative impact on the level of profitability in a foreign market, failure to understand the cultural aspects of a project is one of the most critical factors. Reference [5] identified three interrelated negative effects of cultural distance that affect the performance of international contracts: (1) cultural distance can lead to communication problems, which may hinder knowledge exchange and inter-organizational learning; (2) it can cause managerial conflicts due to misunderstandings, which may lead to additional costs; (3) it can influence construction firms to approach conflict resolution, which may adversely impact operations. As cultural distance grows, it influences behavior and management systems and has the potential to destabilize project performance. In this research, the cultural differences among the project participants of international construction projects in Oman have been investigated.

The objectives of this research are:

To identify cultural dimensions and characteristics of the major nationalities working for international construction projects in Oman

To investigate the relationship between national cultural dimensions and cultural dimensions of the professionals working for international construction projects in Oman.

## II. RESEARCH METHODOLOGY

Extensive and intensive literature review has been conducted to make theoretical linkage between cultural dimensions and international construction projects. To investigate this relationship a quantitative survey was carried out. The data were collected by use of the questionnaire. The main objective of this task was to obtain scores of cultural dimensions for the major nationalities working within the construction industry in Oman. Table 1, 2 and 3 shows the demographic characteristics of survey participants from India, Sri Lanka and United Kingdom.

Table 1 Demographic characteristics of respondents from India

Characteristics	Frequency	Percentage %
Number of participants (n=31)		
Years of experience (n=31)		
10 or less	8	26
10 - 19	14	45
20 - 29	7	23
30 or more	2	6
Nature of employment (n=31)		
Project management	6	19
Contractor/Engineer	16	52
Quantity surveyor	2	6
Consulting/Architect	7	23

Table 2 Demographic characteristics of respondents from Sri Lanka

Characteristics	Frequency	Percentage %
Number of participants (n=21)		
Years of experience (n=21)		
10 or less	7	33
10 - 19	5	24
20 - 29	3	14
30 or more	6	29
Nature of employment (n=21)		
Project management	2	10
Contractor/Engineer	5	24
Quantity surveyor	7	33
Consulting/Architect	7	33

Table 3 Demographic characteristics of respondents from United Kingdom

Characteristics	Frequency	Percentage %
Number of participants (n=14)		
Years of experience (n=14)		
10 or less	0	0
10 - 19	4	29
20 - 29	3	21
30 or more	7	50
Nature of employment (n=14)		
Project management	4	29
Contractor/Engineer	6	43
Quantity surveyor	3	21
Consulting/Architect	1	7

### III. LITERATURE REIVIEW

#### A. What is Culture?

The number of definitions on culture explored by researchers are too numerous to count, each one having a relevant claim to the meaningful understanding of the term culture. Reference [7] defined culture as; 'part of our conditioning that we share with other members of our nation, region, or group but not with members of other nations, regions, or groups', emphasizing a key word 'collective mental programming'. Further as the impact of culture is not a directly measurable value, researchers have developed different models to provide qualitative data on the culture properties of a country. The most widely used model is Geert Hofstede's dimensions of national culture. In his latest research culture is measured using six different dimensions. In this research Hofstede's cultural dimensions have been adopted and applied to evaluate the cultural differences.

#### B. Why use Hofstede's cultural model?

Hofstede's work is based on a massive survey of thousands of respondents in a diverse array of countries and regions. The collected data were enough to derive statistical outcomes that had not been possible before. It would be difficult to replicate or improve upon this study even today. The set of six dimensions are collectively capable of describing all, not just a subset of, national culture. Therefore it is helpful for researchers interested in explaining any single culture or cluster of cultures. The framework can be relevant for a wide range of needs, such as global marketing. In this research, it is used to investigate the implication of culture in international construction projects. Hofstede's provision of a survey questionnaire and classification of culture into standardized scores facilitates application in quantitative research. Other models or frameworks have not gained popularity in part because of the lack of instruments [8]. The six dimensions are explained below.

Power distance Index (PDI) focuses on the degree of equality, or inequality, between people in the country's society. A high Power Distance ranking indicates that inequalities of power and wealth have been allowed to grow within the society. A low Power Distance ranking indicates the society de-emphasizes the differences between citizen's power and wealth.

Individualism index (IDV) focuses on the degree the society reinforces individual or collective, achievement and interpersonal relationship. A high Individualism ranking indicates that individuality and individual rights are paramount within the society. A low Individualism ranking characterizes societies of a more collectivist nature with close ties between individuals.

Masculinity (MAS) focuses on the degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power. A high Masculinity ranking indicates the country experiences a high degree of gender differentiation. A low Masculinity ranking indicates the country has a low level of differentiation and discrimination between genders.

Uncertainty Avoidance Index (UAI) focuses on the level of tolerance for uncertainty and ambiguity within the society. A high Uncertainty Avoidance ranking indicates the country has a low tolerance for uncertainty and ambiguity. This creates a rule-oriented society that institutes laws, rules, regulations, and controls in order to reduce the amount of uncertainty. A low Uncertainty Avoidance ranking indicates the country has less concern about ambiguity and uncertainty and has more tolerance for a variety of opinions.

Long-Term Orientation (LTO) focuses on the degree the society embraces, or does not embrace long-term devotion to traditional, forward thinking values. High Long-Term Orientation ranking indicates the country prescribes to the values of long-term commitments and respect for tradition. A low Long-Term Orientation ranking indicates the country does not reinforce the concept of long-term, traditional orientation.

Indulgence Versus Restraint (IVR) Indulgence concerns a society which allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint on the other hand refers to a society that suppresses gratification of needs and regulates it by means of strict social norms'.

### C. Culture in International Construction

Reference [9] defined international construction as, where one company, resident in one country, performs work in another country. This is a simple definition on what constitutes as international construction. Many researchers including [3 and 4] have emphasized that globalization is the main reason that construction companies worldwide decide to expand into international markets. Globalization allows construction companies to trade services across national boundaries thus increasing profits and promoting growth. The lowering of trade barriers and improved international political relations has allowed companies to enter new markets. Globalization also allows companies to take advantage of economic growth in a certain country or market. For example, the revenues of the top 225 international contractors increased 18.5% from 2005 to 2006 for projects outside their home markets [10]. Companies may decide to create international alliances such as joint ventures. International joint ventures allow companies share resources and financial risks. Global collaboration can provide technology transfer and exchange of ideas which are vital for the growth and competitiveness of the firm. Reference [11] focused on the internationalization of Chinese construction companies. They suggested an index system embracing the following five factors to identify the global contractors:

1. Ratio of international revenue over total revenue
2. International business distribution
3. Overseas management structure
4. Involvement in specialized field
5. Overall index of internationalization

## IV. FINDINGS OF THE SURVEY

The questionnaire used is a replication of Geert Hofstede's Value Survey Model 2008 (VSM08) [12 and 13]. The dimension scores in Table 4 were derived from the mean scores obtained from the results of the survey based on VSM 08 questionnaire. The VSM 08 consists of 34 item questionnaire developed for comparing culturally influenced values from two or more countries. All content questions in the questionnaire are scored on five-point scales. The index calculation formulas are given in the VSM manual. In this survey, Microsoft excel was used to calculate the scores for each nationality. The questionnaire results can be used to provide a quantitative analysis by allocating scores to the different dimensions of national culture. Table 5 shows Hofstede's scores for national culture of each major nationality which can be found in Hofstede's web page. The comparisons between different nationalities for the construction professionals in the survey and for national cultural dimensions have been included in Table 4 and 5 respectively.

Table 4 Dimension scores for each major nationality in the construction industry of Oman

	Indian	Sri Lankan	British	Difference between Indian and Sri Lankan	Difference between Sri Lankan and British	Difference between British and Indian
PDI	22	15	38	7	-23	16
IDV	-2	5	45	-7	-40	47
MAS	1	13	45	-12	-32	44
UAI	-22	-25	-56	3	21	-34
LTO	29	3	32	26	-29	3
IVR	76	63	72	13	-9	-4

Table 5 Hofstede's scores for national culture of each major nationality

	Indian	Sri Lankan	British	Difference between Indian and Sri Lankan	Difference between Sri Lankan and British	Difference between British and Indian
PDI	77	72	35	5	37	-42
IDV	48	28	89	20	-61	41
MAS	56	35	66	21	-31	10
UAI	40	53	35	-13	18	-5
LTO	61	49	25	12	24	-36
IVR	-	64	-			

## V. DISCUSSION ON THE FINDINGS

As can be seen from Table 4 and 5, the construction professionals working in Oman perceive quite different cultural dimensions from each other. This implies that even though they work for international construction projects in the same host country and in the same construction industry, their cultural dimensions are still influenced by the national culture. This is consistent with [4]'s argument that construction professionals who are involved with international projects should have the ability to recognize the expectations and behavior of others. Further [14] identified that cultural distance is a key factor in explaining foreign market attractiveness, expansion patterns, the degree of adaptation of marketing and retailing strategies, modes of entry and organizational performance. This justifies the importance of this research in international construction projects. The outcomes of the individual cultural dimensions are explained below.

British respondents have extremely low UAI (-56) and PDI scores (38) which are similar to the national scores and MAS score (45) which is only slightly lower than the national home country score. PDI and UAI scores of both Indian and Sri Lankan nationals working in Oman are comparatively lower than the national scores of each home country. Usually most Asian countries have an appreciation for hierarchical structure in society and organizations. Real power is centralized even though it may not appear to be and managers count on the obedience of their team members. Employees expect to be directed clearly as to their functions and what is expected of them. However, this outcome of change in cultural mind set possibly stems from the fact that many companies have a Western influence where politics and corruption is relatively low. Reference [15] explains that bureaucratic organizations can be characterized by the predominance of hierarchical reporting relationships within the organization, and a heavy reliance on rules and procedures for managing the business process. This is consistent with [16]'s findings, who said that high PDI and UAI which will result in a more bureaucratic structure. Low UAI score is also consistent to explanation given by [15], who stated that, it might be expected that respondents from the construction industry, where temporary employment is the norm, would respond with lower UAI than those from a corporation like IBM (where Hofstede research was based) that has traditionally offered lifetime employment. Individuals with a high aversion to uncertainty would simply not enter the construction industry. , and the uncertainty of continuing employment would be expected to suppress expectations of continuity of employment and therefore directly lower the UAI score. LOT scores of the Asian working in Oman are significantly lower than home country scores. This is expected since working as expatriates in a foreign country, exposure to cultural tradition and long-term commitments may be diluted due to the work-oriented lifestyle. The reason for low LOT may also be due to the fact that in an international construction environment, employment might be temporary and change can occur more frequently and rapidly. Long-term traditions and commitments do not become impediments to change [17]. Indulgence Versus Restraint (IVR) scores for all the nationalities in high. Even though Oman is a Middle Eastern country, expatriates are allowed to gratify their basic freedoms and enjoy life. Reference [18] stated that the need to deal with culture issues in developing countries is critical, where large construction projects often involve foreign companies and/or professionals. Many large projects in the Middle East are comprised of multi-cultural workforces including expatriates and host country nationals. The outcomes of this research will make a good contribution to the understanding and application of cultural differences in international construction projects.

## VI. CONCLUSION

Project success in international construction is determined by many factors. Culture has a large impact on international construction activities. If cultural differences are not properly understood and managed, this can cause significant difficulties in achieving project objectives. The multi-cultural nature of international construction projects involves several cultures with different and often conflicting behaviors, ideas, values and traditions. The outcome of this research shows that there is a clear difference between cultural characteristics of construction professionals of different nationalities working for international projects in Oman. Even though construction professionals work in similar environments and in the same industry, their cultural perspectives are

mainly influenced by their national cultures. Particularly the Asian participants of the survey – Indians and Sri Lankans- showed lower Power distance Index (PDI) and Uncertainty Avoidance Index (UAI) scores than their national cultural dimensions. The possible cause of this change is Westernized influences to the companies involved in the international projects. Further, Long-Term Orientation (LTO) of Asian is significantly lower than that of their national cultural dimension. Again the cause might be temporary tendency of employment and rapid and frequent changes required for the successful completion of complex construction projects. This research provides a clear direction as regards to the relationship between cultural dimensions in international construction projects and national cultural dimensions. Further the relationship between national culture and corporate culture for international construction companies need to be clarified to fully understand the role of culture in the global construction industry.

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